International Frontiers and Boundaries

Law, Politics and Geography

Victor Prescott and Gillian D. Triggs

MARTINUS NIJHOFF PUBLISHERS

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MARTINUS
NIJHOFF
PUBLISHERS

LEIDEN • BOSTON
2008

This book is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data

Prescott, J. R. V. (John Robert Victor)
International Frontiers and Boundaries : Law, Politics and Geography / by Victor Prescott and Gillian D. Triggs.
p. cm.
Includes bibliographical references and index.
ISBN 978-90-04-16785-8 (hardback : alk. paper) 1. Boundaries. 2. Boundary disputes. I. Triggs, Gillian D. (Gillian Doreen), 1945- II. Title.
KZ3684.P74 2008
341.4'2—dc22

2008007105

ISBN 978 90 04 16785 8

PRINTED IN THE NETHERLANDS

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ACKNOWLEDGEMENTS

This is not a second edition of *Political frontiers and boundaries* published in 1987. It is designed as a companion volume to *The maritime political boundaries of the world*, published in 2005.

Gillian Triggs is an international lawyer and Victor Prescott is a political geographer. For many years we shared a deep interest in international boundaries on land and sea and we would consult each other when our knowledge was deficient in aspects of law or geography.

In recent years we have cooperated in writing contributions to the fine series *International maritime boundaries*, created by Jonathan Charney in 1993, and continued by David Colson and Bob Smith in 2005.

We are both indebted to colleagues who are interested in international boundaries on land. Gillian has benefited from presentations from colleagues while she was Director of the British Institute of International and Comparative Law, including those given by Maurice Mendelson QC and Tim Daniels. She is grateful for the excellent editorial and research skills of Katherine Fallah who provided assistance during the final stages.

Victor has enjoyed the benefit of being a member of the boundaries web-site, managed by the International Boundaries Research Unit at the University of Durham, and he has received much useful information from many members of that site. Special mention should be made of Richard Schofield who has illuminated the boundary history of the Middle East; Dan Dzurek whose knowledge of boundaries on all continents is encyclopaedic; Ray Milefsky of the Office of the Geographer and Global Issues; Buddhi Shrestha who clarified the development of Nepal's boundaries; and Brendan Whyte who created order out of the chaos that is the borderland between Bangladesh and India.

The figures that are essential to this text were drawn by Chandra Jayasuriya, of the Department of Geography at the University of Melbourne. We would also like to thank Peter Buschman of Brill for his encouragement and support for this project and his patience in waiting for the manuscript.

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1. INTRODUCTION

International frontiers and boundaries separate land, rivers and lakes subject to different sovereignties. Frontiers are *zones* of varying widths and they were common many centuries ago. By 1900 frontiers had almost disappeared and had been replaced by boundaries that are *lines*. The divisive nature of frontiers and boundaries has formed the focus of inter-disciplinary studies by economists, geographers, historians, lawyers and political scientists. Scholars from these disciplines have produced a rich literature dealing with frontiers and boundaries. A survey of this extensive literature reveals that the following themes have attracted most attention.

NATIONAL HISTORIES AND INTERNATIONAL DIPLOMACY

When the histories of nations are unravelled it is plain that most of them did not emerge at one time within a single set of international limits that have remained unchanged. It is the case that many modern African states became independent after 1945 within boundaries that have not subsequently changed. However, research into their pre-colonial and colonial antecedents reveals a varied sequence of frontiers and boundaries. A significant part of the history of several countries concerns the struggle for territory, and the identification of the succession of national boundaries, on a single map, provides a shorthand account of stages in the progression to the present pattern of national states. Sometimes the events, that established new limits, were sufficiently significant to mark the division between important periods in the political history of countries or the diplomatic and military history of continents. This point can be illustrated by Figure 1.1, which shows the boundaries of Greece since 1832, the year when the modern state of Greece emerged from nearly three centuries of Turkish rule. The following commentary is based on the volume on Greece produced by the Naval Intelligence Division (1944). The rebellion began in the Peloponnisos in April 1821, and this area was quickly cleared of Turks. The Greek sailors also enjoyed success against the Turkish navy in the Aegean Sea, but the tide of rebellion had been halted by June 1827 and other foreign powers decided it was time to intervene to avoid continued instability in the region. The destruction of

the allied Turkish and Egyptian fleets by naval squadrons from Britain, France and Russia in Navarino Bay on 20 October 1827, paved the way for an enforced settlement dictated by these countries. In 1830 it was proposed that the northern boundary of Greece should run southwestwards from the vicinity of Lamia to Mesolongion, but Palmerston, the British Prime Minister, then persuaded his allies that the line should run from Pagasitikos Kolpos [Gulf] to Amvrakikos Kolpos (Figure 1.1) Palmerston defeated proposals to give Greece the islands of Samos and Kriti on the grounds that the former was too close to the Turkish coast and the latter was too valuable and had a large Turkish population, that should not be subject to Greece.

On 29 March 1864, six months after Greece had installed a Danish King, Britain ceded the Ionian Islands to Greece. They stretch from Kerkira [Corfu] in the north to Kithira in the south off the west coast of Ipiros and Pelopponisos. These islands had been formed into the United States of the Ionian Islands in 1815, by the Treaty of Versailles and placed under British protection. Their union with Greece followed a unanimous vote of support by the legislative assembly of the islands.

The war between Russia and Turkey in 1877 presented Greece with an opportunity to claim the Greek provinces in Turkish Europe, but the decision to take action was delayed so long that the Greek army could not be deployed before the war was over. The peace treaty signed by Russia and Turkey at San Stefano on 3 March 1878 contained no territorial gains for Greece. Fortunately for Greece the major European powers were dissatisfied with the terms Russia had forced on Turkey. This treaty was revised at the Congress of Berlin, attended by all the major powers in June and July 1878. Although Greece was not represented in Berlin, Britain persuaded its allies to require Turkey to make concessions to Greece along their common land boundary. At first it was proposed that the new boundary should run from Stoupi in the east to the mouth of the Thiamis River in the west opposite Kerkira Island. This would have given Greece the region of Thessalia and most of Ipiros. Turkey could scarcely resist the cession of the former region, with its pronounced Hellenic character, but it managed to retain the areas of Janina and Preveza, that constituted most of modern Ipiros. The arguments in favour of continued Turkish control in these areas centred on their large Moslem minorities. The final treaty was signed on 24 May 1881, although Greece was not a party to these arrangements.

The Greek authorities overplayed their hand in 1897 when they tried to force further concessions from Turkey in Kriti and the mainland. The European powers had to intervene to prevent a Turkish victory, and Greece was forced to cede 11 small areas that had particular strategic interest along its northern boundary to Turkey. The next major territorial advance for Greece came in 1912 and 1913 in wars, first with Turkey in alliance with Bulgaria and Serbia and then with Bulgaria in alliance with Serbia. These advances enabled Greece to move northward to its present boundary and eastwards along the Macedonian coast

to the Nestos River. In the Aegean Sea Greece gained many Turkish islands, apart from Gokceada and Bozcaada that Turkey retained, and the Dodecanese Islands, that had been occupied by Italy in April and May 1912. Italy seized these islands from Turkey as part of its campaign against Turkey over control of Tripoli and Cyrenaica.

The role of Greece in World War I was rewarded with Bulgaria's coastlands on the northern shore of the Aegean Sea in western Thraki [Thrace] and the Turkish area of eastern Thraki, as far east as Catalca, only 32 km from Istanbul. A large area of the Turkish mainland around Izmir [Smyrna] was placed under Greek control, and it was arranged that a plebiscite in five years could opt for union with Greece. The Treaty of Sevres, which conferred these gains on Greece, was not ratified and the replacement Treaty of Lausanne, on 24 July 1924, left only western Thraki to Greece. This dramatic change was produced by the revival of a nationalist government in Turkey, agreements between that government and the Soviet Union, and France, and by Greek military defeats by Turkish forces. Turkey was helped by the unpopularity of King Constantine with the western powers because of his pro-German policy in 1915. The Treaty of Lausanne marked a retreat from the line marking the largest territorial extent of modern Greece, and Turkey's boundary along the Meric River was restored.

The final territorial extension of Greece occurred in 1947 when Italy ceded the Dodecanese Islands. Megisti Island, obtained by Italy from France in 1920, was also ceded to Greece and marked the most easterly extent of the realm.

In tracing the evolution of national boundaries there is no substitute for the treaties, protocols, agreements and conventions that specify the formal arrangements between states. Sometimes these can be difficult to find and hard to translate. Fortunately there is now a comprehensive range of publications dealing with territorial treaties. For the period 1648-1919 which is '…classically regarded as the date of the modern foundation of the modern system of states' (Parry, 1969, vol. 1, 3), Parry has edited a collection of treaties filling 231 volumes. From 1920 until the present many treaties are published in the *League of Nations Treaty Series* and its successor the *United Nations Treaty Series.* These collections contain only treaties lodged with these organizations and therefore they are not comprehensive.

One serious problem in interpreting treaties relates to the need to consult maps or plans that were contemporaneous with the treaty. Maps are often attached to treaties, but they are not reproduced by Parry and do not always appear in the other two collections. The importance of using maps that were contemporary with the treaty turns on the fact that modern place names might be completely different, and sometimes maps were inaccurate and those inaccuracies were carried into the written description of the boundary. For example, the boundary between British Rhodesia and Portugal's Mozambique south of parallel 18° 30 S was defined in the following terms on 11 June 1891.

> *…thence it follows the upper part of the eastern slope of the Manica plateau southwards to the centre of the main channel of the Sabi…* (Brownlie, 1979, 1119)

The demarcation teams sent by both countries to fix this line could not agree on the location of the upper part of the eastern slope of the Manica Plateau and the matter was referred to the arbitration of Senor Vigliani, an Italian senator. He handed down his decision on 20 January 1897 (The Geographer, 1971, 2). The original negotiators can be excused for producing such an uncertain definition in view of the maps found in Harare and London. It is clear that the maps and sections sent by field surveyors show the edge of the plateau to be a prominent apparently unmistakeable feature.

Fortunately there are regional guides to the literature and treaties dealing with the evolution of international boundaries. Nicholson (1954), Paullin (1932) and Garret (1988) have provided useful accounts of international boundaries in North America. The atlases edited by Paullin and Garrett contain some helpful maps. Rebert (2001) has provided an excellent, detailed and well illustrated account of delimitation and demarcation of the Mexican-United States boundary. Ireland (1938) produced a wonderful account of the stages by which South America's international boundaries developed before 1938. Three years later Ireland (1941) produced a matching volume on Central and North America. Hertslet (1875-91) produced a monumental record of boundary-making in Europe at the end of the nineteenth century. Hertslet (1909, 1967) then turned his attention to Africa and produced three volumes that were reprinted in 1967. Brownlie (1979) built on Hertslet's African work, by compiling an encyclopaedia recording the treaties governing the evolution of Africa's boundaries illustrated by clear maps of the final results. Brownlie does not provide the diplomatic history of Africa's boundaries in the way that Ireland does for South America and Prescott does for mainland Asia (1975 and 1977).

The Geographer of the United States State Department produced an invaluable set of studies of nearly 200 separate international boundaries. These studies were published, on a compact disk, by the United States Department of State's Bureau of Intelligence and Research (2002).

In the 1990s the International Boundaries Research Unit at the University of Durham published two useful journals dealing with international land boundaries. Each issue of *Boundary and Security Bulletin* had news sections on boundaries in each of the continents and a number of boundary articles, *Boundary and Territorial Briefing* dealt with one boundary subject or one boundary. Thirty-six volumes of *Boundary and Security Bulletin* were published between 1993-2002 and 24 volumes of *Boundary and Territorial Briefing* were published between 1994 and 2002. These excellent series had a current value when published and now are historically important.

CONTEMPORARY INTERNATIONAL CONFLICT AND COOPERATION

Boundaries are the lines of physical contact between states and provide opportunities for cooperation and risks of discord. Lord Curzon of Kedleston, who was once Viceroy of India, summed up the situation in words that have often been quoted.

> *Frontiers are indeed the razor's edge on which hang suspended the modern issues of war and peace.* (Curzon, 1907, 7)

Most commentators use these words to introduce discussion of boundary conflicts, but Curzon's reference to peace should not be forgotten. Regrettably, editors of newspapers and radio and television bulletins seem to regard boundary disputes as more worthy of attention than cooperation to solve boundary questions. In fact both discord and concord regarding boundaries are important subjects for discussion. Indeed a survey of the United Nations Treaty Series (United Nations 1945) reveals dozens of treaties dealing with cooperation between states sharing a common boundary as the following contemporary examples show.

In December 2003 Russia and the Ukraine agreed on terms for the use of Kerch Strait at the mouth of the Sea of Azov. In October problems had arisen when local Russian authorities started to build a causeway from their shore towards a small island called Tuzla, that is controlled by Ukraine. Tuzla had been attached to the Russian coast by a narrow spit until 1925 when a severe storm removed sediment over a 4 km stretch. Work on the causeway caused the Ukrainian authorities to protest to Russia and reinforce the population of the small island. Talks between the two governments resulted in agreements to regard the Sea of Azov and Kerch Strait as internal waters of the two countries, and to make joint decisions on their use. The effect of this was that Russia shared control of the Kerch-Yenikal'skiy Kanal through Kerch Strait.

In November 2003 France and Spain agreed on measures to enable both countries to act in concert or separately against Basque Separatists. Evidence gathered in each country is admissible in the other, and police from both sides may act separately or in combination. In 2003 59 suspects had been arrested in the borderland.

In March 2005 China, the Philippines and Vietnam agreed to permit seismic studies in the vicinity of the Spratly islands. These countries occupy some of the Spratly Islands and assert claims to islands occupied by each other. However, these counter claims have not prevented scientific examination of the seabed's structure.

In February 2004 Azerbaijan, Georgia and Turkey agreed to the construction of an oil pipeline to convey oil from Baku to Turkey's Black Sea coast. Finally in October 2003 Bangladesh and India agreed on measures to share the water of the Tista and six other rivers.

In his study of claims to territory and their importance in international affairs, Hill (1976, 3) noted that boundary disputes have often led to wars. The 1962 war between China and India stemmed from different interpretations of the McMahon Line in the eastern Himalayas. This line was settled by an agreement reached between Britain and Tibet in 1914 and it was named after the chief British delegate. The 1980 war between Iran and Iraq was caused by Iraq's desire to regain total control over the Shatt al Arab. This river was awarded to the Ottoman Empire by Persia in the second treaty of Erzurum dated 31 May 1847. Half the river had been retroceded to Iran in treaties dated 1914, 1937 and 1975. Iraq was created in October 1932.

A recent war in the Horn of Africa resulted from Ethiopia and Eritrea having different views about the location of their common boundary. Italy and Ethiopia agreed on a boundary separating the coastal colony from the indigenous empire in May 1902. After World War II, Britain governed Eritrea until 1952, when the United Nations became responsible for the territory. That body decided to federate Eritrea with Ethiopia and 14 years later the territory was annexed by Ethiopia (Peninou, 1998). In 1993 Eritrea secured its independence from Ethiopia. The two sides had different views about the appropriate boundary. Eritrea invokes the Organisation of African Unity view that the boundaries of the independent states that replaced the European colonies are the colonial boundaries. So Eritrea relies on the treaties signed by Italy at the beginning of the 19th century. However, during and after the federation with Ethiopia the land boundaries of Eritrea were altered. Heavy fighting occurred in May 1998 and continued into 2007 (Pearce, 2000).

GENERALIZATIONS ABOUT INTERNATIONAL LAND BOUNDARIES

Attempts to produce a reliable set of theories about international land boundaries have failed. Attempts to devise a set of procedures by which international boundaries can be investigated have been successful. It should be noted that scholars have had some success in developing predictive theories about international maritime boundaries (Prescott and Schofield, 2005, 215-330). This outcome rests on the 1982 United Nations Convention on the Law of the Sea, that sets out rules regarding the construction of baselines, the maximum widths of seas and seabeds that can be claimed for specified purposes and the delimitation of international maritime boundaries between states with adjoining or opposite coastlines. While there is scope for debate about the correct interpretation of some of the rules, the range of possibilities is limited.

The German geographer Ratzel made a determined effort to produce a set of laws that would enable the behaviour of states, in respect of international boundaries, to be predicted. Ratzel believed that each state had an idea of the

possible limits of its territorial dominion and he called this idea 'space conception'. This notion appears to be similar to the concept of *les limites naturelles* (natural boundaries), that Pounds (1951, 1954) explored in respect of France, Pounds established that for much of France's history after the 16th century, successive rulers regarded France's desirable boundaries as coinciding with the sea, the Alpine watershed, the Pyrenees and the Rhine. History records that briefly Napoleon had a broader vision of the French state (Zamoyski, 2004, 12-3).

Ratzel's view on the space conception of states followed logically from his belief that the state was a living organism that grew and decayed. The boundary and the adjacent area, that is called the border, formed the epidermis of this organism that provided protection and allowed exchanges to occur. So for Ratzel the border was a dynamic feature and when it was fixed in position we were witnessing a temporary halt in political expansion. He enunciated two laws of territorial growth.

> *The law of the evolution of boundaries can be defined as a striving towards simplification and in this simplification is contained a shortening of borders.* (Ratzel, 1897, 555)

> *In accordance with the general law of growth of historical spatial phenomena the borders of the larger areas embrace the borders of the smaller one.* (Ratzel, 1897, 557)

Evidence for devising these rules can be found in the evolution of Germany by an amalgamation of small marches, kingdoms and principalities. Many examples involving other countries can be found in the collection of treaties prepared by Hertslet (1875-91). For example, by a treaty dated 14 April 1816 Austria and Bavaria exchanged territories in their borderlands. Bavaria ceded parts of Hausruckviertel and Innviertel to Austria and received in return parts of the Department of Mount Tonnerre and the city and fortress of Landau (Hertslet 1875, 434-43). Ratzel would also have found support for his laws in the procedures by which Britain, Belgium, Germany and France were acquiring colonies in Africa. He also made strong assertions about the nature of borders.

> *Political balance [between countries] is to a large extent dependent on the [characteristics of] borders between them.* (Ratzel, 1897, 584)

> *We have seen how growth and decline of a region not only find expression in the areal form and protective measures of the border but also, in a way, prepare and foreshadow themselves therein.* (Ratzel, 1897, 605)

This view that the border was the area within which the growth and decline of the state was organized and became evident, was taken up by students of *Geopolitik* thirty years later. Geopolitik was the name given to a school of political geography established by Major-General Haushofer, who emphasized the role of geography in creating policies that would make the Germany of the 1920s strong

again (Gyorgy, 1944). Haushofer proposed that a cultural boundary should be established around the population that had a high degree of ethnic homogeneity, and that beyond this cultural boundary there should be a military boundary that would prevent a surprise attack on the cultural homeland. When Haushofer (1927) classified boundaries he did so into categories labelled 'attack', 'defence', 'growth' and 'decay'.

Spykman, an American political scientist, also gave geography a very important role in the development of national policies and the conduct of international relations. In a paper dealing with geographical objectives and foreign policy he made the following assertion.

> *Boundary changes will be indications of a shift in the balance of forces, caused either by an increase in driving force on one side of the frontier [boundary] or by a decrease in resistance on the other*. (Spykman and Rollins, 1939, 392)

This view of boundaries as temporary lines where the opposed power of neighbouring states is neutralized also found favour with Ancel. He referred to boundaries as lines of power equilibrium or political isobars (Ancel, 1938). This is not a useful analogy since an isobar links points with identical air pressure. On one side the pressure will be higher and on the other it will be lower. However, a more serious criticism of Ratzel's original concept and its modern embellishments is that since 1945, most changes in the balance of power between neighbouring states has not been accompanied, in the short or long term, by changes in political boundaries. For example the domination of Vietnam over Laos and Cambodia in the 1980s was not accompanied by boundary changes. In the Middle East the highly destructive war between Iraq and Iran in the 1980s was not accompanied in any changes in their boundaries with Russia, Turkey, Pakistan or Syria. It is also the case that several boundary changes in the 20th century resulted from causes other than changes in the relative strengths of countries. For example, Britain made territorial concessions to Italy in respect of its colonies in Libya and Somaliland, in return for Italian involvement in World War I. In 1963 Mali and Mauritania agreed to mutually beneficial modifications to the straight boundaries inherited from France. In 1994 South Africa made a remarkable and commendable sacrifice when it ceded the territory of Walvis Bay on the mainland and the offshore Penguin Islands to Namibia. This small, economically significant territory had been British and then South African from March 1878, when it was annexed by Staff-Commander Dyer, commander of HMS Industry (Kinahan, 1992, 116-21). By any measures of political and economic strength South Africa would be considered more powerful than Namibia.

During the scramble for Africa in the 1880s and the 1890s European states often agreed to delimit their territories by straight lines in the first instance (Oliver and Crowder, 1981, 156-8). Subsequently, as they surveyed their territories, they often agreed to abandon or modify the straight lines in favour of boundaries

that reflected the distribution of important tribes, trade routes and rivers. This was especially the case in sub-Saharan Africa, where changes were made to simplify administration rather than as a consequence of the unequal strength of the two countries involved. Straight-line boundaries tended to survive in desert conditions. In 1889 the original division between French Dahomey and British Nigeria followed a meridian northwards to parallel 9° N. In 1906 the two colonial powers agreed to adjust the boundary, so that in the coastal section particular settlements were awarded to France and Britain, and further from the coast the boundary followed the River Okpara (McEwen, 1991).

Of course throughout history states have sometimes used force to capture all or part of a neighbours territory. For example, in 1975 Indonesia invaded Portuguese Timor after Portugal had abandoned its overseas empire. The territory was held by Indonesia until 1999, when the inhabitants were allowed to vote on their future and selected independence. In 1990 Iraq invaded and captured the territory of Kuwait. The following year, Kuwait was liberated by a United Nations force.

While scholars have failed to produce laws or even guidelines by which behaviour in respect of international boundaries can be predicted with confidence, they have succeeded in identifying reliable procedures for studying the evolution of boundaries and boundary disputes.

A French lawyer called Lapradelle and an American geographer called Jones defined a series of stages through which ideal boundaries would pass during their history. In both cases, these major analyses, published 17 years apart, do not bear the imprint of the period in which they were written. This characteristic sets them apart from studies by Ratzel, Haushofer, Spykman and Ancel.

Lapradelle identified three stages in the evolution of a boundary that he called *preparation, decision*, and *execution*. The equivalent stages described by Jones are called *allocation, delimitation* and *demarcation*.

> *The processes of preparation precede true delimitation. The problem of the boundary's location is debated first at the political level then on the technical level. The question is, in general, of determining, without complete territorial debate, the principal alignment which the boundary will follow.… The decision involves the description of the boundary or delimitation.… The execution consists of marking on the ground the boundary which has been described and adopted, an operation which carries the name demarcation.* (Lapradelle, 1928, 73)

In adopting and improving this pioneer proposal, Jones added the final stage of *administration* that describes the maintenance of the boundary monuments, cleared lines and fences.

Neither of these authors insisted that all boundaries would pass through each of these stages. In some cases the first boundary, that allocates territory, might be a straight line and that this line is then demarcated, either because there is no more

suitable alignment or because agreement cannot be reached on modifications. In other cases the terrain is so well known it is possible to proceed immediately to delimitation. This situation was regularly encountered in the territorial modifications that followed the conclusion of World Wars I and II. Sometimes boundaries that had been delimited and demarcated were not maintained. In such cases over time the position of the boundary might be blurred by vegetation growing over cut lines, peasants stealing metal pipes and stone monuments for buildings and rivers changing course undercutting banks on which markers had been erected.

In a series of perceptive comments Jones pointed to the reasons why the search for laws about boundaries was unproductive.

> *Each boundary is almost unique and therefore many generalizations are of doubtful validity*. (Jones, 1945, vi)

> *The process of boundary-making is smoothed by considering each boundary as a special case with individuality more pronounced than resemblance to a theoretical type*. (Jones, 1945, 11)

It is probably this situation that has prevented those devoted to the quantification of political, social and economic data from identifying the laws or consistencies that eluded Ratzel, Haushofer, Spykman and Ancel. For example, Boggs (1940) tried to devise an index of the interruptive quality of boundaries by calculating the continental ratios of boundary length and continental area. He then accepted that pressure against the boundary was a direct function of national population. He then obtained another index by multiplying the interruptive index by the value for the population density of the continent. Hinks (1940) demonstrated the unreliability of these calculations as a basis for serious continental comparisons. Dorion (1963) had no more success than Boggs in trying to develop an index of sinuosity in his study of the boundaries of Quebec and Newfoundland.

Most recently Anderson (2003) has compiled a set of boundary indices for 197 countries. Indices of potential boundary accessibility, potential boundary instability and potential security concerns are calculated for each boundary between adjacent states. In the case of Finland the indices are calculated separately for boundaries with Norway, Sweden and Russia. Potential boundary accessibility is calculated on a five-point scale related to altitude, relief and the existing communication network. A score of 1 means there is a low-level of accessibility as between Kyrgyzstan and Tajikistan. The most accessible boundary appears to separate France and Monaco. There is a similar scale for the index of potential boundary instability, however since some boundaries in Europe record an index of zero this is a six-point scale. This scale is based on political, economic, social and military relationships and on specific boundary issues. The highest index of 5 is awarded to Israel and Syria.

The product of these two indices provides the geopolitical index. The range varies from zero to 25. Austria's boundary with Hungary has an accessibility index of 4.5. Its potential instability index is zero, therefore multiplying these

two values gives a geopolitical index of zero. The accessibility index and the instability index for Israel and Palestine are both 5. This means that the geopolitical index is 25.

The final calculation produces the national land boundary vulnerability. The national boundary is the sum all of the individual segments with neighbours. The national index is derived by weighting the individual indexes for each neighbour, according to the proportion of that boundary length to the entire boundary circumference.

The difficulty with this mathematical approach to boundary descriptions is that Anderson gives no examples of how he obtained any particular value for the potential boundary accessibility or potential instability indices. But once they have been calculated the geopolitical index and the national land boundary vulnerability index are generated mechanically. If scholars use these indexes to compile tables ranking boundary segments according to their risks of conflict it is unlikely that the results will be useful.

Scholars from different disciplines have written many case studies of boundary disputes. Collectively they enable the essential elements of boundary disputes to be identified. A lawyer, Johnson (1966), wrote about the Columbia River between Canada and the United States. Lamb (1966) and Boban (1993) are historians who respectively wrote about the McMahon Line of 1914 and Croatia's boundaries from 1918-1993. Ronald Bruce St John (1994, 1994a and 1998) is a political scientist who has analysed the boundaries of Ecuador and Peru, Bolivia, Chile and Peru and Cambodia, Laos and Vietnam. Many political geographers have examined international boundary disputes. Richard Schofield (1993 and 1994) has published seminal studies of the historical claims of Iraq and Kuwait and the borders and territoriality in the Gulf and Arabian Peninsula in the 20 th Century. Recent important contributions include those by Klemencic (1994) on Bosnia and Hercegovina and Newman (1995) on the Green Line boundary between Israel and the West Bank. The large library of boundary disputes reveals that analysis of new disputes should focus on the cause, the reason for its development at a particular time, the aims of the countries concerned, the arguments used to justify particular attitudes and actions, and the results which follow from the settlement or continuation of the dispute.

THE TERMINOLOGY OF LAND BOUNDARIES

The terms *boundary*, *frontier* and *border* are often used as synonyms in conversation, in newspaper reports and in television and radio broadcasts. For boundary scholars they are all specific terms that are not interchangeable, and there are other terms that have precise meanings.

A *boundary* is a line while a *frontier* and a *border* are different kinds of areas. The term frontier has two meanings. Long ago political frontiers separated tribes or kingdoms or principalities throughout the world. These frontiers were not controlled by either side. They provided refuges for outlaws. The frontiers might have been patrolled on a regular or irregular roster to ensure that no forces were using them to build camps from which attacks could be launched. In at least two cases walls were built to mark the inner edge of the frontier, with the understanding that the state's power extended beyond the wall. In 656 BC the Chinese state of Ch'u built a wall in the southern part of modern Honan Province (Waldron, 1990, 13). The Great Wall was built in the period after 1474 (Waldron, 1990, 105). Hadrian's Wall was built during the first century AD across northern England between Segedunum [Wallsend] and Luguvallium [Carlisle]. The second meaning of *frontier* refers to the settlement frontier within a large country such as the United States of America or Australia. It represents the distinction between occupied and controlled land and unoccupied and uncontrolled land. Although today there are large unpopulated areas in many countries they would all be considered to be under the control of the state.

The terms *border* and *borderland* are synonyms. They are both zones of indeterminate width that form the outermost parts of a country, that are bounded on one side by the national boundary. Lapradelle called such zones *le voisinage*, meaning neighbourhood, vicinity, nearness, neighbours. He also uses the term *le territoire limitrophe* translated as the neighbouring or bordering area.

The terms *allocation, delimitation, demarcation* and *administration* have the precise meanings that Lapradelle and Jones developed. Allocation means the initial political division between two states. Delimitation means the selection of a boundary site and its definition. Demarcation refers to the construction of boundary markers in the landscape. Finally administration is concerned with the maintenance of those boundary markers for as long as the boundary exists.

Lastly Hartshorne (1936) proposed some useful terms that describe the relationship between the boundary and the landscape on which it is constructed. An *antecedent* boundary was drawn before most of the features of the cultural landscape existed. If a line was drawn through an uninhabited area the term *pioneer* boundary is appropriate. A *subsequent* boundary was constructed on an existing cultural landscape. Boundaries that are drawn to coincide with some physical or cultural features are called *consequent*. A boundary drawn on an existing cultural landscape, that appears to be unrelated to the cultural features, is called *superimposed* or *discordant*. Finally a *relict* boundary is one that has been abandoned but is still marked by differences in the landscape that developed during its lifetime.

A Comparison of International Boundaries on Land and Sea

The nature of international maritime boundaries is not considered in this volume. Such boundaries are considered in detail in *The maritime political boundaries of the world* (Prescott and Schofield, 2005).

There are some similarities between international boundaries on land and sea. During the second half of the 19th century the European colonial powers were very active in delimiting and sometimes demarcating international boundaries in Africa and Asia. During this period some boundaries were also decided between South American states. This historical surge in drawing boundaries on land has been matched since the 1940s by what Eckert (1979) has called 'The enclosure of the oceans'. Since 1947 countries have claimed waters and seabed within 200 nautical miles of their coasts. In some cases claims to the seabed extend beyond this limit.

The motives for drawing international boundaries on land and sea are identical. States wish to secure a clear and unchallenged title to parts of the earth, that are valued for the human or material resources they contain or the strategic advantage that they confer. They also seek to create lasting arrangements with neighbours that will, at least, minimize the risk of friction either between governments or citizens.

The procedures by which states conduct bilateral negotiations to produce boundaries on land and sea have much in common. Each country carefully prepares its case by marshalling all the technical, historic, economic, cultural and legal arguments that might be useful. Delegations are then appointed, given precise instructions, and charged with the responsibility of obtaining the best possible result. Sometimes, when a satisfactory compromise cannot be achieved, the contending parties either take the dispute to arbitration, or establish a neutral zone or a provisional boundary.

There is one important difference faced by negotiators dealing with land and maritime boundaries. The 1958 and 1982 Conventions on the Law of the Sea contain some imprecise rules that might bear on the delimitation. Further, it is probable that discussions about the location of a maritime boundary will be mainly of a technical nature. They will centre on the characteristics of coastlines and seabed and the proper consideration of small islands or low-tide elevations. Issues of history and culture that are often prominent in settling land boundaries, will usually be insignificant in fixing maritime boundaries.

There is another important difference between land and maritime boundaries. On land it is usual to delimit and demarcate a single line. In the sea, the 1982 Convention permits coastal states to delimit, unilaterally, internal waters, territorial waters, archipelagic waters and seabed boundaries. Most international maritime boundaries consist of a single line that separates the water column and the seabed. However, there are cases in the Timor Sea, where Australia on the

one hand and Indonesia and Papua New Guinea on the other hand, have drawn two lines, so that the Australian seabed extends under the water columns of the other states.

Maritime boundaries are more permeable than international boundaries on land. Unless special arrangements have been made for citizens living close to a land boundary, there will usually be some formality when a person crosses the boundary into the neighbouring state. In contrast the master of a vessel has the right of innocent passage through the territorial waters of another country. According to Article 19 of the 1982 Convention passage is innocent providing it is not prejudicial to the peace, good order or security of the coastal state (United Nations, 1997, 27).

Unlike land boundaries maritime boundaries are rarely demarcated except where two countries share a comparatively narrow navigable waterway. All maritime boundaries are defined by straight lines or arcs of circles, whereas some land boundaries follow an irregular course. One encouraging feature about maritime boundaries is that they have not been the cause of wars, although there have sometimes been incidents that caused difficulties. In contrast, states have sometimes gone to war with a neighbour in an effort to achieve boundary adjustments, as conflicts between Eritrea and Ethiopia, China and India, Iran and Iraq and India and Pakistan can attest.

BOUNDARIES IN THE AIR

Although national claims to land, lakes, rivers and adjoining seas have been common since Roman times, national claims to the air above these features were delayed until the 20th century. Matte (1981, 53-5) has described individual legal rights to airspace from Roman times to the 19th century. The legal principal was summed up in the gloss prepared by Accursius in the Middle Ages.

> *Cujus est solum ejus debet esse usque ad coelum. [He who possesses land possesses that which is above it to the sky.]* (Matte, 1981, 54)

This meant that if water draining from one roof fell onto and damaged the home of a neighbour, then the neighbour could claim compensation. The first flight by balloon occurred on 21 November 1783, and 32 years later a British judge ruled that passage of a balloon over private property did not involve any infraction of ownership rights (Matte, 1981, 55).

National claims to airspace started when aeroplanes began to cross international boundaries and when they were used for warfare. The earliest use of balloons in war recorded by Matte occurred in 1793. French Republican forces used a tethered balloon *Entreprenant* [Enterprising or Adventurous] as an observation platform during the battle of Fleurus (Matte, 1981, 93). The first military use of dirigibles and aeroplanes occurred in a conflict between Italy and Turkey in

Tripolitania in 1911-12. More than 40 years earlier Chancellor Bismark had advised the French government that aeronauts who crossed enemy lines would be treated as spies (Kroell, 1934, 2).

National claims to air were firmly established in the Paris Convention that was signed on 13 October 1919 and which entered into force on 11 July 1922. Article 1 of this Convention included the following statement.

> *…the High Contracting Parties recognise that every Power has complete and exclusive sovereignty over the airspace above its territory.* (Martin *et alia*, 1985, Vol. 1, IV/3)

The 1944 Chicago Convention on International Civil Aviation included the identical principle in its first Article.

> *The contracting States recognize that every State has complete and exclusive sovereignty above its territory.* (Matte, 1981, 605)

In both Conventions territory was considered to include all land and territorial waters of the state and any colonies or mandates that it might possess. Martin *et alia* (1985, IV/5) believe that this rule would also apply to territory leased by one state to another. The limits of the airspace within which states can exercise sovereignty can now be considered.

THE HORIZONTAL EXTENT OF AIRSPACE

The Paris and Chicago Conventions defined territory as all land and territorial waters. This means that on land the horizontal airspace is defined by international boundaries with neighbours, whereas over the sea it is defined by the limits of the territorial sea. There are about 150 coastal states in the world and 129 states claim territorial waters 12 nm wide. Wider claims are made by 13 states and narrower claims are made by 7 states. There are three possible combinations of these limits. The horizontal airspace of landlocked countries will be bounded entirely by international boundaries on land and in rivers and lakes. If there is some dispute over the location of any of these boundaries the airspace above the disputed territory will also be involved. However, disputes over territory never seem to refer to the airspace above the territory.

The airspace of coastal states will be bounded by their international boundaries on land, the outer limits of their territorial waters measured from specified baselines and maritime boundaries with adjacent or opposite states. The baselines might be a particular low-water line or straight lines closing legal bays or joining islands and headlands along an indented coast.

The horizontal airspace of states composed of archipelagos, such as the Maldives or Fiji will be the limit of territorial waters measured from coasts or archipelagic baselines. The archipelagic states of Indonesia and Papua New

Guinea share the island of New Guinea, so their airspace will be partly defined by an international boundary drawn over land. Indonesia also shares Borneo with Malaysia, that is not an archipelagic state, so again part of Indonesia's airspace will be bounded by an international land boundary.

The 1982 Convention on the Law of the Sea contains some rules about the airspace over maritime zones. Freedom of overflight, over waters in an international strait, is guaranteed by Article 38. An international strait is one that links two areas of seas and measures not more than 24 nm in width. This means that the strait is totally occupied by the territorial waters of the flanking state or states. An international strait is used for international navigation from one part of the high seas or an exclusive economic zone to another part of the high seas or an exclusive economic zone. Examples of such straits include Juan de Fuca Strait, Saint Vincent Passage, Strait of Gibraltar, Strait of Malacca, Bab el Mandab and Torres Strait.

Flight over these straits is described as transit passage that should be continuous and expeditious. However, this requirement does not preclude passage through the strait for the purpose of landing in a state bordering the strait, in accordance with the normal rules of entry. The duties of aircraft pilots are set out in Article 39.

1. Ships and aircraft, while exercising the right of transit passage shall:

   (a) proceed without delay through or over the strait;
   (b) refrain from any threat or use of force against the sovereignty, territorial integrity or political independence of States bordering the strait, or in any other manner in violation of the principles of international law embodied in the Charter of the United Nations;
   (c) refrain from any activities other than those incident to their normal modes of continuous and expeditious transit unless rendered necessary by *force majeure* or by distress;
   (d) comply with other relevant provisions of this Part. (United Nations, 1997, 33)

Aircraft in transit passage must also observe rules established by the International Civil Aviation Organization and continually monitor the radio frequency assigned by air traffic control authorities. There is an obligation on the states bordering the international strait to publicize any known dangers to overflight.

The right of transit passage does not apply in one special case. This occurs when the strait is formed by an island, belonging to the country that owns the mainland coast, and when there is an alternative route seawards of similar convenience with regard to navigational and hydrographical characteristics.

Archipelagic states may draw straight baselines around the outer edge of their outer islands if they can satisfy certain rules. The waters encompassed by such baselines are called archipelagic waters and sections of these waters may be more than 12 nm from islands. In the southern part of the archipelagic waters

proclaimed by Fiji on 1 December 1960, some waters are more than 60 nm from the nearest island. Article 49 of the 1982 Convention on the Law of the Sea extends sovereignty to the archipelagic state of the airspace over archipelagic waters. Foreign aircraft may fly through the airspace over archipelagic waters according to the right of archipelagic sea-lanes passage. This right seems to be very similar to transit passage through international straits.

Archipelagic states may designate air routes suitable for continuous and expeditious passage by a series of continuous axes from the point of entry into the archipelagic airspace to the point of exit. Such routes must include all the normal routes used for international surface navigation, although duplication of routes of similar convenience between the same entry and exit points is not required. Planes flying along these routes may not deviate by more than 25 nm from the defined axis. However, the plane may not pass closer to land than 10 per cent of the width of the strait. This means that the full deviation will only be possible when the strait is at least 63 nm wide. If the archipelagic state does not designate archipelagic sea-lanes, planes may fly along the routes normally used for international navigation.

The Law of the Sea Convention also places an obligation on states to prevent, reduce and control pollution of the marine environment from atmospheric sources. Article 212 entitles the country to adopt laws and regulations dealing with this subject that shall apply to its airspace and to planes registered by that country.

The vertical extent of airspace

The vertical extent of national sovereignty was not defined in either the Chicago or Paris Conventions. Nor is there any reference to the vertical limits of airspace in the Law of the Sea Convention. Escalada (1979, 51-3) discusses the lack of a precise vertical limit relating to airspace and notes that most writers on the laws relating to airspace believe that a definite limit should be set. If a specific limit is agreed it will presumably separate national airspace from international airspace in the same way that high seas are separate from national maritime zones. High seas are those seas that do not form part of national claims to exclusive economic zones, territorial seas and internal waters (United Nations, 1997, 53).

The treaty dealing with outer space, that was opened for signature on 27 January 1967, stresses the international nature of outer space in Article 2.

> *Outer space… is not subject to national appropriation by claims of sovereignty, by means of use or occupation or by any other means.* (Martin *et alia*, 1985, IV/1)

Various proposals about the vertical definition of national airspace fall into three categories. First there are those associated with the physical properties of the atmosphere. Such limits could be related to specified values for air pressure or

density. Unfortunately the surfaces marking equal air pressures or densities would resemble the surface of the ocean with very large waves. In short, the elevation of any specified value would not be the same for various places at the same time, nor the same for one place at different times. Such a variable limit would create unrestricted opportunities for legal disagreement in the future.

Second, the vertical limit could be related to the performance of aircraft or satellites. It has been suggested that the limit should be set at the level where flight based on aerodynamic lift becomes impossible This level is known in the literature as the von Karman Line (Escalda, 1979, 53; Martin *et alia*, 1985, IV/1). Although it is agreed that this level will occur at about 80 km, it will vary above and below that height, depending on the density of the air at any time. When an American spy plane, piloted by Gary Power, was shot down over Russia it was at an elevation of about 62,000 feet or nearly 19,000 metres.

At a meeting of the International Law Association in 1968 at Beunos Aires it was agreed that the zone of outer space should begin at the perigee of the orbit of the satellite closest to the Earth's surface. Many satellites used for the global positioning system operate at 20,200 km.

Third, there is the option of selecting some arbitrary height above the Earth's surface. This would be equivalent to the territorial sea limit of 12 nm, or the exclusive economic zone 200 nm wide. It would be necessary to fix a height above the level planes could reach in aerodynamic flight. If the von Karman line has merit the arbitrary limit could be set at 90 or 100 km above sea level.

Escelada (1979, 53) may be right in asserting that the drawing of a line between airspace and outer space is imperative, but there is little evidence that the majority of countries in the world give this matter a high priority.

Disputes associated with national sovereignty over airspace

Fortunately the most dramatic dispute concerned with national airspace on 1 September 1983 has not been repeated. On that day a South Korean civil airliner was shot down over the Russian territory of Sakhalin. The plane was *en route* from Alaska to South Korea. Russian planes failed to intercept the plane over the Kamchatka Peninsula. But it was intercepted over Sakhalin and destroyed.

Following this event the International Civil Aviation Organization adopted an amendment to the Chicago Convention. The change laid down the principle that states must refrain from resorting to the use of weapons against civil aircraft in flight (Martin *et alia*, 1985, IV/4). The amendment also permits the sovereign state to intercept a plane flying illegally in its airspace, while ensuring that the lives of the persons on board and the safety of the aircraft are not endangered. Intercepted planes may be required to land at a designated airport. Further, the amendment provides for each contracting state to establish laws that punish severely the crew of any registered plane that refuses a proper order to land.

Another type of dispute is associated with pollution carried in the atmosphere from one country to another. In January 1986 William Davis, a former Premier of Ontario Province, and Drew Lewis, a former Secretary of the United States Transportation Department, issued a joint report on acid rain in the borderland between their two countries. Acid rain is produced when large quantities of sulphur dioxide and nitrogen oxides are discharged into the atmosphere, and reactions within the atmosphere produce dilute sulphuric, nitric and in some cases hydrochloric acid (Brown *et alia*, 1981, 17-21; Ostmann, 1982, 10-24). These dilute acids are present in rain and snow in some areas and they can damage crops, the soil, buildings, fish, animals and people.

It is considered by many scientists that the level of acidity in precipitation is directly related to the burning of coal with high sulphur content and discharging the smoke from very tall chimneys. Ironically, the tall chimneys are designed to avoid pollution in their immediate vicinity.

The issue of air pollution dominated headlines in Europe in late April and early May 1986 after the nuclear accident at Chernobyl in the Soviet Union. A high-pressure system that lasted for some days created prevailing southerly winds carrying a plume of radioactive gases northwards across Scandinavia. In early June unusually high readings of radioactivity were recorded in Scandinavia. The agricultural districts around Gavle, about 160 km north of Stockholm, recorded average readings of 137,000 becquerels per square metre after heavy rain. Average figures declined to 13,000 becquerels at Trondheim on the Norwegian coast and 2,500 becquerels in Scotland. These radioactive levels were produced by caesium 137, iodine 131, plutonium 239 and strontium 90 (*The Observer*, 1 June 1986, 14).

It is possible to consider the atmosphere as a common resource that straddles international boundaries. The Danube flows from Germany through Austria, Czechoslovakia, Hungary, Romania and Bulgaria and the downstream states expect that the upstream states will not pollute its waters. So states have the right to expect that neighbouring territories will not pollute the atmosphere, that unlike rivers, circulate in a number of different directions. Attempts have been made to reduce the incidence of acid rain and these efforts are likely to be continued.

CONCLUSION

Following this introduction the book falls into three sections. The first section deals systematically with frontiers, boundary evolution and boundary disputes. The second section considers aspects of international law related to boundaries. It includes chapters dealing with international law and territorial boundaries, maps as evidence of international boundaries and river boundaries and international law. The third section consists of seven regional chapters that examine the evolution

of boundaries in the Americas, the Middle East, Africa, Asia, Europe, islands off Southeast Asia and Antarctica.

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2. FRONTIERS

Political geographers use the term ‘frontier’ in two senses. It can either refer to the political division between two countries or the division between the settled and uninhabited parts of one country. There is no excuse for geographers who use the terms ‘frontier’ and ‘boundary’ as synonyms.

This chapter considers those aspects of frontiers that are of interest to political geographers and it is divided into three parts. First there is a consideration of settlement frontiers that exist within a single country. Second political frontiers that are used to separate neighbouring countries are examined. Third there is an account of some historical political frontiers.

SETTLEMENT FRONTIERS

Two kinds of settlement frontiers are recognized. Primary settlement frontiers exist where a state is taking possession of its territory for the first time. The classical example is the westward expansion of American sovereignty through its territory in North America. Secondary settlement frontiers are found in many countries today and mark zones that separate settled and uninhabited regions of the state. The two types of settlement frontiers have different characteristics.

Primary settlement frontiers are historic features, whereas secondary settlement frontiers are found currently in many countries where an adverse physical environment or inadequate farming and mining techniques hinder further advances in land-use and settlement. The primary settlement frontier marked the limit of the state’s political authority. The political authority of modern states extends beyond secondary settlement frontiers and usually can be exerted when necessary. Any country, such as Australia, that includes large areas of desert provides special services that can operate in those uninhabited or sparsely populated regions. The range of potential economic activities is generally larger in primary settlement frontiers than along secondary frontiers. Fur-trapping, timber-felling, semi-subsistence cultivation, grazing, mining, and manufacturing and service industries were either found at some points on the American frontier or developed as it advanced. On the other hand the advancement of secondary settlement frontiers is likely to be accompanied by the extension of irrigated farming, as in Mali,

tourism in arid areas of Namibia, and the exploitation of mineral deposits in northern Australia. Becker (1980) has described the role of mining settlements in extending the secondary settlement frontier in Alaska and the Yukon. The discovery of rich placer deposits of gold provided the impetus for centres such as Dawson, Forty Mile and Grand Forks. Becker's analysis shows that once the prospectors discovered gold, the main influence on the growth of the settlement was provided by traders. They were searching for the best locations for commerce and the chance of profitable speculation in real estate. Governments played a minor role, that was mainly concerned with surveying and laying out a rectangular town-site, often after the first buildings had been erected.

The limited range of economic activities, in the vicinity of secondary settlement frontiers, is normally reflected by a low density of population. On primary settlement frontiers population densities may be moderate to heavy. There are some exceptions to this generalization in some secondary settlement frontiers in India and Bangladesh. The United States Census Bureau's definition of the frontier as areas with a population density of two to six persons per square mile would have excluded many of the early frontiers in Georgia. The development of secondary settlement frontiers is usually carefully planned and is based on a satisfactory communications network. This situation contrasts with the haphazard development of primary frontiers. Often they were characterized by '…rudimentary socio-political relations marked by rebelliousness, lawlessness and/or the absence of laws' (Kristof, 1959). Lastly, the primary settlement frontiers often advanced rapidly. In 1783, 4 million acres of the Cumberland Valley were sold in seven months, and in 1795, during only two months, 26,000 migrants crossed the Cumberland River in search of cheap land to the west (Billington, 1960). The advances of secondary settlement frontiers generally involve small areas and comparatively few people.

Primary settlement frontiers

Much has been written about the primary settlement frontier. American historians are mainly responsible for the thorough documentation of the United States' primary frontier. Turner was able to use early studies of the primary settlement frontier to establish his hypothesis that '…the existence of an area of free land, its continuous recession and the advance of American settlement westward explains American development' (Turner, 1953). Historians rather than historical geographers have provided the majority of studies on this subject. Whittlesey (1956) writing on the expansion and consolidation of the United States, makes only passing reference to the frontier and no reference to the detailed historical studies. Some geographers have contributed to frontier studies beyond the simple mapping of frontier phenomena. Such mapping has been done for the American and Canadian frontiers, by Paullin (1932), Adams (1943), Kerr (1961) and Garrett (1988).

The position of the frontier, that represents the zonal limits of political authority, and its width, are of prime interest to geographers. In order to determine the frontier's extent some criteria must be developed to distinguish it from non-frontier areas. A simple estimate of population density is unsatisfactory, and a better measure is likely to be found in the degree of political and economic organization. This is a task calling for training in historical and political geography. In an examination of South Africa's primary settlement frontiers, Christopher (1982) drew attention to the inadequate statistical information for the 19th century. He proposed a careful examination of population distribution, land alienation, cultivation and numbers of stock to locate the positions of the frontiers and their characteristics.

Information about the position of the frontier at any time will give a clue to the factors that have influenced its rate of advance. This information will certainly allow the identification of the personalities and policies of the government of the day. The advance of a primary frontier will frequently depend upon a combination of factors. They can be broadly divided into the forces of attraction, attributable to the environment beyond the frontier, and the social, economic and political forces of pressure encountered in the frontier itself. The role of unusually favourable soil groups, such as those found in the Blue Grass country of Kentucky and the cotton lands of the Gulf Plains, promoted the rapid advance of the frontier in the early decades of the 19th century. In South Africa the discoveries of precious mineral deposits in the Transvaal caused spectacular advances of the frontier.

Pressures within the frontier hinterland take many forms. Turner (1953) and Billington (1960) have shown how frontiersmen were seeking to avoid high land prices, heavy taxation and political and religious disabilities imposed either by the first, well-established settlers or by the governments of the country of origin. Further, the experience gained on one section of a frontier, in respect of land legislation, mining laws and Indian treaties was applied at subsequent frontiers, allowing speedier settlement of problems. Periods of standstill or retreat along the frontier resulted generally from the unfavourable nature of the environment or the inadequacy of techniques for using it, the armed resistance of indigenous groups and the preoccupation of governments with more urgent considerations (Figure 2.1).

> *In these successive frontiers we find natural boundary lines which have served to mark and affect the characteristics of the frontiers, namely: the 'fall-line'; the Allegheny Mountains; the Mississippi; the Missouri where its direction approximates north-south; the line of the arid plains approximately the thirty-ninth meridian; and the Rocky Mountains. The fall-line marked the frontier of the seventeenth century; and the Alleghenies that of the eighteenth; the Mississippi that of the first quarter of the nineteenth; the Missouri that of the middle of this century [19th] (omitting the Californian movement); and the belt of the Rocky Mountains and arid tract, the present frontier. Each was won by a series of Indian wars.* (Turner, 1953, 9)

The maps of the battles with Indians show that the fiercest resistance by indigenes often coincided with the most difficult terrain, that offered superior strategic opportunities for defence (Paullin, 1932). It was in the scrub country of Queensland that Aborigines offered the sternest resistance to the extension of pastoral activities. In Kamerun, during the early years of the twentieth century, the Germans faced their most severe problems in pacifying the Chamba and pagan groups, who were located in the heavily dissected borderland with Nigeria. The stagnation of the American frontier, during the twenty years before 1795, resulted from the preoccupation of the colonies with securing independence, establishing a federal constitution and defeating Indians in areas already settled. Porter (1979) noted that the delayed settlement of the western areas of Maryland can only be understood after examination of the contemporary physical, financial and political conditions.

In some cases attempts were made to halt the frontier's advance by governments or interested trading organizations. Some of the earliest coastal states in North America tried to enforce such restrictions in order to retain political power and avoid a further loss of population. In the hinterlands of New York and Pennsylvania, the Iroquois Confederation blocked for a century, the route through the Catskill and Berkshire Ranges, by the Mohawk and Hudson valleys. This was done so that Indians who supplied the fur trade should not be driven away (Billington, 1960). Konrad (1981) has described how the desire of the Iroquois to continue their profitable trade in furs, especially beaver, resulted in an advance of their frontier from the southern shore to the northern shore of Lake Ontario. In the second half of the 17th century this area was a devastated no-man's-land as far as the British and French authorities were concerned. However, the Iroquois established their settlements to provide bases, from which winter expeditions could be conducted north and south of Lake Ontario. They were used as staging posts for fur brigades travelling south to trade with the English.

Turner maintains that '…each frontier leaves its trace behind it, and when it becomes a settled area the region still partakes of the frontier characteristics' (Turner, 1953, 4). This suggests a fruitful field for geographical research. Is it possible to attribute any elements of the cultural landscape to the period when the area was a primary frontier? There is probably a connection between present property boundaries and the original policies of land allocation and appropriation. It seems unlikely that the present economy will reveal many features that can be traced to frontier times, since the earliest economic activities of hunting and grazing will survive only if the land was unsuitable for cultivation and lacked the resources on which could be built towns with secondary and service industries. It has been noted by Clark (1959) that when a period of standstill allowed an accumulation of population, as in Georgia and Tennessee, eventual advance of the frontier was more orderly and complete. Rapid advance without resistance resulted in scattered and discontinuous patterns. It would be interesting to discover whether settlement analysis reflects this process of development.

Mitchell (1972) has provided a good geographical analysis of the American primary settlement frontier in the Shenandoah Valley in the 18th century. His analysis concentrates on three main themes. First he considers the movement of migrants into and through the area to provide valuable information about the political organization of the frontier and the distribution of groups with different cultural characteristics. An understanding of migration routes allows scholars to understand how the frontier moved and developed differentially. Second he reviewed the developments that occurred while the frontier occupied different positions. The processes of land acquisition from the Indians in the first case and subsequent land subdivision and redistribution by the landowners in the second case attract Mitchell's attention. The nature of pioneer and post-pioneer economies received detailed treatment. Third the changing location of the frontier relative to the settled areas and the uninhabited areas is assessed at intervals throughout the frontier's history. Mitchell concluded that during the frontier phase, the Shenandoah Valley was socially more complex and economically more sophisticated than is generally acknowledged. His paper is a model of the useful research that geographers can undertake.

Secondary settlement frontiers

Secondary settlement frontiers are found in all but the smallest countries. They include areas of unfavourable environment, such as tropical or temperate desert, heavily dissected uplands, thick tropical rain forest, and areas that require the use of advanced and often expensive techniques if they are to be used for purposes other than mineral extraction. These are often the areas by-passed by the primary settlement frontier, when the population is concerned with rapid exploitation and profit. These inferior regions will be assessed later if circumstances require it and if new techniques or discoveries make it possible to revalue the environment. Burt has recorded the following interesting observation about the Canadian settlement frontier in the 19th century.

> *The expansion of Canadian settlement ran up against the rocky pre-Cambrian Shield, with the result that the Canadian frontier movement crossed the [American] border, where it became merged in the greater movement to the northern Middle Western States.* (Burt, 1957, 71)

Only when the availability of land in the American West was reduced did the secondary settlement frontier cross the boundary again, promoting the development of western Canada. Straight (1978) shows that there was also northern movement by American settlers across the Canadian boundary in New England. This movement started after the 17th century and continued without much apparent interference.

In many European states only short settlement frontiers surround small areas of unfavourable environment. In Australia a long secondary settlement frontier surrounds the central desert. It occupies about 2 million square kilometres of dunes formed by the anti-clockwise pattern of winds (The Grolier Society, 1983, volume 3, 202). The longitudinal dunes are about 500 metres apart and 15 metres high in the Great Victoria, Simpson and Great Sandy Deserts. The western Gibson Desert is composed of laterite high plains with some mesas. Adjacent to both sides of the boundary between Western Australia to the west and South Australia and the Northern Territory to the east most of these desert areas are organized into freehold or leasehold Aboriginal Trusts. The remaining desert regions in Western Australia are mainly Vacant Crown Land and some small zones set aside for Nature Conservation Reserves (Australian Surveying and Land Information Group, 1993). The total population of this large region is small and tends to be concentrated in tiny settlements. Forty such settlements were identified around the perimeter of this desert region and a few were located closer to the centre. There were 23 in Western Australia and 17 in the Northern Territory and South Australia. The populations at these locations varied from 10 at Yulara in the Northern territory and 29 at Edjudina in Western Australia. However, it is noteworthy that although the area is lightly populated the entire area is allocated to a land classification, such as freehold or leasehold, vacant crown land, Aboriginal trusts, defence land, nature conservation reserve and Aboriginal national park.

Examples of the role played by improved techniques can be found in many countries. The waterless areas of the Kalahari sandveld in South Africa were not settled until after 1903, when drilling equipment allowed underground water reserves to the tapped. The Mallee scrub region of interior South Australia, Victoria and New South Wales was covered with a hardy eucalypt formed of many branches rising from a mass of hard wood at, or just below, the surface. It was very difficult to clear, the vegetation was unpalatable to stock and sheep could not be mustered because the vegetation was dense and watering points were scarce. In 1877 the stump-jump plough was developed. It had two shares that moved separately and on contacting a stone or root they rose over the obstacle and then re-entered the ground. Much land was cleared for wheat farming but the dryness of the climate allowed strong winds to remove the light top-soil. Dunes were formed and sometimes fences and outbuildings were covered. Sheep rearing was tried in the 1930s but there was a shortage of important trace elements in the ground and soil erosion continued. Much of the area has now been established as nature reserves and national parks.

In the middle of the 19th century Russian emigration was threatening Japanese sovereignty over Hokkaido. The Japanese response was to encourage Japanese migration to the island. The government identified two groups of immigrants: those who travelled independently and those who travelled with the aid of a government subsidy. Independent farmers received implements, seed and 10

yen for every quarter acre cleared. Subsidized farmers received a rice ration for three years in addition to seed and implements. Their bonus for clearing land was 2 yen per quarter acre. Independent merchants and artisans received a gift of 150 yen for three years, which eventually had to be repaid (Harrison, 1953).

The discovery of new mineral deposits in remote areas, or changes in world prices that make known deposits profitable, encourages advances in the secondary settlement frontier in tropical and arctic deserts. Such advances occur at specific locations rather than on a broad front. Generally this advance will last only as long as the mine is profitable. A major uranium deposit was found at Arlit in Niger, north of Agades in the 1970s on the southern edge of the Sahara Desert. In 1999 it contained over 5 per cent of the world's reserves of uranium (Times Books, 1999, Plate 44-5). The same map shows a sprinkling of manganese and nickel mines along the coastal rim of the Arctic Ocean, iron deposits in Xizang Zizhiqu in central southern China and gold, copper and diamond mines in central and north Australia.

Stone (1979) provided a very useful map showing the distribution of the world's settlement frontiers that cover an area of at least 7,000 square miles. He classified the land into three categories: continuous settlement, discontinuous settlement and uninhabited. He then divided the areas of discontinuous settlement into the inner fringe zone, the middle fringe zone and the outer fringe zone. The inner and middle fringe zones were considered to constitute settlement frontiers that might have had a reasonable potential for new settlement. Stone noted that there might be some areas smaller than 7,000 square miles that may have a reasonable potential for new settlement. He recommended that they are identified on maps at a scale larger than 1: 125,000 that he used to create the world map. The frontiers he identified were described according to population densities and the recent changes in numbers of people.

Stone's work builds on the global view of secondary settlements set out by Bowman in 1931. He called the second settlement frontiers 'the pioneer fringe'.

> *Without wading too deeply into the sea of technology we may define the remaining pioneer areas of the world as regions of potential settlement in which man may have a reasonable safe and prosperous life; but regions in most of which he is required to make certain special adaptations. What those adaptations are the settler may discover by painful experiment, as in the past, or by the less painful experience if government and science steps in to help him. The rainfall of undeveloped pioneer lands is on the whole not so favourable as in most of the settled areas of the earth, but it is sufficient if the settler uses it rightly. The temperature may be too hot or too cold to suit him, but it is tolerable.* (Bowman, 1931, 51)

The world maps produced by Bowman and Stone are not directly comparable. However, the pioneer fringes, identified by Bowman in eastern Asia, south of

parallel 60° north, in central Asia east of the Aral Sea, in Africa north of parallel 15° north and in central Africa between a line joining the mouths of the Benguela and the Rovuma Rivers and the northern boundary of South Africa have been reduced in extent.

POLITICAL FRONTIERS

Political frontiers once separated neighbouring countries and geographic interest in them is mainly concerned with their physical characteristics, their position, the attitudes and policies of flanking states, the influence of the frontier on subsequent development of the cultural landscape and the way in which boundaries were drawn within the frontier.

Lord Curzon's essay in 1907 contained the seeds of a useful classification that was brought to fruition by East. East distinguished between political frontiers of contact and political frontiers of separation, and observed '…states have always sought frontiers which foster separation from, rather than assimilation with, their neighbours' (East 1937). Some frontiers, either by the attraction of their resources or the ease with which they can be crossed, allowed contact between separated groups. This contact took the form of trade, the payment of tribute, migration or conflict. On the other hand, the political frontier sometimes possessed qualities that made it unattractive to exploiters and travellers alike. However, in no case did the nature of the political frontier determine the degree of intercourse between states. Rather it was the attitudes and policies of the flanking states that were decisive. The Spanish and Portuguese territories in South America and their internal subdivisions were separated by lines on maps rather than demarcated boundaries. When Chile achieved its independence in 1818, its state limits were the Atacama Desert to the north and the Andes mountains to the east. Yet by 1883 Chile had defeated Peru and Bolivia to acquire the Tacna and Arica districts of the Atacama with their rich borax, copper and nitrate deposits (Dennis, 1931). Chile was also involved in a disagreement over ownership of the trans-piedmont slopes of the Andes with Argentina.

The Kingdom of Dahomey adopted a policy of isolation. Located west of the Niger Delta and lacking access to the sea, the territory of Dahomey, like that of its neighbours the Ashanti and Yoruba, was forested. Although the forested frontiers of the three territories were not difficult to cross, the armies that defended them were powerful. At regular intervals the armies of Dahomey raided for slaves across and beyond the forested frontiers to the east and west. Just as regularly the Yoruba raided into the territory of Dahomey. At the end of the 17th century 20,000 slaves were exported each year from Dahomey, through the port of Ouidah. That trade from Dahomey continued, at a rate of 8,000-15,000 per year, 40 years after the abolition of slavery. The last slaver to successfully

run the British Royal Navy blockade of Ouidah was the Ciceron in 1863 (Naval Intelligence Division, 1944, 44-5).

International boundaries have replaced international frontiers throughout the world. This means that research into political frontiers must have a strong historical and anthropological basis. Political frontiers generally experienced less intensive economic development than the territories they separated. There were three possible explanations for this situation. They were the unfavourable nature of the environment, the satisfaction of all needs within the territory bounded by the political frontier, or the deliberate neglect of the frontier to enhance its divisive character. Deserts, mountain ranges, rivers, marshes and woodlands have all formed frontiers at some time. It follows from this that political frontiers were usually less densely populated than the flanking states and in some cases the residents of the frontier experienced a lower standard of living. Tacitus, the eminent Roman historian of the first century, described the debased condition of the Slavic Venedi who occupied the wooded and mountainous area between the Peucini and Fenni. A more recent example was cited by Tilho (Ministère des Colonies, 1910). He referred to the wretched Beddé pagans, who survived in the swampy areas between the kingdoms of Bornu and Sokoto only if they could avoid enslavement by raiding parties from both states.

Yesner described the frontier that separated the Aleut and Inuit peoples in Alaska, although he does not use the term frontier.

> *The boundary zone between Eskimo and Aleut populations on the Alaska peninsula was not a resource-rich buffer zone, but a (relatively) resource-poor zone that acted as an isolating barrier between two relatively richer resource zones – one nearly exclusively maritime and one providing a mixed coastal, riverine, tundra suite of resources… Once established, the boundary between these two regions remained relatively stable over a long period until the Thule people – either because of environmental change, increased technological efficiency, or population pressure – were finally able to penetrate the boundary.* (Yesner, 1985, 84)

There is at least one case where the populations living close to the frontier acquired military and economic characteristics that enabled them to become paramount throughout the country. The Chou Dynasty of China was paramount from 1200-770 BC.

> *The conquering group of the Chous came from the west, but probably not further west than the region of the Wei Ho valley at the head of the Kansu corridor. This has been again and again a crucible region of vast significance to China. It lies within the belt of fertile loess and of normally sufficient rainfall and so was in touch with the characteristic development of Chinese agriculture further to the east. But it is closely bordered by the steppe, and upon it impinged not only the influences coming by way of the Turkestan oases from Western Asia, but also those of the virile, pastoral*

> *nomads of the grasslands. Here there tended to be formed under able rulers a strong composite society which has given many masters to China. The Chou conquest is the first great example of it, and it was as guardians of the marches, 'Chiefs of the West', that the Dukes of Chou acquired the power to overthrow the Shang dynasty which had become effete and discredited.* (Naval Intelligence Division, 1944a, 305)

Dictionaries do not give one common meaning for the term 'march'. The meanings given vary from 'borderland' or 'frontier' to a territory, organized on a semi-permanent military system, within the frontier to defend the state. It is the latter sense that is used in this text. By 255 BC the central authority of the Chou dynasty had moved eastwards, to the basin of the Chang Jiang [River] below the gorges, and it was replaced by the Ch'in dynasty. The Ch'in dynasty also originated in the western marches. Frequent conflict with mounted nomads had encouraged the development of a powerful army that included cavalry units (Naval Intelligence Division, 1944a, 312). Further some nomadic groups had been incorporated into the Ch'in organization. The Duke of Ch'in became the First Emperor. After the Chin Dynasty collapsed it was eventually replaced by the Han dynasty. It lasted from 206 BC to 214 AD and was initially cautious. After a period of consolidation attention was turned to the northwest frontier. Attention was focussed on the Gansu corridor that extended from Wuwei, via a number of rich oases, to Yumen [Jade Gate] where the trade routes diverge to the north and south of the arid Tarim Basin. The wall was extended along the northern edge of this panhandle and the constriction of the central area on modern Gansu Province is the remnant of the Han advance. The policy established by Emperor Wu Ti was that the wall represented the inner line of defence delimiting China Proper. However, imperial authority was to be extended as far as possible to the west and northeast (Naval Intelligence Division, 1944a, 322). One means of controlling areas beyond Yumen was through the agency of native princes. That system allowed Han control over the Tarim Basin as far as Kashgar until 23 AD (Barraclough, 1978, 80-1; Naval Intelligence Division, 1944a, 324-5).

Where there was the threat of invasion or trespass, political frontiers were selected for their defensive advantages and this point was thoroughly investigated by Curzon and Holdich. Curzon noted that deserts formed the best defensive frontiers. However, extensive deserts, such as the Sahara, were often inhabited by mobile warlike groups, such as the Tuareg, that plagued the surrounding agricultural communities. Davies made this precise point when he wrote of the northwest frontier of British India.

> *So long as hungry tribesmen inhabit barren and almost waterless hills, which command open and fertile plains, so long will they resort to plundering incursions in order to obtain the necessaries of life.* (Davies, 1932, 179)

Linear mountain ranges and wide rivers provided the advantage that the defending forces could concentrate their strength at passes and crossing points. The

possession of limiting deserts, mountain ranges and major rivers is a matter of geographical good fortune. In areas of more uniform terrain it is likely that frontiers were located in woodlands and marches. The swamps and forests surrounding Westphalia played a major part in the defeat of some Roman legions. A more recent example is provided by the forested margins of Kikuyuland in East Africa. The forested zone was about two hours march in width and enabled the Kikuyu to defeat Masai invaders, who seemed invincible on the grassy plains of Masailand (Hohnel, 1894, 1).

Political frontier markers

Many states tried to mark their frontiers in some way. The famous Roman and Chinese walls are the best examples. The Great Wall of China served not only to exclude nomadic barbarians, but also to restrict the number of Chinese who adopted a modified agricultural system, that made them more difficult to control from the Chinese capital (Lattimore, 1940). The journey from Beijing to the restored portion of the Great Wall, visited by tourists, passes a number of earlier, local walls, They show the same disregard for steep gradients exhibited by the famous national equivalent. Unlike China's Great Wall the walls built by the Romans did not mark major environmental divides. They were built in order to exclude barbarians. Where clear linear physical features were not available as good defensive lines the Romans built walls such as Hadrian's Wall linking the Solway Firth to the Tyne valley. Two others were built across the re-entrant formed by the upper courses of the Rhine and the Danube and east of the Drava-Danube confluence. The barbarians north of the Roman wall also built earthworks to delimit the edge of their territory. It is recorded that the Angrivarii constructed a broad earthwork to mark their frontier with the Cherusci. Baradez (1949) makes the important point that the walls and ditches formed the first or last line of a system of defence in depth. The Roman walls were reinforced by establishing farmers on the land behind the walls, in a zone called *agri limitanei.* The men of these families were expected to assist in the defence of the wall when it was attacked. This was an ancient predecessor to some Israeli Kibbutzim adjacent to Arab territory in the past fifty years. However, as an exception to this rule, Collingwood (1923) noted that the *vallum* [a palisade of stakes] behind Hadrian's Wall marked the limits of Rome's civil government.

The counterparts of the Chinese and Roman walls could be found in parts of Africa in the 19th century.

> *The kingdom was surrounded, where there were no natural defences by deep and wide ditches defended by tree trunk palisades and crossed at intervals by narrow bridges. The northern frontier was formed by the Gojeb River, called Godafa by the Kafa. Beiber gives the dimensions of the ditches as 6 metres in width and 3 metres in depth; he describes the gates,* kello, *as consisting of*

> *circular fenced enclosures entered by drop gates. Outside the line of fences was a strip of unoccupied land like the* moga *of the Galla states. At points where Galla attacks were expected, the gates were additionally defended by a high rampart and several lines of entrenchment, a form of defence much admired by the neighbours of the Kafa.* (Huntingford, 1955, 116)

The *moga* or uncultivated strip, of the Galla states in the Horn of Africa was inhabited only by fierce brigands, who were encouraged by the Galla rulers, to attack common enemies and recapture escaped slaves.

The reduction of political frontiers

Fischer maintained that '…a rather extensive literature deals with the development of boundary lines out of such [frontier] zones or related features' (Weigert *et alia*, 1957, 79). However, the works cited do not treat this aspect of boundaries in detail. The general impression is that as states separated by frontiers extend their territory, the unclaimed land diminishes. Eventually property disputes arise and attempts to solve such problems result in a delimited boundary. No doubt this series of events has occurred in some cases, but there are variations on this theme.

Frontiers normally diminish in width and frontiers of separation are replaced by frontiers of contact. There have been exceptions when frontiers increased in width. Such a development occurred in Hashtadan on the borderlands of Afghanistan and Persia, southwest of the great northward bend of the Hari Rud at Koshan. This area was investigated by General Maclean in 1888-9, prior to making a boundary award as requested by the Afghan and Persian governments. He found ruins of villages, faint field patterns and sections of underground canals that suggested the area had once been occupied and prosperous. He discovered that an epidemic throat disease had decimated the valley's population in 1788 and that subsequent attacks by Uzbek, Hazarah and Turkoman raiders were responsible for the subsequent devastation of the valley.

> *But from the appearance of the ruins and abandoned fields it is quite evident that the valley has been deserted for some generations.… Upon the whole, looking to the nature of my present information, it seems to me that neither Persians nor Afghans can produce proofs of recent possession in support of their respective claims, neither having felt inclined to stand the brunt of collisions, in such an exposed locality, with the Turkomans.* (Prescott, 1975, 154)

In the more usual process frontiers diminished in width either by the incorporation of parts of the frontier by one or both flanking states or by the creation of subsidiary political units within the frontier.

Annexation of parts of the frontier might have taken place because of rising land hunger within the state or through the development of new techniques that enabled the frontiers resources to be revalued. Fifer (1966) provided an interesting account of the extension of political control by Bolivia and Brazil over the '…empty, unknown, formerly negative frontier of separation…' that lay between them. She clearly identified the desire for new lands on which high quality rubber could be produced during the second half of the 19th century. This process was accelerated during the 1880s, when a severe drought throughout Brazil's eastern province of Ceara encouraged a mass exodus of labourers in search of work.

> *…not until the rubber boom involved the Amazon headwater region, thus probing beyond Brazil's undisputed territorial claims, did old negative frontiers of separation suddenly assume both economic and hence political significance.* (Fifer, 1966, 361)

If the frontier existed because of the internal weaknesses of the neighbouring states or their preoccupation with other external threats, the removal of the threats or the resolution of the weaknesses might allow appropriation of parts of the frontier. Alternatively the frontier might have been invaded and annexed for strategic reasons. For example, after the Roman successes in Gaul, the eastern flank of this advance was protected by the annexation of Noricum, Pannonia, Meosia and Dacia in the Danube Basin. This advance also removed the scene of conflict from the Mediterranean centres of the Empire (East, 1962). Annexation for one reason sometimes conferred unexpected benefits. The Romans invaded the area between the River Rhine, the River Main and the Taunus Range to stop raids by the Chatti. Later they discovered hot springs and iron and silver deposits in the region.

Political organizations within political frontiers

The subsidiary territorial organizations that were created within frontiers included marches, buffer states and spheres of interest or influence. As noted earlier a march is a territory, organized on a semi-permanent military system within the frontier, to defend the state. An illustration of the creation of marches, also called marks, was provided by the policies of Charlemagne and Otto.

> *From these Marks, intended to safeguard the Frontiers of the Empire from Slavonic or alien contact, and ruled by Markgrafs or Markgraves, sprang nearly all the kingdoms and states which afterwards obtained a national independent existence, until they became either the seats of empires themselves, as in the case of the Mark of Brandenburg, or autonomous members of the German Federation.* (Curzon, 1907, 27)

The German Kingdom was protected from the Slavs and Magyars by a series of marches stretching from the Baltic Sea to the Adriatic Sea (Figure 2.2). The Markgraves had the responsibility of defending the kingdom and extending the territory subject to it. The extension of territory resulted in the North and East Marks becoming the cores of major state. North Mark, founded in 928 by Henry the Fowler, later became known as Altmark, and it acquired Mittelmark, Vormark, Ubermark and eventually Neumark east of the Oder River. This enlarged area was created the Mark of Brandenburg in 1157 and subsequently provided the basis for the unification of Germany. East Mark, after being almost submerged beneath Magyar raids, was recreated by Otto the Great in 955. The additions of the Marks of Styria and Carinthia by 1282 created the core from which the Austro-Hungarian Empire grew.

One of the most enduring marches in Europe was created in 1578. After the defeat of the Magyar army by Turkey at the battle of Mohacz in 1526 the Turks controlled most of the Hungarian plain (Naval Intelligence Division, 1944b, 17). As a defence against the Turks Ferdinand of Austria created a march called the *Militärgrenze* [Military Frontier] in 1578.

> *This was a land of forts, watchtowers and beacons, and its inhabitants, the* granicari *or frontiersmen, held their land on a special tenure in return for military service.* (Naval Intelligence Division, 1944b, 18)

In 1699 Austria secured most of Croatia-Slovenia from Turkey and the Military Frontier was augmented so that it consisted of the three 'generalates' of Carlstadt, Varadzin and Petrinja. A generalate is the period of office of a military general.

> *The Croatian Diet (and that of Hungary too) greatly resented these [new] limitations of territorial sovereignty imposed by Austria, and repeatedly demanded the incorporation of the 'Frontier' within the civilian administration of Croatia. But the frontiersmen were against any change in their status, and the imperial government saw in them a useful counterpoise against the unruly nobility of the south. The regime of the 'frontier', despite Croat opposition and the decay of Turkish power, was not finally abolished until 1873-81. The tradition of the frontier remained long after 1881, and a high percentage of officers in the Austro-Hungarian army continued to be drawn from the old frontier regiments.* (Naval Intelligence Division, 1944b, 18)

Buffer states have been constructed within frontiers when two strong neighbours decided to reduce the dangers of conflict. In 1872 and 1895 Britain and Russia fashioned the Wakhan panhandle, that was a sliver of Afghan territory between Russian territory west of the Caspian Sea and northwest British India. In 1873 a line between Russian and Afghan territory was agreed as far as the eastern end of Lake Zorkul and this marked the northern limit of the panhandle (Prescott, 1975, 104-5). In 1893 Sir Mortimer Durand visited Kabul to negotiate the boundary

between Afghanistan and British India. The northernmost sector of this line formed the southern boundary of the panhandle. However, Durand had the delicate task of explaining to the Emir that the northern limit of the panhandle, with Russia, would exclude the territories of Roshan and Shignan over which the Emir has exercised intermittent authority (Prescott, 1975, 137). Fortunately the Emir agreed. This panhandle is 280 km in length and 55 km at its widest point.

Britain's prime boundary strategy in northern India was to maintain a series of small weak states between China and British India. Nepal, Sikkim and Bhutan were allowed to exist in the Himalayas. In Southeast Asia Britain tried to persuade China or Thailand to interpose their territory between Britain's territory of Burma and France's territory of Indo-China across the gap of 120 km that separated northern Thailand from southern China. British policy was explained as follows.

> *We could not have a coterminous frontier [boundary] with France in Burmah. That would involve vast expenditure on both sides and lines of armed posts garrisoned by European troops.… We had proposed a buffer state in the interests of both countries, for it was evident that if our boundaries were contiguous, any fussy, or ill-conditioned frontier officer, whether English or French, would have it in his power to magnify every petty incident into a grave international question, which would be transferred to Europe, and thus grow into a cause of exacerbation between the two Governments; whereas if a country like China were in occupation of the intermediate territory, neither England nor France would ever hear a word of any little troubles of the sort, which would be settled to the satisfaction of everyone concerned according to the customs of the country.* (British and Foreign State Papers 1894-5, 272, 379)

In fact France advanced westwards too fast for the British policy to have a chance and in 1896 the boundary with France was agreed to coincide with the talweg of the Mekong River.

Some colonial powers employed neutral zones to serve the same function as buffer states. Britain and Germany separated their spheres of influence in the Gold Coast and Togoland by a neutral zone. It lay north of the confluence of the Dakka and Volta Rivers. At various times there were proposals for neutral zones in southern Africa between British and German territories and between British and Portuguese territories. In 1965 and 1973 Kuwait and Saudi Arabia divided their former joint neutral zone on land. The resources of the former neutral zone and the marine areas attached to that zone are owned in common. In 1963 an agreement dealing with the offshore continental margin fixed the southern limit separating the offshore neutral zone and Saudi Arabia's exclusive continental margin. However, negotiations involving the maritime boundaries with Iran could not commence until the northern limit of the Neutral Zone with Kuwait was settled. This northern limit was settled by an agreement signed in 2000 and ratified in 2001.

> *The 2 July 2000 Agreement resolves these issues and opens the way (1) for negotiations between Saudi Arabia and Kuwait on the one hand, and with Iran, on the other hand, to establish the maritime boundary between the Offshore Neutral Zone and Iran's maritime jurisdiction and (2) for negotiations between Kuwai and Iran on their maritime boundary.* (Colson, 2002, 2826)

Neutral zones were often convenient solutions to difficult territorial questions, but they were really only short-term remedies. Usually their continued existence proved inconvenient and a greater source of friction than a detailed debate about their division between the neighbouring states.

The concepts of spheres of interest and influence flowered during the 19th century when the major European powers were establishing actual and potential claims to parts of Asia and Africa. At no time were the responsibilities and entitlements assumed under such claims defined precisely. Both concepts were means of reserving territory from the political interference of another state. It has been assumed that a sphere of interest is less significant than a sphere of influence. Holdich (1916, 96) suggested that a sphere of interest became a sphere of influence when there was the threat of competition by another state. In at least one case a sphere of influence was advanced to become a sphere of action. Some spheres were defined in territorial agreements as the following examples show. The Anglo-French agreement agreed in August 1890 was the forerunner of the present boundary between Niger and Nigeria.

> *The Government of Her Britannic Majesty recognises the sphere of influence of France, to the south of her Mediterranean possessions up to a line drawn from Say on the Niger to Barruwa on Lake Tchad, drawn in such a away as to comprise in the sphere of action of the Niger Company all that properly belongs to the Kingdom of Sokoto.* (Hertslet, 1909, 730)

This boundary stretched for 1,120 km and the country through which it passed was largely unknown to the two parties. Indeed Lord Salisbury, the British Prime Minister, admitted as much when he commented on the treaty.

> *We have been engaged in drawing lines upon maps where no white man's foot has ever trod; we have been giving away mountains and rivers and lakes to each other, only hindered by the small impediment that we never knew exactly where the mountains, rivers and lakes were.* (Roberts, 1999, 529)

These comments were made in a speech at the Mansion House soon after the agreement was signed. When he was criticised in the House of Lords for giving too much territory to France he made the following justification.

> *…consider its quality as well as its quantity. This is what agriculturalists would call very 'light' land.* (Roberts, 1999, 530)

The implication that the Royal Niger Company had got the best of the deal offended the French Ambassador, who was in the gallery. He wrote to show his annoyance as follows.

> *[You have] diminished very much the good feeling created by the conclusion of the arrangement. No doubt the Sahara is not a garden, and contains, as you say much 'light land', but your public reminder of the fact now, perhaps you will allow me to say, was hardly necessary. You might well have left us to find it out.* (Roberts, 1999, 530)

The Anglo-Portuguese agreement of 1891 was the forerunner of the present boundary between Angola and Zambia

> *It is agreed that the line of division separating the British from the Portuguese sphere of influence in Central Africa shall follow the centre of the channel of the upper Zambezi, starting from the Katima Rapids up to the point where it reaches the territory of the Barotse Kingdom.* (Brownlie, 1979, 1041)

The degree of interference with the indigenous organizations in the spheres of interest or influence varied in almost every case. At one end of the scale the imperial power assumed no responsibility, but claimed the exclusive right of its nationals to trade in the area. At the other end of the scale there was a high degree of political control more appropriate to the nature of a protectorate.

Political frontiers and the evolution of landscapes

It was noted earlier that some geographical research involves identifying elements or characteristics of the landscape derived from frontier origins. Such studies are also a proper facet of political frontier studies. Three examples illustrate these relationships. Cornish (1936) traced the evolution of the language borderlands of Europe, such as Flanders, Lorraine, Friuli, Istria and Macedonia. In each case the language frontier coincided with an earlier political frontier between Christendom and heathen states that had been static for some time. The growth of polyglot language regions occurred only where the frontier did not coincide with a divisive physical feature. Cornish called such regions 'link-lands', to emphasise their position between larger state areas. The heathen languages were eventually reduced to writing through contact with Christianity and their traditions were preserved. Cornish observes that only during the 19th century, with improved means of mass communication between the larger state areas and the link-lands, did the bonds of language become more important than the regional ties of the link-lands.

Wilkinson (1955) examined the history of Jugoslav Kosmet and explained how it formed the frontier, at various times, between the eastern and western parts of the Roman empire, the Bulgar and Byzantine empires, Christianity and Islam and

Yugoslavia and Albania. This situation resulted in some neglect of the economic resources of the area and hindered its integrated development.

In a number of cases when frontiers were replaced by boundaries, enclaves of one state or both states were created. An enclave is a territorial fragment of one country that is totally surrounded by the territory of another country. Whyte (2002, 2004) has made a definitive studies of political enclaves. He identified 259 enclaves around the world and established that 80 per cent lie astride Bangladesh's northern boundary with India and 12 per cent are Belgian enclaves located in and around the Dutch village of Baarle (Whyte, 2004, 1-2). His meticulous study of the enclaves on both sides of the Bangladesh-India boundary traces their evolution from 1500 to 1950; 450 years during which the frontiers were replaced by boundaries. He establishes that many enclaves had their evolution before the end of the 18th century. Most of the enclaves survived the hurried partition of the sub-continent by Sir Cyril Radcliffe, declared in August 1947, that contributed to the slaughter of Hindus and Moslems who found themselves on the wrong side of the lines.

Whyte's account of the Baarle enclaves is based on both archival research and thorough fieldwork. In remarkable detail he traces the evolution of the enclaves from 992 to 1995 as frontiers yielded to boundaries. The enclaves survived the Treaty of Munster in 1648 between the Dutch and Spanish states and Whyte notes that their survival was unsurprising because '…enclaves were still common at many political levels in north-western Europe' (Whyte, 2004, 13). These studies serve as models for any scholars who decide to study enclaves around the world.

EXAMPLE OF AFRICAN FRONTIERS

The continent of Africa was colonized by European states after parts of Australia, southern Asia, and North and South America had been both colonized and organized. Some frontiers between African states persisted until the last decade of the 19th century and a major political frontier between colonists and indigenes in southern Africa lasted from 1652 to 1858.

Frontiers in the Niger-Benue region

This analysis and description is based on fieldwork from 1956 to 1960 and a review of the extensive literature on the history of West Africa in general and Nigeria in particular. The works by Barth (1857), Staudinger (1889) and Hogben (1930) were the most useful.

The largest state in West Africa in the middle of the 19th century was the Sokoto-Gando Empire, founded by the Fulani Jihad 50 years earlier (Figure 2.3). It stretched from Libtako in the west to Adamawa in the east and from Katsina in the north to the latitude of Ilorin in the south. This territory was not subjected to uniform political authority. It was organized into provinces, each having a degree of independence that varied directly with their distance from Sokoto or Gando. In the provinces of Zaria, Bida, Kontagora, Nassarawa, Kano and Muri, the Fulani subjugated the indigenous tribes. In other areas, such as Bauchi and western Adamawa, enclaves of pagan groups retained their independence on defended hilltops. Finally, in Libtako and eastern Adamawa only the main towns on the principal trade routes were under Fulani authority. These Fulani towns were exclaves in uncontrolled pagan areas and they might be described as march-towns.

North and west of Sokoto lay the Habe states led by Hausa chiefs who continued the struggle against the Fulani from their new capitals. The westernmost Hausa state was Kebbi that had a narrow frontier of contact with Sokoto and Gando. Many raids were carried out and some battles waged in this frontier. The other two Hausa states, called Gober and Maradi, were separated from Sokoto by a frontier of separation, formed from a devastated zone. The towns of Jankuki, Dankama and Madawa had been destroyed by Fulani attacks. This depopulated zone became more thickly wooded than the surrounding areas and served as a refuge for robbers. On the northern fringes of this frontier Maradi established the marches of Gazawa and Tessawa.

Northeast and east of Sokoto lay the Bornu Empire and its vassal states that included Zinder. The reduced power of Bornu after the Fulani conquest increased the autonomy experienced by Bornu's traditional northern tributary states, including Zinder. Between Kano Province of the Sokoto-Gando Empire and Zinder there was a deserted frontier of separation. It resulted from the weakness of both states and there were only occasional raids across this frontier.

The frontier of separation between Bornu and Sokoto can be divided into three parts. North of the River Gana lived the Bedde pagans protected by a forested, swampy environment. Raiding parties from both Sokoto and Bornu captured slaves in this area. Between the River Gana and the Mandara Mountains, the forested frontier of separation was defended, on the Bornu side, by a number of quasi-independent marches that had a long history of resistance to the Fulani. The Mandara Mountains formed the third section of the frontier. This area was occupied by Marghi pagans, against whom the Fulani exerted intermittent pressure. The continued independence of the Marghi was advantageous to Bornu, since it prevented possible collision with the Adamawa Fulani and discouraged slaves from trying to escape southwards.

The southern frontier of the Sokoto-Gando Empire marked the broad division between the states of the Sudan and those of the forested zone. In the west Gando had a frontier with the Kingdom of Borgu. Westwards from Yelwa, on the south

side of the River Niger, there was a narrow frontier of contact that the Fulani attacked frequently without success. Between Yelwa and Jebba the Niger River flows through a series of deep gorges that effectively separated the two states. This frontier was continued westwards from Jebba into the forested zone.

There was an unstable frontier of contact between Ilorin Province of the Gando Empire and the Yoruba states of the south. Both states maintained permanent armies at the limits of their territory and the location of the frontier depended on their relative strengths at any time. Eastwards this frontier broadened into one of separation between the Fulani of Kabba and the Benin Kingdom. At intervals both states raided the frontier for slaves, further fragmenting the small Yoruba groups living there. The frontier of separation was continued east of the River Niger between Nassarawa Province of the Sokoto-Gando Empire and the Igala tribes. Most of the frontier lay south of the River Benue and was flooded with the refugees from the north bank of the river, escaping from Fulani forces. The river protected tribes of the south except at times of low discharge when the Fulani attackers could cross easily. The Benue also formed a frontier of separation between the Fulani and Tiv states except for a small foothold that the Tiv maintained on the north bank of the river. The stability of this frontier resulted partly from the sturdy independence of the Tiv and partly from their traditional friendship with the Fulani. The other frontiers of the Tiv group were remarkably unstable frontiers of contact, resulting from the outward migration of the Tiv. During this process they annexed the farmlands of the Igala and Ogoja tribes. The effect of this outward migration caused administrative difficulties for the colonial administration in 1912. Their response was to build an earth wall, 5 ft high and 34 miles long to restrict further advance by the Tiv. The plan was unsuccessful and by 1960 there were many Tiv south of the wall that had fallen into serious disrepair.

It now remains to describe the frontiers of the four major states in the forested southern region. Borgu was bounded on the south by a wide forested frontier of separation with Egba, the westernmost Yoruba state. The frontier was a refuge for brigands. To the west Egba was separated from Dahomey by a frontier of separation that narrowed towards the coast.

> *In the first quarter of the [19th] century the Yoruba state, at its zenith more powerful than either Dahomey or Ashanti, was breaking up under pressure from the Fulani and Hausa from the north. In the south several smaller independent Yoruba states were formed, the chief of which was Egba with its capital at Abeokuta. In 1820 Gezo [King of Dahomey] repudiated the tribute which had been regularly paid [to the Yoruba] since 1747, and resumed the old state of perpetual warfare against Egba, vowing ultimately to sack Abeokuta.* (Naval Intelligence Division, 1944, 43)

After an early sortie that destroyed the Yoruba town of Jenna on the River Yewa, Dahomey launched a major offensive against Abeokuta in 1851. It was a dismal failure when the Yoruba of Ishagga, 10 miles west of Abeokuta, promised support,

then betrayed Gezo's forces. The wars between Dahomey and Egba continued across the frontier.

> *Gelele [Son of Gezo] continued his father's campaigns against Egba, and in 1862 Ishagga was destroyed as a punishment for its treachery of eleven years earlier. The attack of 1864 found Abeokuta well prepared, with forces totalling 20,000 against the Dahomeyan army of 12,000. All the villages between the Yewa and Abeokuta had been evacuated, and all supplies removed. The invading army, already suffering from hunger, had nothing but a little cassava for the last 25 miles of its march. Even so, on 15 March it went boldly to the assault, the Amazons displaying their usual courage, …The Dahomeyans were forced to give ground. This retreat turned into a rout by a party that took them in the flank. Their losses were 3000 killed and 1,500 prisoners, whereas the Egba casualties were 50 killed and 100 wounded.* (Naval Intelligence Division, 1944, 45-6)

Gelele's army attacked the small Egba settlement of Ketu on an annual basis and threatened Abeokuta on a number of occasions. But always the Egba population west of Abeokuta would fall back into the town and it was never captured by Dahomey.

The frontier between the Yoruba states and Benin to the east was a peaceful frontier of contact that contained a complex intermixture of both groups. The mingling of peoples shaded from a Yoruba dominance in the west to a Benin dominance in the east. Bradbury made a useful comment about Benin's territory.

> *It is impossible, at the present time, to determine the extent of the Benin Empire at any particular period in the past. The frontiers were continually expanding and contracting, as new conquests were made and as vassals in the border rebelled and were reconquered.* (Bradbury, 1957, 21)

To the south of Benin the delta tribes, such as the Ijaw, preserved their independence largely as a result of the defensive attributes of the swamps and creeks. By the middle of the 19th century a policy of isolation had caused Benin to withdraw its authority from the western bank of the Niger. East of the Niger the political organization of the Ibo did not rise above the level of clan or family. Although some of these groups must have been separated by forested frontiers they cannot be identified at the scale this analysis has used.

The frontier between colonists and the Xhosa People in southern Africa

One of the most detailed accounts of the historical evolution of a political frontier was written by Mostert (1993). In 1300 pages he describes, in remarkable detail, the northward movement of the frontier between Europeans and the Xhosa

People from 1652 to 1858. The book is entitled *'Frontiers: the epic of South Africa's creation and the tragedy of the Xhosa people'*. Thompson and Lamar compared the frontiers of North America and southern Africa on the basis of the following definition.

> *[A frontier is]…a territory or zone of inter-penetration between two previously distinct societies, Usually one of the societies is indigenous to the region. Or at least has occupied it for many generations; the other is intrusive. The frontier 'opens' in a given zone when the first representatives of the intrusive society arrives; it 'closes' when a single political authority has established hegemony over the zone.* (Lamar and Thompson, 1981, 7)

The Dutch before 1795 and from 1802 to 1806 and the British from 1795 to 1802 and after 1806 were the intruders and the Xhosa were the indigenes.

> *The year of Governor van Plettenberg's journey to the banks of the Great Fish River, 1778, marks the inception of the frontier. It is, as the historian J.S. Marais says, the year '…from which we may start the history of continuous European-Bantu contact': that is, the start, after a century and a quarter of slothful and haphazard presence in South Africa, of a far more demanding situation for the colonial power and its dependents, through which they arrived at the threshold of the future, as it were.* (Mostert, 1993, 228)

Nineteen years later John Barrow, working for the British Governor, reached the Great Fish River. The high banks and the deep river formed a definite break in the landscape. But when Barrow journeyed north of the river he travelled for two days through villages in good order without seeing Xhosa or cattle until he reached a populated settlement. He discovered that there had been a civil war between two Xhosa groups and eventually they had disengaged. Before the Great Fish River had been accepted as the boundary, by the Dutch and British, the Dutch had sought to locate a boundary at the Gamtoos River and Bushman's River but they were breached by Boer settlers, looking for new pastures, in 1770 and 1775 (Figure 2.4).

During the second, short Dutch period the Xhosa crossed over the Great Fish River to the Zuurveld between the Sunday and Great Fish Rivers. In 1809 the British developed policies to drive the Xhosa back over the Great Fish River, populate the Zuurveld with 6000 British settlers, and then insist that the area between the Great Fish and Keiskamma Rivers should be preserved as a no-man's-land.

> *They should be commanded by treaty to go [north] beyond the Keiskamma River. The land between the Fish and Keiskamma would then become an unoccupied bushland belt or green moat between colonists and Xhosa.* (Mostert, 1993, 372)

In 1812 the British developed a scorched earth policy.

> *The only way of getting rid of them is by depriving them of the means of subsistence and continually harrying them, for which purpose the whole force is constantly employed in destroying prodigious quantities of Indian corn and millet which they have planted…taking from them the few cattle which they conceal in the woods with great address, and shooting every man who can be found. This is detestable work…we are forced to hunt them like wild beasts.* (Mostert, 1993, 389)

Late in 1818 a British commander launched a savage attack using artillery, that led to the capture of 23,000 cattle, on which the Xhosa relied for subsistence for their families. The commander realised what he had done and warned there might be retaliation. On Christmas Day attacks began across the Great Fish River into the Zuurveld. A new British force under a new leader was readied at Grahamstown and on 22 April 1819 the Xhosa attacked the town. Curiously the Xhosa attacked during the day rather than at night and delayed the attack until noon. The Xhosa lost between 1000 and 2000 men while the British lost three. Mostert summed up the result as follows.

> *Greater South African battles were to come, but Grahamstown was the most significant battle of the nineteenth century in South Africa, for had Nxele [the Xhosa leader] succeeded, the history and character of frontier South Africa indubitably would have been quite different from what followed.* (Mostert, 1993, 479)

After this decisive battle a Xhosa councillor addressed the British commander in the following terms.

> *You sent a commando – you took our last cow – you left only a few calves, which died for want, along with our children. You gave half to Ngqika; half you kept yourselves. Without milk – our corn destroyed – we saw our wives and children perish – we saw that we ourselves must perish; we followed, therefore the tracks of our cattle into the colony. We plundered and we fought for our lives. We found you weak; we destroyed your soldiers, We saw that we were strong, we attacked your headquarters [Grahamstown] – and if we had succeeded, our right was good, for you started the war. We failed – and you are here.* (Mostert, 1993, 486)

Having cleared the area between the Great Fish River and the Keiskamma River the British commander was prepared to advance on to the Great Kei River.

However, the authorities in Cape Town began to plan for an end to the fighting and the Keiskamma River became the preferred limit.

> *…taking up a strong position on the Keiskamma River, a beautiful and rich country in the rear of those tribes who now so grievously molest us…this proposition is with no view whatever of adding to our present territory.*

Then the following suggestion was added.

> *…savage tribes should lose their independence at least partially, and be brought under the control of His Majesty's government. Populous and possessing a very rich country, these tribes would, if civilized, be of immense importance, and open a large field for commercial speculation. We are as yet ill-informed of the interior resources of these countries, but we know them to be highly peopled…* (Mostert, 1993, 506)

On 15 October 1819 the British had succeeded in declaring the proposed no-man's land between the Great Fish and Keiskamma Rivers to be ceded territory. The Keiskamma was regarded as a more satisfactory boundary because the banks were cleared and the line between the escarpment and the sea was much shorter than in the Great Fish river valley.

As with all advancing frontiers there is the problem of deciding where to stop. By 1829 the Cape Colony had been created but the question of the area between the Keiskamma and the Great Kei River was unsettled. In December 1848 this area was declared to be British Kaffraria and the governor of the Cape Colony would simultaneously be High Commissioner of British Kaffraria.

Britain had to deal with other frontiers north of the Kei River later in the 19th century.

Saul David (2004) has written a new history of the Zulu War of 1879. He makes a convincing case that the war was forced on the Zulus, and that King Cetshwayo's attempts to sue for peace, once fighting had started, were rebuffed by the colonial British authorities for what seemed personal rather than strategic reasons.

In 1867 diamonds were found on a farm near the Orange River and in 1886 gold was discovered at the place that became known as Witwatersrand. These discoveries acted as powerful magnets to secondary settlement frontiers and played a major role in the political polices and actions of British and Boer governments that ended in Britain's total control in 1902.

CONCLUSIONS

The study of political frontiers now lies in the realm of historical political geography. It is possible that new secessionist movements will produce political frontiers but such attempts are rarely successful. Bangladesh was an exception for exceptional reasons. It was separated by 2000 km of Indian territory from west Pakistan, and it was supported by India.

In contrast the study of secondary settlement frontiers is a very appropriate subject for analysis by both political and economic geographers for the present and the future. The main areas where such studies will prosper are the tropical

deserts in Africa and Australia, the tropical forests of the Amazon Basin, Borneo and Papua New Guinea, the cold regions of northern Canada and Russia, China's Qingzang Gaoyuan [Tibetan Plateau] and Xinjiang Uygur Zizhiqu [Sinkiang] and Mongolia.

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3. THE EVOLUTION OF INTERNATIONAL BOUNDARIES

> *The missionary, the conqueror, the farmer and, of late the engineer, have followed so closely in the traveller's footsteps that the world, in its remoter borders, has hardly been revealed before one must record its virtually complete political appropriation.* (Mackinder, 1904, 421)

Mackinder was speaking at the close of the most intensive period of boundary construction in world history. It was a period that had enclosed even barren tropical deserts and unexplored equatorial forests. International boundaries have now replaced frontiers in all the continents including Antarctica. This chapter examines the ways by which states created boundaries. The past tense is appropriate because only rarely in the future will two governments have the opportunity to draw a new international boundary on land.

First this chapter considers the contrasts and similarities of boundary construction on the world's continents. Second it reviews the procedures by which boundaries have been drawn between adjacent territories. Third it examines the possibilities for the determination of new boundaries in the future. Fourth it provides a case-study of boundary evolution between Thailand and Laos and Cambodia.

THE CONTRASTS AND SIMILARITIES OF INTERNATIONAL BOUNDARY CONSTRUCTION ON THE WORLD'S CONTINENTS

> *Alsace-Lorraine was acquired by the French through the methods which have led to the consolidation of most modern States, namely, conquest, trickery and cession.* (Temperley, 1920, 159)

The brutal honesty of this statement would be preserved if names such as Tacna, Bornu and Primorskiy Kray were substituted for Alsace-Lorraine and the charge was made against Chile, Britain and Russia respectively. However, it would be an error to assume that because European states had similar territorial ambitions in Europe and other continents and sub-continental regions and used similar polices to achieve them, that there are close similarities between the evolution of boundaries in Europe and in the other continents. There are more important

differences between Europe and the rest of the world than there are between any other two continents.

Boundary evolution in Europe was entirely an indigenous process. The changing patterns of major and minor political divisions of considerable areas of the continent have been recorded without a break, certainly since the Roman period, say 510 BC. Useful perspectives can be found in general atlases produced by Shepherd (1922), Ward, Prothero and Leathes (1924), Engel (1957), Treharne and Fullard (1965) and Barraclough (1978). Menke (1865) and Smith and Grove (1874) provided detailed representations of classical Europe. There are also regional atlases including the remarkably detailed Geschiedkundige Atlas van Nederland (1913-32) and the monumental atlas of southeastern France by Baratier *et alia* (1969).

In the other continents, apart from Antarctica, the indigenous processes of boundary evolution were generally overlain and halted by colonial activities of the imperial powers, such as Spain and Portugal in South America, Germany and France in Africa, China, Britain and Russia in Asia and Turkey, Britain and France in the southern part of the Middle East.

Using a geological analogy, the advent of imperial power in these lands may be likened to a political unconformity. The processes by which the Incas, Amandebeles, Sioux, Turkomans, Karens and Aborigines determined boundaries, effectively ended when the imperial powers acquired authority in their regions. In some cases, approximations of the indigenous boundaries that existed at that time were preserved in comparatively short sections by the imperial powers. Thus the British drew the boundary, between Northern and Southern Nigeria, in the vicinity of the most southern advance of the Hausa and Fulani against the Yoruba kingdom of Oyo.

Even a superficial acquaintance with the evolution of international boundaries in continents outside Europe makes it clear that many problems arose from genuine uncertainties about the distribution of geographical features and the patterns of political authority. These problems may have existed in pre-historic times in Europe, but for the past 2000 years there is no evidence that such problems caused significant problems. The high densities of population, the considerable interregional trade, conquests, migrations, the clearing of forests, the draining of swamps and the absence of entirely inhospitable terrain ensured that the physical geography of Europe was generally known to the regional authorities at an early time.

Regional geographical knowledge necessary for boundary construction was certainly completed during the feudal age in Europe. Strayer (1965, 17) pointed out that effective feudal government is local since it requires the performance of political functions based on personal agreements between small numbers of people. He and other writers also showed that in any particular parcel of land different lords might exercise different authorities related to justice, taxes, the various uses of forests and forced labour. Genicot (1970) provided a very illuminating account of this type of situation. Thus it follows that the areas within

which these important rights were available were closely defined. Genicot (1970, 32) is of the view that by the end of the 11th century the growth of population and the extension of authority had resulted in the remaining frontiers of Europe being contained within fairly precise lines. There were still disputed zones but their limits were clearly understood.

Careful study of the treaties contained in the collection of European boundary treaties by Hertslet (1875-91) shows that boundary construction was simplified because the continent was divided into a hierarchy of local administrative units with defined limits. The reader is constantly aware that the international boundaries, described in the treaties, coincide with the limits of *cantons*, principalities, bailiwicks, *cercles*, counties, Commanderies of the Teutonic Order, circuits, *arrondissements*, bishoprics, duchies, *landgraviates*, *communes* and parishes. Thus boundary negotiations in Europe were not bedevilled by problems such as trying to determine the extent of the territory belonging to the Paramount Chief of Barotseland or the limit of lands occupied by the Saryks on the border between Afghanistan and Russia.

The situation in Europe also gave a positive advantage that was denied to negotiators in other continents. In most regions of Europe the land was divided into small parcels, which were sometimes aggregated into larger administrative units. These local divisions provided a series of building blocks from which national territories could be fashioned. The international bargaining centred on territorial fragments and once their disposition was decided there was a ready-made boundary that might, at different sections, coincide with known boundaries between parishes, bishoprics and bailiwicks. This advantage was not available to the same extent in the Balkans where feudalism, as known and practised in western Europe, did not exist (Pounds, 1947, 129). Nor did it apply after World War I, when strategic considerations were a powerful factor in determining the alignment of boundaries.

Just as the physical and political geographies of Western Europe were known clearly to negotiators, so the economic geography of disputed regions was understood. Examples of states pursuing important economic objectives include the determination of Germany to secure as many of the iron-ore fields of Alsace-Lorraine as possible in 1871; the competition for coalfields in Silesia amongst Czechoslovakia, Germany and Poland in 1919; Yugoslavia's enthusiasm for securing the port of Rijeka by the Treaty of Rapallo; and Rumania's insistence on controlling the railway from Timisoara to Arad. Although these are comparatively recent examples in Europe's long history, there is no reason to suppose that rulers in earlier periods were not fully aware of the economic advantages of securing the transfer of specific feudal rights from a defeated neighbour.

In a broad swathe of central Europe stretching from the coasts of Germany and Poland to the shores of the Adriatic, Aegean and Black Seas in the southeast, present national boundaries were fashioned in a series of major wars. To a much greater extent than on any other continent, boundaries in this region were created during the peace conferences that followed widespread conflict. Judged by the

speed with which agreement was reached at the Congress of Vienna in 1815, the Congress of Berlin in 1878, the London Conference in 1913, and the peace conferences at the ends of World Wars I and II, it is possible to conclude that wars simplify the process of drawing boundaries. An example of this conclusion occurred in 1878. Russia had defeated Turkey and by the Treaty of San Stefano, signed on 3 March, Russia forced Turkey to disgorge territory and capital.

> *As Salisbury had predicted, its provisions were far more draconian for Turkey than the demands the Great Powers had made at the Constantinople Conference back in January 1877. The Treaty provided for an autonomous 'Big' Bulgaria stretching from the Aegean to the Danube and from the Black Sea to Albania, thereby including much of Macedonia, which Russia claimed the right to occupy for two years. Romania, Montenegro and Serbia were to become independent. Turkey had to pay a 700 million rouble indemnity and surrender Ardahan, Kars, Batoum and Bagazid to Russia, retaining only Adrianople.* (Roberts, 1999, 185)

The major European powers were alarmed at Russia's major gains and three months later, in 30 days at the Berlin Congress, both Russia's gains and Turkey's losses were significantly reduced.

When wars end the victors usually have clear ideas of the territorial arrangements they will demand and the defeated state is rarely able to resist most of the required adjustments. In many cases there is an overwhelming desire on the part of all parties involved to secure a settlement that will allow the abnormality of war to be ended. Successful governments want to demonstrate to their citizens the gains bought by military sacrifice. They also seek to avoid the need to maintain large armies and navies, and wish to reduce to a minimum the expenditures involved in administering the territories of the defeated state. The defeated countries usually seek to regain a level of independence necessary for the reconstruction of national morale and wealth.

Europeans not only dominated boundary construction in Europe, they also played the major role in the other inhabited continents and continental regions. The indigenous population generally played only a minor role in boundary construction. The exceptions were Turkey and Persia in the Middle East and China in north and central Asia. The minor roles played by indigenes sometimes involved colonial powers agreeing with each other, to set international boundaries in the vicinity of frontiers recognized by tribes.

RESEARCH INTO THE EVOLUTION OF INTERNATIONAL BOUNDARIES

Before examining the evolution of past, present and future boundaries it is necessary to discuss the primary resources that can be examined to reveal the detailed

explanation for the location of any boundary. The primary resources are relevant government documents, maps used in negotiating the boundary, the reports of joint demarcation teams and fieldwork in the vicinity of the boundary.

The documentary material may be classified into three sections. First there is the correspondence between the negotiating parties and between representatives of the same government. These records are rarely published and usually are found only in archives. Access by scholars to such material will often be restricted for a period of 25 or 30 years. These sources are invaluable and are indispensable in discovering the detailed reasons for the alignment of the boundary. In the letters, minutes and reports can be discovered the geographical, political, economic, ethnic, strategic and legal factors that played a significant role in producing agreement on the general location and finally the specific site of the boundary. In 1957, an examination of the Anglo-French correspondence, in the Nigerian archive in Ibadan, dealing with the settlement of the inter-Cameroons boundary in 1920, revealed the following details that would have been difficult to determine by other means. First the location of the boundary in Bornu resulted from the incorrect decoding of a British telegram in Lagos in 1916. France benefited from the error and refused to allow the line to be corrected. This obstinacy allowed Britain to press successfully for the re-unification of the Higi, Holma and Zummu pagans in British Cameroons. Previously they had been divided by the Anglo-German boundary. Second France was keen to secure Garua, a port on the River Benue, and the land route from Douala on the coast to Garua. Meanwhile Britain was anxious to re-unite the former Emirate of Yola that had been split between Britain and Germany in the 1880s. Third the use of inaccurate maps in delimiting the new boundary resulted in two disputes. The first, at the southern end of the boundary, involved valuable oil plantations, whereas the other in the north, related to swamplands that were used for cotton production and winter grazing. Fourth these negotiations were conducted with regard to boundary arrangements being made in respect of other German colonies (Prescott, 1971, 45-62).

During fieldwork on part of the Benin-Nigeria boundary in 1957 only three of the twenty surveyed monuments could be found. All three were found near villages, none was intact since they had all been used to sharpen cutlasses or axes. There were no significant changes in the cultural landscape within 20 miles of the boundary; the lives of the people seemed unaffected by the boundary although some Nigerian farms lay partly in Benin, in accordance with the provisions of the Anglo-French Agreement of 1906.

> *The villages situated in proximity to the boundary shall retain the right to arable and pasture lands, springs and watering places, which they heretofore used, even in cases where such arable and pasture lands, springs and watering places are situated within the territory of one Power, and the village within the territory of the other.* (Brownlie, 1979, 171)

The two crossing points at Ijoun and Idiroko were 32 miles apart and most of the populations crossed the boundary by uncontrolled paths. At times of tax

collections there was some movements across the boundary in order to escape fiscal responsibilities. During an interview with Aleketu, who was a Yoruba chief in Benin, separated from the majority of his people, he said 'We regard the boundary as separating the French and the English, not the Yoruba'. All this information was useful in understanding the situation in the borderland in the 1950s and it could only be obtained by fieldwork.

THE EVOLUTION OF PAST AND PRESENT INTERNATIONAL BOUNDARIES

Boundary negotiations between states usually originated once a conflict of interests developed or seemed imminent and they were usually designed to promote peace and better administration. Vattell regarded boundary delimitation and demarcation as a useful cure for international disputes.

> *To remove every subject of discord, every occasion for quarrel, one should mark with clarity and precision the limits of territories.* (Vattell, 1758, 137)

The use of boundary treaties to promote peace is sometimes recorded in the treaty's text. In 1909 China agreed on a boundary with Japan, then in control of the Korean peninsula. The translations of the prologue of both versions of the treaty deal with the benefits of peace that the agreement confers.

> *[Japanese text] The Imperial Government of Japan and the Imperial Government of China, desiring to secure for Chinese and Korean inhabitants in the frontier regions the blessings of permanent peace and tranquillity, and considering it essential in the attainment of such desire that the two Governments should, in view of their relations of cordial friendship and good neighbourhood, recognize the River Tumen as forming the boundary between China and Korea, and should adjust all matters related thereto in a spirit of mutual accommodation, have agreed upon the following stipulations…*
>
> *[Chinese text] Realising their duties as friendly adjacent States, the Imperial Government of China and the Imperial Government of Japan have agreed both to recognise the Tumen River as forming the boundary between China and Korea, and have drawn up the following Articles with the view that the subjects of China and the people of Korea may live upon the frontier in peace and prosperity.* (Prescott, 1975, 505, 507)

It is apparent, on reading the international treaties that divided Africa between 1845 and 1914, in Brownlie's collection, that the prologues were generally matter of fact (Brownlie, 1979). There were a few exceptions, such as the agreements between France and Morocco, and between Portugal and Germany.

> *[France-Morocco 1845] The two Emperors are animated by an equal desire to consolidate the peace happily re-established between them, and wish, for that reason to regulate in a definitive way the fulfilment of Article five of the Treaty of 10 September 1844.*
>
> *[Germany-Portugal 1886] The Government of His Majesty the King of Portugal and the Algarves and the Government of His Majesty the Emperor of Germany, inspired as they are by the same wish of drawing still closer the friendly relations already existing between Portugal and Germany, and of establishing a firm and solid basis for the peaceful cooperation of the two Powers, with a view to the development of civilization and commerce in Africa, have determined to fix certain defined limits in South Africa…* (Brownlie, 1979, 60, 1026)

The majority of the prologues kept strictly to the matter in hand.

> *[England-France 1889] The undersigned, selected by the Government of Her Majesty the Queen of Great Britain and Ireland and by the Government of the French Republic for the purpose of preparing a general understanding with a view to settle all the questions at issue between England and France with regard to their possessions on the West Coast of Africa have agreed on the following provisions.*
>
> *[Great Britain and Germany 1890] The undersigned…Have, after discussion of various questions affecting the colonial interests of Germany and Great Britain, come to the following Agreement on behalf of their respective Governments.* (Brownlie, 1979, 215, 924)

When two states resolve to create an international boundary they will do so on the basis of two possible relationships. First the states may be of equivalent political, economic and military strength, and this implies that neither state can coerce the other to accept an arrangement that disadvantages one of them. During the acquisition of African colonies by Britain, France and Germany in the 1890s none was coerced to accept a particular outcome. This does not mean that the outcomes in territory and resources were always equal. It means that the two parties in any negotiation regarded the outcome as being satisfactory.

Second if the states possess unequal strengths the weaker state may be prepared to accept an outcome that will minimise the concessions it is obliged to make. China faced that problem in the second half of the 19th century.

> *In the second half of the nineteenth century China suffered heavy [territorial] losses in the pincer-like grip of Tsarist Russia, then busily extending its power eastwards and overlapping Chinese spheres of influence in the north, and of France, nibbling away at Indochina to the south. By the Treaty of Aigun, 1858, and the Treaty of Peking, 1860, Russia obtained extensive territories north of the present boundary along the Amur River, and in the*

> *zone now occupied by the Maritime Territory, as far south as Vladivostok. Loss of suzerainty over Indochina to the French, and over Upper Burma to the British, was a further blow to Chinese prestige, and to the policy of securing national defences by establishing a cordon of tributary states.* (Freeberne, 1971, 342-3)

In these cases of an unequal relationship the proposal for boundary negotiations might come from either party. In 1848 Mexico welcomed boundary negotiations with the United States because of a hope that this would halt any further confiscation of Mexican territory. A quarter of a century later Britain encouraged Afghanistan to try to settle a boundary with Russia in a bid to stop that country's rapid advance towards British India. Plainly Britain was not concerned only with the well-being of Afghanistan.

The negotiations will involve a team from each country. The team leader will be a very senior public servant responsible for coordinating the work of others, for making all statements during the bargaining and for reporting progress to the President or Prime Minister. Before the negotiations begin members of the team will be required to identify, as far as possible, all the information that will be useful to the case being presented, and all the facts that might assist the arguments of the other country. It is desirable that during negotiations the team will not be discomforted by facts of which they were previously unaware. The team members might be responsible for preparing, for example, comprehensive accounts of the borderlands' history, the detailed population distributions of both countries, communication patterns, mineral deposits, settlements and defensive and offensive emplacements. It should be the responsibility of a map-librarian or cartographer to compile an atlas of all relevant maps produced by both countries and third parties. In addition copies of all treaties related to territory in the vicinity of the area under consideration should be prepared. Before the bilateral discussions start each side will establish their maximum and their minimum claims for the location of the boundary.

The progress of the negotiations will be influenced by the width of the disputed territory. Sometimes in Africa, during the last decades of the 19th century, the separation between the areas that had been brought under control at the coast might be less than 1 kilometre, whereas 50 kilometres inland the controlled areas might be 20 kilometres apart. In both cases the claimed areas might overlap. In Europe after 1500 the disputed areas between states were usually narrow.

If the two countries involved needed to draw more than one boundary between their territories it was often prudent to negotiate all boundaries at the same time. This arrangement afforded opportunities of trade-offs between the two states in different sectors of the boundaries. On 10 August 1889 Britain and France agreed four boundary segments (Brownlie, 1979, 215-9). They dealt with the boundaries between the Gambia and Senegal, Sierra Leone and French Guinea, the Gold and Ivory Coasts, and Dahomey and Lagos.

EVOLUTION OF THE DEFINITION OF INTERNATIONAL BOUNDARIES

Rushworth (1997) reviewed the early references in English to international boundary delimitation and demarcation from 1896. In that year, at a meeting of the Royal Artillery Association in London, a Captain McMahon, later Sir Henry, distinguished the terms 'delimitation' and 'demarcation'.

> *I think when one is talking of a science it is not out of place to consider the name of that science. In my opinion, delimitation (which, as we know, is a new word, not to be found in Webster or Johnson or any classical dictionary) means the laying down – not the laying down on the ground but the definition on paper either in words or on a map – of the limits of a country. Delimitation covers… all the preliminary processes and procedure involved before a boundary is laid down on the ground. Having done all that, you then come to the work on the ground, and then the process ceases to be delimitation and becomes demarcation.* (Trotter, 1897)

Lord Curzon's Romanes Lecture is most frequently quoted for his statement that 'Frontiers are indeed the razor's edge on which hang suspended the modern issues of war and peace'. However, he also made a useful clarification about the language of boundaries.

> *I use the word [demarcation] intentionally as applying to the final stage and the marking out of the boundary on the spot. Diplomatic agents and documents habitually confound the meaning of the two words 'delimitation' and 'demarcation', using them as if they were interchangeable terms. This is not the case. Delimitation signifies all the earlier processes for determining a boundary down to and including its embodiment in a Treaty or Convention. But when the local Commissioners get to work it is not delimitation but demarcation on which they are engaged.* (Curzon, 1907)

As Rushworth notes Curzon considered that the process of demarcation might be a more congenial exercise than delimitation.

> *When the [local] Commissioners have discharged their duty, not as a rule without heated moments, but amid a flow of copious hospitality and much champagne, beacons or pillars and posts are set up along the Frontier, duly numbered and recorded on a map.* (Curzon, 1907)

Brigham (1917) proposed a threefold division of boundary evolution: tribal, transitional and ideal. The tribal boundaries were primitive and not defined in any document. These divisions could be properly described as frontiers, since they had a zonal quality, however clearly the last lines of defence were marked in the landscape. Brigham envisaged the transitional stage as one when the boundary was likely to change its position, carrying the implication that the boundaries were

being established in a location where the forces from each side were neutralized. Finally, in the ideal stage the boundary became permanently fixed, and a gradual diminution of state functions applied at the boundary reduced its significance as an element of the landscape. This altruistic concept of boundary evolution probably owed much to the world situation when it was published and the hope that the Great War would bring a long period of peace and stability.

Lapradelle (1928) identified three stages of boundary evolution: preparation, decision and execution. He emphasized the tentative nature of the first stage compared with those that followed by using the word *le trace*, translated as 'outline' or 'sketch'. Jones (1945) follows Lapradelle closely in suggesting four stages of boundary evolution: allocation, delimitation, demarcation and administration. Each of these stages requires the two states that are drawing the boundary to work together.

Allocation refers to the political decision on the distribution of territory; delimitation involves the selection of a specific boundary site; demarcation concerns marking the boundary on the ground; and administration relates to the provisions for supervising the maintenance of the boundary. Allocation and delimitation involve drawing lines on maps. Ideally the maps used will be the best available and they will be at a large to medium scale. Demarcation requires the joint survey teams, supplied with the best possible maps suitably marked and annotated, to proceed into the borderland and mark the boundary on the ground by monuments and, in forested areas by cleared vistas between monuments.

Nicholson (1954, 16) tried to marry the schemes of Brigham and Jones by carrying the process through from the tribal stage to the demarcated boundary. However, he admits that the only correlations between the first frontiers and the final boundaries in Canada were fortuitous and there was no continuous development. There seems to be no reason why his ideas should not apply where there is a continuous history of indigenous development. China and parts of South America might be territories where Nicholson's concept could be explored. At the onset of European settlement in Australia, aboriginal communities knew the extent of their tribal lands. That knowledge has been lost by some groups for a variety of reasons, but in the remote parts of Australia clans know precisely where their boundaries on land and sea are located (Davis and Prescott, 1992).

One boundary that passed through the three stages in sequence was the Anglo-French boundary between The Niger River and Lake Chad. The first boundary that allocated territory was signed in 1890. Eight years later a Convention delimited a boundary. In 1910 the boundary was demarcated and this line generally lay south of the line of allocation (Figure 3.1). It must not be presumed that all boundaries have passed through the stages of allocation, delimitation and demarcation in a chronological sequence. In some cases the original allocating line has been demarcated with no intervening delimitation. In other cases there has been more than one delimitation before demarcation occurred. There are many international boundaries that have never been demarcated. There are also many boundaries

that passed through the first three stages of settlement and were then ignored. Often, especially in Africa, the demarcated boundary was not administered and, in some cases, sections of the boundary were obliterated by natural processes and human intervention.

Allocation

Discussions between countries on the allocation of territory will always be based on the best possible information about the borderland and the most reliable maps available. When a boundary was being created in a frontier where the geographical facts were well known and the population density was moderate to heavy, it was sometimes possible to select a boundary site and omit the stage of allocation. In areas that were less well known, often supporting low population densities, the stage of allocation provided the first formal political division. The boundaries that resulted were often arbitrary and they consisted of two types.

The first type was composed of straight lines connecting defined coordinates or points in the landscape that had been identified, such as a waterfall or a village. The Portuguese – German declaration of 1886 described such a line allocating territory to Angola and South West Africa (Figure 3.2).

> *The boundary-line between the Portuguese and German possessions in South-west Africa shall follow the course of the River Kunene from its mouth to the cataracts which are formed south of Humbe when crossing the range of the Canna Hills [Rucana Falls]. From this point the line will run along the parallel as far as the River Kubango, and thence it will continue along the course of the same river as far as Andara which place is to remain within the sphere of German interests. From this place the boundary-line will continue in a straight direction eastwards as far as the rapids of Catima on the Zambesi.* (Brownlie, 1979, 1028)

This quotation shows how straight lines and river courses linked the waterfall, village and rapids that had been identified and approximately located on maps. This boundary has been preserved intact to the present because Portugal and Germany could not agree on any alteration, and Angola and Namibia have accepted it. From time to time there were problems over identifying the exact point where the boundary leaves the Cunene, the location of Andara and the precise point where the boundary intersects the Katima Rapids. The problem with the village rested on the fact that it was moved 3 miles downstream in 1901. In some cases meridians and parallels were selected as boundaries, but of the two lines parallels were more reliable until accurate radio signals could be sent and received.

An official of the Royal Niger Company made this point forcefully in September 1893.

> *They [meridians] move about in Africa like mountains. An error of a degree or even half a degree might cost England Kukawa and therefore all Bornu.* (Prescott, 1971, 34)

The Company had signed a treaty with the authorities in Kukawa, situated west of Lake Chad that was considered to be the capital of Bornu. It feared that if a meridian was selected without certain knowledge it might turn out to be west rather than east of Kukawa. Britain finessed this difficulty by persuading Germany that the boundary's terminus should be on the shore of Lake Chad intersected by the meridian lying 35' east of Kukawa. It was expected that this meridian would be near 14° E, because the location of Kukawa had been shown in Kiepert's map in Deutscher Kolonial Atlas at 13° 24' E. When the line was demarcated it was found that Kukawa was intersected by meridian 13° 33' E so the terminus on the Lake's shore was at 14° 8' E.

A straight line joining two points was often hard for administrative officers to determine especially if they were distant from both points. In particular this would be the case if they were using a map with a projection where a straight line was not the shortest distance between two points. It would also be difficult for the local population to comprehend the existence and location of a straight line boundary through territory that they knew in terms of rivers, hills and forests. Such uncertainties led to serious administrative problems in East Africa between British Rhodesia and Portuguese Mozambique. The 1891 Convention defined part of the boundary south of the Zambezi along meridian 33° E from the River Mazoe to parallel 18° 30' S. In the next three years several letters were exchanged by district officers regarding the illegal collections of hut taxes on the wrong side of the boundary and trespass.

The second type of boundary allocated territory by the application of a principle. This definition in principle means there is a statement about the basis of territorial division and the result desired. For example, one principle might involve drawing a line between the territories occupied by different tribes and another finding the watershed between two major river systems. It could be argued that the selection of a watershed could be regarded as defining a specific line, but only in exceptional cases would no disagreement be possible about the alignment of a watershed or the headwater tributary that represents the source of a particular river. Severe problems might be encountered when the watershed lies somewhere on a fairly level plateau. Brazil and Venezuela provided an excellent example of allocation by a watershed being successfully demarcated. In 1859 the two countries agreed that the boundary should follow the divide between drainage into the Orinoco River to the north and into the Amazon River to the south (The Geographer, 1985). The demarcation of this 2,200 km boundary commenced in 1928 and by 1985 1300 pillars had been erected.

Definition in principle can also refer to cultural features that generally cause more disagreement than features in the landscape. In September 1885 Britain and Russia defined Afghanistan's northern boundary. East of Hauzi Khan the line had to be '…fixed in a manner which leaves to Russia the land cultivated by the

Saryks and also their pastures' (Prescott, 1975, 124). A demarcation commission started work within two months and progress was rapid until Hauzi Khan was reached. Yate, a British officer recorded that problems would be faced beyond that settlement.

> *Hitherto [up to Hauzi Khan] the line of boundary has been pretty rigidly defined in the Protocol, and unreasonable claims have been out of the question; the further we go through, the less precisely is the Protocol worded, and should the Russian Commissioner insist on putting forward claims depriving Maruchak, Kilah Wali, Maimanah and Andkhue, not only of their pastures but also of their wells, it will be very evident that it is not his intention to help on the negotiations.* (Prescott, 1975, 118)

As Yate noted the basic problem was that there was no clear division between the cultivation of the Afghan and Russian subjects.

> *The water supply, cultivation and pasturage belonging to Padjeh [Russian] is so mixed up with that belonging to the [Afghan] remainder or upper portion of the Kushk Kashan and Murgab valleys that to delimitate a frontier [boundary] across these valleys was not only a work of great difficulty, but, when done the boundary is only an arbitrary line based on the circumstances of the moment rather than any permanent and natural basis.* (Prescott, 1975, 119)

In 1878 the Treaty of Berlin allocated territory between Albania and Montenegro by a line defined in principle according to the location of specified tribes.

> *It then coincides with the existing boundaries between the tribes of the Kuci-Drekalovici on one side, and the Kucka-Krajna, as well as the tribes of Klementi and Grudi on the other, to the plain of Podgorica, from whence it proceeds towards Plavnica, leaving the Klementi, Grudfi and Hoti tribes to Albania.* (Hertslet, 1891, vol. 4, 2782)

In May 1908 Ethiopia and Italy defined a boundary in the Horn of Africa that would separate the tribes subject to Italy from all other tribes subject to the Emperor of Ethiopia.

> *ART. I. The line of frontier between the Italian possessions of Somalia and the provinces of the Ethiopian Empire starts from Dolo at the confluence of the Daua and the Ganale, proceeds eastwards by the sources of the Maidaba and continues as far as the Uebi Scebeli following the territorial boundaries between the tribe of Rahanuin, which remains dependent on Italy, and all the tribes to its north, which remain dependent on Abyssinia.*
>
> *ART. II. The frontier on the Uebi Scebeli shall be the point where the boundary between the territory of the Baddi-Addi tribe, which remains dependent on Italy, and the territory of the tribes above the Baddi-Addi, which remain dependent on Abyssinia, touches the river.* (Brownlie, 1979, 835)

Imprecise lines such as these concern the first stage of boundary definition and the second stage is designed to eliminate any inconvenient uncertainty.

Delimitation

The allocation of territory by straight lines, or by lines related to the uncertain distribution of physical and cultural features, generally solved immediate territorial conflicts of interest and allowed governments to plan the development of the territory with a sense of security. The delimitation of the boundary requires the selection of a specific boundary site and this was undertaken when the borderland possessed some intrinsic economic or security value or when political antagonisms called for the rigid application of state functions at a particular line. This procedure ought to be done using the best possible maps and on the basis of reports prepared by people who have thoroughly inspected the borderland.

Unfortunately there have been occasions when two countries, for the best possible reasons, delimited a boundary based on an inaccurate appreciation of the territory being divided. Boundary delimitation based on false topographic information carried the risk of future disagreement. An example of this situation was provided by an exchange of letters in April and June 1885 by which Britain and Germany defined their common boundary near the coast between Nigeria and Kamerun.

> *Great Britain engages not to make any acquisitions of territory, accept protectorates or interfere with the extension of German influence in that part of the Gulf of Guinea, or in the interior districts to the east of the following line; that is on the coast the right river bank of the Rio del Rey entering the sea between 8° 42' and 8° 46' longitude east of Greenwich; in the interior a line following the right bank of the Rio del Rey, from the said mouth to its source, thence striking direct to the left river bank of the Old Calabar or Cross River and terminating after crossing that River at the point about 9° 8' longitude east of Greenwich, marked 'rapids' on the English Admiralty chart.* (Hertslet, 1909, 868)

Germany undertook similar restrictions west of the line. The chart was drawn on a Mercator projection at the small scale of 1:3,215,000. On the chart the rapids were located at latitude 5° 40' north (Figure 3.3).

Three years later both sides were aware that the Rio del Rey was only 18 miles long and draining into it were two rivers called the Akpayafe and the Ndian. Britain chose the easternmost river and Germany the westernmost. They also knew that the rapids were located at 8° 50' east and 6° 10' north. This first attempt to delimit the boundary failed and further negotiations were required.

Arbitrary straight lines established during the allocation process were retained when one or more of the following conditions applied. First straight lines were

preserved if the borderlands lacked any economic or strategic value and if the demarcation of the boundary would have been an unnecessary and unjustifiable expense. An examination of the political map of the world reveals many geometric boundaries are located in tropical deserts and Antarctica. Second straight lines persisted when the two countries were unable to agree on any alteration. Angola and Namibia inherited a boundary with sections of straight lines because Germany and Portugal could not reach any alternatives to the boundary that allocated the territory in 1886 (Brownlie, 1979, 1027-8). After South Africa acquired a mandate over German Southwest Africa in 1919, the Portuguese and South African authorities contented themselves with clarifying the termini of the straight sections of boundary, the position of the boundary in the Kunene River, and the location of the cataracts mentioned in the agreement of 1886. Third it was usual for straight-line boundaries to be retained when a colonial power came into possession of the separated territories. The straight sections of boundaries between Tanzania and Kenya, Tanzania and Uganda and four straight sections of the boundary of Cameroon with the former French colonies persisted when Britain was awarded Tanganyika and France received most of Kamerun.

Two types of boundary definitions can be encountered during the process of delimitation. The first involves complete definition, that requires the surveyors to proceed into the field and trace the line that has been closely defined. The second type of definition gives the surveyors power to vary the line, sometimes up to a specific distance on either side, in order to make the identification and administration of the boundary easier.

The 1893 Anglo-French boundary between modern Ghana and Cote d'Ivoire provided an example of complete definition.

> *The common frontier [boundary] then leaves the River Tanoe and strikes northward to the centre of the Ferre-Ferrako Hill. Thence passing 2 miles to the eastward of the villages of Assikasso, Sankaina, Asambosua and Akuakru, it runs 2 miles to the eastward of the road leading from Suakru to the Boi River, reaching that river 2 miles to the southeastward of Bamianko, which village belongs to France. Thence it follows the thalweg of the Boi River and the line traced by Captain Binger (as marked on the annexed map), leaving Edubi with territory extending 1 mile to the north of it to France, until it reaches a point 16,000 metres due east of Yau to a point 1,000 metres to the south of Aburuferassi, which village belongs to France. Thence it runs 10 kilom. to the westward of the direct road from Annibilekrou to Bondoukou by Bodomfil and Dadiassi, passes midway between Buko and Adjemrah, runs 10 kilom. to the eastward of the road to Bondoukou* via *Sorobango, Tambi, Takhari and Bandagadi, and reaches the Volta at the spot where the river is intersected by the road from Bandagadi to Kirhindi. Thence it follows the thalweg of the Volta to its intersection by the 9th degree of north latitude.* (Brownlie, 1979, 232-3)

A number of treaties record the discretion that the demarcation teams were permitted. In 1885 Britain and Russia were deciding the boundary between Afghanistan and Russia and it was agreed that '…in tracing this boundary so that it conforms with the description in this Protocol, and the points marked on the annexed maps, the said Commissioners will take due account of local details and the needs and well-being of the local population' (Prescott, 1975, 124). In 1888 the British and Liberian government agreed on a boundary with the qualification '…with such deviations as may hereafter be found necessary to place within Liberian territory the town of Boporu and such other towns as shall be hereafter acknowledged to have belonged to the Republic' (Brownlie, 1979, 382). In the 1904 Anglo-French agreement in the vicinity of Lake Chad the following guidance was given to the demarcation parties.

> *In order to avoid the inconvenience to either party which might result from the adoption of a line deviating from recognized and well-established frontiers, it is agreed that in those portions of the projected line where the frontier is not determined by trade routes, regard shall be had to the present political divisions of the territories so that the tribes belonging to the territories of Tessaoua-Maradi and Zinder shall, as far as possible be left to France, and those belonging to the territories of the British Zone shall, as far as possible, be left to Great Britain.* (Brownlie, 1979, 448)

In 1927 the Belgian and British governments advised their demarcation teams on the Northern Rhodesia-Katanga boundary that 'The Commissioners shall have the authority, generally, to make such minor rectifications and adjustments, to the ideal watershed as are necessary to avoid the troubles which might arise from a literal interpretation of the treaty' (Brownlie, 1979, 709).

Demarcation and administration

This process involves marking the delimited boundary, or in some cases the allocated boundary, on the landscape. Agreements to demarcate a boundary normally listed the members of the survey teams from both countries, arranged for the transport and support of the teams, provided guards when the local population might be hostile, set out the permissible variation in fixing the boundary and specified the methods by which the boundary will be defined, such as pillars and cleared lines. Sometimes demarcation did not follow promptly after delimitation or allocation and many boundaries delimited in the first half of the 20th century were never demarcated until major advances in surveying techniques and rapid transport had occurred,

The commencement of World Wars I and II interrupted planned demarcations and at their conclusions other matters of reconstruction seemed more important than boundary delimitation. Laws (1932) and Peake (1934) described how the

boundaries separating the former Belgian Congo from British Northern Rhodesia and Tanganyika were only delimited when copper and tin deposits were discovered in the borderland and companies needed certainty about the extent of Belgian and British authority.

A brief account of the demarcation of the boundary between what are now Indonesia and Papua New Guinea shows a sample of the problems to be faced (Figure 3.4). It is based on an account of three Australian surveyors, Cook, Macartney and Stott (1968). In 1910 A Dutch-German survey team made some useful maps of the prospective borderland, within which the Dutch hoped to find natural features that the boundary could follow. When Australia was given a mandate over German New Guinea after World War I the concept of a natural boundary was abandoned. Instead there was general agreement that the boundary would follow meridian 141° E southwards from the north coast of New Guinea to the Fly River, and the meridian passing through the mouth of the Bensbach River on the south coast northwards to its intersection with the Fly River. The boundary would follow the Fly River between these intersections.

In 1933 surveyors from the two countries identified the meridian on the north coast. When compared with a calculation made in 1928 a difference of 398 metres was found. The readings did not overlap and accordingly it was decided to divide the distance between the two positions meaning each territory was increased in area! New Dutch proposals to complete the demarcation in 1939 were overtaken by other events. In the three years following 1957 KLM Airways and Adastra Airways photographed the north and southern boundary sectors respectively. In 1956 a Dutch surveyor fixed a point on the west bank of the Bensbach River and two years later an Australian made a similar calculation. These were linked by surveys and a value 141° 01’ 07” E was adopted. In 1962 markers were placed on the north and south banks of the Fly River on meridian 141° 01’ 07” E at 6° 54’ S and on meridian 141° E at 6° 19’ S.

In terms of scale one of the major demarcations in the past 50 years occurred in 1962 and involved China and Mongolia. The agreed boundary stretched for 4,672 km from an elevation of 4104 metres in the west to 646 metres in the east. Pillars were erected at 639 locations that were selected for a variety of reasons. The first group consists of physical features such as cols, gaps, peaks, rivers and lakes. The second category was found where a road or railway crosses the boundary. The third group includes important wells, springs and triangulation stations that are intersected by the boundary (Department of Commerce, 1971, 2). At some points, for example crossing a road, or following a river two or three markers bearing the same number may be used. When multiple markers are included there is a total of 678 pillars. There are 572 concrete pillars and 106 fragmentary rock mounds. The boundary description is divided into 26 sectors that contain from 3 to 59 pillars. Each pillar is carefully described.

> *Boundary marker No. 348 is a solitary concrete post, located on the southeastern slope of the mountain ridge in the northwest of the seasonal*

> *Je-szu-t'ai-yin-wu-lan-t'ui-jao-mu Lake. In the direction of 229° 24' magnetic azimuth and at a distance of 700 metres from this marker is Hu-ho Hill in the territory of Mongolia. In the direction of 209° 30' magnetic azimuth and at a distance of 1.16 kilometres is Je-szu-t'ai-yin-wu-lan-t'ui-jao-min-shan-to Well in Chinese territory.* (Department of Commerce, 1971, 99)

Part III of the Protocol deals with the maintenance of the boundary line and the markers that charges both parties with the following responsibilities (Department of Commerce, 1971, 176-7). Pillars with odd numbers will be maintained by China and pillars with even numbers will be maintained by Mongolia. If one party discovers a pillar has been destroyed, moved or damaged the other party must be informed. The damaged pillar must be repaired in the presence of the other party. If, for natural reasons, the pillar cannot be exactly replaced the two parties may select another position under the principle of not changing the boundary line. When both countries agree to insert new markers, sketch maps and other documents should be changed and signed by representatives of both parties. Both countries have agreed to prevent, if possible, the change of course of major streams marking the boundary. If the river changes course naturally the original boundary remains unchanged unless there is agreement to change the line. This provision may be at variance with the usual rule that a boundary will move with the river course when change is caused by accretion or erosion, but continue to follow the previous course of the river when it is caused by avulsion. Each party is responsible for prosecuting any of its citizens who damage or move the boundary pillars. The two sides will inspect the entire boundary every five years but sections of the boundary may be subject to joint examination at any time it seems to be necessary.

The demarcation of new boundaries or the rediscovery of sections of former boundaries that have disappeared will never be as technically difficult as the demarcation of boundaries in the period from 1890 to 1939. The emergence of helicopters, global positioning systems and immunisation have made the work of demarcation teams less arduous and less risky. But the work of modern surveyors might still be made difficult by the careless drafting of those who delimit boundaries. One error that can make demarcation difficult is to define a boundary point by two different methods. This might well have been done with the admirable intention of making assurance doubly sure. For example Hinks (1921) described how a point on the boundary was defined as 'the confluence of the rivers Lanza and Tanbopata, lying north of 14° S'. Alas, while the confluence was easily located it lay south of the parallel. A classical double definition was devised by Argentina and Chile. A section of the boundary was defined as '…the most elevated crests of said Cordillera that may divide the waters' (Varela 1899 and Hinks 1921). Long before the treaty was composed the inexorable process of headward erosion had driven the headwaters of the rivers flowing eastwards across Argentina into areas west of the crests. So Argentina argued for the water-divide while Chile argued for the most elevated crests. It was a disagreement that led even Holdich, a famous boundary engineer, into error.

Sometimes demarcation teams were provided with unreliable maps on which the boundary had been drawn. Sir Mortimer Durand, after whom the boundary between Afghanistan and British India, now Pakistan was named, went to Kabul to persuade the Emir of Afghanistan to accept a boundary with the British. His staff did not include a surveyor and he was provided only with a draft treaty containing seven short articles and a small-scale map of the Afghan-Indian border. Copies of this treaty were then given to six teams of surveyors who had to relate sections of the line on the map to the landscape in which they stood. Holdich (1909, 238-9) reported that the work was expected to take four months. It took 18 months. One surveyor called King gave an example of one problem.

> *It may be noted that as regards this part of the boundary the map is hopelessly wrong. The line as shown on the map takes a turn to the west at a distance of about 3 miles from the Khand Kotal (about 32° 14' north) and crosses over to another range to the west of the Speras, which is represented to contain the Nazan Kotal. As a matter of fact, however, the Spera is continued without a break to the Nazan Kotal and the boundary has been drawn accordingly in a straight line along the crest of this range to within four miles of the Nazan.* (King, 1895, 8)

Boundaries can be marked in a variety of ways. At the end of World War II when Germany was divided into East and West the Russians built a wall that made it very difficult for people to cross from the east to the west. It is regrettable that many of the colonial boundaries in Africa that were demarcated in the first half of the last century were not maintained by regular inspections. Some natural processes might obliterate boundaries. Vegetation grows up in cleared lines, plants can break down pillars and cover them. Floods and the natural movement of river meanders across plains can undermine markers. Sometimes local populations will move the markers because they do not agree with their location or because they are useful building materials or ideal as sharpening stones. Clifford (1936) and Ryder (1925), working in Somalia and Turkey respectively, described how nomads destroyed boundary pillars within 24 hours of erection. They believed territory was vested in people not governments. In 1907 a demarcation commission placed 226 beacons along the 270 miles of boundary between Southern Rhodesia and Bechuanaland. Each beacon consisted of an iron pole sunk 3 feet into the ground and surrounded by a pile of rocks. In 1959 a second demarcation commission worked on this line and found only 105 of the original beacons.

In 1915 Dutch and Portuguese surveyors demarcated the boundaries to separate their territories on the island of Timor (Deeley, 2000, 51). The termini of the principal boundary across the island were marked by two pillars on each side of the Motta [River] Bikoe in the north and the the Motta Massin in the south. 29 beacons were then located in those sections of the boundary not marked by the courses of rivers. In 1923 a survey of the boundary by the Batavia Topographic Institution found that six of the pillars had disappeared and that some others were very difficult to find. In 2005 Indonesia and East Timor cooperated to start

work on rediscovering the boundary. As a start 907 points in the vicinity of the boundary had been fixed. The limits of Timor's detached territory called Ocussi is mainly defined by the courses of rivers. The western terminus on the coast has been given a double definition.

> *Proceeding from the mouth of the Noel [River] Besi, from where the summit of Pulu [Island] Batek can be sighted, on a 30° 47' NW astronomical azimuth, following the thalweg of the Noel Besi, that of the Noel Niema and of the Bidjael, up to its source*. (Deeley, 2000, 70)

The specified bearing was determined in 1915. If the mouth of the Noel Besi has moved along the coast in either direction, in the intervening 90 years, the two parties will have an interesting problem to solve.

Lambert (1965) and O'Sullivan (2001) have provided very useful accounts of the work of the International Boundary Commission created by the Canadian and American governments in 1925. Article 4 authorises the Commission to inspect the boundary when it is necessary and sets out the actions to be taken when defects are detected.

> *…repair all damaged monuments and buoys; to relocate and rebuild monuments which have been destroyed; to keep the boundary vistas open; to move boundary monuments to new sites and establish such monuments and buoys as they shall deem desirable; to maintain at all times an effective boundary line as defined by the present treaty and treaties heretofore concluded, or, hereafter to be concluded; and to determine the location of any point on the boundary line which may become necessary in the settlement of any question that may arise between the two governments.* (O'Sullivan, 2001, 88)

The Commission submits an annual report on its activities in the field and the office. In a remarkable and encouraging display of mutual trust a Canadian or American survey team work on both sides of the sector of the boundary to which they have been sent. Information about the work done is exchanged at the end of the fieldwork season. Both countries have created public reservations 18 metres wide along the boundary. However, if lands had been previously alienated to private use the reservation does not over-rule it.

CHANGES IN THE POSITION OF INTERNATIONAL BOUNDARIES

Analysis of changes in an international boundary's position is important for three reasons. First the operation of state functions at the boundary and of state policies in the borderland might influence the development of landscapes along the boundary and the life of communities within the border. This process might produce recognizable landscape differences on either side of the boundary,

and they will generally be related to the duration of these processes. For this reason it is essential to know how long the boundary has occupied particular configurations.

Second as the position of the boundary is changed territory will be transferred from one side of the boundary to the other. This alteration in sovereignty may set in train changes in settlement patterns, migration streams and the orientation of local economies. Third transfers of territory from one country to another might provoke subsequent irredentist movements within the detached areas as reunion with the homeland is sought.

Changes in the position of an international boundary can occur for three main reasons. First during the evolution of the boundary there might be changes in position from the allocated line, to the delimited line to the demarcated line. It is likely that changes of this nature will decline as successive stages are reached. For example, the Anglo-French boundary between the River Niger and Lake Chad passed through two allocations, one delimitation and one demarcation. The second allocation of 1898 transferred 14,800 square miles to Britain and 4,550 square miles to France, compared with the 1890 allocation. The maximum displacement of the boundary was 90 miles. The delimitation of 1904 caused a maximum movement of the boundary of 70 miles and France gained 19,960 square miles. When the delimited line was demarcated in 1907 the commission made nine small changes, the largest of which involved 17 square miles.

Second the position of boundaries might change at the end of a war to the disadvantage of the defeated state. Reciprocal examples of this situation involved Denmark and Germany over a period of 55 years (Figure 3.5). For seven centuries after 1100 Denmark always consisted of at least the Kingdom of Jutland and the Duchies of Schlesvig and Holstein. In Jutland the population was Danish, in Schleswig the population consisted of Danes and Germans and in Holstein most of the population was German. In about 1060 the Danes had constructed a line of defensive earthworks that closed the southern end of the peninsula (Naval Intelligence Division, 1944, 102). It was called the *Danevirke*. In 1807 Denmark's navy was captured by Britain and that country then frustrated a Danish assault on Sweden. When Napoleon was finally defeated Denmark found itself on the victorious side and still in possession of Jutland, Schleswig and Holstein. It had also acquired Lauenburg, adjacent to Holstein. In 1848 The Duchies renounced the sovereignty of Denmark and an inconclusive war left Denmark intact. A second war started between Denmark and Germany in early 1864. Denmark offered to withdraw to the Danevirke yielding Lauenburg and southern Holstein. This offer was refused and the Great Powers and the other Scandinavian states proposed that Denmark should cede Lauenburg, Holstein and part of Schleswig (Naval Intelligence Handbook, 1944, 134-5). Denmark declined this suggestion and was finally forced to abandon Lauenburg, Holstein and Schleswig. Thus in 1864 the Danish Dutch boundary had moved from the location of the Danevirke to the northern limit of Schleswig.

That situation continued until 1920. During World War I Denmark remained neutral. Danish citizens of German Schleswig were subject to conscription and about 30,000 fought against the Allies and one-fifth of this number was killed. After Germany was defeated some Danes began to demand a return to the boundaries that existed before 1864 or at least a re-incorporation of Schleswig (Berdichevsky, 1999, 21). Instead the Danish government made what seemed a wise decision. It insisted it only wanted to incorporate those areas where the majority of the population wished to be citizens of Denmark. Elections were held in two zones. In the northern zone 75 per cent of the voters favoured union with Denmark. In the southern zone 80 per cent favoured union with Germany (Naval Intelligence Handbook, 1944, 519). It had been agreed that the vote in the northern zone would considered as a unity. In the southern zone it would be decided on a parish basis. The final result showed that four parishes in the northern zone voted against union with Denmark. Three of those parishes lay along the southern boundary of the northern zone. Abenra, on the west coast was the fourth parish to vote against union with Denmark.

In the southern zone it had been decided that if there were majorities for Denmark and Germany in different parishes then the international boundary would be related to those parish boundaries (Naval Intelligence Division, 1944, 517). It is uncertain whether this provision could have created Danish enclaves south of the northern zone. Fortunately the result did not require consideration of this possibility.

The third possible change in the location of a boundary may occur if the two countries agree to settlement of a territorial dispute by a court or tribunal. In June 1973 Libya annexed the Aozou Strip that occupied the entire length of the Chad-Libya boundary. The strip was about 980 km long and 100 km wide. It is a barren waterless desert with a varied appearance as blackened sandstone yardangs rise above a sea of sand dunes interspersed with gravel plains. The civil war in Chad lasted for fourteen years during which time Libya's control was not effectively challenged. After President Habre secured control over most of Chad in 1987 Libya was approached and the governments agreed that if a solution could not been found within one year the matter would be referred to the International Court of Justice. This duly occurred and the matter turned out to be comparatively simple. Chad relied on the Franco-Italian Treaty of Friendship and Good Neighbourliness of 10 August 1955. That agreement defined the boundary between the two territories according to several international agreements and treaties. They included the Anglo-French Convention of 14 June 1898 and the additional Declaration of 21 March 1899, the Franco-Italian Accords of 1 November 1902, the Franco-Turkish Convention of 12 May 1910, the Anglo-French Convention of 8 September 1919 and the Franco-Italian Arrangement of 12 September 1919 (Brownlie, 1979, 32). Libya relied on the Franco-Italian Agreement signed on 7 January by Laval and Mussolini. It was not ratified by Italy and both countries repudiated it in 1938. The Court found in favour of Chad and the *de facto* boundary since 1973 was moved northwards for about 100 km.

Because the total process lasted only 17 years it is unsurprising that the positions of the successive boundaries did not contribute to lasting changes in the landscape or the population distribution. It is also the case that the low population densities in this semi-arid steppe could have contributed to the insignificant impact of the boundary changes on the landscape or the local population.

There is no formula that would enable the influence of boundary changes, resulting from any of these three processes, to be calculated. Each case will be unique. However, when the position of a boundary is changed it is possible to identify the subjects and factors that should be considered. A short list of topics would include, for example, the nature of the political relationships between the two countries concerned, the extent of the transferred areas, the characteristics of the population dwelling in those areas, the location of boundary-crossing points and the existence of customs dues on some cargoes. Some authors have studied the population movements associated with boundary changes. Pallis (1925) studied national migrations in the Balkans during the period 1912-24 when international boundaries experienced major changes. He concluded that these population movements were the largest in this region since the break up of the Roman Empire. The movement of people from areas ceded to a neighbour formed a large proportion of the migrants. For example, in 1913 the total Greek population of 5000 left the qazas of Jam'a-i-Bala, Melnik, Nevrokop and Stromittsa, when they were ceded to Bulgaria, by the Treaty of Bucharest. In 1914 about 100,000 Moslems left the portions of central and eastern Macedonia that had been ceded to the Balkan States by the peace treaty with Turkey, to settle in eastern Thrace and Anatolia.

Much larger movements occurred during and after World War II. When the Polish boundary was moved westwards to the Oder-Neisse Line at the expense of Germany, Wiskemann (1956, 118) estimated that in 1946 nearly 1.5 million Germans left Polish territory and settled in British-occupied Germany. A further 200,000 moved into the Russian sector of Germany. Over the next three years another 800,000 Germans moved into the Russian sector. By 1954 the number of Poles living in Polish-occupied territory had risen from one million to 7 millions. At the same time there was a redistribution of farmland. All holdings in excess of 100 hectares were confiscated and distributed to peasants. About 3.6 million hectares were allocated to 605,000 families.

THE EVOLUTION OF FUTURE INTERNATIONAL BOUNDARIES

Since 1939 opportunities for drawing a new land boundary normally have arisen in four different circumstances. First during World War II and at its end boundaries were imposed on defeated countries.

Second the decolonisation of European Empires sometimes required the drawing of new boundaries. However, in Africa the members of the Organization of

Africa agreed in 1964 that existing colonial boundaries would continue to apply to the newly independent states. In some cases those boundaries were international boundaries, as between British Nigeria and French Niger, often negotiated more than 60 years earlier. In other cases, the internal boundaries of extensive colonial territories, such as French West Africa, were elevated to the status of international boundaries. French West Africa included Mauritania, Senegal, Guinea, Ivory Coast, Mali, Burkina Faso, Dahomey, and Niger. French Equatorial Africa consisted of Chad, Ubangi-Shari, Cameroon, Gabon and Middle Congo. Guinea became independent in 1958 and the other twelve colonies followed suit in 1960. In the case of British India it was decided to divide the former colony into two states, India and Pakistan.

Third after the fragmentation of an existing independent state, such as Yugoslavia or the Soviet Union, new countries were created and once again, in most cases, the internal boundaries were elevated to the status of international boundaries. In 1991 the Soviet Union disappeared and was replaced by the Russian federation and fourteen independent states that bordered the Federation to the south. Estonia, Latvia, Lithuania, Belarus, Ukraine and Moldova occupied the zone between the Baltic Sea and the Sea of Azov. Georgia, Armenia and Azerbaijan bounded the Russian Federation between the Black Sea and the Caspian Sea. Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan and Kyrgyzstan lie east of the Caspian Sea. These newly independent states experienced different histories and are of different sizes in terms of land and population. Ukraine has the largest population with a total in excess of 50 millions while Estonia with 1.5 million citizens has the smallest population. The most extensive state is Kazakhstan with more than one million sq, km. while Armenia is the smallest state with an area of 29,800 sq. km. The boundaries of these new states were the boundaries that existed when they were part of the Soviet Union, however, there are four territorial curiosities. First the Russian territory of Kaliningrad is now separated from the rest of the Federation by Latvia and Lithuania. Kaliningrad is Russia's only ice-free port on the Baltic Sea and it is of interest to Belarus as a counter to total reliance on either Lithuania or Poland. Second the territory of Azerbaijan is divided into two unequal parts by Armenia. Third *The Times Atlas of the World* (Times Books, 1988, plate 43) shows the boundary between Khazakhstan and Uzbekistan as it crosses the Aral'skoye More [Aral Sea] as a straight line drawn across water. A small island called Ostrova Vozrozhdeniya, belonging to Uzbekistan, is shown south of the line. The equivalent plate in *The Times Atlas of the World* (Times Books, 1994) shows that the small island had grown to a large island and it is divided by the original straight line. By 2005 the island had become a peninsula jutting from the Sea's southern shore. Fourth the independence of these new states has preserved the existence of 13 enclaves (Whyte, 2002, 5). Russia, Armenia, Azerbaijan, Tajikistan and Kyrgzyzstan each possess one enclave respectively in Belarus, Azerbaijan, Armenia, Uzbekistan and Uzbekistan. Azerbaijan and Tajikistan each have two enclaves respectively in Armenia and Kyrgyzstan. Finally Uzbekistan possesses four enclaves in Kyrgyzstan.

Fourth it is possible that one part of a country might secede to become an independent state. In recent times only Bangladesh has seceded successfully. Since Bangladesh was a detached part of Pakistan it is a special case. The attempt of Biafra to secede from Nigeria lasted three years and ended in 1970, after one million Nigerians had died. Katanga's secession from Zaire lasted four years and ended in 1963. The partition of northern Cyprus in 1974 can be classed as secession; it does not seem to have been particularly successful.

This account of the secession of Bangladesh from Pakistan is based on Whyte (2002, Chapter II). The emergence of Bangladesh began in 1947 when India was partitioned into India and Pakistan. Two boundary commissions were created each with two members from the Indian Congress Party and the Pakistan Muslim League.

The Commissions were instructed to base the international boundaries on the existing internal limits of provinces, districts and thanas. A thana was the smallest sub-division for which census figures were available. Some factors taken into account were rivers, transport links and Calcutta's economic hinterland. With the approach of independence Muslims and Indians started to migrate to their homelands from areas that would belong to the other side. Thousands of migrants from both sides were massacred.

Events leading to the secession of Bangladesh occurred during the period 1966 to 1972. As the support for independence in East Pakistan increased, forces from West Pakistan were introduced to maintain a unified state. A civil war commenced in March 1971 and it was only ended when India declared war on Pakistan after that country had attacked Indian airfields on 3 December. India recognized Bangladesh as an independent state on 6 December when its forces invaded East Pakistan. The war was over by 16 December and Bangladesh became an independent state.

It appears that the success of Bangladesh's secession was influenced profoundly by the area's detachment from West Pakistan and by the willingness of India to give military support to the independence movement.

In 2005 a book entitled *Partitions: shaping states and minds* (Bianchini, Chaturvedi, Ivekovic, and Samaddar) was published. It was the outcome of an earlier joint research project *Partitions compared and lessons learned: issues in the politics of dialogue and peace.* The text of this book could be described as both dense and opaque as the following quotation shows.

> *At a time when the battle cry of dividing societies is making itself heard again through the demands for partition in a most zealous way, resuming the frenzy of what has been its mission always, namely, creating a heavenly identity at a point of fundamental divergence and rupture, as only God can testify, and therefore no dialogue can assuage, it will not be out of season to speak of some necessary things – this time in a milieu of political correctness sanctified by the god of identity, and linked to the idea of nation that has brought about a revolution in our political sense only comparable with the revolution in knowledge associated with the name Copernicus.*

> *Possibly it can be said that, as a result of this discovery, it has become extremely difficult, if not almost impossible, and to think of the existence of other heavenly bodies beyond what this God has attested, and to think of political existence without the centre that this revolution has brought about. The commentaries of partition therefore often emanating from within the world of nation are only subsumed at a later stage within that world, and critiques emanating from outside that world remain very often unable to reach the dense clusters below – a strange case of void, as the void is filled up only by renewed emptiness.* (Biachini *et alia*, 2005, 1)

Another quotation reveals that the authors appear to derive no benefit from the libraries of books written, over more than a century by geographers, historians and lawyers dealing with international boundaries.

> *It is remarkable how little studies of nations in the past, engrossed as they were with cultural ingredients of nationalism, had attended to the issues of the institutional formation of boundaries, borders, partition, ethnicity and territory – as if these were separate registers – and therefore how little ethnologic, geo-logic or cosmo-logic that fed into the nationalist logic, which is the logic of partition also, were considered in accounting for the historical truth of nationalism.* (Biachini *et alia*, 2005, 3)

It seems bizarre that the army of academics from varied disciplines who have studied and are still studying borderlands, frontiers, boundaries and enclaves, should be accused of neglecting these topics. The explanation for this charge might be found in the bibliographies at the end of each chapter. Only 17 per cent of the titles cited were produced before 1993. The authors seem unfamiliar with the boundary collections of Brownlie (1979), Hertslet (1875-91) and Ireland (1938); with the masterly study by Mostert (1993) of South Africa's 19th century frontiers; with the profound analysis of the McMahon Line by Lamb (1966); the investigation by Schofield (1994) of the territorial foundations of the Gulf States; and the most detailed analysis of the Bangladesh-Indian boundary by Whyte (2002).

AN EXAMPLE OF BOUNDARY EVOLUTION: THAILAND'S EASTERN BOUNDARY

Thailand's eastern boundary with Laos and Cambodia was settled between Thailand and France in the period from 1863 to 1926 (Figure 3.6). In 1862 France obtained a foothold near the mouth of the Mekong River when Annam ceded the provinces of Bein Hao, Gia Dinh and My Tho. At the same time Annam renounced any claims to Cambodia, which at that time was a weak state dominated by Annam and Thailand. France then used a ploy that was to serve it well

in the future. The authorities assumed that France had inherited Annam's claims to influence in Cambodia. Admiral de la Grandiere sent a junior officer Lagrée to collect information about Cambodia and to obtain a treaty giving access to or control over the Mekong valley (Priestley, 1966, 166; Cady, 1967, 275-6). The secret treaty signed by Lagrée and the Cambodian ruler, amongst other matters, gave French protection to Cambodia in return for France having exclusive influence over Cambodia's foreign relations. Emperor Napoleon III declined to approve this secret treaty because he wished to avoid giving offence to Britain.

The Cambodian leader, fearful that Thailand would discover the secret treaty with France, signed a secret treaty with Thailand that confirmed Cambodia was a tributary state of Thailand. This treaty was ratified on 4 January 1864. Three months later the Emperor was persuaded to ratify the secret treaty with Cambodia and the King had no choice but to ratify it. France took the strong position of refusing Thailand's right to perform the coronation of King Norodom in June 1864, but agreed to discuss the problem of reconciling the two treaties that Cambodia had signed. The discussions produced the first Franco-Thai boundary treaty on 15 July 1867 (Prescott, 1975, 438-9). The main territorial provisions were that French protection over Cambodia was recognized and that the Cambodian Provinces of Battambang and Angkor, nominally part of Cambodia were attached to Thailand. The agreement provided that Siamese and Cambodian officers, assisted by French officers, would determine the boundary and then demarcate it by stakes and other markers. Following this work, French officers would produce '…an exact map…' of the boundary. There is no evidence that the boundary was surveyed. Authoritative maps in 1888 still showed French and Thai versions of the boundary (McCarthy, 1888). In July 1891 a British representative in Bangkok provided the following information.

> *…the boundary with the French has not been delimited on the coastline, in fact with the exception of the neighbourhood of the Great Lake [Tônlé Sab], it has not been fixed anywhere in the south.* (United Kingdom, 1895-6, 204)

When France moved into the remainder of Annam and then Tonkin in 1884, Annam's influence in Laos was ended and this was to the temporary advantage of Thailand. Petit Luguenin (1948) provides an excellent account of this period. Britain was warned of French ambitions in Indo-China.

> *It is too early yet to say how far French rights might extend, but it is probable that they will claim as the proper boundary the watershed between the Mekong and the streams which fall into the Gulf of Tonquin.* (United Kingdom, 1895-6, 192)

This did not alarm British authorities because Thai ministers had explained that their country's eastern boundary lay along this watershed. However, by February 1893 the French view had changed dramatically as the British Ambassador discovered.

> *The Under-Secretary of State [of France] said in reply, that the Government were still of the opinion expressed by their predecessors two years ago [February 1891], to the effect that the left [east] bank of the Mekong was the western limit of the sphere of French influence, and this opinion was based on incontestable rights of Annam, which had been exercised for several centuries. He added that these rights were too important to be abandoned, and too well established for the Siamese to persist in contesting them in the presence of France to put a stop to their violation.* (United Kingdom, 1895-6, 210)

The British Ambassador had no difficulty in refuting the French arguments.

> *M. Develle still maintained his two previous theses: first that Luang Prabang was an actual dependency of Annam; and, secondly, that France* ab antiquo *had vindicated her right to the left [east] bank of the Mekong. Upon my part, I urged him that to adduce Annam's historical claim to Luang Prabang was a dangerous line of argument…M. Develle knew as well as I did that in every French Annuaire, in every French map, in every French Geographical Gazetteer, Luang Prabang, until a year ago, had been described as an integral part of Siam. It is true that within the last twelve months a mysterious revolution had occurred in the minds of French geographical authorities, but as an honest man he must be convinced as I was, that the district in question was, and had been for nearly a century,* bona fide *Siamese territory, and that it could not be confiscated by France without a flagrant infringement of the formal assurances he had given us not to impair the integrity of Siam. As for the pretence by France* ab antiquo *to the left bank of the Mekong, such a supposition was not only contradicted by M. Waddington's express declarations on the subject, but by the further fact that, under the Franco-Siamese Convention of 1886, the French had claimed the right of sending a Vice-Consul to Luang Prabang. This in itself is absolute proof that the locality belonged to Siam.* (United Kingdom, 1895-6, 274)

But the policies of the colonial powers never rested on historical accuracy, they were based on the foundation of national self-interest. A quarrel was forced on Thailand in February 1893 over charges of Thai aggression against Annam. Thailand's offer to submit the dispute to arbitration was rejected and in early April 1893 Stung Treng was occupied. The first French ultimatum was issued on 13 April 1893 and thereafter pressure was increased until Thailand signed a treaty of peace on 3 October 1893. French tactics, during those seven months, were accurately described by the British Ambassador in Paris.

> *The Siamese Government were now in possession of an ultimatum, a penultimatum and an ante-penultimatum. In fact the word 'ultimatum' had completely lost its meaning, for each new one seemed to procreate a successor.* (United Kingdom, 1895-6, 345)

By the Treaty Thailand renounced all claims of territories on the left bank of the Mekong; its warships could not sail on the Mekong or the Tônlé Sab; no Thai fortified posts or military establishments could be established in Battambang and Siem Reap or in a zone 25 kilometres wide along the right bank of the Mekong; and France would be able to establish depots of coal or wood for its vessels on the right or west bank of the Mekong (Prescott, 1975, 440). Finally France was allowed to maintain a garrison in Chanthaburi until Thailand had complied with all the terms and conditions of the Treaty. Chanthaburi was a settlement about 215 km southeast of Bankok and 15 km from the Gulf of Thailand.

The Treaty contained no provisions for the demarcation of a boundary. French and Thai maps of the period agreed on the boundary west of Tônlé Sab and along the Mekong northwards from Stung Treng, but showed different lines east of the Lake. To the west of the Lake the boundary followed the Chaine des Cardamomes before trending east and north to intersect the south bank of the Lake about 30 km from its northern end. On the east both boundaries extended northwards from the Lake's shore for about 15 km. The Thai line then swung to the east passing 50 km south of Stung Treng. The French version of the boundary continued northwards for about 75 km before trending south before following a line due east that passed 10 km south of Stung Treng.

The effect of this boundary was to restrict the areas over which Thailand had complete authority to areas east of Battambang and Siem Reap and a line parallel to and 25 km west of the Mekong River. Only seven weeks after the Treaty was signed French and British officials were discussing the prospect of a neutral zone between British and French possessions in the upper Mekong valley. The British Ambassador in Paris was told what additional concessions France would seek from Thailand.

> *. . . the French Government was precluded by many considerations from dismembering Luang Prabang. The integrity of Luang Prabang was as valid and reasonable a cause of solicitude to France as the integrity of Kyaing Ton was to Britain; nor would the French Chambers or French public opinion tolerate its disintegration. He thought, however, in the first place, that when the Commission of Experts examined the question on the spot, it would be found that the necessary area could be obtained without seriously infringing the boundary of that province.* Its western frontier was at present uncertain, and there probably would be no difficulty in delimitating it in such a manner as to secure the result we both desired, namely a substantial buffer. (United Kingdom, 1895-6, 379-80, emphasis added)

Thailand agreed to a new arrangement with France in the Convention of 13 February 1904. Its two main features involved modifications east of the Tônlé Sab and in the vicinity of Luang Prabang. East of the Lake the boundary followed a parallel for 25 km then turned due north for 120 km to the Dang Raek escarpment. This well marked feature is composed of horizontal sandstones and

the crest is between 350 metres to 500 metres. It is not difficult to believe that it would attract the attention of surveyors seeking a site for the boundary. From the eastern edge of the escarpment the boundary followed the watershed of the Phnom (Hills) Padang to the confluence of the Mekong and the Mae Nam [River] Mun. After following the Mekong northwards the boundary left that river at its confluence with the Mae Nam Huang, to its confluence with a tributary called Mae Nam Tang. The Tang was then followed to its source on the watershed between the Mekong drainage basin and the Mae Nam Nan flowing south to the Gulf of Thailand. The watershed is then followed to the source of the Mae Nam Kop that is followed back to the Mekong. The Convention provided for the demarcation of the boundary by a mixed commission and in Article 8 the seven French depots located on the west bank of the Mekong were defined. France gained about 15,000 sq. km of territory according to the terms of the Convention.

A Protocol signed on 29 June 1904 made one alteration to the Convention boundary and then realigned the boundary west of the Tônlé Sab. The alteration involved transferring to France an area of 800 sq. km at the head of the Mae Nam Huang. The realignment west of the Lake transferred a large area from Thailand to France. The boundary followed a course southwest from the northwest coast of the Lake to Laem [Point] Ling on the coast of the Gulf of Thailand west of Trat. This new boundary augmented the area subject to France by 6,500 sq. km. This boundary was described as '*une frontière naturelle*'. This is a curious description of a boundary that cuts across the obvious grain of the topography and attaches the estuary of the Khlong Yai and the port of Trat to a hinterland lying beyond major mountains through which there was no reliable road.

The 1904 Convention and Protocol were ratified on 9 December 1904 and the scene was set for the demarcation of the boundary by a joint commission that started work on 31 January 1905 at Svay Don Kev. The boundary to the sea in the vicinity of Trat was defined by 31 May 1905. No difficult problems were encountered until the final section of the line was reached. The line was defined in the following terms.

> *The boundary will then follow the Klong-Dja river to its source, which is situated on the Kao-Mai-See mountain. From here it will follow the chain of mountains to the Kao-Knun mountain and from this point the chain of mountains as far as the sea at the end of Cape Lem Ling.* (Prescott, 1975, 443)

In fact there was no chain of mountains between Kao-Mai-See and Kao-Knun; they were separated by a valley. Commandant Bernard, the French delegate argued that since the terms of the agreement could not be satisfied it was necessary to create a boundary that preserved the characteristics of '*une frontière naturelle*'. Predictably the French proposal lay north of the defined line and delivered to France most of the peninsula between the estuaries of the Khlong Yai and Khlong Welu. Bernard also added the argument that Trat needed an adequate zone of protection to the west. The Thai delegation agreed reluctantly.

In the north the boundary west of the Mekong was delimited in the period 29 November 1905 to 12 February 1906. In this survey season the French depots on the west bank of the Mekong south of Luang Prabang were defined. Definition of the depot at the confluence of the Mekong and Mae Nam Nun was left to the demarcation from Tônlé Sab to the confluence.

Demarcation of the boundary between the Lake and the confluence of the Mekong and Mae Nam Mun occurred during the period 2 December 1906 to 18 January 1907. The initial difficulty involved identification of the mouth of the Stung Roluos on the east shore of the Lake. The river enters the Lake between low-banks that were inundated during the monsoon season. The Commissioners decided that they would fix the origin of the latitudinal boundary at the point on the banks where the obvious banks of the river became difficult to detect. The latitude of this point was measured. Then the latitude of Phumi Khang Cheung Vott, a settlement near the dry season mouth of the Stung Roluos, was calculated. The average of the two parallels was calculated to be 13° 14' 48.1" N. This latitude was projected eastwards to the vicinity of the river Prek Kompong Tiam. The second difficulty arose when it was discovered this was an inlet of the Lake rather than a river. A river flowed into the inlet and there was evidence that another river, now dry, had also entered the inlet. The Commissioners agreed to find the meridian that lay mid-way between a distinct river called the O Run, located near the former Prek Kompong Tiam, and the abandoned course of the former river. This meridian was not recorded in the minutes of the Commission. When this meridian was projected northwards it intersected the Dang Raek escarpment in the vicinity of Chong Ken. This pass had been selected in advance by the Commission as the route to be followed to the well-watered and populated Khorat Plateau. The Commission then followed a track about 15 km north of the crest of the escarpment that had been identified by Captain Tixier, a French survey officer two years earlier. The survey of the boundary along the watershed of the escarpment was done by Captain Oum working in the opposite direction towards Chong Ken. The arrangement for this detached survey had been made by the Commission on 2 December 1906. There was no formal meeting of the Commission between 5 December 1906 and 3 January 1907. In those four weeks the Commission had travelled nearly 400 km from the Lake to the confluence of the Mekong and Mae Nam Mun.

It was only at the confluence that a meeting, on 3 January 1907, recorded the solution to the problems encountered on the Lake's shore. At this meeting there was no discussion of Oum's survey. There was one more meeting, on 19 January 1907, dealing with the demarcation of the French depot at the confluence of the Mae Nam Mun and the Mekong. Although there are French references to the desirability of holding a final meeting of the Commission on 15 March 1907 no other meetings were held. This happened because the two countries were engaged in discussions that produced a major re-alignment of the boundaries from the coast of the Gulf of Thailand to the Dang Raek escarpment.

In six days from 8-13 March a new boundary west of Chong Ken was negotiated. A treaty was drafted, approved by the King of Thailand and signed on 23 March 1907. On that day the King of Thailand left for a health cure in Europe! This was the last major boundary change between Thailand and Laos and Cambodia. First France retroceded to Thailand the 800 sq. km at the head of the Mae Nam Huang acquired by France in June 1904. Second France retroceded 1700 sq. km surrounding Trat, that was gained by France in June 1904. In return France secured the territories of Battambang, Siem Reap and Sisophon totalling 32,100 sq. km (Prescott, 1975, 444-6). Thailand secured another important concession. France gave up jurisdiction over French Asians in Thailand. Tate (1971, 519) considered that Thai authorities were not ceding any vital territory and were more concerned to make progress restoring Thailand's legal sovereignty.

The Commission appointed to demarcate the new boundary commenced work on 8 October 1907 in Bangkok. Five sections of the boundary between the Gulf of Siam and Chong Ken were identified. They were the watershed of the Dang Reak escarpment east of Chong Ken, the plain between the eastern end of the escarpment and Aranyaprathet, the rivers Stung Sisophon and Huai Nam Sai, the former provincial boundary between Battambang and Chantaburi and the watershed between Phnom [hill] Thum and the sea. The terminus on the coast was defined as the point opposite, that means due east, of the highest point on Ko [Island] Kut. French officials thought this was too close to the nearest Cambodian village and the point was fixed at Laem [Cape] Samit.

The boundary between Chantaburi and Battambang was not plainly marked in the landscape and it had to be recovered. The Commissioners identified the villages that were definitely either Cambodian or Thai and proceeded to suggest lines separating these villages, from Thnom Thum in the south and the source of the Huai Nam Sai in the north.

The last difficulty involved the straight line linking a point on the Stung Sisophon, 10 km downstream from Aranyaprahtet. The French Commissioners cleverly insisted that the distance must be measured along the River not '…*a vol d'oiseau*' [as the bird flies]. This was agreed and the point from which the straight line to the escarpment started was only 4 km from Aranyaprathet.

The description of the new boundary was recorded in the minutes of the Commission dated 6 June 1908 and the entire boundary was recorded on five maps at a scale of 1:200,000. The boundary was marked by 50 pillars constructed of cement, timber or iron. Article III of the Protocol attached to the 1907 Treaty allowed the Commissioners to make changes to the described boundaries providing natural lines were substituted for defined lines and neither country experienced any detriment. Changes were made at various points to produce a boundary that was more convenient for administration than the described line.

By Article 3 of the 1926 Convention the boundary along the Mekong River was defined more precisely '…with a view to avoiding any dispute concerning the frontier-line formed by the Mekong between Siam and Indo-China' (Prescott,

1985, xvii). This Article covered four conditions of the river. First where there were no islands the boundary follows the talweg. Second if there are islands the boundary follows the talweg of the channel nearest the Thai shore. Third if there are islands and the closest branch to the Thai shore dries the boundary will follow the talweg of the silted branch. However, the Permanent High Commission for the Mekong may decide that the boundary in the silted channel may be moved to the talweg of the nearest water-channel. Finally, the river lands, called Don Khioop, Don-Khioo-Noi, Don-Noi and Dom Somhong, that may be regarded as forming part of the Thai bank or being alluvial sediments dependent on the bank, shall be attached to Thai territory.

After war started in Europe in 1939 France sought to secure its position in Indo-China by signing a non-aggression pact with Thailand in October. Thailand insisted that a condition in the pact must be the return to Thailand of the Luang Prabang trans-Mekong area and Bassac ceded by Thailand in 1904. France accepted these conditions and officials were sent to Indo China to settle the matter. Flood (1960) wrote an excellent account of these events. He notes that the French metropolitan authorities were sympathetic to Thailand but the colonial authorities in Indo-China did not share that view. Events in Europe overtook these negotiations and Japan's advance into Tonkin encouraged further demands by Thailand on France. The retrocession of Battambang, Siem Reap and Sisophon was demanded and if France ended its colonial rule in Indo-China its Lao and Cambodian territories would be transferred to Thailand. Some military clashes occurred but Japan intervened and arbitrated the matter in favour of Thailand. At the Tokyo Peace Convention of 9 May 1941 Thailand received all areas in western Cambodia lost in the 1904 and 1907 Treaties and Conventions. This transfer of territory was reversed under the terms of the Washington Accord of 17 November 1946.

The final chapter in the evolution of this boundary involved the International Court of Justice. Both Cambodia and Thailand requested the Court to decide which state had sovereignty over the area on which the temple of Preah Vihear stood. Cambodia's case rested mainly on the maps prepared by the French survey officers in 1904. These were maps that the Thai's had asked the French to prepare, that were received in Paris by the Thai Ambassador and that were used without any disclaimer for many years. Thailand's main claim was that it had been in possession of the area for a long time. Alas this claim was trumped by the fact that Prince Damrong, President of the Royal Institute of Siam, visited the Temple in 1930, and was greeted by the French Resident of the Preah Vihear Province under the French flag.

The Court found for Cambodia and perhaps the most important point to come out of the judgement is that boundary agreements are final once the line has been delimited and demarcated.

> *In general, when two countries establish a frontier between them, one of the primary objects is to achieve stability and finality. This is impossible if*

> *the line so established can, at any moment, and on the basis of a continuously available process, be called in question and its rectification claimed, whenever any inaccuracy by reference to a clause in the parent treaty is discovered. Such a process could continue indefinitely, and finality would never be reached so long as possible errors remain to be discovered. Such a frontier, so far from being stable, would be completely precarious. It must be asked why the parties in this case provided for a delimitation [demarcation], instead of relying on the Treaty clause indicating that the frontier line in the region would be the watershed. There are boundary treaties which do no more than refer to the watershed line, or the crest line, and which make no provision for any delimitation [demarcation] in addition. The Parties in the present case must have had a reason for taking this further step. This could only have been because they regarded the watershed indication as insufficient by itself to achieve certainty and finality. It is precisely to achieve this that delimitations [demarcations] and map lines are resorted to.* (*Recueil des arrêts*, 1962, **2**, 34)

Had the Thai authorities complained about the boundary drawn around the temple as soon as the French maps were received in 1907 the matter could have been considered by the two governments and adjustments made if necessary. The error of not checking the maps was then compounded when Thailand agreed to submit the case to the jurisdiction of the Court. Thailand could have insisted that the matter be settled by negotiation between the two governments. It could probably have mounted a case in negotiations on the fact that that Captain Oum, who was unaccompanied by Thai officers when he surveyed and demarcated this section of boundary, had deviated from the watershed. But the Court had no reason to consider that possibility, because the facts that Thailand accepted the maps without adverse comment and used them without any disclaimer settled the matter to the satisfaction of a majority of the judges.

This review of the evolution of Thailand's boundary raises six important points. First Thailand possessed a boundary with Cambodia and Laos that had evolved during the period of Chinese suzerainty over Indo-China. Second France's intervention in Indo-China coincided with a major threat to China from Russia in central Asia. Third, in common with the actions of the other imperial powers such as Portugal and Spain in South America, and Britain and Germany in Africa, France was too powerful to be resisted by Thailand. The Thai officials who negotiated the boundaries always seemed to be in retreat. Fourth the advances were made in stages over 40 years. Fifth Thais appointed to the demarcation commissions lacked the technical skills to ensure that Thailand's interests were not undermined by the French surveyors. Sixth Thailand made the fatal mistake of agreeing to place the dispute with Cambodia before the International Court without making a careful assessment of the strength of its case.

CONCLUSIONS

Most of the world's present international boundaries were drawn in the last 300 years. The Europeans drew the boundaries of Europe and then proceeded to draw the boundaries of the Americas and Africa and were involved in boundary construction in the Middle East with Persia, Saudi Arabia and Turkey. China and Russia were responsible for the boundaries of north, central and east Asia, with a minor role played by Japan. Britain, France, the Netherlands and Portugal laid out the pattern of boundaries in Southeast Asia that resulted in the creation of India and Pakistan, from which Bangladesh was detached. French Indo-China was succeeded by independent Cambodia, Laos and Vietnam. At first Malaysia and Singapore was a single political entity, but it divided in 1965.

Scholars undertaking research into the evolution of boundaries in any continent must discover the archives that contain correspondence regarding the boundary between neighbouring states, the treaties that resulted from negotiations or arbitrations, and the maps used by both parties and by Courts that become involved. It is also necessary to engage in fieldwork where that can be done safely. Countries in North and South America, Africa, Europe, the Middle East and Asia have shown a willingness to request the assistance of Courts to determine boundaries on land as well as in the sea.

It is now accepted that boundary evolution in the past could involve the four stages of allocation, delimitation, demarcation and administration. Today it is most likely that the last two stages will be relevant. The demarcation and administration of international boundaries is now simplified by the use of global positioning systems, helicopters, high quality aerial photographs and joint visits to boundary markers.

Since World War II several countries have achieved independence and in most cases they have inherited international boundaries or internal boundaries. There have been three new states in South America, 34 in Africa, five in the Balkans, 9 along the European border of the Russian Federation, five along the Central Asian territory of the Russian Federation, and 11 in Southeast Asia. At present it appears there are some difficulties in the new states lying between the Caspian Sea and China.

There have been five attempts by fragments of states to secede and become independent. Biafra, Katanga and Northern Cyprus have failed in their attempts. The independence of Eritrea is uncertain at the time of writing. Only Bangladesh has succeeded as a result of the most favourable circumstances of detachment and assistance from a powerful friend.

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4. INTERNATIONAL BOUNDARY DISPUTES

> *The relations between modern states reach their most critical stage in the form of problems relating to territory. Boundary disputes, conflicting claims to newly discovered lands, and invasions by expanding nations into the territory of weaker neighbours have been conspicuous among the causes of war.* (Hill, 1976, 3)

Boundary disputes between countries have been a popular subject for research amongst political geographers, lawyers, political scientists and historians. Often their research benefits because governments publish information stressing the strength of their case and the weaknesses of their opponents' arguments. In the absence of disputes, useful information about the history and contemporary circumstances of the boundary remain buried in the archives of correspondence files and secret reports.

ASPECTS OF BOUNDARY DISPUTES

Geographers, lawyers, historians and political scientists have studied boundary disputes over a long period. Reilly (1999), a geographer provided a detailed review of the boundary dispute between Britain and Spain over Gibraltar. Hoyle (2001) is a professional lawyer, who published a useful account of problems associated with the land and sea boundaries between Guyana and Surinam. Bernard Gay (1989 and 1995), a French historian, produced two fine analyses of boundary disputes and settlements in Indo-China. Ronald St John (1994 and 1994a) is a political economist, who has published detailed examinations of boundary disputes along the west coast of South America. Spadi (2001) another political scientist prepared an excellent summary of a little-known dispute in the Caribbean Sea. Haiti claims Navassa Island that has belonged to the United States since 1857.

The analysis of any boundary dispute should provide information on four aspects. First it is necessary to uncover the *cause* of the dispute. Sometimes the boundary's history will reveal the fact the boundary's evolution was incomplete. In other cases former colonial territories might express dissatisfaction with the boundaries they inherited. For example, after British Basutoland became the independent state of Lesotho in 1966, the new state resurrected a boundary dispute

with South Africa that had its origins a century before. In 1854 the Orange Free State was created and attempts were made by the Boer authorities to negotiate a boundary with the Sotho people to the west of the Caledon River. However, no permanent settlement was possible and there were three wars in 1858, 1865 and 1867. Only the intervention of Britain that annexed Basutoland forced the Free State to disgorge territory occupied east of the Caledon. The second Treaty of Aliwal North in February 1869 provided that the Free State would cede the conquered areas east of the Caledon River (Eloff, 1979). In May 1973 Lesotho demanded the return of the lands it lost west of the river but these claims have been unsuccessful.

Second the circumstances that persuade one or both countries that the latent problem requires solution must be identified. This *trigger action* may vary from active diplomacy to invasion. Schofield (1993) has described how the government of newly independent Iraq began to publish propaganda calling for the unification of Iraq and Kuwait in the period 1933 to 1938. Internal instability in Kuwait encouraged a formal claim to that territory in April 1938.

> *Just before the war of 1914-1918 Kuwait was an autonomous* qadha *of the Wilayat of Basra. The Iraqi Government, as the successor to the Ottoman Government in the Wilayats of Mosul, Baghdad and Basra, considers that Kuwait should properly be incorporated in Iraq. If incorporation should take place, Iraq would agree to maintain the local autonomy of Kuwait with a guarantee, in the form of a special statute, but of course without prejudice as to sovereignty.* (Schofield, 1993, 75)

In this case internal instability in Kuwait was the trigger for this attempted annexation. In July 1990 Iraq was making certain demands of Kuwait. They included $2.4 billion, the value of oil illegally piped out of the southern portion of Iraq's Rumailia Field, the extension of that field into Kuwait and the cancelling of Iraq's war debts. The Jedda Summit Conference to solve these issues ended in failure on 1 August and provided the trigger for the invasion of Kuwait on 2 August. Schofield raises the unrelated but interesting point that if Iraq had limited its occupation to the islands called Warba and Bubiyan the major powers might not have used force to evict those invaders (Schofield, 1993, 141).

It happens sometimes that the trigger action is the realization of both parties that agreement seems to be beyond reach and that arbitration is necessary. Belgium and the Netherlands, Cambodia and Thailand, Burkina Faso and Mali, Chad and Libya, El Salvador and Honduras and Cameroon and Nigeria have all taken boundary disputes to the International Court of Justice. Argentina and Chile have submitted three sections of their boundary to adjudication.

When countries negotiate to solve a territorial dispute or submit it to arbitration they present the strongest *arguments* available. Often those strongest arguments will be found in history, geography, ethnography and the law. When boundary disputes are solved by negotiation the scholar is generally left to guess about the

arguments pressed by both sides and the extent to which some arguments were decisive. During the formality of court proceedings scholars have the opportunity to read the information that has been provided in the exchange of Memorials, Counter-Memorials, Replies and possibly Rejoinders.

In the case between Belgium and the Netherlands the report of the Mixed Commission ratified in October 1843 proved decisive in the award of the disputed enclaves to Belgium. In the dispute with Libya, Chad's reliance on a chain of treaties between Britain and France, France and Italy and France and Turkey over a period from 1898 to 1955 won the case. Libya relied only on the Franco-Italian Agreement of 1935 signed by Laval and Mussolini. It was not ratified by Italy and both countries repudiated it in 1938 (Prescott, 1998, 246-8).

If countries negotiate a solution to their boundary dispute it is almost certain that there will be a compromise and both countries will benefit. When a dispute is settled in court there is the possibility that one country will win and the other party will lose.

If a territorial solution is negotiated attention must be paid to the *results* of the agreement. The results cannot be predicted but the conditions that will reduce or increase possible problems can be outlined. Effects are likely to be less severe when the altered boundary has only existed for a short time, when few state functions have been applied at the line, when the groups separated by the previous boundary have a cultural similarity, when the economy of the transferred area was directed across the boundary and when the economy of the transferred area is self-sufficient. When an area of Kenya, called Jubaland, was transferred by Britain to Italian Somaliland, in 1924, the second, third and fifth conditions noted above were satisfied. The British and Italian governments had never applied state functions at the previous boundary and the Somali groups from either side were allowed to cross the boundary to find pastures during their subsistence stock movements.

Potential difficulties for the populations of areas transferred during the settlement of a new boundary might occur if the following conditions exist. They are that the boundary has existed for a long time, that the population transferred is ethnically dissimilar to the indigenous population, that the states have rigorously applied fiscal and security functions at the previous boundary, and when the economy of the transferred area had been closely integrated with the core regions of the state from which it has been detached.

Weigend (1950) explored the changes that occurred in the area of the South Tyrol that was transferred from Austria to Italy in 1919. There was a significant influx of Italians into the area and some of the Austrian farmers, now in Italy, changed their activities to supply seed potatoes and Swiss Brown cattle to the Po valley.

TYPES OF BOUNDARY DISPUTES

The general term 'boundary dispute' includes four different types of disagreement between countries. The first type of dispute can be described as a *territorial* boundary dispute. This results from some quality of the neighbouring borderland that is attractive to the country initiating the dispute. The second type of dispute concerns the precise location of the boundary. It often involves a disagreement over the interpretation of terms used in defining the boundary at the stages of allocation, delimitation or demarcation. This type may be called a *positional* boundary dispute. Both of these types of boundary can only be solved to the satisfaction of the claimant state if the boundary is moved.

The other two types of boundary disputes can be settled without moving the boundary. The third type of dispute arises over state functions applied, or not applied, at the boundary. This type may be called *functional* boundary disputes. They may arise because one party is being too diligent in enforcing its rules regarding cross-border traffic, or is being inconveniently negligent. The last type of boundary dispute concerns the use of some resource that straddles the boundary, such as a river or a coalfield. This type of *resource development* dispute may be solved by the creation of an organization that will supervise the use of the shared resource.

TERRITORIAL BOUNDARY DISPUTES

Centuries ago some states were so powerful that they did not need to negotiate over territorial disputes.

> *In the south-eastern corner of Europe, the political situation had been steadily changing during the course of the fourteenth and fifteenth centuries. A new Power, the Ottoman Turks, Mongolian in race and Mohammadan in religion, had entered Europe as the natural enemy of its Christian states. Advancing irresistibly westward, they swept away the kingdoms which had been formed in the later Middle Ages on the ruins of the East Roman Empire.… Though an Asiatic power in origin, they were, at the end of the fifteenth century, firmly planted in Europe, and no limit could as yet be seen to their expansion. The order of their conquests had been as follows. Entering Europe in 1354, they captured Adrianople, which they made their capital in 1360. The Latin principalities speedily succumbed. In 1389, Servia was defeated and surrendered Macedonia, though she remained independent herself; Wallachia became dependent in 1391, Thessaly was annexed in 1393, Bulgaria conquered by 1398, while the Duchy of Athens, the principality of Achaia and the despotate of Mistra became vassal States. Thus by the end of the fourteenth century the Turks had annexed or reduced to dependence all the*

> hinterland *of the Balkan peninsula to the frontiers of Hungary, had hemmed in Constantinople, and even reached on the south, the Gulf of Corinth.* (Ward, Prothero and Leathes, 1924, 25 and Map 3)

Four hundred years later Napoleon did not need to negotiate in any serious fashion.

> *By 1801, following a series of resounding victories, Bonaparte was able to force peace on all the powers of the European continent. France's security was guaranteed by expanded frontiers and the creation of a series of theoretically autonomous republics in northern Italy, Switzerland and Holland, which were in fact French Provinces.* (Zamoyski, 2004, 6)

Seventy years later Bismark was taking Alsace-Lorraine from France.

> *The position of Alsace-Lorraine in relation to the Great Powers of Europe had been the subject of two main theories – the French theory of the seventeenth century and the German of the nineteenth. The French theory naturally followed the teaching of the Renaissance and the study of Roman history; from which it appeared that France was Gaul, and the Rhine its natural boundary.… Since then, however, the Gothic revival and the study of medieval history had created a new idea which regarded the Holy Roman empire as the parent of German nationality and of the modern German empire. According to this theory Alsace-Lorraine was a western borderland of Germany; its Gaulish population had been replaced by Germans. Both banks of the Rhine, up to the Vosges and the Moselle, had been part of the Holy Roman Empire and were needed to make the new German empire its successor. This theory, more or less recognized, underlay the sentiment of German poets and popular writers in the early part of the nineteenth century; it was adopted by Mommsen and other German historians, and carried into effect by William I and Bismark. It afforded the justification of the war in 1870, in which victory was used to capture the iron-fields of Lorraine and the industries of Alsace for German commerce.* (Naval Intelligence Division, 1942, 164-5)

In many borderlands between countries it would be possible to draw boundaries, for example, based on existing distributions of ethnic groups, religious groups and drainage basins. It can be expected that many boundaries were drawn as a compromise between the ethnic, economic and strategic requirements of each state. There is therefore the possibility that a country, dissatisfied with a boundary that has existed for some time, will make a territorial claim based on some distribution of elements that was discounted when the original boundary was drawn.

In cases where territorial disputes develop there are three processes by which the boundary's unconformity might have occurred.

The origin of territorial disputes

First, the boundary might have been drawn without full knowledge of the distribution of people or topographical features. Many of Africa's boundaries were drawn through areas for which no precise information was available. This was particularly the case during the stage of allocation. There are also examples in Africa, Asia and South America that some boundaries were based on inaccurate information. Tribal chiefs and local rulers often exaggerated the extent of their territory in the hope that the colonial powers would confirm their authority over claimed areas.

For example, on 4 April 1903 the District Commissioner in Barotseland was instructed by the British authorities to obtain detailed answers to 16 questions regarding the extent of the Barotse Kingdom in 1891. This information was necessary because after Britain and Portugal had signed a treaty in 1891 it was realized that they disagreed about the extent of Barotseland. The matter had been submitted to the King of Italy for decision. The Commissioner was asked to supply the answers in one week and justified his answers in the following terms.

> *It is extremely difficult to collect reliable evidence and to obtain proof of statements as to the distance Lewanika's influence extended in 1891, since practically the only white men who had lived in Lealui at that time were Revd. Mr Arnott and Revd Mr Coillard, who were both missionaries and who therefore had no interest in determining the boundaries of Barotse influence.… It is almost necessary in order to form a correct idea of the position in 1891, to find out the actual truth at some later date, which would permit of no doubt, and then to work back on the most probable assumptions to what the position would have been at the earlier period: here we know to a large extent the position in 1897, and six years earlier in such large areas as these, the position could not evidently been very different.* (Barotse Boundary 1903, Archives of Rhodesia, 1960)

To define the boundary the King of Italy established which tribes were in a position of real dependence upon the Paramount Ruler on 11 June 1891. He excluded the Bampukush, the Bamarchi, the Mambunda and the Bamakoma. The boundary was defined by a straight line from the Katima Rapids on the Zambezi river to the River Kwando; the River upstream to meridian 22° E; the meridian to latitude 13° S; that parallel to meridian 24°, and that meridian to the boundary of the Belgian Congo. The King explained why he had relied on a river and straight lines.

> *Whereas, as regards the delimitation of the territory over which King Lewanika reigned as Paramount Ruler, any precise delimitation is impossible, on account either of the absence of distinguishing geographical features, or of imperfect knowledge of the country, or of the notorious instability of*

> *the tribes and their frequent intermingling (circumstances which have been admitted both by the Marquess of Salisbury and the Marquess of Lansdowne), so that it is indispensable, where the natural lines fail to have recourse to conventional geographical lines.* (Brownlie, 1979, 1068)

The boundary along meridian 24° E was subsequently modified to coincide with sections of rivers.

Second, at the conclusion of a war, new boundaries may be forced upon the defeated country and that boundary did not accord with previous distributions of ethnic groups, administrative areas and economic activities. When the Hapsburg Empire was dismembered in 1919 Italy secured that part of Austrian Tyrol lying south of the Brenner Pass. About 70 per cent of the population spoke German and possessed strong cultural affinities with the Austrians on the other side of the boundary. Following the surrender of Italy and the defeat of Germany, Austria tried to reclaim that area of Tyrol but was unsuccessful.

Third it is possible that new distributions of population develop after a boundary has been drawn and give rise to territorial claims. This development is more probable if the boundary is antecedent. After Peru, Bolivia and Chile had been established in the period from 1818 to 1824 each held part of the Pacific coastline. Guano and nitrate deposits were found in the coastal desert. The deposits in the territory of Chile and Bolivia were developed by private enterprise, while those of Peru were established under a government monopoly. Agreements in 1866 and 1872, between Bolivia and Chile, fixed their boundary at the coast along latitude 24° S. Revenue derived from mining between parallels 23° S and 25° S was shared equally between the two countries. Most of the labourers working the guano and nitrate deposits came from Chile. When Bolivia increased taxes without consulting Chile, that country occupied part of the Bolivian coast. When Peru declined to proclaim its neutrality Chile started the War of the Pacific that lasted from 1879-1884. Chile occupied Bolivia's entire coastal tract and the Peruvian coastal territories called Tarapaca, Tacna and Arica. In the 1920s, after American mediation, Arica was returned to Peru. In this case the existence of the Chilean workforce along the littoral of Bolivia and Peru played a role in Chile's justification to extend its territory northwards (Dennis, 1931, 37, 73).

The timing of territorial disputes

Launching a territorial dispute with a neighbour is not a policy on which most states would embark, without careful assessment of the possible risks and benefits. Normally the claim will be made under the most favourable circumstances and this is one reason why boundary disputes can arise without warning. There is an apocryphal story that the British Foreign Minister, when confronted with Argentina's invasion of the Falkland Islands, noted that the Falkland Islands were

number 245 on the problem list compiled by the Foreign Office. Generally the trigger action will be related to some change in the circumstances of the government making the claim or the government that is faced with the claim.

Afghanistan instigated a claim for the formation of Pushtunistan in the borderland, as a homeland for the Pathans, in 1947, when Britain withdrew from India after supervising its partition. This was a time when Pakistan was considered vulnerable. The claim lapsed and was revived when there was an internal revolt in Balochistan following Bangladesh's successful secession in 1971. After another two years the creation of the Republican government in Afghanistan renewed the call for Pushtunistan. The two most common circumstances that have promoted territorial disputes are the conclusions of wars and decolonization.

At the end of a war territorial adjustments may be imposed by the victor. In 1919 and 1945 European boundaries were altered in favour of Poland, Czechoslovakia and Yugoslavia at the expense of the defeated powers. In addition in 1919, Germany was dispossessed of its colonies, three of which were partitioned. Civil wars might affect the timing of territorial disputes in two ways. First when a country experiences a civil war it is unlikely to press territorial ambitions against its neighbours. Then when the civil war is concluded the successful administration might begin to assert territorial claims against neighbours. After China's civil war ended in 1949, China first recovered Tibet in 1950, then sought renegotiation of treaties that were considered unequal. These Chinese policies created serious problems with the Soviet Union and India. Then in 1974 China repossessed the Xisha Qundao Archipelago [Paracel Islands] that had been claimed by Vietnam. Once the Cambodian revolution ended in 1975, it began to press territorial claims against Thailand. At the same time, in Laos, when the new communist government ended civil strife it instituted militant policies towards Thailand along the Mekong River.

The process of decolonisation produced indigenous governments, some of which regarded the boundaries they had inherited as unsatisfactory. In South America, after Portugal and Spain had lost control of their colonies, four major wars were fought over territory in the period 1825-1865. In 1971, when Britain withdrew from the Persian Gulf, Iran seized the islands Abu Musa and the Greater and Lesser Tunb, at the western end of the Strait of Hormuz. This was two days before the independence of the United Arab Emirates that had previously included these islands. In February 1976, when Spain withdrew from Spanish Sahara, that territory was annexed by Mauritania and Morocco. When Mauritania renounced claims to any part of Western Sahara, Morocco acquired the entire territory of Western Sahara.

Sometimes it is the action of one country that induces another to make a claim. In 1915 and again in 1927 Guatemala made grants of land to the American Fruit Company in the area between the Matagua River and the Meredon Mountains. These actions prompted Honduras to raise claims that had been dormant for a long time. In a similar fashion, Nicaragua granted the United States a 99 year

lease on the Great and Little Corn Islands. Colombia launched a claim that the islands were formerly part of the Province of Veragua and therefore properly part of Colombia under the principle of *uti possidetis juris.*

States' aims in territorial disputes

When the aims of states initiating a dispute are considered they can be divided into two classes. First there are claims when the state genuinely wants to acquire the territory and believes that this might happen. The aim involves strengthening the state by the accretion of territory. The increased strength might follow from resources found in the area, from the population that lives there, from the improved access to the sea or improved lines of communication or because a better strategic situation is created. When the Southwest Africa People's Organization commenced its struggle for independence it demanded that Walvis Bay and the Penguin Islands should be included in Namibia. Walvis Bay is the major port on Namibia's coastline. Independence came to Namibia in 1990 and four years later South Africa generously gave the islands and the port to Namibia. This transfer improved the country's economic potential and transport system and significantly increased the offshore area of sea and seabed that could be claimed.

Morocco and Mauritania had different reasons for annexing parts of Spanish Sahara in 1976. Morocco's annexation of the northern part of the Spanish Sahara provided access to valuable phosphate deposits. In contrast Mauritania's annexation of the southern sector made available a coastline that allowed additional claims to the sea and continental shelf. Morocco did not secure a similar benefit because Spain's Canary Islands lie close to the Moroccan coast. When Mauritania withdrew its claim in 1979 Morocco secured all of the Spanish Sahara and so had the best of both worlds. Long before Iraq invaded Kuwait in 1990, it had coveted the territory for two reasons. First it sought possession of Kuwait's oil fields, and second it wanted the greater security that the extended coastline would bring.

The second class of claims are made, apparently, without hope of a successful outcome! Such claims appear to be made for purposes connected with either domestic or foreign policy. For example, it is assumed by most commentators that the Philippines claimed part of Sabah when the Federation of Malaysia was being formed in an effort to postpone or prevent that political association. The claim persists and it appears to be as unreasonable as the claim that the treaty limits, established by the United States and Spain, in 1898 and 1900 and the United States and Britain in 1930, mark the outer limits of the Philippines territorial seas. The widest territorial waters measure 285 nautical miles.

Countries have been known to encourage secessionist movements in neighbouring states. The example of Afghanistan's attempts to create the territory of Pushtunistan has already been noted. If this attempt had been successful, and

if Pushtunistan included Balochistan, Afghanistan might have benefited from improved access to the Indian Ocean. India's encouragement of Bangladesh's secession and Zaire's encouragement of secessionist elements in Cabinda were not altruistic. India was convinced that Bangladesh would make a better neighbour than East Pakistan and that the loss of that territory would diminish Pakistan's military and economic strength. Zaire seemed to conclude that its interests would be served best if Cabinda, an outlier of Angola, could be detached. Such an outcome would afford opportunities for increased commerce with and political influence in Cabinda and simultaneously weaken Angola. An invasion of Shaba Province had been launched from Angola in 1977.

Definite confirmation of the ploy of using territorial claims as a foreign policy tool will often only be available long after the event, when archives are opened. However, this should not discourage scholars from making informed guesses about policy aims in contemporary situations.

Arguments supporting territorial claims

When arguments in favour of territorial claims are examined it is useful to follow the division suggested by Hill (1976, 26). He distinguishes legal arguments, relating to a statement that the territory should belong to the claimant state, from all other arguments designed to show it would be more appropriate if the territory was ceded to the claimant state, but where there is no claim that the territory is illegally held.

Although geographers cannot make a major contribution to the analysis of legal arguments in territorial disputes, that remain the proper preserve of the lawyer, it is helpful to outline the legal bases of territorial claims. The following discussion on this subject relies on the useful exposition of Hill (1976, Chapter 10).

Occupation of territory is one of the soundest foundations on which to mount legal claims. These claims are characteristic of the 19th century, when colonial powers were disputing territory in Africa, Asia and North America. It was generally considered that a statement of intention to occupy territory must be supported by a physical presence in the area. That was the position of the United States in disagreements with Russia over territorial questions in northwest America. According to the General Act of the Congress of Berlin (1884-5), legal rights to colonies in Africa could only be secured through effective occupation. Article 35 stated that the claimant state had to demonstrate satisfactorily to other states that the claim should be respected, because a sufficient degree of authority was established throughout the area. This Article was generally observed on the coast, but in the interior it was honoured more often in the breach than in the observance. In 1933 Denmark was able to validate its claim to the whole of Greenland against Norway, because of its occupation of part of the east coast and the enactment of regulations covering the whole island (Permanent Court of International Justice, 1933). Triggs (1983, 19-89) provided a detailed account

of the concept of effective occupation in a study dealing with Australia's sovereignty in Antarctica.

Claims were also made to territory during the 19th century on the grounds of contiguity and propinquity. In the English language both terms imply 'nearness'. Roget's Thesaurus indicates that 'contiguity' is nearer than 'propinquity'. Synonyms for 'propinquity' are nighness, vicinity, neighbourhood, adjacency and closeness. Those for 'contiguity' are contact, no interval, juxtaposition, touching, tangency and coincidence. For example, Peru claimed the Groupo de Lobos de Afuera [the Outer Lobos Islands], about 50 nm off the coast near parallel 7° S, because it was closer to Peru than any other country.

A hinterland doctrine was advanced by many European colonial powers, especially in Africa. It was argued that any country that had occupied a section of coastline was entitled to a reasonable hinterland. Luderitz, a German trader bought the coast of southwest Africa, from the Orange River north to parallel 26° S, and 20 nautical miles inland and it was quickly placed under the direct protection of the German Emperor on 16 August 1884. The government of Cape Province urged the British government to claim the interior beyond 20 nautical miles, thereby locking Germany into a worthless desert. The British authorities rejected the Colony's proposal, and Germany subsequently claimed the interior eastwards to British Bechuanaland. Germany was even allowed to obtain a panhandle that led to the Zambezi River. This corridor was 450 km long and no more than 60 km wide. It was called the Caprivi Zipfel [Strip] after Count Caprivi, who replaced Bismark in March 1890.

It could be argued that the concepts of propinquity or contiguity underlie claims to sectors of Antarctica and to maritime zones of adjacent or opposite states that are based on equidistance.

According to some authorities on international law, it is recognized that legal claims to fragments of territory could be based on symbolic acts of possession. Such a concept is particularly important in supporting claims to islands in the Pacific Ocean and the South China Sea. In January 1931 the King of Italy adjudicated a dispute between France and Mexico over the ownership of Clipperton Island. After noting that the discovery of Clipperton Island was by Spanish subjects the King added that while Spain had the right to incorporate the island in her possessions, she had not done so. He then found in favour of France.

> *The regularity of the act by which France made known in a clear and precise manner, her intention to consider the island as her territory is incontestable. By immemorial usage having the force of law, besides the* animus occupandi, *the actual and not the nominal, taking of possession is a necessary condition of occupation. This taking of possession consists in the act or series of acts, by which the occupying state reduces to its possession the territory in question, and takes steps to exercise exclusive authority there. In ordinary cases this only takes place when the state establishes in the territory itself an organization capable of making its laws respected.*

> *Properly speaking, however, this step is only a means of procedure to the taking of possession and is not identical with the latter. There may be cases where it is unnecessary to have recourse to this method. Thus, if a territory, by virtue of the fact that it was completely uninhabited, is, from the moment when the occupying state makes its appearance there, at the absolute and undisputed disposition of that state, from that moment the taking of possession must be considered as accomplished, and the occupation is thereby completed.* (*American Journal of International Law*, 1932, 390)

Eighteen years before Lieutenant Victor le Coat de Kerwéguen claimed Clipperton for France, Dumont D'Urville had claimed Adélie Land on the Antarctic coast for France. He noted that he was only following the ancient custom that the English had carefully maintained, but in a Gallic manner.

> *The ceremony was ended, as it reached its conclusion, by a libation. To the glory of France, of which we had a lively awareness, we emptied a bottle of the most generous of our wines, which one of our companions had had the forethought to bring with him. Never had the wine of Bordeaux been called to play a more dignified role; never had a bottle been emptied more appropriately. Surrounded on all sides by snow and eternal ice the cold was most bracing. This generous liquor reacted favourably against the harshness of the temperature.* (D'Urville, 1841, 150-1)

Some states have established monuments on small islands to assert their claim. It is reported that the Emperor of Vietnam visited an island group called Hoang Sa. The Chinese name is Xisha Qundao and many atlases call the group Paracels.

> *In 1816, he [Emperor Gia Long] went with solemnity to plant his flag and take formal possession of these rocks. Which it is not likely any body will dispute with him.* (Taberd, 1837, 738)

Then in 1833, the Emperor Minh Mang ordered trees to be planted on the islands for the benefit of navigators. In 1836 markers were placed on the islands bearing an inscription.

> *In the year Binh Than, 17th year of the reign of Minh Mang, Navy Commander Pham Huu Nhat, commissioned by the Emperor to Hoang So islands to conduct map surveyings, landed at this place and planted this marker so to perpetuate the memory of the event.* (Vietnam Foreign Ministry, 1975, 31)

In 1930 the crew of the French vessel *La Malicieuse* [The Mischievous One] erected sovereignty columns on some of the Paracel Islands. Vietnam claims that eight years later monuments were erected recording France's authority over the islands and the date 1816, that was the first claim by Vietnamese authorities.

Samuels (1982, 52-68) provided an excellent review of China's persistent interest in the Xisha Qundao from 1876. Geelan and Twitchett (1974, 116) note that China has claimed the archipelago since the Ming Dynasty that ended in 1644.

Samuels review encompasses visits by Chinese fleets in 1902 and 1908, when tablets were erected, the incorporation of the islands into Kwangtung Province 1909, Japan's interest in the 1920s and 1930s and the later confrontation between France and Japan over the archipelago. In the end these various economic, diplomatic and military actions counted for nothing when China occupied the Xisha Qundao in 1974. Since then China's sovereignty over Xisha Qundao has been consolidated.

After achieving independence in 1980, Vanuatu claimed Matthew and Hunter Islands. These islands were generally considered to be part of French New Caledonia. Matthew Island is formed of basalt and is arid while Hunter island is a volcanic block with some grassy slopes, a few trees and many seabirds (Hydrographer of the Navy, 1969, 133). These uninhabited islands have no intrinsic value but they do allow claims to 59,400 sq. nm. of the Pacific Ocean.

Disputes over islands were common during the search for guano during the 1830s and 1840s. By an Act, dated 18 August 1856, American citizens who discovered guano were authorised to take peaceful possession of any 'island, rock or key [cay]' not claimed by any other government. The discoverer was required to provide, on oath, details of the feature's location and evidence that it was unoccupied and not claimed by any other country. If the evidence was satisfactory and the President decided that the feature appertained to the United States the discoverer was given the sole right to mine the guano and deliver it for sale to the United States. The United States acquired many islands under the terms of this act in the Pacific Ocean. It also acquired Navassa,Island that lies between Jamaica and Haiti in the Caribbean Sea. In 1980 the United States delimited a maritime boundary with the Cook Islands. Within the exclusive economic zone of the Cook Islands there are four islets called Pukapuka, Manahiki, Rakahanga and Penrhyn. New Zealand and the United States had a low-key dispute over the ownership of these islands, based on the execution of guano bonds under the 1856 legislation (Smith and Colson, 1993, 986). By this agreement the United States recognized Cook Island's sovereignty over the four islands. Spadi (2001) has provided an interesting review of Haiti's claim to Navassa Island.

The legal basis of claims in South America was usually the principle of *uti possidetis juris* (Ireland, 1938). This principle means that when colonial rule ended, and indigenous independent states were created, they inherited the colonial boundaries. The principle should ensure, for example, that colonial powers were prevented from making claims to strategic fragments of territory between the new states on the coast. The interpretation of the principle established in 1810 caused some confusion. Some states regarded the rule as applying to the limits legally in force when the act of decolonization occurred. Others believed the rule was concerned with the boundaries observed for practical administration by the colonial authorities. If these two lines existed, then the neighbouring states always supported the line that provided either the largest area of territory or the best defensive line. For example, Venezuela split away from Gran Colombia formed

by Bolivar in 1819. The constitution adopted by Venezuela on 24 September 1830 proclaimed the state as being coincident with the former Captaincy-General of Venezuela as it existed in 1810. On 17 November 1831 Colombia defined its boundaries as those that separated New Grenada in 1810 from the captaincies-general of Venezuela and Ecuador and from Brazil. Negotiations between Colombia and Venezuela on various matters including boundaries commenced in September 1833 and were concluded on 14 December 1833. Ireland (1938, 206) records that the boundary was a line of convenience rather than of strict right. Thus having started with the principle of *uti possidetis juris* the two parties agreed to some modifications that made the boundary easier to administer. This early promise of concord was not fulfilled as Ireland records.

> *The negotiations upon this boundary thus lasted for fifty years before even arbitration could be agreed upon, it was ten years more before the arbiter decided the case, and the disappointed party postponed execution of the award for another twenty-five years, leaving the actual boundary on the ground nearly as far from settlement after eighty-five years as it had been at the creation of the two republics.* (Ireland, 1938, 215)

The Geographer of the United States State Department made an interesting comment about the application of the principle of *uti possidetis juris* to the republics of Central and Southern America.

> *It gradually became accepted as a general doctrine in South America that the boundaries of the American republics should ordinarily coincide with the boundaries of the preceding Spanish administrative divisions and subdivisions. This doctrine was known as the principle of the* Uti Possidetis *of 1810. The principle of* uti possidetis *was not included in any of the early treaties among the new states or in any treaty between them and Spain.* (The Geographer, 1978, 1)

In 1964 the Organization of African Unity passed a resolution by which all members solemnly declared that they would respect the boundaries existing '…on the achievement of national independence'. This resolution was not designed to forestall any territorial ambitions of the former colonial powers. It aimed to avoid the development of territorial disputes between the new African states. Unfortunately this worthy ambition has been thwarted.

Conquest is another means by which legal title to territory can be acquired. As Hill (1976, 161) notes, this involves actual possession based on force, an announcement of the intention to hold the territory, and an ability to make good that declaration. This is usually a unilateral action in which no treaty is involved. When India became independent in August 1947 there were still small areas of French and Portuguese territory on the sub-continent. France possessed five territories called Chandernagore, located just north of Calcutta, Pondicherry, Karikal, Yanam on the east coast and Mahé on the west coast. Pondicherry was

the largest possession, with an area of 282 sq.km. and a population of 200,000 (Smith, 1997, 23). The transfer of territory from France to India was achieved by peaceful negotiation. In June 1949 Chandernagore was transferred to India and by November 1954 the remaining French territories had followed. In contrast to this development Portugal resolved to maintain control of Goa, Daman and Diu all on the west coast. Goa occupied an area of 3750 sq.km. and had a population of 624,000. Daman included two tiny enclaves called Dadra and Nagar-Aveli. They were occupied peacefully by India in July 1954 (Smith, 1997, 25). Next month peaceful demonstrators on the border of Goa were fired on by Portuguese troops and about 30 were killed. It seems that Portugal considered that if Goa was not defended Africans in Angola and Mozambique would be encouraged to seize independence.

President Nehru continued to search for a peaceful solution. However, India's patience ended in November 1961, when its vessels were bombarded by the Portuguese garrison on Anjadip, a small island off Goa. Despite being urged by President Salazar to resist the Indian invasion, the Portuguese garrisons surrendered on 19 December, and the territories have been part of India since then.

Territory may be claimed on the ground that it was ceded by a neighbour. Sometimes it may be voluntary. When Britain ceded the Wakhan Strip to Afghanistan in 1893 it was done to ensure that there was no common boundary between Russia and British India. Sometimes the cession might be made under duress. China found itself under duress in 1858. In 1689 China and Russia delimited a boundary that placed all the northern tributaries of the Amur River within China. Territory between this watershed boundary and the River Uda was considered a neutral zone. Russia negotiated this boundary from a position of weakness. Russian settlers had been driven out of the lower Amur Valley by 1683 and Albazin, a major Russian fort, had been captured two years later. The Russian exchequer was depleted and Russia's economy was suffering. The Chinese ambassadors to the negotiations were supported by 10,000 soldiers, three times the force available to the Russian ambassadors. The relative positions of the two countries were completely reversed 175 years later. Three Sino-Russian treaties in the period 1858-1860 delivered to Russia all territory lying north of the Amur River and the coastal zone south of that river east of the Ussuri River. This remarkable Russian advance was made possible by China's internal weakness. It was weakened by the Taiping Rebellion, that started in 1851, and the Panthay Moslem rebellion in Yunnan, that started in 1855 (Naval Intelligence Division, 1945, 31-4, 40-1). Although the rebellions were eventually defeated the Manchu regime was fatally weakened. China was also under pressure from Britain and France in the Arrow War and was forced to make concessions in the Treaty of Tientsin in 1858 and the Treaty of Peking in 1860 (Naval Intelligence Division, 1945, 18-19).

The last legal claim to territory mentioned by Hill is based on prescription that is defined in the following terms.

> *…the acquisition of sovereignty over territory through continuous and undisturbed exercise of sovereignty over it during such a period as is necessary to create under the influence of historical development the general conviction that the present condition of things is in conformity with international order.* (Hill, 1976, 156)

Territorial disputes based solely on legal arguments that the territory ought to belong to the claimant state are comparatively rare. It is usual for any legal arguments that might exist, to be supported by assertions founded in history, geography, strategy and economics.

Historical arguments may be vague or precise, An example of vagueness was provided by the Italian Prime Minister in the bargaining that followed the war that ended in 1918.

> *And can one describe as excessive the Italian aspiration for the Dalmatian coast, this boulevard of Italy throughout the centuries, which Roman genius and Venetian activity have made noble and great, and whose Italianity, defying all manner of implacable persecution throughout an entire century, today shares with the Italian nation the same feelings of patriotism?* (Temperley, 1921, volume 5, 404)

A more specific historical argument is provided by assertions that the original colonists of an area have a prior right that takes precedence over claims by subsequent migrants. Such arguments were used by Serbia that claimed Banat and Italy that claimed the Julian Venetia.

Geographical arguments are usually designed either to show the desirability of extending the state's territory to make the boundary coincide with some physical feature or to demonstrate the basic unity of an area that is divided or threatened with division. The Banat was one such area at the end of World War I. This Hungarian territory, contested by Rumania and Yugoslavia was bounded on the south, west and north by the Danube, Theiss and Maros Rivers and on the east by the Transylvanian Alps (Ward, Prothero, Leathes, 1924, Map 119). The population was a mixture of Hungarian, Serbo-Croat and Romanian origins. Romania claimed the whole area as a geographical unit bounded by rivers and the eastern uplands. Additional geographic arguments involved the complementary agricultural and mineral products of the plains and the Alps, and the ability of hill-dwellers to find work in the lowlands. The peace treaties of 1919 did not accept the geographical arguments and the Banat was partitioned. Hungary retained only a small area north of Szeged. The lowlands of Vojvodina fell to Yugoslavia and the uplands went to Romania.

China and India discussed their boundary issues in the Himalayas in 1961. India's report on the discussions showed that its claim rested mainly on the concept of natural boundaries.

> *In the discussions on the location and natural features of alignment, the Indian side demonstrated that the boundary shown by India was the natural*

> *dividing line between the two countries. This was not a theoretical deduction based on the rights and wrongs of abstract principles. The fact that this line had received the sanction of tradition and custom was no matter of accident or surprise because it conformed to the general development of human geography and illustrated that social and political institutions are circumscribed by physical environment. It was natural that people tended to settle up to and on the sides of mountain ranges; and the limits of societies – and nations – were formed by mountain barriers. The Chinese side recognized the fact that high and insurmountable mountain barriers provided natural obstacles and suggested that it was appropriate that that the boundary should run along such ranges. But if mountains form natural barriers, it was even more logical that the dividing line should be identified with the crest of that range which forms the watershed in that area. Normally where mountains exist, the highest range is also the watershed; but in the few cases where they diverge, the boundary tends to be the watershed range.*
>
> *. . . it is now a well-recognized principle of customary international law that when two countries are separated by a mountain range and there are no boundary treaties or specific agreements, the traditional boundary tends to take shape along the crest which divides the major volume of the waters flowing into the two countries. The innate logic of this principle is self-evident. The inhabitants of the two areas not only tend to settle up to the intervening barrier but wish and seek to retain control of the drainage basins.* (India, Ministry of External Affairs, 1961, 235-6)
>
> *Similarly it is manifest that there are passes all along the high mountains and that there are always contacts across the ranges. But this does not invalidate the general conclusion that the watershed range tends to determine the limits of the settlements of the inhabitants on either side and to form the boundary between the two peoples. Neither the flow of rivers through the ranges nor the contacts of peoples across them can undermine the basic fact that a high watershed range tends to develop into the natural, economic and political limits of the areas on the two sides.* (India, Ministry of External Affairs, 1961, 237)

This quotation explicitly endorses the concept of natural boundaries. Pounds' elegant essays (1951 and 1956) described the origin of France's ambitions to control all territory bounded by the sea, the Alpine watershed, the Pyrenees and the River Rhine. However, Harthorne (1936) and East (1937) started to undermine the concept in the 1930s and in the next decade Boggs (1940) and Jones (1945) completed the demolition. These writers revealed that all political boundaries are artificial, because they require the selection of a specific line within a region where changes in the physical landscape may be more or less perceptible.

It is unclear why a watershed should identify the location for a boundary rather than the geology of the region, or the vegetation or the terrain's strategic

value. It is also important to recognize that the response of different communities to different landscapes varies. It is unwise for lowlanders to assume that high mountains mark absolute barriers to highlanders. Kirk (1962) made the point that distinct communities in the Himalayas follow complex transhumance economies, that carry them over crests and watersheds to pastures and camping grounds, in areas that appear to be uniformly barren to lowlanders. Ward described a similar situation.

> *But obviously a pass of 15,000 feet is nothing to a Tibetan, who habitually lives at 10,000 or 12,000 feet altitude. The Tibetan is not stopped by physical but by climatic barriers, and no boundary pillars are necessary to make him respect these. His frontier is the fringe verge of the grassland, the fringe of the pine forest, the 50 inch rainfall contour beyond which no salt is (until indeed you come to the sea) or the 75 per cent saturated atmosphere. The barrier may be invisible; but it is a more formidable one to a Tibetan than the Great Himalayan ranges. If he crosses it he must revolutionize his mode of life.* (Ward, 1932, 469)

Ryder (1926) described the problem of demarcating a boundary between Turkey and Iran through mountain communities. The communities removed the pillars as soon as the survey party moved on, because the boundary intersected routes to traditional pastures. In the reports of the surveyors who demarcated the Durand Line between Afghanistan and British India, there are dozens of instances where the line does not coincide with traditional tribal limits. Some governments might regard a river as a natural boundary, but the river and its valley might have encouraged the growth of a coherent population sharing the same language and political organization. The weakness of the concept of natural boundaries is that they are invariably the line to which countries wish to advance, rather than lines to which they prefer to retreat.

Strategic arguments promoting the transfer of territory usually have one of two aims. In some cases they are designed to deprive an aggressive country of territory that has been used as a springboard for invasion of a neighbour. In other instances the strategic arguments support territory being given to a state that has a history of being attacked by its neighbour. During World War I Bulgaria, allied with Germany, invaded and occupied areas of Serbia and eastern Macedonia. By the Treaty of Neuilly on 27 November 1919 Serbia recovered its territory and was awarded some of the Bulgarian borderlands, while Greece regained eastern Macedonia. As a bonus Greece also obtained western Thrace that ended Bulgaria's possession of an Aegean coastline. This included the Bulgarian port of Dedeagach that was renamed Alexandroupolis (Naval Intelligence Division, 1944, 218).

France's claim to the Saar Basin in 1919 was based mainly on the desire to push the German boundary further away from France's iron ore fields of Briey and Thionville. They had been quickly overrun in 1914 and this loss had handi-

capped French production of armaments. France hoped to separate the Rhineland from Germany but this scheme was unacceptable to Britain and the United States. France was offered three choices, one of which was the opportunity to occupy the Saar, until 1935, when a plebiscite would decide whether it should return to Germany or stay with France. Britain and the United States also offered to guarantee France's boundaries. France accepted this offer, but first the United States' Senate refused to ratify this arrangement and then Britain considered as a consequence its obligation was ended (Naval Intelligence Division, 1942, 184-5). France and Belgium then occupied the Ruhr but this tactic was a failure.

> *. . . it was a failure for France who was now faced with the problems of economic transfer; it was a failure for Germany who completed the destruction of her currency in a vain endeavour to subsidize passive resistance; and it was a failure for Britain who remained an impotent spectator, disregarded by both sides.* (Naval Intelligence Division, 1942, 185)

Three economic arguments have been used to support territorial claims. First they might be designed to show the inherent unity of the claimed area with a zone already held. Second the need for a secure corridor might be stressed to allow trade with other countries. Third territory might be claimed as reparations for losses and damage suffered during a conflict. In 1918 Czechoslovakia was created and Poland was reconstituted. Czechoslovakia claimed the Cieszen district of Silesia on two grounds. First it was asserted that the Freistadt area was inextricably linked with the industrial complex of Ostrava, where metal foundries depended on the Karvina coking coal. The coal was also needed, to a lesser extent in Bohemia and Moravia. Second Czechoslovakia argued that the Olderberg-Jablunkov-Sillein railway was of vital importance, since it formed an arterial route connecting Slovakia with Bohemia-Moravia. The railway through the Vlara Pass, that Poland claimed could be developed, was not considered suitable by the Czechs because of steep gradients and tight curves. Further, the only other line from Breclav to Bratislava was too far to the south.

Poland countered these arguments by citing the fact that near Zips and Orava there were highlanders in the Oravska Magura [Mountains] speaking a dialect transitional between Czech and Polish. These people had better access to Krakow in Poland than Kralovany in Czechoslovakia and the area ought to be transferred to Poland.

Claims for compensation, for population and property losses during the World War I, were made against German colonies. Temperley made the following comment referring to Belgium's claim to Ruanda-Urundi [Rwanda, Burundi].

> *. . . no-one wanted to refuse the insistent claim of a state which had suffered so seriously from Germany's aggression in Europe.* (Temperley, 1921, volume 2, 243)

The extension of Poland's territory to the Oder-Neisse line was also intended to compensate that country for the loss of territory to Russia and the damage caused by Germany's invasion and occupation. Allied to such cases some countries secured promises of territorial reward for cooperating with another state. The 1915 Treaty of London between Italy and the Allied Powers by which Italy merged her forces in the general war effort, included the following territorial promise.

> *In the event of the total or partial partition of Turkey, Italy was to obtain a just share of the Mediterranean region adjacent to the province of Adalia.*
>
> *In the event of France and Great Britain increasing their colonial territories in Africa at the expense of Germany those Powers agree in principle that Italy may claim some equitable compensation, particularly as regards the settlement in her favour of the questions relative to the Italian colonies of Eritrea, Somaliland and Libya.* (Temperley, 1921, volume 4, 290)

Ramirez-Faria, (2001, 9) reports that in the 16th century Adal was a Muslim Kingdom in the Horn of Africa. A settlement under the terms of this treaty transferred 90,000 sq. km of northern Kenya to Italian Somaliland on 15 July 1924. The boundary was shifted west of the Juba River, that had previously marked the boundary, to the present line, that was demarcated in 1930.

Territorial claims based on ethnic arguments refer to the human qualities of nationality, race, language, culture, history and religion. From time to time countries have focussed on one of these characteristics as being the definitive guide to the political predilection of a region's population. During the Versailles Peace Conference some delegations laid great emphasis on language as a reliable guide to national aspirations of people and therefore to the proper distribution of territory. Ancel (1936, 76) noted that if this argument was followed to its logical conclusion linguistic divides would become political boundaries and language would become '…the symbol of the nation'. At Versailles efforts were made to draw boundaries that reduced the number of minorities to a minimum. Fisher (1940) praised the settlements because they left only 6 per cent of the population of Europe under alien rule. But the conference records reveal that many decisions were inconsistent and that tests of nationality were not applied uniformly. It is difficult to see that this principle could have been applied uniformly given the complexity of population distributions in Europe. The intermingling of populations in the European borderlands often made it impossible to define boundaries that precisely separated different ethnic groups. In some regions, such as western Banat, there was an intricate mixture of Yugoslavs, Rumanians, Magyars and Germans (Bowman, 1923, 272). Greece claimed the entire Argyro-Castro area because of the larger Greek rural populations that surrounded the towns occupied mainly by Yugoslavs. Yugoslavia used this same argument in the Klagenfurt Basin, where the rural population was Yugoslav and the urban population was German. The German-speaking population formed the basis of Austria's claim.

It seems certain that no single characteristic, or even group of characteristics, can be used with confidence to allocate people to different countries. The concept of self-determination, that seemed to be a solution to Europe's borderland problems in the 1920s, continues to be revived in particular cases. Unfortunately there is no perfect way to apply self-determination uniformly. The Organization of African Unity called for self-determination in Rhodesia, but it failed to prevent the annexation of Spanish Sahara by Mauritania and Morocco in 1976 or the complete incorporation of the territory by Morocco in 1979. Nor were the Eritreans consulted before being incorporated into a federal Ethiopia in 1952. Eritrea's federal status was abolished ten years later and they eventually attained independence 31 years later.

Plebiscites have sometimes been used to settle a boundary dispute. The resolution of the Schleswig-Holstein dispute between Denmark and German is an excellent example of this procedure (Berdichevsky. 1999). However, this policy is not always successful. In 1883, at the conclusion of a war between Chile on one side and Bolivia and Peru on the other, the Treaty of Ancon was signed. As a result of the war Chile had occupied Bolivia's Pacific coastline and the southern coastline of Peru as far as Tacna (St. John, 1994). Article III of the Treaty provided that Chile would control Tacna and Arica for ten years after which a plebiscite would be held to discover whether the citizens of these territories wished to be part of Chile or Peru (Dennis (1931, 297). The plebiscite was not held after ten years and was never held. However, there is little doubt that by 1929 Chile had made sure that even if a plebiscite was held in Arica the result would favour Chile. In fact Chile ceded Tacna to Peru.

At the Versailles Peace Conference ethnic claims to territory were made sometimes, not because a particular cultural group formed a majority, but because a government had prevented them from forming a majority. For example, Italy insisted that it was the policy of the Austrian government that was responsible for the Slav majority on the Dalmatian coast.

> *This is the result of the most outrageous violence that the political history of Europe records during the last century, Austria did not recoil before any form of artifice or violence in Dalmatia in order to repress Italian feelings, after 1886, in order to check any movement towards annexation to Italy, and after 1878 and 1882 in order to carry out her Balkan schemes.* (Hill, 1976, 126)

Unfortunately for Italy the American delegation reversed this argument in respect of Fiume [Rijeka]. It asserted that the policies of the Austro-Hungarian authorities had allowed an Italian majority to develop rather than a Slav majority. In fact Fiume was made an independent city-state in 1920. When this arrangement proved unworkable it was divided along the Recina River between Italy and Yugoslavia.

The consequences of territorial disputes

The consequences of territorial disputes can be classified into three groups. First there are the consequences of the dispute being initiated, second the consequences if the dispute cannot be settled by negotiation, and third the consequences of an agreed settlement.

Invariably, before a country makes any formal claim to additional territory the neighbouring state will know that it is a possibility. In books, newspaper articles and parliamentary debates the nature of the existing boundary will be questioned. Once the dispute is initiated the claimant state will develop in detail the arguments that support the extension of its territory, while the other state will marshal the best arguments to ensure that no change is made. Relations between the governments may continue to be smooth with no significant disruption to commerce, the trans-boundary movements of citizens or police and military cooperation. But relations might deteriorate and formal relations might become acrimonious and involve tit-for-tat administrative irritations.

If the dispute cannot be resolved there are three possible consequences. First the two governments recognize that the dispute exists and determine that their good relations are more important than adjusting the boundary. For example, in 1974 China seized the Xisha Qundao [Paracel Archipelago] that had been occupied by Vietnam. Although Vietnam still contests China's sovereignty over these islands, the two countries negotiated an equitable maritime boundary in the Gulf of Tonkin in 2000. Territorial disputes between China and Japan, Japan and Russia, Morocco and Spain, Spain and the United Kingdom and Malaysia and the Philippines have not undermined good relations with each other. Second relations between the two countries deteriorate and this is reflected in reduced trade, lower levels of foreign tourism and possibly hostility in the United Nations and international conferences. Third the claimant state invades and conquers the disputed territory. Between 1961 and 1990 India, Indonesia, Morocco, Argentina and Iraq invaded and occupied the territories of neighbours. Only India, that secured the small Portuguese coastal settlements, and Morocco, that secured Spanish Sahara with an area 273,000 sq. km, have successfully retained their gains. Argentina and Iraq respectively were driven quickly out of the Falkland Islands and Kuwait. Indonesia agreed to a United Nations plebiscite in East Timor and withdrew when the vote was for independence.

Settlements can be achieved by direct negotiations and by judicial arbitration. Cambodia and Thailand, Argentina and Chile, Burkina Faso and Mali, Chad and Libya, El Salvador and Honduras, Indonesia and Malaysia and Malaysia and Singapore are countries that have submitted their land-boundary disputes to the judicial process. If the dispute is settled by the transfer of territory, from one country to another, there is a wide range of possible consequences. Some people in the transferred region, who opposed the change might cross the boundary to remain citizens of their original country. New patterns of internal administration might be established both in the transferred territory and the area from which it

was excised. The orientation of the economy of the transferred territory might turn towards the core of the new state. Different forms of production might be encouraged to supply new neighbouring markets. It would require careful field-work in each case to establish the changes that have occurred and those that unexpectedly, have not occurred. Sanguin (1983) described the problems facing part of Italy, that was transferred to France in 1947.

The territorial dispute between Ecuador and Peru

One of the most enduring territorial boundary disputes involved Ecuador and Peru. Ecuador and Venezuela seceded from Gran Colombia in 1830, six years after Peru ended the period of Spanish control. In July 1832 Ecuador and Peru signed a treaty of friendship and alliance. Article 14 provided that existing boundaries should be retained until a final boundary agreement was settled. That happened in 1942!

This account of the territorial dispute between Ecuador and Peru owes much to the seminal studies by Ireland (1938, 219-30) and St John (1999).

Five rounds of negotiations in 1841-2 failed to produce a boundary, but the discussions revealed that Ecuador expected Peru to yield the sub-divisions of Jaén and Mayna. In 1853 Ecuador proclaimed freedom of navigation, on tributaries of the Amazon rising in Mayna and Jaén. The tributaries included the Chinchipe, Santiago, Maranon, Pastaza, Curaray, Napo and Putumayo Rivers. Peru protested against this action and drew Ecuador's attention to the existence of the Royal *Cédula* of 1802. This proclamation detached the provinces of Maynas and Quijos from New Grenada, that later became Gran Colombia and attached them to the Viceroyalty of Peru. The cédula fixed the western boundary of Peru along a line running approximately north-south between 120km and 270 km from the Pacific coast (Figure 4.1).

In 1854 Ecuador tried to reduce its foreign debt by delivering to English creditors vacant lands near Canelos in the zone disputed with Peru. Peruvian forces invaded Ecuador and its navy blockaded the port of Guayuquil. General Guillermo Franco, who controlled the port, signed a treaty of peace, friendship and alliance with Peruvian leaders on 25 January 1860. By Article 5 Ecuador revoked the grant of land to the English companies at Canelos. By Article 6 it was agreed the two parties would appoint delegates within two years to a joint commission to delimit the boundary. Pending this development the two parties would respect the boundaries based on the principle of *uti possidetis juris*, according to the Royal Cédula of 1802. By Article 7 Ecuador was entitled to prove its title to the territories of Quijos and Canelos within two years. Failing such proof Ecuador's claim would lapse and Peru's claim would not be challenged. Article 23 stipulated that neither side should use force against the other without having submitted the matter for arbitration to a neutral power.

Over the next 27 years the territorial issue continued to sour relations between the two countries. For example, in 1875 disputes arose over the issue of navigation on the Morona and Pastaza Rivers. Then in 1881 Ecuador took advantage of Peru's discomfort when Chile occupied Lima and Callao in southern Peru. Ecuador's forces occupied areas near the confluence of the Coca and Napa Rivers. In 1881 Ecuador again tried to reduce its foreign debts by awarding land in dispute to foreign companies. Peru's protests at Ecuador's various actions continued until August 1887 when the parties signed a new treaty to submit the question to arbitration.

The foreign ministers agreed to invite the King of Spain to settle outstanding territorial questions by arbitration, and he was asked to indicate his acceptance of this role within eight months. Both sides would submit written arguments within one year of the King's acceptance of the invitation. They agreed to respond quickly to any questions asked by the arbitrator and to accept the final decision. Ecuador and Peru noted that they would continue to negotiate and would advise the arbitrator of any progress.

Since King Alphonso XIII was only 15 months old, the Queen Regent accepted on his behalf. A proviso was added that consideration of the matter would have to wait until the arbitrations concerning Colombia and Venezuela and Colombia and Costa Rica were completed. Fresh negotiations between the two governments were fruitful and on 2 May 1890 a treaty delimiting a new boundary was completed. It was called the Garcia-Herrera Treaty. In addition to delimiting the boundary in considerable detail the parties agreed to free navigation on shared rivers. Vessels registered in Ecuador had the right of passage on the Maranon and Amazon Rivers subject to Peruvian fiscal requirements and river police regulations. On 5 June 1890 both sides signed a Protocol dealing with the demarcation of the boundary. In the absence of natural boundaries the line must separate the areas occupied by each country. The surveyors were instructed to place the boundary according to the landscape features that were most appropriate. The demarcation teams were authorised to make minor reciprocal changes in the defined boundary that would not produce major changes.

Although Ecuador did not gain Tumbes on the coast or the area around Jaén, it gained a large area bounded by the Chinchipe, Maranon and Pastaza Rivers. Ecuador also gained a corridor along the right bank of the Putumayo as far east as its junction with the Cobuya River. St John, drawing on material by Wagner de Reyna (1964) and Sotomayor (1941), explains the remarkable concessions by Peru, of about 310,000 sq. km, to the following considerations

> *First, Peru had not recovered economically or politically from the War of the Pacific [1879-84 against Chile]; and in just four years, it was scheduled to participate in the Tacna-Arica plebiscite. Needing all available resources to protect its southern interests, the Garcia-Herrera Treaty was a means to neutralise Ecuador while Peru focused on its struggle with Chile. Second, the Peruvian government lacked the necessary legal documents to prove*

> *conclusively its ownership of the disputed territories. Peruvian scholars had been searching feverishly for new documents in Seville and other Spanish archives, but they had yet to discover anything that decisively proved the Peruvian case. A third consideration, not always mentioned, related to the value of the Oriente [lying west of the Maranon River]. When compared to Tacna and Arica, the Amazon territory was geographically larger and of greater potential wealth, but it was also situated in a remote area less well-known to Peruvians. In addition it had not been the theatre of a long, bloody war. The boom in rubber prices had not yet occurred, and at the time, little or no thought had been given to the possibility of oil deposits in the region. Consequently there were both economic and political reasons for the Peruvian government to assign a higher priority to a successful resolution of the Tacna and Arica dispute, even if it meant granting concessions in the Oriente.* (St John, 1999, 11)

The 1890 treaty lapsed because Peru's Congress insisted that changes were required to the boundary's alignment. Colombian authorities considered that the Garcia-Herrera boundary infringed its territorial rights and was invited to join in the Spanish arbitration process. However, this invitation could not be issued or accepted because Ecuador would not ratify the tripartite agreement. Once again the King of Spain was requested to continue the process of arbitration.

It was anticipated in early 1910 that the award would be announced later in the year. Unfortunately Ecuador formed the view that the award would accept Peru's legal arguments, that the arbitrator's task was to draw the boundary between former Spanish provinces that had decided to join one or another state at the time of independence. In short the Peruvian position was preferred to Ecuador's reliance on the ancient boundaries of Viceroyalties. On 23 May Peru announced unconditional acceptance of the arbitrator's decision. Chile persuaded Ecuador to make a statement of acceptance the following day. Unfortunately the statement was qualified and there was a hint that the award would be rejected because the only satisfactory arrangement would follow direct negotiations. Exactly six months later, and 23 years after accepting the responsibility of drawing a boundary, the King of Spain withdrew from the arbitration process and the award was not released formally

In an attempt to consolidate its position Ecuador decided to negotiate a treaty with Colombia. This involved ceding a long tongue of territory along the south bank of the River Putumayo as far as its confluence with the River Cobuya. This was territory that was included within Ecuador by the Garcia-Herrera line of 1890. St John explains the aim of Ecuador's strategy.

> *Ecuador willingly sacrificed territory to Colombia in 1916 to terminate its differences with its neighbour to the north before Colombia could conclude an agreement with Peru which adversely affected Ecuadorian rights.* (St John, 1999, 13)

This strategy was in vain. In March 1922 Colombia and Peru concluded a *Treaty of Frontiers and Free Navigation.* The result of this arrangement was that Colombia received a frontage on the Amazon River and Peru secured all the territory along the Putumayo that Colombia had received from Ecuador! St John sets out the consequences starkly.

> *Overnight the Ecuadorean government found itself confronted by an antagonist [Peru] where previously it had an ally [Colombia]. From the San Miguel River eastward, Ecuador was now enclosed on the north, east and south by Peruvian territory. In addition to destroying any legal support which the 1916 Colombia-Ecuador Treaty had given Ecuadorian claims, the 1922 treaty eliminated the possibility of Colombian support either military or diplomatic, for Ecuador in its dispute with Peru.* (St John, 1999, 14-5)

In 1936 Peru made a unilateral declaration of a boundary that it would observe. For the next two years the two countries pursued a solution through the Washington Conference that in the end revealed only irreconcilable positions. For Peru the solution lay in determining the limits of the Peruvian provinces of Tumbes, Jaén and Maynas adjacent to Ecuador. For Ecuador the solution lay in an equitable division of the overlapping claims either by direct negotiations or arbitration.

The territorial dispute came to a conclusion in 1942. In mid-1941 conflict started along the Tumbes border and spread to the Pastaza River. Peruvian forces quickly occupied about 1000 sq. km of Ecuador. A cease-fire was brokered by Argentina, Brazil, Chile and the United States in October 1941 and talks in Rio de Janeiro produced the *Protocol of Peace, Friendship and Boundaries* in early 1942. A boundary was delimited in the *Rio Protocol* and provision was made for the demarcation of the boundary, by expert surveyors (Figure 4.2). That was the end of the territorial boundary dispute.

For another 56 years positional boundary disputes continued as the demarcation was completed. For example, the watershed between the Zamora and Santiago Rivers was much shorter than perceived by the delimitation. In addition, Ecuador raised the complication that there was both a Rio Zarumilla and a Canal del Zarumilla separated by an area up to 5 km wide.

POSITIONAL BOUNDARY DISPUTES

The basic cause of territorial disputes is the superimposition of a boundary on a cultural or physical landscape in a manner that one party considers inappropriate. Positional boundary disputes arise because the evolution of the boundary is incomplete. It is not the nature of the borderland but a defect of the boundary that is crucial. Positional disputes generally arise at one of two stages. Most arise during the demarcation of the boundary, when the demarcation commission

is faced with the difficulty of matching the boundary definition, whether written or marked on a map, with the landscape. A few problems will arise if the demarcation commission makes an error that is only discovered after some time has elapsed. There might be a legal distinction between these two situations. If the demarcated boundary has existed for some years without being challenged, the satisfied party might use this fact to justify the maintenance of the incorrect alignment. The majority of difficulties with delimitations fall into two categories. First some terms will permit more than one interpretation. Second some points will be defined in two ways that are contradictory.

An example of a phrase in a boundary delimitation that allows more than one interpretation is provided by the Anglo-German agreement of 1886, The boundary was defined from the Cross River Rapids to the River Benue. The northern terminus was defined as follows.

> *…starting from a point on the left river bank of the Old Calabar or Cross River, where the original line terminated, shall be continued diagonally to such a point on the right bank of the River Benue to the east of and as close as possible to Yola as may be found on examination, to be practically suited for the demarcation of the boundary.* (Hertslet, 1909, volume 3, 880-1)

Adamawa was an emirate that existed in the Benue valley. The capital was Yola and it was situated closer to the western frontier than the eastern frontier. The Emir of Yola had decided to remain in the British sphere, which meant that Germany gained the larger eastern part of his territory.

The description had intended to refer to the left bank of the Benue River; fortunately the Anglo-German team demarcation team agreed on that interpretation. The Agreement also ran the risk of complicating matters by giving two names for one river and noting that the line should be 'continued diagonally'. However, the phrase that caused difficulties for both sides was '…to the east of and as close as possible to Yola as may be found on examination, to be practically suited for the demarcation of the boundary' (Figure 4.3). For the German surveyors this raised two simple technical problems of identifying the most easterly feature of the walls around Yola, and erecting a beacon on the nearest point of the left bank of the Benue, above the seasonal flood level. For the British team the word 'practically' had political, strategic and economic implications as revealed later in correspondence from the Royal Niger Company to the British Foreign Office.

> *No more fruitful source of trouble in these regions can be imagined, than that the powerful Emir of Yola, who has now thrown in his lot with England, should be informed that this country has drawn a frontier line with Germany, almost within sight of his walls.* (Prescott, 1971, 32)

It was plainly important that for two reasons the Emir should retain some territory, on the south bank of the Benue River. The first concerns his status; his eastern boundary on the south bank must be more than a few kilometres from

the walls of Yola. Second, because German authority would not be uniformly exercised across the territory of Kamerun, the Emir needed to be able to establish forward defensive lines, that would give warning of attack by any other indigenous polity. The third consideration is that the population of Yola required access to areas east and southeast of the city for collecting firewood and fruits and for grazing stock.

Fortunately Germany suggested the solution to the contrary positions of the two countries. This involved drawing the straight line from the Cross River to the eastern point of Yola, and then diverting the northern part of that that line eastwards by an arc with a radius of 20 miles as far as the River Benue. There was some haggling over the radius. Britain suggested the distance from Yola to the confluence of the Benue with its left bank tributary the Faro River. This distance, about 30 miles, was eventually accepted by Germany, but Germany then insisted that the boundary north of the Benue towards Lake Chad, should start on the north bank 5 km west of the Benue-Faro confluence, and that was agreed.

Problems caused by uncertainty about geographical definitions fall into three broad groups, The first involves the identification of a geographical feature such as the bank of a river, the edge of a plateau or the crest of a range. The second involves disagreements about place-names, and the third category results from the location of a tribal or provincial boundary that is elevated to international status. These problems might be exacerbated if the demarcation is only undertaken long after the delimitation was agreed.

Hinks (1921) reported a dispute between Bolivia and Peru, north of Lake Titicaca. It proved impossible to agree on '…the western source of the River Heath…' that marked a turning point on the delimited boundary.

In 1823 Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua affirmed their independence as the United Provinces of Central America. Guatemala and Honduras declared their independence in 1838. Attempts to define the boundary between Guatemala and Honduras in 1845, 1895 and 1914 were unsuccessful. On 16 July 1930 the disputed boundary was submitted to a Special Boundary Tribunal whose chairman was the Chief Justice of the United States (Marchant, 1944, 317-19). The award was published on 23 January 1933 (The Geographer, 1976, 2). Under the terms of the Treaty of Arbitration the Tribunal was permitted to modify a line based on the principle of *uti possidetis juris.* This principle provides that boundaries set by Spain for its colonies should persist when the colonies become independent states. After an aerial survey of the borderland had been made the Tribunal defined the boundary between the two states from their trijunction with El Salvador to the Gulf of Honduras

This boundary is 159 miles long but only the most easterly 25 miles is relevant to this analysis.

> *…northeasterly straight (11.2 miles) to a point at the center of the Cuyamel Railroad bridge over the Santo Tomas river, northeasterly straight to the southernmost point on the right bank of the Tinto river which flows out of*

> *the Laguna Tinto, along the right bank, taken at mean high water mark, of the Tinto river downstream to its point of discharge into the Motagua river, along the right bank, taken at mean high water mark, of the Motagua river downstream to its mouth on the Gulf of Honduras. As thus described, the boundary is established on the right banks of the Tinto and Motagua rivers at mean high water mark, and in the event of changes in these streams in the course of time, whether due to accretion, erosion or avulsion, the boundary shall follow the mean high water mark upon the actual right bank of both rivers.* (The Geographer, 1976, 5)

This delimitation defines the boundary along the riverbank as the mean high water mark, but there is no indication of how that level should be determined. It is possible that hydrographers from each state might set out different conditions for determining the mean high water line, and that two mean high water lines are calculated. This would only be a problem when the gradient of the right bank is gentle. In that case a small vertical difference in the calculations of the water-lines might produce a significant horizontal shift of the boundary landwards to the advantage of Guatemala.

This delimitation does not define the point where the mean high water mark of the river terminates at the coast. That point will be the origin of any maritime boundary and each country has a vested interest in identifying the optimum intersection that will give it an advantage.

The Anglo-Dutch boundary between Guyana and Suriname dates from 1799. It was specified by the Dutch Prime Minister in a letter to the Prime Minister of Suriname on 25 November 1975, the day the colony became independent.

> *The western boundary is formed by the low-water line on the left bank of the Corantijn, from origin to mouth. The boundary therefore runs from a point to be further determined on the southern boundary to the origin of the Upper Corantijn, next from this origin along the low-water line on the left bank of the Upper-Corantijn and the Corantijn up to the point* where the river bank changes into the coastline… (Republic of Suriname, 2005, 8, emphasis added.)

There are river mouths, flowing into adjacent seas with low tidal variation, where a riverbank trending in one direction meets the coastline trending in another direction. In such cases it would be a straight-forward matter to identify the point where the river bank meets the coastline. The left bank of the Corantijn River flowing northwards chances to meet the sea where the river forms an estuary. The west coast of the estuary and the succeeding coastline has the configuration of an arc of a circle trending north and west. It is very unlikely that experts from one or both countries would agree on a single point where the riverbank becomes the coastline. Hydrographers dealing with closing lines for bays have devised a mechanical method of defining a point on featureless promontories (Beazley, 1987, 21).

In 1860 China and Russia sowed the seeds of a positional dispute that remained unsolved for 145 years. The treaty dealing with their common boundary in northeast Asia in the following terms

> *Henceforth the eastern boundary between the two states, beginning from the confluence of the rivers Shilka and Argun, will follow the course of the River Amur downstream to the point of juncture of the said river and the river Ussuri. The lands lying on the left [north] bank of the river Amur belong to the Russian Empire, while those lying on the right [south] bank, as far as the river Ussuri, belong to the Chinese Empire. Thenceforward from the mouth of the river Ussuri to Lake Khinkai, the border-line will go by the rivers Ussuri and Sungach. The lands lying on the east [right] bank of these rivers belong to the Russian Empire while [those] on the west [left] bank [belong] to the Chinese Empire.* (Prescott, 1975, 54-5)

Unfortunately, at the junction of the Ussuri and Amur Rivers there is a triangular island with an area of 1320 sq. km. To the north lies the Amur or Hei-Lung Chiang; it is a large river with an average width of 2.3 km. The southwest coast of the island is washed by the Protoka Kazakevicheva, or K'o-tsa-k'ai-wei-ch'ai-wo Schui-tao. This is a narrow watercourse 30 km long and about 900 metres wide. The southeast margin of the island is bounded by a channel that the Chinese regard as Wu-su-li Chiang and the Russians called Ussuri. The Russians interpreted the treaty to mean that the boundary followed the Amur to its junction with the Protoka Kakakevicheva and then this minor channel to the Ussuri River. The Chinese view placed the juction of the Amur and Ussuri Rivers at the easternmost point of the Island. The matter was finally settled on 14 October 2004.

Imprecise placenames have been used in some treaties. Hinks (1921) noted that the demarcation team sent to delimit the boundary between Bolivia and Peru was faced with the difficulty of interpreting the name Barraca of Illampu. The term refers to both the entire estate and the main house on the estate.

In 1872 Britain was trying to establish a boundary between Russia and Afghanistan that would keep Russia well away from British India, but in the end Britain had to accept a boundary much further south than had been envisaged. One of the main turning points was located where the boundary drawn eastwards from the Zulfikar Pass at the Aghan-Iran-Russian trijunction reached the Oxus River, also called Amuda ya. This feature was called 'the ford of Kwaja Salar' by the British, in May 1872. By October British authorities called it 'the port of Khoja Saleh'. Later again it was 'the post of Khoja Saleh'. By 1886 it was realised that the name Kwaja Salar or Khoja Saleh referred to a ferry, a tomb, a house, a narrow part of the river and the district east of Khamiab. Until the demarcation teams reached the Oxus they did not realise that the term Kwaja Salar or Khoja Saleh could be interpreted in different ways at different locations. The Russians had argued for starting the survey at Kwaja Salar because this was a known point.

Russia also provided a report, prepared by General Kaufmann, that located the Chuskhar Guzar ferry opposite Khoja Saleh, while Britain thought the ferry was 77 km east of Khoja Saleh.

According to the India Independence Act of 18 July 1947 the Province of Sind was awarded to Pakistan. South of Sind there were a number of suzerainties, including Kutch, Tharad and Santalpur. Kutch lay immediately to the south of Sind and therefore the boundary between Sind and Kutch became the international boundary between India and Pakistan. In 1914 the coastal section of the colonial boundary between Sind and Kutch had been delimited along the Sir Creek to its source at latitude 23° 58' N, then following the parallel overland for 35 km to meridian 68° 41' E. The land boundary was demarcated by 67 sandstone pillars in 1923-4. At the same time the boundary was continued north along the meridian for 37 km to latitude 27° 17' N and marked by 66 sandstone pillars. This incomplete definition and demarcation left a gap of about 300 km to the trijunction of the boundaries of Gujarat-Rajasthan and Hyderabad.

India and Pakistan had different views on the location of the boundary that would fill this gap. India proposed a fairly direct line following the northern edge of the Great Rann of Kutch. Pakistan's preference was for a boundary that went, first south from the terminus at latitude 23° 58' N and longitude 68° 41' E, and after turning eastwards through the middle of the Great Rann swung north to the trijunction. The two neighbours could not agree and the matter was adjudicated by a tribunal, in 1968. The boundary award placed the boundary close to the northern limit of the Great Rann, However, Pakistan was awarded some northern projections at both end of the line and an area of about 950 sq. km in the vicinity of Dhara Banni and Chhad Bet (Prescott, Collier and Prescott, 1977, 40-1).

One mistake that can be fatal to boundary delimitations is to define a point in two ways that turn out to be contradictory. Bolivia and Peru defined a point of their boundary as the confluence of the Lanza and Tambopata Rivers that lies north of parallel 14°. The surveyors were able to find the confluence but it was south of the nominated parallel. The western terminus of the boundary between the Dutch Timor and Oekussi, a Portuguese outlier, was defined in the following terms.

> *Proceeding from the mouth of the Noel [River] Besi, from where the summit of Pulu [Island] Batek can be sighted, on a 30° 47 NW astronomical azimuth*…(Deeley, 2000, 70)

Pulau Batek belongs to Indonesia. This definition was made in 1904. East Timor and Indonesia have inherited this boundary definition and if the course of the river has changed so that the nominated bearing is no longer correct this could complicate negotiations. Klaas Villaneuva (Personal communication, May 2003) has reported a possible additional complication. He observes that the term Noel refers to a river that flows throughout the year, whereas a very narrow water channel, lying west of the Noel Besi is properly called Nono Besi. Deeley (2000, 16) shows the Nono Besi bearing 30° 47' NW to Pulau Batek.

Finally, there is a particular kind of boundary dispute that occurs when a feature, with which the boundary was made coincident, changes position. Most commonly such problems are associated with boundaries located in rivers that change their course. Generally this situation arises when the river is flowing across a plain. The headwaters of rivers entrenched into uplands rarely change their course dramatically. Rivers flowing across a plain can change their course in two ways, both of which involve meanders. First when a river meanders across a plain the bends in the river's course will tend to move downstream almost imperceptibly. Second an extreme meander might cause two different parts of the river's course to come very close together. The course of the river might then alter abruptly if the narrow neck of land separating the two parts of the course is breached. If that occurs the abandoned section of the course forms an ox-bow lake, for which the Australian name is 'billabong'.

It is now generally accepted that if the river changes its course gradually, by accretion on one side and erosion on the other, the boundary will remain in the river. If the river changes its course suddenly the boundary will continue to follow the original course. Rebert (2001, 182) records that the American and Mexican teams, demarcating the boundary in the vicinity of the Rio Grande, agreed on 20 July 1851, that the boundary marked on their maps was the actual boundary, '…however the Gila [River] or Rio Grande might change its course'. Five years later, Cushing, the United States Attorney-General expressed a contrary view.

> *…whatever changes happen to either bank of the river by accretion on the one, or degradation on the other, that is by the gradual and as it were insensible accession of mere particles, the river as it runs continues to the boundary.…*
>
> *But, on the other hand, if, deserting its original bed, the river forces for itself a new channel in another direction, then, the nation through whose territory the river thus breaks its way suffers injury by the loss of territory greater than the benefit of retaining the natural river boundary, and that boundary remains in the middle of the deserted river bed.* (Rebert, 2001, 183)

McCaffrey (2001, 72) considers that most commentators follow the views Cushing put and that they are rules of customary international law or '…at least general principles'.

A section of the boundary, agreed between the French Governor of Vietnam and the King of Cambodia in 1873, was demarcated in the next three years. It followed the telegraph line between Giang Thanh and Ha Tien. The line was within 900 metres of the bank of the Giang Thanh River. In 1891 The French Governor published a new map showing that the boundary had been moved. It now followed the shorter route along Mandarin's Way from Giang Thanh to Ha Tien. This alteration transferred 21 sq. km. of marshy land from Cambodia to Vietnam. Apparently the area gained by Vietnam was owned by Vietnamese, who had to pay taxes to Cambodia, a transaction the Governor thought should augment Vietnam's treasury (Chhak, 1966, 139-40). The justification for the

change was that the telegraph line had originally been alongside Mandarin's Way, but it was moved closer to the river when Cambodian rebels sought to cut the line. In July 1896 the Governor-General of Indo-China created a committee to enquire into the cartographic annexation and the decision was that the boundary should be moved back to the telegraph line as it existed in 1876. A postscript to these events resulted in the boundary north of Ha Tien being moved from the well-preserved inner rampart of its defences to the older, decayed rampart. This change transferred 8 sq. km from Cambodia to Vietnam.

Positional boundary disputes will usually involve smaller areas that those involved in territorial disputes, and this can mean fewer problems for border residents and international relations. However, positional disputes in two situations might involve considerable areas. The first situation involves a boundary that is defined by only a few points, and the location of one of the points is disputed. This happened in the case of Kwaja Salar where the extreme determinations were 80 km apart. If the boundary sectors on either side are long, the territory involved might be considerable. The second situation could occur when the boundary is defined as following some historic boundary and there are various representations of its location.

The southern boundary of Walvis Bay, March 1878-May 1911

In the middle of the 19th century the barren coastline between the Portuguese presence on the Angolan coast, from Luanda to Moçâmedes, and Britain's Cape Colony was inhabited by small widely scattered groups of Africans. In the 1840s the discovery of large deposits of guano on Ichabo Island in latitude 26° 17' S started a rush that exhausted the deposits on Ichabo and other guano islands in three years. The birds started to return to the islands in 1847 and it was suggested to the British authorities that they should take possession of the islands. Ichabo, the largest was annexed on 21 June 1861. In 1866, the remaining guano islands were annexed. After a series of administrative bungles control passed to the Cape Colony (Kinahan, 1992, 107-9).

In 1874, British authorities, aware that Boers were trekking northwards, decided that it would be unwise to allow them to establish an outlet on the west coast of the continent. Instructions were issued to annex the port and adjacent territory of Walvis Bay. In March 1876 an explorer and trader called Palgrave was commissioned to supply information about the resources of the coastlands north of the Orange River and the political organization of the indigenous communities (Berat, 1990, 32). Palgrave's report was encouraging and Commander Dyer received instructions to proceed to Walvis Bay and annex it (Figure 4.4).

> *…hoist the British flag, to take possession of, and to declare and proclaim the port, the settlement of Walfisch Bay, and the country immediately surrounding the same for a distance inland to be determined by him [Dyer] to be British territory.* (Berat, 1990, 36)

HMS Industry arrived at Walvis Bay on 6 March 1878. Dyer had been instructed to consult Palgrave about the extent of territory to be claimed but Palgrave was not in the area. On 9 March Dyer with two other officers trekked for nine hours to Scheppmansdorf that was a mission station. Dyer explained the reason for this expedition in his report.

> *There being no fresh water or grass at Walfisch Bay, I deemed it indispensable that a place containing both should, if possible, be included in the annexation and with this object I made a journey by bullock wagon to Rooibank, taking with me the Assistant Paymaster in Charge and the Surgeon, the only available officers, to assist me in viewing the plateau. This place is variously estimated at from thirteen to eighteen miles east from Walfish Bay, but nine hours by wagon. It is an oasis thickly covered with grass and well-watered, and is the nearest available place for water and good pasturage for supplying the Bay.* (Cleverly, 1904, 3)

Dyer was also accompanied by a local resident called Ryden. On 13 March sailors mustered on the beach beside the flag-pole. The Union Jack was raised and saluted by 21 guns. Dyer's Proclamation included the following definition of the territory of Walvis Bay.

> *…I do further proclaim, declare and make known that the said territory of Walfisch Bay, so taken possession of by me as aforesaid shall be bounded as follows: that is to say, on the south by a line from a point on the coast 15 miles south of Pelican Point to Scheppmansdorf; on the east by a line from Scheppmansdorf to Rooibank, including the Plateau, and thence to 10 miles inland from the mouth of the Swakop River; on the north by the last 10 miles of the course of the said Swakop River.* (British and Foreign State Papers, 1877-8, 1177)

Four years after Walvis Bay was annexed by Britain, Adolf Luderitz from Bremen requested German support for any acquisitions he might make along the coast north of the Orange River. This trader wanted to develop a port that would enable him to avoid duties on goods imported via Walvis Bay. Luderitz first bought Angra Pequena a small port in a bay on which the town of Luderitz now stands. Three months later Luderitz bought the entire coast and 20 miles inland from the Orange River to parallel 26° S. Then he bought the coast, except for Walvis Bay from 26° S to Cape Frio, 70 nm from the Portuguese settlements. This second purchase included Sandwich Harbour about 22 nm south of Walvis Bay. Germany annexed the territories purchased by Ludertitz on 29 May 1884. This meant that both countries now had an interest in delimiting the boundary of Walvis Bay.

During the next twenty years Britain and Germany appointed three joint commissions, each composed of two members. None was able to establish a boundary satisfactory to both sides, but all contributed to the identification of the major

obstacles that were submitted to arbitration in 1909. The two countries agreed to the appointment of the first joint commission in 1885. It consisted of Mr Justice Shippard, from the Administrator's Office in British Bechuanaland and Dr Beiber, the German Consul-General in Cape Town (Shee, 1978, 25). Shippard reported in September 1885 that he had advised Beiber of his interpretation of the proclaimed boundary. Shippard had no doubt that the south and east boundaries should include the whole commonage of Rooibank or Scheppmansdorf as far as Ururas (Shee, 1978, 25). However, the commissioners sent a joint letter to their governments correcting the spelling of two place names in Dyer's Proclamation and the Letters Patent of December 1878. It was noted that 'Scheppmansdorp' should be 'Scheppmansdorf' and 'Rooibank' should be 'Rooikop'. While the change to Rooikop was necessary both Dyer's Proclamation and the Letters Patent refer to Scheppmansdorf. The Commissioners then agreed that further consideration of the issues should be deferred until the boundary had been surveyed and demarcated by Wrey. Phillip B.S. Wrey was a government surveyor in Cape Town and he completed his survey in the second half of 1885. His map was dated 12 December 1885 and his report bore the date 14 January 1886.

The map was drawn at a scale of 1:120,000. The international boundary was demarcated by beacons at Points B – M. Pillars were also erected at Points A and N for surveying purposes. The only two points accurately defined by Dyer were '…a point on the coast 15 miles south of Pelican Point…' and '…on the north by the last 10 miles of the course of said Swakop River'. The map showed the two important rivers Khuisep [Kuisip] and Tsuachaup [Swakop]. Roads to Rooibank and the interior are shown, together with four wells called Wortel, Dorop, Frederick's and Surveyor's Dams, between the lagoon to the north and the boundary heading southwest from Point B. Isolated prominent hills called 'Kop' were identified and vegetated areas had tree-like symbols with the words Tamarisk Trees, Anna Trees and Nara. The seeds of the Anna Trees were a main supply of food for stock.

At Rooibank and Scheppmansdorf Wrey was faced with Dyer's reference to '…including the Plateau…' within the territory of Walvis Bay and reached the following conclusion.

> *The word plateau as used in the Proclamation is a misnomer, for the whole extent of ground between Rooibank and Ururas, excepting the plain and sand hills, lies in the riverbed. I have therefore taken the word to signify the area of ground covered by river water in years of flood. This extends from the plain on the one side [north] to the clearly defined edge of the sand hills on the other [south], and I have made this edge [sand hills] the boundary between beacons D and F crossing from thence to G.* (Cape Colony, 1887, 125)

Wrey's map also identified the location and description of the boundary and survey markers at Points A-N.

Once Beiber received a copy of Wrey's map he raised three major objections in June 1886. First it was pointed out that there was no mention of Ururas in Dyer's Proclamation. Then it was urged that it was hardly reasonable to call the riverbed a plateau. Finally there was reference to a murder that had taken place on the riverbed north of Scheppmansdorf. Jan Jonker Afrikander had hanged a mountain Damara near Scheppmansdorf in March 1885 and it was alleged that the Walvis Bay magistrate has requested the Germans to maintain order on their territory. Shippard replied briefly along the lines that Wrey had acted in accordance with his instructions in interpreting Dyer's boundary definition.

There was then a period of three years when there were flurries of correspondence between the Colony and British governments, between German administrators and the government in Berlin, and between intermediate contacts of the British and German governments.

Curiously some senior people in the Colony and the Colonial Office had doubts about the strength of the British case. Torrens the Acting High-Commissioner in Cape Town expressed reservations in November 1886. He found Wrey's interpretation of the word 'plateau' unusual; and considered that it would be difficult to resist any German request for a new delimitation of the boundary. Bramston of the Colonial Office in London wrote to the Prime Minister's office drawing attention to weaknesses in Britain's case. First in his report Dyer mentions 'the plateau and Scheppmansdorf to the southeast' showing that the plateau was northwest of that place. Second Wrey's line deviated from the British boundary that had long been shown on British Admiralty charts.

The German authorities hammered three main points in support of Germany's claim. First it was argued that a plateau could not be a riverbed. Second it claimed that the murder committed by Jan Jonker Afrikander in the riverbed had been recognised as a German responsibility by the Walvis Bay authorities. Third the phrase '…the plateau and Scheppmansdorf to the southeast…' used by Dyer in his report proved that the plateau was northeast of Scheppmansdorf.

The British Prime Minister's Office was able to overcome the fears expressed by the Colony's Government and the Colonial Office by January 1888. First a letter from Dyer in September 1887 made it clear that acting on the advice of missionaries, local settlers and indigenes his principal desire was to include the grazing areas between Scheppmansdorf and Ururas for the African population. Second it was pointed out that the phrase '…the plateau and Scheppmansdorf to the southeast…' referred to the two features being located in the southeast portion of the territory of Walvis Bay. The phrase should not be interpreted to refer to their positions relative to each other. Finally after noting that the murder occurred before any boundary was demarcated, careful fieldwork had established that the mountain Damara was hanged beyond the boundary marked by Wrey.

The second joint commission involved Colonel Philips and Doctor Goering, who visited Walvis Bay in January 1889. Philips issued his report before the end of the month and Goering followed in mid-June. Goering had the benefit of a letter

from Captain Dyer in April that explained, again, his reasons for including the area between Scheppmansdorf and Ururas within his boundary. Once again the commissioners disagreed about Wrey's interpretation of Dyer's Proclamation.

In 1890 Britain and Germany agreed on a treaty settling their various disputes in Africa with the exception of the southern boundary of Walvis Bay (Hertslet, 1909, 899). This matter was reserved for arbitration unless it was solved within two years. Fourteen years later the matter had not been solved and not submitted to arbitration. The governments made one final attempt to reach agreement through a joint commission. Britain appointed John Cleverly, formerly a magistrate in Walvis Bay and the German delegate was a surveyor called von Frankenberg. The joint reports of the two commissioners raised only one new matter of contention. Von Frankenberg made two new proposals for the definition of Wrey's Point B, at the western end of the southern boundary. First he believed that the beacon located on Pelican Point should be moved as far north to the edge of the point as the sand permits of a secure foundation. Second the 15 miles specified in Dyer's Proclamation should be English miles not nautical miles. An English mile measures 1609 metres; a nautical miles measures 1852 metres. If English miles were used and they were measured from the beacon that existed on Pelican Point, the new Point B would be 3.6 km north of Point B defined by Dyer and Wrey. The new line between Point B on the coast and Point C at Scheppmansdorf would deprive Walvis Bay of about six square miles that contain good water at Surveyor's Dam and some vegetation.

Cleverly opposed the changes suggested by Von Frankenberg. The first beacon on Pelican Point was erected by the crew of HMS Leven in 1825 at latitude 22° 52' 30" S. In 1878 the crew of HMS Danae erected a new beacon '…on the NW corner of the sandspit, as a guide to vessels rounding Pelican Pt. which otherwise is sometimes difficult to see at 2 miles' (Kinahan, 1992, 131). Its location was at 22° 53' 32" S, that is one nautical mile south of the original beacon. That position had been recorded on charts and in sailing directions in the period 1878-1904. Cleverly had no doubt that a naval officer would measure coastlines in nautical miles and that no other miles had been mentioned in the 26 years since Dyer's Proclamation.

After the failure of this third joint commission to produce an agreement the two countries agreed to submit the matter to arbitration. On 30 January 1909 the King of Spain was asked to appoint an arbitrator, which he did on 7 March 1909. Joaquin Fernandez Prida was a Senator and Professor of Law at the University of Madrid. It was arranged that the British and German Memoranda would be submitted by 29 November 1909, and their Replies to those documents would be received by the Arbitrator on 30 July 1910. During the period December 1910 to January 1911 Prida visited Walvis Bay accompanied by the German Commissioner Von Frankenberg and the British Commissioner Lansdown. Prida's Award was completed on 23 May 1911 and it was published in the British Parliament in October 1911 (Africa, 1911).

The Award set out the main points in the Memoranda and the following Replies. Then Prida identified the two principal questions to be answered.

> *Considering that there are two fundamental questions which it is necessary to examine in this award: (1) Whether the southern limit of the territory of Walfisch Bay ends in the proximity of the mission church of Scheppmansdorf, or, on the contrary, whether it should be prolonged to Ururas in accordance with Mr Wrey's survey; (2) whether this southern boundary should begin at a point 15 nautical miles or 15 statute miles from Pelican Point.* (Africa, 1911, 22-3)

The Arbitrator accepted that both parties recognized that the answer to the first question turned on the interpretation of the phrase '…including the plateau'. He focussed first on what the Proclamation or its author Captain Dyer understood by the word 'plateau'. Was the plateau the high plain of the Namib or the valley of the River Kuisip between Scheppmansdorf and Ururas. Prida noted that even if 'plateau' is considered to be 'a high plain' it is a relative term, and therefore the greater elevation of the Namib was not sufficient to eliminate the Kuisip valley. He also noted that the phrase '…on the east by a line from Scheppmansdorf to the Rooibank, including the Plateau,…' means that the plateau must be included by the eastern boundary and that it was in the southeast corner of the annexed land (Africa, 1911, 23).

Prida also noted the weakness in the German interpretation that the phrase about the plateau must mean it lay northeast of Scheppmansdorf, because it could also be interpreted to mean that both features lay in the southeast corner of the territory. The Arbitrator also noted that if Dyer had been referring to the Namib he could have reached that territory without traversing the long route to Scheppmansdorf, and that Dyer's reference to an 'oasis' had to refer to the word 'plateau'. Germany claimed that Dyer's phrase of the plateau being '…above Rooibank…' disqualified the Kuisip valley from consideration. However Prida dismissed this view.

> *…the statement in this last report [by Dyer] is perfectly applicable to the bed of the Kuisip, which rises constantly and gradually towards the interior from the coast and runs on above Rooibank within the zone in dispute…* (Africa, 1911, 25)

The Arbitrator then came to the first conclusion relative to the decision about whether the boundary should be extended to Ururas.

> *Considering that if the previous arguments are admitted, and therefore that with more or less propriety as to the use of the word but with no uncertainty as to the intention, what is called 'plateau' in the Proclamation of Annexation is part of the valley of the Kuisip, the principal problem still remains undecided, namely, that relative to its extent and limits, in other words, whether the said plateau should be understood as ending near the*

> *old church of Scheppmansdorf or, on the contrary, should be prolonged to Ururas.* (Africa, 1911, 25-6)

The Arbitrator first dismissed the assertion that the absence of the name Ururas on the British chart or in Dyer's Proclamation or Reports implied that the boundary should not be prolonged to that place (Africa, 1911, 26). Then he established to his satisfaction that the names Scheppmansdorf and Rooibank do not apply to any specific location. Boehm, a missionary, described Scheppmansdorf as about 1.5 km in extent and the principal place of Namas and Hottentots, although lacking '…the exact limits for the community or tribe'. A statement in Dyer's report of 12 March 1878 impressed Prida.

> *…there being no fixed points on this immediate coast, it was determined that the Rooibank plateau and Scheppmansdorf to the south-east should be included in a line drawn from 15 miles south of Pelican Point to 10 miles inland from the mouth of the Swakop River.* (Africa, 1911, 26)

This statement allowed Prida to make the following inference.

> *That the mere fact that the author of the report [Dyer] refers to the* inclusion *of Scheppmansdorf and the plateau of Rooibank within a line indicates that neither the former nor the latter are to be taken as fixed points, but as places of greater or less extent situated* inside *the frontier and which therefore cannot be points on it marking or indicating its direction precisely.* (Africa, 1911, 26, emphasis in the original).

After reviewing conflicting evidence by witnesses for both parties related to the murder of the Mountain Damara, the Arbitrator concentrated on three factors that enabled him to make a decision on the first question in favour of Britain. First the Damaras and Hottentots of Scheppmansdorf seasonally fed their cattle along the valley of the Kuisip towards Ururas. Second it was plain that Dyer had not exceeded his instructions in claiming the area demarcated by Wrey. Third Britain's effective occupation, and its exercise of jurisdiction before the boundary question arose, were not impugned by the German witnesses. These acts included the grant of gardens by the magistrate at Walvis Bay, Rooibank and Ururas, the punishment of an illegal act and the arrest of an offender at Ururas.

There was a rider to this first decision that might have pleased Germany.

> *Considering that, if, for the reasons explained, the prolongation of the territory of Walfisch Bay to Ururas is admitted as correct, it is unnecessary to involve the hinterland doctrine in support of the British claim, a doctrine, which, further, would not be applicable to the case in discussion, because the taking of possession of the said territory and its antecedents indicate the intention of including the land annexed within precise limits, with the implicit renunciation of all intention to extend them, and because, as that doctrine is understood, it requires for its application the existence or*

> *assertion of political influence over certain territory, or a treaty in which it is concretely formulated, none of which circumstances apply to the case which is the course of this controversy.* (Africa, 1911, 32)

When Prida turned to the second question he first established that he was competent to answer it. Germany had raised an issue about the location of the point 15 miles south of Pelican Point in its Memorandum. It drew attention to the facts that nautical miles were used to define Point B south of Pelican Point while statute miles were used to define Point J at Nuberoff Kop on the Swakop River (Africa, 1911, 12-3). This matter was not considered in the British Memorandum, but it was answered in its Reply. Britain refused to admit any question other than that associated with the plateau and Ururas. It reminded the Arbitrator that this matter had been raised by Von Frankenberg in 1904 and promptly rebutted by Cleverly. It was further asserted, that this manoeuvre was not approved by the German authorities in 1904 (Africa, 1911, 22).

Prida decided that since the question related to the origin of the southern boundary it was appropriate that he should consider it. In two short paragraphs he demolished the German arguments (Africa, 1911, 32-3). First he asserted that there was no reason why Dyer, a naval captain using a nautical chart should not use nautical miles to define a point on the coast. Second he observed that the selection of Nuberoff Kop, 10 statute miles near the Swakop River, was not made as a result of a careful survey. It had been decided that Nuberoff was a prominent feature about where, in Dyer's opinion, the northeast corner of the territory should lie. It happened to be about 10 statute miles from the coast. Finally the Arbitrator referred to the fact that Germany had not taken exception to Britain's continued possession of the area in the southwest corner of the territory that existed before the adjacent territory was placed under German protection.

Accordingly Prida announced two findings (Africa, 1911, 33). First he found that the demarcation of the southern boundary by Wrey was not binding upon Germany since that country was not involved in that exercise. Second he found that Wrey's demarcation fixed the southern boundary accurately and it must now be accepted as the exact definition of the boundary under dispute.

In 1914, the boundary was resurveyed by Fred Muller the Government Land Surveyor. He produced a map and a plan. The map was of the whole of Walvis Bay at the same scale as Wrey's map. Muller provided much detailed information about the coordinates of particular points. The plan, at the larger scale of 1:30,226, showed the northern boundary along the Swakop river in detail. He fixed 15 points in the course of the river in addition to the post at the mouth placed by Wrey. The easternmost point was located due north of Nuberoff Kop, used by Dyer and Wrey to locate the northeast corner of the territory in the bed of the Swakop River.

CONCLUSION

Most governments take the development of boundary disputes very seriously. This is because friction in the borderlands can be likened to a bushfire in south-east Australia in January. If it is not controlled quickly it might spread widely and do great damage. Governments are aware of the correctness of Siegfried's assertion before World War II.

> *The study of boundaries is dangerous…because it is thoroughly charged with political passions and entirely encumbered with after-thoughts. The people are too interested in the issues when they speak of boundaries to speak with detachment: the failing is permanent!* (Siegfried in Ancel, 1938, vii).

Except in the comparatively few cases when governments have a political interest in fanning the flames of discord in the borderland, efforts are concentrated on ending the dispute quickly.

The success in achieving this aim often varies with the type of boundary dispute. Territorial disputes arise when one government requests a neighbour to cede some territory for one of two reasons. It will argue either that the territory is held improperly or that it would be better for all concerned if ownership of the area was transferred. In the second case the arguments will be based mainly in history and geography. These disputes are rarely settled quickly and some last for a very long time and have periods of intense activity separated by intervals of apparent disinterest on the part of the claimant. Boundary changes in favour of one state can be produced by the use of overwhelming force. When Chile waged war against Bolivia and Peru in 1879, the Bolivian coast from 25º South was captured quickly and the Peruvian capital of Lima was captured on 17 January 1881. The Treaty of Ancon was forced upon Peru on 20 October 1883 and all Peru could salvage was the Province of Tacna. In four years Chile's northern boundary had advanced 400 km to Arica (Ireland, 1938, 160-75).

Positional disputes arise when the evolution of the boundary is incomplete, and the most common cause is the presence of an ambiguous phrase in a treaty, when the delimited boundary has not been demarcated. If the positional dispute involves a small area it might be settled quickly. However, there have been exceptions. The El Chamizal dispute on the Rio Grande between Mexico and the United States endured for a century from 1864, when the course of the river changed and transferred the region from the Mexican side of the river to the American side. Arbitration by Canada in 1910 failed and the dispute ended in 1954 when the two countries divided the area (Hill, 1976). In a few situations positional disputes can involve large areas. This was the case with the Anglo-American dispute in the Alaskan Panhandle and the Argentina-Chile dispute in the Andes. These positional disputes had the stubborn characteristics of territorial disputes.

The significance of boundary disputes to the nature of relationships between neighbouring states has attracted the attention of scholars from disciplines that include economics, geography, history, law and politics. Geographers have played a leading role in such studies because boundary disputes often require detailed analyses of terrain, drainage patterns, the distribution and ethnicity of populations and consideration of historic maps at varying scales.

Although many scholars concentrate on a single aspect of boundary disputes, such as their effect on international relations, a comprehensive examination of the subject should answer five questions. What is the cause of the dispute? Why did it develop at a particular time? What are the aims of the state initiating the claim or complaint? Which arguments were used by the rival states in defence of the positions adopted? What results followed from the settlement of the dispute or from its continuation?

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5. INTERNATIONAL LAW AND TERRITORIAL BOUNDARIES

1. INTRODUCTION

Few issues strike so profoundly at the heart of national sovereignty than the determination of conflicting territorial claims by states and of the land boundaries that lie between them.[1] It is therefore unsurprising that territorial and boundary disputes have been a primary stimulant to the evolution of international law itself. The major international courts, the Permanent Court of International Justice (PCIJ) and the International Court of Justice (ICJ), along with international arbitral tribunals, have identified and articulated legal principles to delimit boundaries and decide on the relative strength of disputed claims; principles that derive from customary and treaty-based law and have a general application well beyond individual disputes. The docket of the ICJ has been and continues to be occupied by what Oxman (2006:830) has termed the irresistible 'territorial temptation' both to land claims and to an extended maritime jurisdiction. Indeed, it has been estimated that about one third of the contentious cases before the ICJ have dealt with boundary disputes of one kind or another (Ratner 1996:814).

This chapter is concerned with the legal principles applicable to territorial, as distinct from maritime, boundary delimitations that have evolved from the decisions of international courts and tribunals. While the aim is to search for the core legal principles of international law, it should be admitted at the outset that many boundaries established during the colonial period were drawn by 'a blue pencil and a rule' (Anene 1970:3). As the British Foreign Minister Lord Salisbury was reported to have said in *The Times* on 7 August 1890:

> *We have been engaged… in drawing lines upon maps where no white man's feet have ever trod; we have been giving away mountains and rivers and lakes to each other, but we have only been hindered by the small impediment that we never knew exactly where those mountains and rivers and*

[1] Parts of this chapter build upon and update materials previously published in G. Triggs, *International Law: Contemporary principles and Practices*, (Lexis Nexis Butterworths, 2006) Chapter 5.

> *lakes were.* (Cited by Judge Ajibola, Separate Opinion, *Territorial Dispute* case at 53.)

The imprecision of these early colonial boundaries has led to contemporary disputes that international tribunals have been called upon to resolve on international legal principles, the Iraq-Kuwait conflict being a typical example. Delimitation will usually be 'contextually appropriate' (Reisman 1999:679). This means that, in determining the content of this body of law, tribunals will examine the jurisprudence developed by earlier courts, the treaty and other practices of states and the views of jurists. Tribunals will also apply general principles of law such as equitable concepts of acquiescence and estoppel and will take into account geographical, ethnographical and economic factors. More recently, developed norms such as the right to self-determination and the rights of indigenous peoples also have a contemporary influence on the application of traditional approaches to questions of sovereignty and boundaries.

While the object of this chapter is to identify the normal rules that determine the outcome of territorial boundary disputes, it is recognized that overwhelmingly the allocation of boundaries is achieved through diplomatic negotiations that are subsequently reflected in treaties or in consensus-based state practice (Ratner 1996:813). Of 348 territorial disputes between 1919 and 1995, only 30 were submitted for adjudication (Allee & Huth 2006:219-212). The legal principles that are employed by international tribunals may not therefore determine where states successfully negotiate a frontier for themselves or where mediation has unlocked an impasse over claimed rights. Rather, factors such as history, culture, perceptions of 'rightfulness', prior administrative lines, presence in the area of tribal and language groups, access to natural resources and respective political power may be significantly more influential in facilitating agreement on the final line. For these reasons, this chapter presents a relatively narrow aspect of boundary delimitation; that is, the legal jurisprudence that is part of wider state practice that has been set out in the earlier chapters.

While a dispute about the location of a boundary is, in principle, different from a question as to ownership of title to territory, a determination that sovereignty lies with one state rather than another has necessary consequences for the location of the frontier between them. In practice, disputes almost always arise in the broader context of territorial sovereignty in the region of the claimed boundary. In the *Cameroon v Nigeria* (2002) case, for example, the ICJ was asked to decide not only which state had the better title to territory but also to delimit the boundary in the disputed Bakassi Peninsula. The court delimited the boundary by reference to detailed evidence going to the issue of sovereignty. As the law governing title to territory has implications for the delineation of boundaries, it is therefore important additionally to consider the international rules that govern the acquisition of territorial sovereignty.

The following aspects of international law as they relate to boundary disputes are discussed:

- nature of a boundary,
- principle of *uti possidetis*,
- distinction between delimitation and a demarcation,
- modes of acquisition of territorial sovereignty,
- recognition, acquiescence, estoppel, geographical and political factors,
- inter-temporal law and the critical date,
- right to self-determination, and
- common heritage of mankind.

Since the fundamental principles of international law with respect to boundary delimitation were developed by the PCIJ and arbitral tribunals during the 1930s, there have been significant decisions by the successor to the PCIJ, the ICJ, and other arbitral tribunals, over the last 20 years that provide contemporary examples of judicial practice. Case studies are included of the decisions of the ICJ in *Benin/Niger* (2005) and the Boundary Commission in *Eritrea-Ethiopia* (2002).

1.1 Territorial Boundaries defined

International lawyers have defined territorial boundaries variously, reflecting their approaches to international law. The editors of *Oppenheim* (Jennings & Watts, 9th ed, 1992:661) define a territorial boundary of a state as 'the imaginary lines on the surface of the earth which separate the territory of one State from that of another, or from unappropriated territory, or from the Open Sea'. McCorquodale and Pangalangan (2001:867) agree that territorial boundaries are 'imaginary constructs' and argue that they reflect nineteenth century concepts of international law that no longer respond to contemporary standards of human rights and self determination. Allott (1990:329) sees a future in which sovereignty over territory will disappear altogether, liberating international society 'to contemplate the possibility of delegating powers of governance not solely by reference to an area of the earth's surface'.

Taking a functional approach, Brownlie (1979:3) focuses upon the 'essential quality' of a boundary that he defines as 'an alignment, a *line* described in words in a treaty, and/or shown on a map or chart, and/or marked on the ground by physical indicators'.

Imaginary lines they may be, but a territorial boundary has concrete effect. Historically its function has been defensive, in settling the boundary across which foreign interlopers move at their peril. For most contemporary purposes, a territorial boundary has the effect of recognizing the sovereign competence of the states concerned. In this sense, the alignment becomes an allocation (Brownlie, 1979:3). The Chamber of the ICJ in the *Burkina Faso/Mali* case of 1986 (para 17, p. 563) noted the purported distinction between 'delimitation disputes' and 'disputes as to attribution of territory' but argued that

> *in the great majority of cases… the distinction outlined… is not so much a difference in kind but rather a difference of degree as to the way the operation in question is carried out. The effect of any delimitation, no matter how small the disputed areas crossed by the line, is an apportionment of the areas of land lying on either side of the line… Moreover, the effect of any judicial decision rendered either in a dispute as to attribution of territory or in a delimitation dispute, is necessarily to establish a frontier.*

The boundary of a state thus defines the territorial framework within which its sovereignty may be exercised exclusively. The state with territorial jurisdiction has the power to legislate upon all aspects of the lives of its citizens and residents. As the Permanent Court of Arbitration has put it in the *North Atlantic Fisheries* case (p. 180), 'one of the essential elements of sovereignty is that it is to be exercised within territorial limits, and that, failing proof to the contrary, the territory is co-terminus with the Sovereignty.'

While sovereignty may, and is increasingly, also exercised extraterritorially, the validity of any exercise of jurisdiction beyond the limits of the state will depend on what those limits are defined to be.

1.2 Boundaries: negotiated, mediated and litigated

For the most part, territorial boundaries have been settled by routine diplomatic negotiations. The 'tea and macaroons' approach to drawing boundaries is vividly described by Harold Nicholson in his book *Peacemaking 1919* (1933, cited in McCorquodale & Pangalangan 2001:869), when he observes the Versailles Conference after the First World War on 8 May 1919:

> *During the afternoon [at the Quay d'Orsay]… the fate of the Austro-Hungarian Empire is finally settled. Hungary is partitioned by these five distinguished gentlemen – indolently, irresponsibly partitioned – while the water sprinkles on the lilac outside – while the experts watch anxiously – while AJB, in the intervals of dialectics on secondary matter, relapses into somnolence – while Lansing draws hobgoblins on his writing pad – while Pichon, crouching in his large chair, blinks owlishly as decision after decision is actually recorded… They begin with Transylvania, and after some insults flung like tennis balls between Tardieu and Lansing, Hungary loses her south. Then Czechoslovakia, and while the flies drone in and out of the open windows Hungary loses her north and east… Then the Jugo-Slav frontier, where the Committee's report is adopted without change. Then tea and macaroons.*

That the boundaries thereby agreed should prove to be both unstable and imprecise over the following 90 years is hardly surprising if this accurately describes the process. Once agreed, however, the terms of settlement will usually be reflected in a formal treaty between the respective territorial sovereigns. For this

reason, boundaries, and sovereignty in the surrounding areas, will often depend upon interpretation of the terms of the treaty which forms the basis of title for the state parties.

1.3 Submission of disputes to international tribunals

Disputes over territorial sovereignty and over the precise location of a boundary are a common feature of international affairs. States will usually resolve such disputes through diplomacy at a bilateral or multilateral level. On occasion, they may resort to third party negotiations or to mediation. The Good Offices of the United Nations Secretary-General may be offered or states may agree, by special agreement or *compromis*, to the appointment of an *ad hoc* court of arbitration. Where states have accepted the jurisdiction of the ICJ, it is also possible to submit the dispute to that Court for determination according to international law. Territorial and boundary disputes, particularly with respect to maritime delineation, have dominated the work of the Court throughout its history and have been the vehicle for the articulation of much of the Court's jurisprudence to the significant benefit of general international law.

1.4 Compliance with decisions of international tribunals

It is commonplace to observe that many decisions of international courts and tribunal are ignored by the 'losing' state. The position is more encouraging in relation to territorial and boundary disputes. Of 21 Latin American boundary disputes since 1888, ten were complied with (Ratner 1996:816). Since 1987, only three of the five boundary disputes have been complied with. Nigeria was, for example, persuaded to leave the Bakassi Peninsular only after UN diplomatic efforts, four years after the decision by the ICJ in 2002 in the *Cameroon v Nigeria* case.

An example of the limitations upon a rule of law approach to boundary disputes is the decision of the Boundary Commission set up after the war between Eritrea and Ethiopia from 1998-2000, with the estimated deaths of 70,000. Both states have refused to accept the Commission's decision of 13 April 2002. Modern technology has, however, provided a way forward in this apparently intractable dispute. Image processing and terrain modeling enabled the Commission to identify the boundary points despite the absence of state cooperation in the field in the usual pillar site assessment (see maps 5.1 and 5.2). Despite the scientific assistance, political acceptance of these boundary points has not yet been given by Ethiopia, although Eritrea has recently agreed to them. Anticipating a continuing failure to agree, the Commission had stated in its decision that the 'boundary will automatically stand as demarcated by the boundary points listed . . . and that the

mandate of the Commission can then be regarded as fulfilled' (Commission statement of 27 November 2006: para 22). In taking this approach, the Commission relied upon a resolution of the Security Council (No. 687 of 1991) establishing the Iraq-Kuwait Boundary Demarcation Commission with the power to identify the boundary as the 'final demarcation'. While the Commission has thus done all it might conceivably have done to determine the final boundary, its work has failed to achieve the primary objective of settling the dispute. As the deadline for compliance has now passed, fears have risen that the dispute will escalate to armed conflict between Ethiopia and Eritrea, demonstrating the limits of the rule of law in achieving peace where profound differences exist over unresolved boundaries. It remains to be seen whether the Boundary Commission will insist upon its 'final demarcation' or, more likely, encourage further negotiations.

If it is accepted that most territorial and boundary disputes are resolved through negotiation and that up to fifty percent of those few that are submitted to judicial or arbitral determination are not fully complied with, it might reasonably be asked whether international law has any significant role to play. In fact, as Ratner points out (1996:822), states continue to attempt to meet the traditional legal modes, particularly effective occupation, in order to shore up their disputed claims, often to isolated islands with promising indications of petroleum resources. It is also notable that prior legal decisions and treaties may have an influence in containing the scope of territorial and boundary disputes.

2. *UTI POSSIDETIS*

Of fundamental importance to the determination of territorial boundaries in the twentieth century has been the principle of international law that, in respect of post-colonial territorial disputes, the succeeding state is bound to respect the frontiers established by the prior colonial administration. Known as the principle of *uti possidetis* – 'as you possess, you shall continue to possess' – the obligation to accept existing territorial boundaries has evolved in the interests of peaceful transition on independence and has been applied in Asia, Africa and Latin America. Allen (2006:738-739) describes its Roman origins as follows:

> *Under Roman* jus gentium, *the praetorian interdict* uti possidetis *was an interim ruling concerned with the actual possession of land prior to* vindicatio *proceedings. It was transposed into early international law as a mechanism for the attribution of territory actually possessed by States on the cessation of hostilities. But it was not until the Spanish withdrawal from Central and South America in the 19th century that the principle became associated with the process of decolonization. In this context, the departing colonial power had not occupied many of its territories effectively. Consequently, in order to protect the new States from being acquired by other colonial*

> *powers through the doctrine of* terra nullius, *a 'kind of Monroe doctrine' was devised, which established the territorial parameters of the new States in law rather than in fact. To this end the genitive* 'juris' *indicated constructive or fictional as opposed to effective occupation.…*
>
> *Although, in many parts of Africa, the process of decolonization was conducted through* uti possidetis juris, *the difficult relationship between legal titles and colonial* effectivitiés *demonstrates that the principle maintains an abeyant connection to the notion of effective occupation, which re-emerges in cases where the evidence of legal title remains inconclusive. Moreover, the task of determining the* uti possidetis *line is largely a factual exercise.*

The international jurisprudence supports this analysis as tribunals have required very little by way of evidence in respect of contested sovereignty claims to isolated islands and territories. Almost invariably, the theoretical position tends to give way to the practical examination of such factual evidence, or *effectivités*, as exist.

Support for the principle of *uti possidetis* was first implied in article 3(3) of the 1963 *Charter of the Organization of African Unity*, in which members pledged 'respect for the sovereignty and territorial integrity of each state and for its inalienable right to independent existence.' Subsequently recognised by Resolution 16(1) of the OAU Conference of Heads of State and Government at Cairo in 1964, the concept of *uti possidetis* was later adopted by the successor African Union as one of its core principles. More recently, *uti possidetis* has been applied beyond the colonial context to new states emerging from the former USSR and former Yugoslavia.

In the *Frontier Dispute (Burkina Faso/Mali)* (1986) case the ICJ found that the principle of *uti possidetis* was a general concept of international law and, more recently, in 2007, the Court applied the principle in the *Territorial and Maritime Dispute (Nicaragua v Honduras)* case. The ICJ has, nonetheless, been prompted to consider its contemporary application, wondering how this 'time-hallowed principle has been able to withstand the new approaches to international law' (*Frontier Dispute* p. 566; Triggs 2006:238). The Court also observed (p. 567) that:

> *At first sight this principle conflicts outright with another one, the right of peoples to self-determination. In fact, however, the maintenance of the territorial status quo in Africa is often seen as the wisest course, to preserve what has been achieved by peoples who have struggled for their independence, and to avoid a disruption which would deprive the continent of the gains achieved by much sacrifice. The essential requirement of stability in order to survive, to develop and gradually to consolidate their independence in all fields, has induced African States judiciously to consent to the respecting of colonial frontiers, and to take account of it in the interpretation of the principle of self-determination of peoples.*

The overriding importance of the need for stability in international relations has been confirmed in recent jurisprudence of international tribunals to the effect that *uti possidetis* cannot be 'ousted' by the principle of self-determination. This is so even though the ICJ in the 1995 *East Timor* case recognised the *erga omnes* character of self-determination. Controversially, the European Community Arbitration Commission on Yugoslavia (Badinter Commission) has also applied *uti possidetis* beyond the colonial context in relation to the right of the Serbian population of Croatia and Bosnia-Herzegovina to self-determination. The Commission concluded in Opinion No. 2 that 'the right to self-determination must not involve changes to existing frontiers at the time of independence (*uti possidetis juris*) except where the States concerned agree otherwise' (at 168). In Opinion No 3 (at 171) the Commission confirmed its earlier view that:

> *Except where otherwise agreed, the former boundaries become frontiers protected by international law. This conclusion follows from the principles of respect for the territorial status quo and, in particular, from the principle of* uti possidetis*. Uti possidetis, though initially applied in settling decolonization issues in America and Africa, is today recognized as a general principle.*

The Badinter Commission appears to have concluded that only a strict application of *uti possidetis* could prevent the attacks by one part of the former Yugoslavia upon another. United though the ICJ and EC Commission have been in considering that the principle of *uti possidetis* prevails over that of self-determination, they have recognized that the rights of the peoples involved remain protected by the 'peremptory…norms of international law [that] require respect for minorities' (Opinion No. 2 at 168). Of contemporary concern, for example, are the rights of the Dniestrians in the Republic of Moldavia and Armenians in Nagorno-Karabakh. It is doubtful, however, that the rights of minorities yet amount to a peremptory norm at customary international law. However, they will be protected by international instruments such as the 1966 International Covenant on Civil and Political Rights and the European Community Guidelines on the Recognition of New States in Eastern Europe and the Soviet Union of 1991 (Marston 1991:559).

Commentators have been critical of the overly simplistic 'default' rule of *uti possidetis* that, in effect, mandates the conversion of administrative boundaries into international borders (Ratner 1996:590). While the rationale for the rule-predictability, avoidance of conflict over unclear borders and simplicity – is oft repeated, an automatic application of *uti possidetis* can potentially encourage separatist movements, compound historical injustices and deny human rights such as the right to self-determination and the rights of minorities. While the retention of colonial boundaries may be justified on pragmatic grounds, to apply *uti possidetis* to contemporary issues such as the dissolution of the former Yugoslavia can have the effect of blocking attempts to redefine boundaries to respond to the needs and wishes of local peoples and prevent the recurrence of age old injustices. The wisdom of the Badinter Commission's adoption of *uti possidetis* to determine the internal borders may thus be doubted.

When applying the *uti possidetis* principle in the context of treaties establishing the boundary between two states, tribunals have looked at the 'photograph of the territory' at the moment of independence. The principle thus determines the date, known as the critical date, at which the factual evidence is to be assessed (*Frontier Dispute* case, p. 568). The ICJ has not however confined analysis of the *uti possidetis* principle to the application of title from the relevant treaties. Rather, the Court has applied the principle to all evidence that pertains to determining which claimant has the better title, including acts of effective occupation and acquiescence.

The *uti possidetis* principle has some limitations in resolving boundary disputes. It will not necessarily identify the precise location of the frontier. Formal title at the time of independence, for example, may not be sufficient. The Chamber of the ICJ in the *Land, Island and Maritime Frontier Dispute* case in 1992 observed that the boundaries could not accurately be determined on the basis of colonial titles and *effectivités* in 1821. Rather, the Chamber looked to other evidence of effective occupation and control such as the absence of protest and implications of acquiescence by El Salvador and Honduras. Moreover, 'post-colonial *effectivitiés*' were considered as relevant evidence. The relationship between *effectivités* and the principle of *uti possidetis* is considered in further detail below.

The following case study of the *Frontier Dispute case (Burkina Faso/Mali*) illustrates the application of the legal principles.

Frontier Dispute (Burkina Faso/Mali)

ICJ Reports 1986, 554.

The origins of the frontier dispute between Burkina Faso (formerly Upper Volta) and Mali (formerly French Sudan) lay in French colonial decrees prior to their independence in 1960. By 1922, France had created three colonies of Upper Volta, French Sudan and Niger. By a French presidential decree of 5 September 1932, Upper Volta was divided between French Sudan and Niger. Upper Volta was, however, recreated in 1947 on the basis that the boundaries were to be those that had existed prior to the division in 1932. While Mali and Burkina Faso were able to agree on the demarcation of most of the boundary between them, part of the frontier remained in dispute. A Mediation Commission, established in 1975, failed to reach a final solution. Mali and Burkina Faso then agreed, by Special Agreement of 16 September 1983, to submit the dispute to a five-member Chamber of the ICJ. The Chamber was asked to delimit the frontier 'based in particular on respect for the principle of the intangibility of frontiers inherited from colonization' (para 19, p. 564).

Armed conflict broke out in December 1986 and the Chamber indicated provisional measures, calling on the states not to extend the dispute or prejudice the rights of the other state and to withdraw their armed forces to lines to be

determined by agreement between the parties within 20 days of the order of the Court (*Frontier Dispute*, provisional measures: 12).

In its subsequent judgment, the Chamber clarified and developed the jurisprudence with respect to several aspects of international law including the principle of *uti possidetis*, the evidentiary status of the 'colonial heritage', the legal effect of a unilateral declaration by a Head of State and the status of maps and French colonial Orders.

- While acknowledging the development of *uti possidetis* in Spanish American law, the Chamber stressed (at para 20, p. 565) that the 'principle is not a special rule which pertains solely to one specific system of international law. It is a general principle, which is logically connected with the phenomenon of the obtaining of independence, whenever it occurs. Its obvious purpose is to prevent the independence and stability of new States being endangered by fratricidal struggles provoked by the challenging of frontiers following the withdrawal of the administering power'. The principle is, in short, 'the application in Africa of a rule of general scope' (para 21, p. 565) and one that 'has kept its place among the most important legal principles' (para 26, p. 567).
- The Chamber considered that the effect of the principle is to 'freeze' title as in a 'photograph' of the territory at the moment of independence (para 30, p. 568).
- The role of French colonial legislation, *droit d'outre-mer*, was not a source of title but evidence indicative of the territorial boundaries at the critical date.
- The Chamber considered that it would apply equitable principles as a method of interpretation of the law in force but could not modify the application of the *uti possidetis* rule even though this might lead to unsatisfactory results in ethnic, geographic and administrative terms.

3. Delimitation and Demarcation

International tribunals such as the *Argentine/Chile Award* of 1966 (*38 International Law Reports*), and commentators such as Brownlie (1979:4) and Shaw (1986:260), have long recognised a practical distinction between delimitation of boundaries and their demarcation. While a court will delimit the boundary by using coordinates and lines on a map or chart, the task of demarking the exact boundary is one that will typically be given to a boundary commission or mixed commission which adopts relatively permanent geographical elements, such as stones, beacons, pillars, mountains, rivers, roads and watersheds to describe the exact line.

Unusually, in the *Eritrea-Ethiopia* case, the parties agreed to give the delimitation Commission the additional mandate to achieve a final and binding 'expeditious demarcation' as a second phase of its work. (Art 4 (13) of the December Agreement.) As Shaw (2007:786) points out, this 'interesting experiment' in combining the tasks of delimitation and demarcation was stymied by the lack of cooperation between the parties between 2002 and 2006 when the Commission ended its work. Over that time, the Commission issued various Demarcation Directions and Instructions in an attempt to complete its work in the face of unilateral troop and population movements across the delimited line. The Commission took the strict view that it did not have the power to vary the delimitation line as determined in the earlier stage of its deliberations, concluding that if the boundary 'runs through and divides a town or village, the line may be varied only on the basis of an express request agreed between and made by both Parties' (Demarcation Directions of 8 July 2002, para 14A). Moreover, Ethiopia and Eritrea had expressly agreed to deny the Commission any right to decide matters *ex aequo et bono.* The Commission thus had no power to vary the boundary to reflect local human needs. It concluded (Observations of the Eritrea-Ethiopia Boundary Commission, 21 March 2003, para 8) that

> *a demarcator must demarcate the boundary as it has been laid down in the delimitation instrument, but with a limited margin of appreciation enabling it to take account of any flexibility in the terms of the delimitation itself or of the scale and accuracy of maps used in the delimitation process, and to avoid establishing a boundary which is manifestly impracticable.*

The President of the Commission, responding to Ethiopia's criticism of the Commission's demarcation, defended the implementation of the treaty-based boundary, observing that:

> *Where villages have sprung up or spread in recent times, and in so doing transgress boundaries previously established by older treaties, it is fully consistent with international law for the treaty-based boundary to be maintained and for the resolution of any consequential human problems to be left for the Parties to resolve by agreement… [T]hat result is precisely what the ICJ decided, in comparable circumstances, in its recent Judgment in the* Cameroon v. Nigeria *case.* (President's letter of 7 October 2003, para 10)

While the approach taken by the Commission and supported by dicta of the ICJ seems overly restricted by the earlier delimitation, some sympathy for the magnitude of the task is indicated where local populations move across the delimited lines, possibly in an attempt to influence the final demarcation. Some flexibility was nonetheless adopted by the Commission in the *Eritrea-Ethiopia* case where the line as delimited proved to be 'manifestly impracticable'. Here, demarcations were to be issued at a later date to respond to this and other practical difficulties.

As the situation in the *Eritrea-Ethiopia* case was *sui generis*, it remains to be seen whether the dual experiment of delimitation and demarcation will be repeated and whether other such commissions will allow a wider margin of appreciation in future demarcations. On balance, the arguments for separating the functions of delimitation and demarcation between two distinct tribunals seem stronger. A separate commission for demarcation will be less subject to pressure to modify the final, binding delimitation line. Rather, the second commission may secure a mandate to adjust to any unexpected local, human and geographical circumstances. A clear separation of functions may ensure the integrity and finality of the delimitation and, in turn, facilitate the demarcation process.

4. Acquisition of Territorial Sovereignty

It has been observed that the delineation of boundaries is, in practice, necessarily an outcome of the determination of territorial sovereignty. For this reason, it is useful to examine the legal principles governing the means by which a state can acquire sovereignty. These principles lie at the core of traditional international law for they determine the framework within which the power of the state is exercised. (Triggs 2006:210) Title to territory is fundamental to the idea of state sovereignty and the extent of title to territory typically defines the jurisdictional reach of the state.

The principles of acquisition were developed during the period of colonial expansion from the sixteenth century and broadly reflect the needs of the nineteenth century colonial powers for order and stability. Today, most of the earth's territory has been claimed and is recognized as subject to state sovereignty. Exceptions, beyond Antarctica, are few. Contemporary disputes generally concern apparently insignificant islands or territories that have strategic value or the promise of natural renewable and non-renewable resources. Unresolved territorial disputes include the Spratly Islands in the South China Seas, claimed in total or in part by five nations, and the Matthew and Hunter Islands claimed by Vanuatu and France. Of those submitted to international adjudication, the ICJ has began its deliberations in the dispute between Singapore and Malaysia in the *Sovereignty over Pedra Branca/Pulau Batu Puteh, Middle Rocks and South Ledge* case in November 2007. Of note is the fact that this is a rare example of recourse to the ICJ by a state from the Asian region.

International legal authorities typically identify five modes of acquiring territorial sovereignty, which may in theory be presented as distinct means of acquisition. They are:

- occupation of *terra nullius*, that is, territory that is owned by no one,
- prescription, by which title is gained by possession adverse to the abstract titleholder,

- cession, or transfer by treaty, which is the dominant means by which territorial boundaries are agreed,
- accretion, where a gradual deposit of soil changes the contours of the land, and
- conquest.

These means of acquisition provide a convenient, though simplistic and misleading, framework for understanding the process by which international law recognizes title to territory. Rather, international courts and tribunals have been reluctant to place their decisions within the 'neat classifications prepared for them by the text writers' (Johnson 1951:348). In practice, courts and tribunals have tended to ignore the traditional roots of title or have relied upon two or more overlapping modes of acquisition, thereby confounding subsequent attempts to fit an award of title into any theoretical category. Moreover, article 2(4) of the United Nations Charter, prohibiting the 'threat or use of force against the territorial integrity or political independence of any State', means that it is no longer possible for a state to acquire territory by conquest.

Despite the unsystematic practices of tribunals when determining territorial disputes, the jurisprudence relating to territorial boundaries cannot be understood without considering the underlying principles of territorial acquisition. To the contrary, however, the ICJ in the *North Sea Continental Shelf* cases (map 5.5) distinguished questions of title from those relating to boundaries by observing (para 46, p. 32) that title to territory, or to appurtenant rights in the continental shelf, 'in no way governs the precise delimitation of its boundaries, any more than uncertainty as to boundaries can affect territorial rights'. While both points are true, a boundary established by treaty or award constitutes a confirmation of title to territory that, in the absence of protest, becomes binding on all states. In practice, delimitation of a boundary is a vital means of confirming or denying disputed claims to sovereignty. In turn, as is amply demonstrated by the international judicial decisions, boundary delimitations frequently depend upon determination of the relative strength of territorial claims in the vicinity of the disputed boundary.

While the traditional modes of acquiring territory are examined below, some general observations might be made about the international legal process when determining boundary and territorial disputes. International courts and tribunals are primarily concerned with the application of the law to complex facts rather than with abstract notions of title. Judges will consider a bewildering range of legal and equitable doctrines – the roles of recognition, acquiescence and estoppel – along with evidence that does not go strictly to the formal root of title. Tribunals have, for example, taken into account the role of discovery, concepts of hinterland and contiguity and the doctrine of inchoate title when determining the relative strength of competing claims to sovereignty. Each of these factors will be examined by reference to the case law.

4.1 Relativity of title

It is trite to observe that where there are two rival claimants to territorial sovereignty, an international tribunal in an adversarial proceeding will make a decision in favor of one or the other of them (Triggs 2006:214). Less often observed is that a judgment determines only which of these states has the stronger or better title, the practical effect of which is to confer title *erga omnes.* In principle, determination by a tribunal that title rests with one state rather than another cannot foreclose the rights of a third state. It would always be open to any other state to contest the outcome of an adversarial proceeding. Moreover, in the *Frontier Dispute* case between Burkina Faso and Mali (map 5.6), the ICJ pointed out that its delineation of a land boundary would not be opposable to Niger, a neighboring state, because no decision of that court has binding force other than between the parties (para 50, p. 580, citing article 59 of the ICJ Statute).

An award or decision of an international tribunal cannot, for these reasons, be a formal means of acquiring title. In practice, however, it is true that no state has contested a title to territory that has been recognized by a tribunal in this way. Thus the victorious state emerges from an international adversarial determination with the full trappings of absolute sovereignty. In the *Minquiers and Ecrehos* case, for example, the ICJ equated possession over the islands in dispute in the English Channel with sovereignty and considered that its task was 'to appraise the relative strength of the opposing claims to sovereignty' (p. 67). As this case illustrates, many of the classic decisions on sovereignty have concerned apparently obscure islands, miles from the claimants, where a more compelling conclusion might have been that neither claimant satisfactorily established sovereignty and that the territory remained *terra nullius.* The readiness of international tribunals to 'discover' title may be explained by the terms of the '*compromis*' or agreement between the disputing states by which the jurisdiction of the court was accepted and the need to promote finality, stability and effectiveness in international relations (Triggs 2006:215).

4.2 Doctrine of effective occupation

Mere discovery of territory, evidenced only by physical disembarkation or visual apprehension is not, and probably never has been, a sufficient basis for title to *terra nullius*. As Grotius reasoned, the act of discovery is sufficient to give a clear title of sovereignty only when it is accompanied by actual possession (Triggs 2006:216). The same view was put by Judge Huber in the *Island of Palmas* case where he held that discovery alone, without any subsequent act, cannot suffice to prove sovereignty (p. 846). Throughout the period of colonial expansion between the sixteenth and nineteenth centuries, states did not adhere to any one doctrine of territorial acquisition and title was justified on grounds

ranging from elaborate religious ceremonies to the Bulls of Pope Alexander VI in 1493 and 1494 demarking the respective spheres of influence of Portugal and Spain. In practice, states found it necessary to substantiate their claims to title by actual settlement and administration, coupled with at least the presumption of a right to exclude others by force if necessary.

By the end of the 19th century, state practice was to recognize that only by establishing an effective presence could a state protect its newly asserted territorial claims. It was with this intention that the European states agreed at the African Conference of Berlin in 1885 to exercise effective control in the territories over which they claimed sovereignty:

> *The signatory powers… recognise the obligation to ensure the establishment of authority in regions occupied by them on the coast of the African continent, sufficient to protect existing rights, and, as the case may be, freedom of trade and of transit.*

This agreement, while originally confined to the African continent, was made universally applicable by the Convention of St Germain in 1919. States thereafter accepted the obligation to notify the other state parties of their claims and to maintain a level of authority sufficient to protect acquired rights and freedoms. The notion of effective occupation was thus a response to the need to strengthen the juridical basis of territorial sovereignty (Triggs 2006:216).

International tribunals have only infrequently had occasion either to examine the classical doctrine of territorial acquisition or to give precision to the notion of effective occupation (Triggs 2006:216). In the leading cases, including the *Island of Palmas* case, the *Clipperton Island* case and the *Eastern Greenland* case, the territory in dispute concerned remote, relatively inhospitable and apparently unimportant lands or islands. The isolated nature of the territory in dispute explains why these tribunals have moved away from the 19th century emphasis on settlement and close physical possession to the manifestation and exercise of the functions of government. Hersch Lauterpacht commented upon the requirement of effective occupation and concluded that it has only a 'bare existence' ('Sovereignty over Submarine Areas', 1950 (27) Brit.YBIL:416). He argued that:

> *in modern international judicial practice the borderline between the attenuated conditions of effectiveness of occupation and the total relinquishment of the requirement of effectivités has become shadowy to the point of obliteration.* (1950:416)

While arbitral and state practice reflect the need for certainty and the aim of discouraging adventurism in the event that a vacuum in title were to be created, the early decisions support Lauterpacht's view that the notion of effective occupation has become attenuated. As Lord Mansfield understood, the common law protects possessory interests; otherwise, there would be 'a sort of warfare perpetually

subsisting between the adventurers' (Quoted in *Fennings v Lord Grenville* (1808) 1 Taunt [Taunton's Reports] 241 at 248.) While tribunal decisions in the 1930s justified Lauterpacht's view formed in 1950, today, tribunals deciding competing claims to sovereignty and delimiting boundaries rely heavily on factual evidence of settlement – described as the *effectivités*. Tribunals will examine the *effectivités* in minute detail, depending upon the availability of relevant evidence.

While more recent decisions by international tribunals have returned the emphasis to acts of effective occupation, the older cases remain important as the jurisprudence they developed almost always underpins the reasoning of contemporary decisions. Each of the following cases provides an example of the complexity of facts and law that will influence the final outcome.

Island of Palmas case

The jurisprudence that has been build upon the *Island of Palmas* decision has proved to be largely uncontroversial, is oft-cited and demonstrates how little was required to meet the flexible and comparative standard for title to be recognized (Triggs 2006:217) The views of Judge Huber, the sole arbitrator, on effective occupation have been accorded an almost oracular importance and remain persuasive authority. The factual background to the legal dispute between the US and the Netherlands arose in 1906 with respect to sovereignty over an isolated island located between the Philippines and Indonesia. Palmas Island had been ceded to the US by Spain under the Treaty of Paris in 1889. The US's claim was thus derivative from the earlier Spanish title based upon original discovery and subsequent control over the island. The Netherlands argued, to the contrary, that it had established a prior title through treaties negotiated on its behalf by the Dutch East India Company with the princes and chieftains of the island. These conflicting claims were submitted to the arbitration by Special Agreement requiring the arbitrator to find in favor of one claimant or the other and thereby to 'terminate' the dispute.

Judge Huber avoided the language of 'effective occupation', finding that (p. 840):

> *Manifestations of territorial sovereignty assume, it is true, different forms, according to conditions of time and place. Although continuous in principle, sovereignty cannot be exercised in fact at every moment on every point of territory. The intermittence and discontinuity compatible with the maintenance of the right necessarily differ according as inhabited or uninhabited regions are involved.…*
>
> *[T]he actual, continuous and peaceful display of State functions is in case of dispute the sound and natural criterium of territorial sovereignty.*

Having set out the legal principles, Judge Huber then examined the historical evidence of sovereignty prior to the date of Spain's purported cession. He found

that although the island was isolated, it was permanently inhabited so that it was 'impossible that acts of administration could be lacking for very long periods' (p. 855). On the evidence there was no trace of Spanish activities, but the Netherlands had demonstrated a peaceful and continuous display of authority over the island such that it was a 'vassal State' of the Netherlands (p. 867). Over the next five years or so prior to the Treaty of Paris, the Dutch authorities had taxed the local people and distributed the Dutch coat of arms and flags on the island. Judge Huber considered that sovereignty could be founded on such scant evidence in the 'epoch immediately preceding the rise of the dispute' (p. 870). In concluding that the Netherlands could demonstrate the better title, Judge Huber emphasized that no state had contested the existence or protested against the exercise of territorial rights by the Netherlands. Moreover, there were no acts of sovereignty by another state to counter-balance the weight of the manifestations of sovereignty by the Netherlands. In these circumstances the 'unchallenged acts of peaceful display of Netherlands sovereignty in the period from 1700 to 1906 . . . may be regarded as sufficiently proving the existence of Netherlands sovereignty' (pp. 870-871).

The *Island of Palmas* case illustrates each of the elements that have proved typical of determinations of title by subsequent international tribunals. Title was awarded over an island which, although populated, required relatively nominal acts of sovereignty; the territory in issue was isolated and little known; relevant evidence of sovereign functions was that close to the time of the dispute; the absence of protest by other states or of any contrary evidence was influential; and the arbitrator recognised that his task was to assess the relative strengths of the titles invoked by each state. While it was reasonable for Judge Huber to conclude that manifestations of sovereignty could vary depending upon the nature of the territory and the needs of its people, the *Island of Palmas* case rested on such slight evidence as to suggest that neither state had properly established sovereignty. Judge Huber appeared to concede this point when he suggested that limited acts of state authority on behalf of the Netherlands could create an 'inchoate title for completing the conditions of sovereignty' (p. 870).

Clipperton Island case

Those tribunal determinations of territorial disputes that followed the *Island of Palmas* case were similarly based on slender evidence of state activities (Triggs 2006:218). In the *Clipperton Island* case, France successfully claimed sovereignty to a virtually uninhabited Pacific island off the coast of Mexico. The island had been discovered by Lt Victor Kerguelen in 1858 when, although unable to land, he made geographical notes about it and formally declared the island to be the territory of the Emperor Napoleon III. The declaration was duly reported in a Honolulu journal, *The Polynesian*, some months later. Apart from granting a guano concession to some citizens of the US, France carried out no further activities in relation to Clipperton Island. A dispute arose nearly 30 years

later when a Mexican gun-boat visited the Island, sparking a diplomatic row in which Mexico claimed sovereignty based on prior Spanish discovery. The sole arbitrator, King Emmanuel III of Italy, found (pp. 393-394):

> *It is beyond doubt that by immemorial usage having the force of law, besides the* animus occupandi, *the actual, and not the nominal, taking of possession is a necessary condition of occupation. This taking of possession consists in the act, or series of acts, by which the occupying state reduces to its possession the territory in question and takes steps to exercise exclusive authority there. Strictly speaking, and in ordinary cases, that only takes place when the state establishes in the territory itself an organization capable of making its law respected. But this step is… but a means of procedure to the taking of possession, and, therefore, is not identical with the latter.… Thus, if a territory, by virtue of the fact that it was completely uninhabited, is, from the first moment when the occupying state makes its appearance there, at the absolute and undisputed disposition of that state, from that moment the taking of possession must be considered as accomplished, and the occupation is thereby completed.*

Recognizing that the island was *terra nullius*, the arbitrator found that France had effectively occupied the island and did not have the animus to abandon it. France, therefore, rather than Mexico, had the better title. The decision demonstrates the minimal evidence required to satisfy the test of effective occupation of isolated and uninhabited islands in an adversarial proceeding and is best understood as reflecting the particular facts of the dispute.

Eastern Greenland case

The PCIJ considered the territorial dispute between Denmark and Norway in the *Eastern Greenland* case, and substantially adopted the analysis of the arbitrators in the *Island of Palmas* and *Clipperton Island* cases (Triggs 2006:219). A dispute arose in 1931 when Norway issued a Royal Resolution placing part of the east coast of Greenland under Norwegian sovereignty, naming it after the fabled Eric the Red. Two days later, Denmark made an application to the court claiming sovereignty overall of Greenland founded on continuous and peaceful occupation, uncontested by any other state. Norway conceded Denmark's claim to its colonies in ice-free pockets on the west, south-east and south-west coasts of Greenland but asserted that the rest of Greenland was *terra nullius*. The long history of Norwegian activities in Greenland, beginning with its colonization in 1000 AD by Eric the Red, demonstrates that its interests were limited to fishing and hunting. These interests could, for practical reasons, be protected at international law only by making the more radical claim for sovereignty over areas not settled by Denmark. As in the *Palmas Island* and *Clipperton Island* cases, the PCIJ was required to determine which of the competing states had the better title. This, the court agreed to do, probably to avoid a scramble to settle the interior

of Greenland were the decision restricted to a finding of an inchoate title only. The following observations were critical to its finding (pp. 45-46):

> *[A] claim to sovereignty based not upon some particular act or title such as a treaty of cession but merely upon continued display of authority, involves two elements each of which must be shown to exist: the intention and will to act as sovereign and some actual exercise or display of such authority.…*
>
> *It is impossible to read the records of the decisions in cases as to territorial sovereignty without observing that in many cases the tribunal has been satisfied with very little in the way of the actual exercise of sovereign rights, provided that the other State could not make out a superior claim. This is particularly true in the case of claims to sovereignty over areas in thinly populated or unsettled countries.*

In the absence of a competing claim, and given the inaccessible character of the uncolonised parts of the country, the court concluded that Denmark could establish the better claim at the time of the Treaty of Kiel in 1814 when Greenland was retained by Denmark. The court stressed that Denmark's intent and will to act as sovereign had been demonstrated in the years from 1915 leading up to 1931, by promulgating administrative, hunting and fishing regulations and by mounting scientific, mapping and exploratory expeditions. The court was not daunted by the limited extent of Danish coastal settlements in Eastern Greenland and ignored long periods during which no such settlement existed at all. As in the *Island of Palmas* case, the court was influenced by the lack of competing acts by any other claimant state.

On any objective analysis, Denmark had not established even minimal possession over the whole of Greenland. Moreover, Denmark did not purport to have exercised administrative control over it. Rather, the court was concerned to ensure that title be recognized in the state that was able to show the more comprehensive acts of occupation.

4.3 Intent and will to act as sovereign

The PCIJ in the *Eastern Greenland* case identified two essential elements of territorial sovereignty: the intent and will to act as a sovereign and the actual exercise of such authority. It is questionable whether there is any significant difference between these two limbs of the test of effective occupation (Triggs 2006: 221). If the *animus occupandi* is a subjective criterion, it ultimately depends for evidence upon objective manifestations of state authority. The requirement of intent does have a function, however, insofar as it emphasizes the need to demonstrate that the activities have been undertaken on behalf of the state rather than as private acts, that is, the acts must have taken place *à titre de souverain.* Private persons do not have the capacity at international law to appropriate

territory unless they have been given a mandate to do so by their sovereign. In the *Pulau Ligitan and Pulau Sipadan (Indonesia/Malaysia) (Merits)* case (see map 5.4), for example, the ICJ emphasized that private acts are not *effectivités* for the purpose of a claim to sovereignty.

It was usual for research and commercial expeditions to be given a mandate by the state to claim any territory discovered in the course of the journey. Typical of such proclamations of sovereignty was that recorded by Professor Edgeworth David, while on a British Antarctic expedition on 17 October 1908, in what was to become the Australian Antarctic Territory:

> *Mackay and I fixed up the flagpole. We then bared our heads and hoisted the Union Jack at 3.30 pm with the words uttered by myself, in conformity with Lieutenant Shackleton's instructions, 'I hereby take possession of this area now containing the Magnetic Pole for the British Empire'. At the same time I fired the trigger of the camera by pulling the string… Then we gave three cheers for His Majesty the King.* (E.H. Shackleton, *The Heart of the Antarctic* (1909), v. 2, 180-1)

In such cases, the subjective intent to act as sovereign is satisfied as the act is performed *à titre de souverain*. By contrast, the ICJ in the *Anglo-Norwegian Fisheries* case was not satisfied that fishing by Norwegian fisherman in waters outside the generally recognized limits of maritime territory was necessarily undertaken with a mandate to support a claim to sovereignty. It is possible, however, for a state subsequently to ratify the acts of its citizens as acts undertaken on behalf of the Crown and authorative in the name of the sovereign. The curious case of the acquisition of Sarawak by Sir James Brook in 1841 establishing an independent state provides an example of a later adoption by the UK of the territory as a protectorate, and subsequently as a Crown colony (Jennings and Watts, 1996:678)

4.4 Activities must be referable to sovereignty

The subjective element of intent also requires that the evidence is referable to the hypothesis that sovereignty exists (Triggs 2006:222). The exercise of criminal jurisdiction, for example, is usually exercised on a territorial basis and might reasonably be construed as an indication of the intent to act as sovereign. By contrast, the hydrographic surveys were rejected by the ICJ in the *Minquiers and Ecrehos* case because they did not necessarily demonstrate an assertion of sovereignty (pp. 70–71). The court similarly rejected evidence that a French citizen had built a house on one of the contested islands and evidence of tidal power plants in the area as insufficient evidence of intent (ibid.). By contrast, a powerful indication of the intent to act as sovereign is the enactment of legislation applicable to the disputed territory. The promulgation and enforcement of Norway's

baselines from which the territorial sea was measured in the *Anglo-Norwegian Fisheries* case was both a manifestation of sovereignty and an act to which third states might object. Municipal legislation will not, however, be conclusive of the validity of the sovereign acts; that will be a question for international law. Rather, such legislation meets the requirement that the legislating state intends to act as sovereign in the territory.

The enactment of legislation does not, however, have any absolute value when determining which of two claimants has the better title. The inability of Norway to adduce evidence of many activities referable to its intent to act as sovereign in Eastern Greenland had the effect of tilting the balance in favor of Denmark's legislation in relation to the territory. The same is true of other evidence by the contending states. The fewer the activities by one state, the greater is the weight to be accorded to those of the other.

4.5 Manifestations of state authority: *effectivités*

The enactment of legislation will provide evidence of the intent and will to act as a sovereign, but the actual exercise of state authority must also be demonstrated by acts of administration and the execution of government functions (Triggs 2006:222). Statutory powers must also be exercised if they are to be more than a bolster for a paper claim. In an example of state practice, Japan protested to Korea about their disputed claims to Takashima, arguing that:

> *Under international law, the most decisive factor in determining whether or not a certain area is an inherent territory of a certain state from the olden times is how effectively the State concerned has controlled and managed the area in question* (S. Oda and H. Owada, *The Practice of Japan in International Law: 1961-70* (1982) 69).

The kinds of evidence that satisfy this second limb of the Huber test are virtually infinite and it is by no means clear why international tribunals have favoured some acts above others. Examples of acts that have proved weighty in determinations are asserting criminal jurisdiction, maintaining a registry of fishing boats, constructing mooring facilities, signal posts and lighthouses, promulgating hunting and fishing licenses, commissioning magistrates, establishing a meteorological station, granting a grazing licence and taxation.

Such manifestations of state authority have little value in themselves as the relevant consideration will be how the acts of one state are balanced with those of another. Indeed, some acts such as the placing of beacons and the installation of a light boar were relevant in the *Grisbådarna* case and rejected in the *Minquiers and Ecrehos* case (pp. 69-70).

The range of legally relevant state activities is illustrated in the *Rann of Kutch* case ((1968) 17 RIAA 1). Pakistan claimed title to the Rann, an area with both

land and river features, as successor to the state of Sind. The president of the tribunal, Judge Lagergren, stated that evidence of the functions of government in the areas was limited to:

> *the imposition of customs duties and taxes on land, livestock and agricultural procedure in the fiscal sphere, and to the maintenance of peace and order by police and civil and criminal courts and other law enforcement agencies in the general public sphere* (1968:554).

The tribunal found that the registration of births, deaths and epidemics in Sind 'comes as close to effective peaceful possession and display of Sind authority as may be expected in the circumstances'. It was significant to the final conclusion that Pakistan had made out the better title in sectors where activity was continuous and intensive and that there had been 'no effective opposition from the Kutch side' (1968:569). The emphasis is upon all the circumstances of the competing claim, rather than upon any objective value to be attached to the particular facts to determine 'in whom the conglomerate of sovereign functions has exclusively or predominantly vested' (1968:568).

It is unlikely that it is a necessary condition of territorial sovereignty that a claimant must full fill the duty of protection of the rights of other states and their nationals, as suggested by Judge Huber. It is, however, probable that the more effective a state proves to be in protecting these rights, the more convincing is its claim to effective control. In summary, the cases demonstrate that state activities have a relative rather than absolute value and the weight accorded to them depends upon the strengths of the counter-balancing evidence advanced by the opposing state. Furthermore, state activities will be accorded probative weight only if they have been undertaken by and on behalf of a sovereign and are clearly referable to the exercise of sovereign functions.

Case study

Benin/Niger
International Court of Justice
Judgment of 12 July 2005

The West African Republics of Benin and Niger disputed their extensive common border from the time of their independence from France in 1960. When it became clear that efforts by a joint commission to settle the frontier would not be fruitful, Benin and Niger asked the Chamber of the ICJ, by special agreement of 15 June 2001, to delimit the whole of the boundary (see map 5.3). Article 6 of the Special Agreement provided that the applicable law included 'the principle of State succession to the boundaries inherited from colonization, that is to say, the intangibility of those boundaries'.

The Chamber interpreted this to mean that delimitation was to be based upon *uti possidetis*, in the sense that the principle 'freezes title to territory' at the moment of independence. This case demonstrates the need for detailed marshalling of the minutiae of regulatory and administrative acts and the complex relationship between the principle of *uti possidetis* and the facts. As is typical of such disputes, in delimiting the border, the Chamber was also required to attribute territorial sovereignty to significant tracts of land and offshore islands.

In giving practical effect to the principle of *uti possidetis*, the Chamber confirmed that French colonial law (*droit d'outre-mer*), was one of several factual elements of the 'colonial heritage' which becomes the 'photograph of the territory' at the critical date. As Allen (2006:732-733) points out, there is an important distinction between colonial legal titles and those that have been internationally recognized in that there is no obligation to observe colonial laws where they have been drafted to deal with issues that are significantly different from those that are relevant at international law.

Consistently with the terms of the Special Agreement, the Chamber decided to delimit the boundary to the east, thereby determining sovereignty to the disputed islands in the River Niger, before establishing the western boundary. The Chamber adopted the period between the respective dates of independence of Benin and Niger, that is, between 1 and 3 August 1960, as the critical period within which to apply the *uti possidetis* principle. The Chamber also adopted the hierarchy laid down by the ICJ in the 1986 *Frontier Dispute* case between Burkina Faso and Mali (para 23), holding that legal title prevails over *effectivités*. On this analysis, the Chamber categorised the dispute as one in which the *effectivités* did not co-exist with legal title and thus they ought to be considered when applying the *uti possidetis* principle. For this reason, the Chamber first examined the regulative and administrative documents and secondly considered the acts of effective occupation identified by both parties.

As an exercise in interpretation, the Chamber found that the '*arrêté*' of 23 July 1900 of the Governor-General did not determine the boundary, that the course of the River Niger established the inter-colonial boundary and that this boundary was not necessarily to be found in the watercourse. As these somewhat general conclusions were not sufficient to locate the exact boundary, the Chamber turned to the colonial *effectivités*, including evidence of administration. While the Chamber noted the international law rule that acts of effective occupation can have no necessary international legal import in the absence of the 'intent and will to act as sovereign', it found that this rule has no application to colonial acts as distinct from state ones. This aspect of the decision was fatal to Benin's argument that Niger's *effectivités* could have no legal effect unless it could demonstrate that it had the requisite intention to act in a sovereign capacity. In so deciding, the Chamber applied the distinction adopted earlier by the ICJ Chamber in the *Frontier Dispute* case and Judge

Torres Bernárdez in the *Land, Island and Maritime Dispute* case. Allen argues (2006:736) that the distinction between colonial and state *effectivités* for the purposes of the rule requiring sovereign intent is valid on the ground that *uti possidetis* is a principle of international law that is determined retrospectively 'by reference to the colonial heritage bequeathed by a single colonial power'. However, while colonial acts were not always performed with the intent to act as sovereign, most do, in fact, meet this criterion for title.

The Chamber also adopted the flexible view that acts subsequent to the critical period could be relevant in determining the boundary on independence. On this ground it accepted the value of an independent study made in 1970 that established the main navigable channel or thalweg. This channel, it concluded, formed the international boundary, supported by evidence of day-to-day administration. Adopting the rule that territorial sovereignty extends in international law to the superjacent airspace, the Chamber was also able to reach the sensible view that it could determine the boundary on two bridges by extending a vertical line from the watercourse boundary to the structures.

The Chamber examined a number of administrative documents and '*arrêtés*' promulgated by the Governor-General and the Governors of Dahomey and Niger when determining the course of the Western Boundary. Confirmed by maps and the absence of protest against these instruments, the Chamber concluded that the 1907 inter-colonial boundary established by the river Mekrou had been validly established by competent authorities throughout 1926 and 1953. As the Joint Benin-Niger Boundary Delimitation Committee was not able to plot the coordinates of the Mekrou as the river was too shallow to navigate, the Chamber nominated the median line as the boundary (para 144, p. 150).

4.6 Effective Occupation of *Terra Nullius*

In each of the determinations of title and boundaries considered thus far, the international tribunal has weighed the evidence in order to determine which of the competing states had the superior claim. A quite different opportunity to consider the principles of territorial acquisition arose when the ICJ was asked for an Advisory Opinion in the *Western Sahara* case. This time, the ICJ was not constrained by any *compromis* to find that the better claim to sovereignty lay with one state or another (Triggs 2006:228). Rather, the court was open to introduce fresh thinking about legal interests in territory that was to prove influential with national courts in the future.

Western Sahara had been colonized by Spain in 1884 and is rich in phosphates and fishing resources. In 1966 the General Assembly invited Spain, in consultation with its neighbors Mauritania and Morocco, to hold a referendum to enable the peoples of Western Sahara to exercise their right to self-determination. A

referendum took place under UN supervision in 1975, by which time Morocco and Mauritania made overlapping claims to the area based on 'historic' title. The court was asked by the General Assembly to consider two novel questions:

1. Was Western Sahara (Rio de Oro and Sakiet El Hamra) at the time of colonization by Spain a territory belonging to no one (*terra nullius*)?
2. What were the legal ties between this territory and the Kingdom of Morocco and the Mauritanian entity?

In response to the first question, the court departed from the usual application of the principles of acquisition of *terra nullius*. The court found that when it was colonized Western Sahara was inhabited by nomadic peoples who were socially and politically organized in tribes, with chiefs competent to represent them. This, coupled with the fact that Spain took the area under its protection on the basis of agreements entered into with these chiefs, justified the conclusion that Western Sahara was not *terra nullius* at the time it was colonized. The court observed (para 80, p. 39) that:

> *the State practice of the relevant period [1884] indicates that territories inhabited by tribes or peoples having a social and political organization were not regarded as* terrae nullius. *It shows that in the case of such territories the acquisition of sovereignty was not generally considered as effected unilaterally through 'occupation' of* terra nullius *by original title but through agreements concluded with local rulers… [S]uch agreements with local rulers, whether or not considered as an actual 'cession' of the territory, were regarded as derivative roots of title, and not original titles obtained by occupation of* terrae nullius.

Turning to the second question, the court considered the nature of 'legal ties' by reference to the Huber test of the 'intention and will to act as sovereign, and some actual exercise or display of such authority' (para 92, p. 43). When assessing the legal effect of the evidence, the court made it clear that it would be necessary to demonstrate some level of administrative control over tribes that were in 'constant movement and where armed incidents between these tribes were frequent' (ibid.). In striking contrast with earlier adversarial determinations, the court observed the paucity of evidence of an unambiguous display of authority in Western Sahara, concluding that the evidence was unsubstantiated and insufficient to demonstrate effective control. While the court found evidence of certain legal ties of personal allegiance between the Sultan and some of the nomadic peoples, this could not warrant a finding of political authority connoting sovereignty.

The *Western Sahara* case suggests that, where a tribunal is not required to balance competing interests, it is able to examine asserted rights in disputed territory by recognizing the complex nature of relationships with the land. This is the first case in which an international tribunal was not required to award title to any state, reflecting the nature of the questions posed by the General Assembly.

The ICJ recognized, also for the first time, that where there are tribal groups in the territory, any title to it cannot be founded in occupation of *terra nullius*. Of contemporary importance to the Court was that any claim to sovereignty over territory was subject to the customary law principle of self-determination. The ICJ has subsequently confirmed the status of self-determination in the *East Timor* case as a right *erga omnes*. But, as has been seen, the principle of self-determination has not given way to the apparently overriding principle of *uti possidetis.*

Summary

Consideration of the acquisition of territorial sovereignty by effective occupation, and the decisions from which the legal principles have been derived, is warranted in the context of identifying territorial boundaries. This is because the two issues, determination of exclusive sovereignty and boundaries, are intertwined. The boundary cannot be identified without assessing the validity of respective claims to the territory on either side. For this reason, underlying most claims to boundaries is evidence of settlement and occupation of the surrounding territory in support of one state claim against another. The international tribunals charged with determining boundaries have shown considerable fortitude in assessing the typically extensive evidence of effective occupation and in reaching reasoned views as to which of the claimants has the better title. Once this question has been resolved, the tribunal can embark on the more technical task of delimiting the exact boundary.

4.7 Acquisition by prescription

International law recognizes that title to territory may be acquired by 'prescription' as a means by which doubtful possession may be legitimized (Triggs 2006: 229). Recognition of prescriptive title reflects the high value placed on stability and leaving unchanged those practices that have existed for a long time. Indeed, it was implicit in the *Western Sahara* case that, as the territory could not be *terra nullius*, a possible title could lie with Morocco and Mauritania on the historical evidence.

Most juristic writers agree that title by prescription is recognized at international law, although there is doubt as to its status as a separate basis for title, as distinct from a form of acquiescence. Hall (1917:120) defines prescriptive title as arising

> *out of a long-continued possession, where no original source of proprietary right can be shown to exist, or where possession in the first instance being wrongful, the legitimate proprietor has neglected to assert his right, or has been unable to do so.*

Acquisitive possession is described by Johnson (1950:353) as arising where the state

> *has, in fact, exercised its authority in a continuous, uninterrupted, and peaceful manner over the area concerned for a sufficient period of time, provided that all other interested and affected states… have acquiesced in this exercise of authority. Such acquiescence is implied in cases where the interested and affected states have failed within a reasonable time to refer the matter to the appropriate international organisation or international tribunal or… have failed to manifest their opposition in a sufficiently positive manner through the instrumentality of diplomatic protests. The length of time required for the establishment of a prescriptive title on the one hand, and the extent of the action required to prevent the establishment of a prescriptive title on the other hand, are invariably matters of fact to be decided by the international tribunal before which the matter is eventually brought for adjudication.*

As Johnson makes clear, prescriptive title depends upon the peaceful exercise of authority and acquiescence, express or implied, by those third states that might be affected. Each claim to prescriptive title will depend upon its circumstances and no general rules can be discerned as to its precise content. Unusually, in the *British Guiana v Venezuela Boundary Arbitration* the parties agreed that any adverse holding over 50 years would make a good title. In the *Frontier Land (Burkino Fasa/Mali)* case, the *Palmas Island* case and the *Rights of Passage* case, the respective tribunals examined extensive historical evidence on the assumption that title may be lost by non-assertion of rights and acquiescence and gained where peaceful acts of authority take place over a sufficient period of time. The ICJ in the *Rights of Passage* case saw 'no reason why long continued practice between two States accepted by them as regulating their relations should not form the basis of mutual rights and obligations between the two States (p. 39)'. In this case, the court recognized that Portugal had established a right of passage through Indian territory in respect of private transit, as a right of passage was necessary to exercise sovereignty over its enclaves in the Indian subcontinent.

Acquiescence and protest are crucial elements of prescriptive title. In the *Chamizal Arbitration,* the United States claimed title by peaceful and uninterrupted possession to the ground created when the Rio Grande River changed course. The International Boundary Commission dismissed the claim to prescriptive title as follows (p. 806):

> *the political control exercised by the local and federal governments, have been constantly challenged and questioned by the Republic of Mexico, through its accredited diplomatic agents.… [From 1867] until the negotiation of the Convention of 1884, a considerable amount of diplomatic correspondence is devoted to this very question, and the Convention of 1884 was an endeavor to fix the rights of the two nations with respect to the changes brought about by the action of the waters of the Rio Grande.*

> *The very existence of that convention precludes the United States from acquiring by prescription against the terms of their title and… the two republics have ever since the signing of that convention treated it as the source of all their rights.*

Another characteristic of possession serving as a foundation for prescription is that it should be peaceable (p. 807):

> *however much the Mexicans may have desired to take physical possession of the district, the result of any attempt to do so would have provoked scenes of violence and the Republic of Mexico can not be blamed for resorting to the milder forms of protest contained in its diplomatic correspondence.*

Resorting to force is not, it seems, required to prevent a prescriptive title succeeding against a state. Moreover, a state is not necessarily bound to seek judicial determination of a territorial or boundary dispute. As Brownlie (1990:157) put it, '[i]f acquiescence is the crux of the matter (and it is believed that it is) one cannot dictate what its content is to be.' While it is true that resolution of each dispute will turn on its facts, for a state to ignore appropriate dispute resolution procedures is evidence to be weighed in the balance, especially in light of the creation of new tribunals over the last decade. As the Foreign Affairs Committee of the House of Commons recognized in its report of 1985, the fact that neither the United Kingdom nor Argentina sought to refer their dispute over the Falklands islands to the ICJ or any other form of legal arbitration 'almost certainly is evidence… of doubts about the solidarity of their respective legal claims' (cited by Triggs 2006:231). In the more recent dispute over the resources of the Timor Gap, Australia has withdrawn all maritime disputes from the ICJ or the International Tribunal for the Law of the Sea (ITLOS) and East Timor has made no attempt to bring the issue to any international tribunal. While boundaries between neighbors are ideally agreed through negotiations, a failure to seek readily available international adjudication where negotiations are unsuccessful may be evidence of a failure to pursue a claim rigorously.

Historical Consolidation

The possibility of acquiring territorial sovereignty through prescription should be distinguished from the idea that historical consolidation, through peaceful possession and administration, might prevail over a valid title. The ICJ in the *Frontier Dispute (Burkina Faso/Mali)* case has categorically rejected the argument that acts demonstrating effective occupation can oust a pre-existing title.[2] In the *Anglo-Norwegian Fisheries* case, the ICJ had been asked to consider the effect of maritime delimitation decrees promulgated by Norway nearly 100 years

[2] (1986) ICJ Reps. at para 64.

earlier, after which they were implemented without protest. The decrees were considered by the court to represent a 'well-defined and uniform system… which would reap the benefit of general toleration, the basis of an historical consolidation which would make it enforceable as against all States' (p. 138).

In stark contrast to the *Anglo Norwegian Fisheries* case, the ICJ, some fifty years later in *Cameroon v Nigeria* (ICJ Reps. 2002), showed little tolerance for the concept of historical consolidation. Cameroon had argued that, as the holder of a conventional title to the disputed areas, it need not demonstrate the effective exercise of sovereignty because a valid title prevails over *effectivités* which might have indicated title lies with another state. The ICJ agreed, noting without further analysis, that historical consolidation 'has never been used as a basis of title in other territorial disputes, whether in its own or in other case law' (para 65). The Court found that:

> *the theory of historical consolidation is highly controversial and cannot replace the established modes of acquisition of title under international law, which take into account many other important variables of fact and law. It further observes that nothing in the* Fisheries *Judgment suggests that the 'historical consolidation' referred to, in connection with the external boundaries of the territorial sea, allows land occupation to prevail over an established treaty title. Moreover, the facts and circumstances put forward by Nigeria with respect to the Lake Chad villages concern a period of some 20 years, which is in any event far too short, even according to the theory relied on by it.* (para 65)

This recent finding of the ICJ confirms that territory subject to a valid title may not be acquired by *effectivités* over a period of time, unless the holder of that title consents to ceding it to another state or has acquiesced to a transfer. On examination of the evidence, the Court concluded that Cameroon had attempted to carry out administrative functions in the disputed areas and protested against Nigerian presumptions. Cameroon had not, therefore, acquiesced in abandonment of its title in favor of Nigeria. Citing its earlier decision in the *Frontier Dispute (Burkina Faso/ Mali)* case, the ICJ found that, where the *effectivités* adduced by Nigeria did not correspond to the law, 'preference should be given to the holder of the title' (para 68). Where, however, the *effectivités* do not co-exist with a legal title, it should be taken into consideration. On this ground, the Court concluded that, as Cameroon held the legal title to the territory under the relevant instruments, its conduct was pertinent only in respect of 'whether it acquiesced in the establishment of a change in treaty title, which cannot be wholly precluded as a possibility in law' (para 68). The evidence suggested that Cameroon had undertaken some administrative activities in the area and had protested when Nigeria clamed sovereignty over Darak, expressing 'its profound shock at the presumption'. The Court thus concluded that the situation was one in which the *effectivités* adduced by Nigeria did not correspond to the law, so that preference should be given to Cameroon's claim (para 70).

The decision in *Cameroon v Nigeria* thus conforms to the principle that a valid title takes precedence, unless the territorial state has acquiesced. The case thereby underscores the central role of acquiescence in the practical application of international law.

The importance of pre-existing title was also confirmed by the ICJ in *Benin/Niger* when the Chamber cited with approval the earlier view of the Court in *Burkina Faso v Mali, (566)* that recognized the 'preeminence accorded to legal title over effective possession as a basis for sovereignty'. This preeminence has created an evidentiary hierarchy, so that the Chamber considered first the regulative and administrative instruments before the various *effectivités* advanced by the Parties. As the regulatory and administrative evidence did not, in the Chamber's view, resolve the precise boundary, it turned to the *effectivités* to identify it. Where there is no such pre-existing title, clearly any relevant *effectivités* will be taken into consideration according to the principles set out in the *Eastern Greenland* case.

A contemporary illustration of the principles and methodology adopted by international tribunals when considering boundary treaties and *effectivités* is the Boundary Commission's findings in the Eritrea-Ethiopia dispute in 2002.

Case study: Eritrea-Ethiopia Boundary Commission

The background to the *Eritrea-Ethiopia Boundary* dispute might conveniently begin with the 1889 Treaty of Uccialli establishing a boundary between the Empire of Ethiopia and Italy's colony in Eritrea (Shaw 2007:756). Ethiopia and Eritrea then signed treaties in 1900, 1902 and 1908 that delineated the boundary between them, but did so incompletely. Following the Second World War, Eritrea came under British control. In 1950, the General Assembly in Resolution 390A declared that Eritrea was an autonomous federal unit within the sovereignty of Ethiopia. On 1 September 1952, Ethiopia declared the earlier boundary treaties null and void and ended the federal status of Eritrea. In May 1998, some five years after the independence of Eritrea on 27 April 1993, conflict erupted between the two states. With the support of the UN and the OAU, an end to hostilities was agreed on 12 December 2000. A vital aspect of the December Agreement was the creation of a Boundary Commission with a mandate to both delimit and demarcate a boundary, the task to be completed within six months of its first meeting at the Hague on 25 March 2001.

The applicable law was agreed to be the three 'pertinent colonial treaties (1900, 1902 and 1908) and applicable international law.' The Commission rightly interpreted this to mean that it could go beyond the rules of interpretation of the boundary treaties to apply the general principles of international law. It recognized that it should examine these treaties before considering whether general international law required any moderation of the prior treaty interpretation (para

3.3). On the basis that the boundary treaties were the 'central feature' of the dispute (para 3.3), the Commission applied Article 31 of the Vienna Convention on the Law of Treaties 1969 to the effect that treaties are to be 'interpreted in good faith, in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose'. Adding something of a gloss to this well recognised principle of interpretation, the Commission considered it as a tool for determining the 'common will' of the states (para 5.16). This common will was to be understood according to the principle of inter-temporal law; that is, the treaty should be interpreted 'by reference to the circumstances prevailing when the treaty was concluded' (para 3.5). When considering the meaning of a geographical name used in a treaty, for example, the test was the 'contemporary understanding of the location to which that name related at the time of the treaty' (para 5.17). In short, if the 'name used is incorrect, then it is the Parties' intentions with respect to the reality on the ground rather than the name that is decisive' (para 4.14).

The Commission concluded that it is:

> *required also to apply those rules of international law applicable generally to the determination of disputed boundaries including, in particular, the rules relating to the effect of the conduct of the parties. In the present case, the conduct of the Parties falls into three broad categories: maps; activity on the ground tending to show the exercise of sovereign authority by the Party engaging in that activity (effectivités); and a range of diplomatic and other similar exchanges and records, including admissions before the Commission, constituting assertions of sovereignty, or acquiescence in or opposition to such assertions, by the other Party* (para 3.15-6).

The Commission took particular account of the December Agreement which referred to the principle of 'respect for the borders existing at independence as stated in resolution AHG/Res. 16 (1) of the OAU Summit in Cairo in 1964'. This provision confirmed the practice of international tribunals of setting the critical date at the time of independence, with the exception, in this case, of the area between Setit and the Mareb which arose earlier in 1935. The importance of the critical date lies in the legal consequence that developments subsequent to it are not to be taken into account unless they confirm or continue the conduct already clearly established (para 3.36).

The Commission adopted customary international law relating to the role of *effectivités*, noting that conduct pursued *à titre de souverain* could, at best, produce only a title relative to that of the competing state. The process of measuring the conduct of the parties against each other, the Commission concluded, might lead to a 'legal result…to vary a boundary established by a treaty'. (para 3.29). (The role of maps in this dispute is considered in detail in chapter 6.) This indeed, was the approach applied by the Commission. On examination of the three relevant treaties, and in light of the problems experienced in interpreting

them, the Commission proceeded to examine the subsequent conduct of the parties to see if any adjustment to the boundaries, otherwise based strictly on interpretation of each treaty, might be warranted. The Commission considered the 'voluminous material detailing the conduct' (para 4.62) of the parties and applied the evidence to each sector of the boundary. The Commission's findings with respect to the Western part of the Belesa project illustrate conclusions that are typical in respect of other sectors of the boundary. In short, the Commission found that the evidence was of 'mixed quality' and did not justify any significant deviation from the boundary already identified by the 1900 Treaty.

The kinds of evidence considered relevant by the Commission in its deliberations included the following:

> …*the administration of polling stations, and the holding of elections and the independence referendum, the appointment and payment of local officials, the conduct of a national census, the structure of local administration, the issue of trading and business licences, the establishment of a customs office at Zalambessa, land distribution and management, the payment of taxes and financial tribute, the administration of justice, law enforcement, the provision of educational facilities, the administration of fuel supplies, the grant of a mineral concession, patrolling by the British Military Administration, the establishment of police posts, the maintenance of a rainfall measuring position and the conduct of border surveys.* (para 4.74)

Such evidences of effective occupation in the disputed sectors, including diplomatic activity and acts implying recognition or acquiescence, were examined in detail by the Commission, enabling it to reach final views on the line of the boundary between Eritrea and Ethiopia with specified reference points. It, nonetheless, remained to create a definitive map of the whole boundary at the next stage when each sector was to be finally demarcated and the exact locations of the boundary markers determined.

Demarcation of boundary through coordinates identified by aerial photography

For many years, neither Ethiopia nor Eritrea chose to cooperate with the Commission's process of placing the pillars marking the line of the Eastern boundary, as required by the Demarcation Directions of 8 July 2002. Nor have they permitted pillar site assessments for the Central and Western Sectors. In some frustration, the Commission decided on 27 November 2006 to adopt the international principle of 'effectiveness' when applying treaties. In light of the failure of demarcation through the fixing of pillars, being the method of first choice, the Commission adopted another approach, using image processing and terrain modeling with high resolution aerial photography to locate boundary points. The boundary points were considered by the Commission to have 'a degree of accuracy that does not differ significantly from' the pillar emplacement process (Statement of 17 November 2006, para 20). These points also have the signal advantage that they provide a

practical way in which the Commission could achieve its mandate to establish a final boundary. If the parties continue to refuse to cooperate, the Commission has decided (ibid., para 22) that the:

> *boundary will automatically stand as demarcated by the boundary points listed in the Annex hereto and that the mandate of the Commission can then be regarded as fulfilled.… Until such time as the boundary is finally demarcated, the Delimitation Decision of 13 April 2002 continues as the only valid legal description of the boundary.*

As Sir Elihu Lauterpacht, President of the Commission, points out, demarcation of a boundary through coordinates using appropriate technology is entirely consistent with international precedent (ibid., paras 23–26). In 1993 the United Nations Secretary-General and the Security Council adopted a list of coordinates in respect of the Iraq-Kuwait border established by the Iraq-Kuwait Boundary Demarcation Commission. Similarly, UNCLOS adopts such coordinates when assessing the maritime claims made by coastal states.

4.8 Cession: title to territory transferred by treaty

A valid title to territory, with accompanying delimitation of boundaries, may be acquired where one sovereign intends to transfer sovereignty over all or part of their territory to another state by treaty (Triggs 2006:245). It is axiomatic that a state can cede no more rights than it has or, as the maxim states, *nemo dat quod non habet*. It was, for example, critical to the validity of the United States' sovereignty in the *Island of Palmas* case that Spain had title to the island when it purported to cede it under the Treaty of Paris in 1898. The United States' sovereignty thus depended in turn upon Spanish title based on the law as it applied in the first half of the sixteenth century. The ICJ also recognized the function of agreements in transferring title to territory that was no longer *terra nullius* in its Advisory Opinion in the *Western Sahara* case (para 80, p. 39). The Court considered that title gained through agreements with local rulers was a derivative title and not an original title acquired by occupation of *terra nullius*.

The ICJ has had a more recent opportunity to consider the principle of *nemo dat quod non habet* in the context of a boundary dispute in its 2002 decision in the *Cameroon v Nigeria* case (paras 201-209). Nigeria argued that Great Britain had no entitlement to cede the disputed territory, the Bakassi Peninsular, to Germany in the Anglo-German Agreement of 1913 under which the modern boundary between Cameroon and Nigeria was fixed. Nigeria claimed that Great Britain had, at best, an obligation of 'protection' in relation to the Kings and Chiefs of Old Calabar, the peoples who lived in the disputed lands. If this territory had been subject to a protectorate under the traditional principles of international law, the purported cession in 1913 would have not been binding on the Kings and Chiefs. The ICJ found that, during the era of the Berlin Conference in 1895, the

European Powers had entered into many territorial and boundary treaties with the local chiefs of the Niger delta. One such agreement was that made in respect of the Bakassi Peninsular by Great Britain under the Treaty of 10 September 1884. The Court decided, however, that the 1884 Treaty was not intended to establish an international protectorate (para 207). Rather, Britain regarded itself as administering the territories, not simply protecting them. No other evidence was adduced to support Nigeria's claim that a protectorate alone had been created. The Court concluded therefore that, under the law as it was in 1884 and in light of the inter-temporal principle, Great Britain became the sovereign power over the Bakassi Peninsular and could, in 1913, validly determine its boundaries with Germany in respect of Nigeria. This decision usefully demonstrates the continuing importance of the fundamental principle that a state must have valid title before it can purport to cede its rights to another state.

The transfer of territory by cession has frequently arisen in the past where the treaty is a form of peace settlement after a war. An example is the Treaty of Paris of 1889 after the Spanish-American war in the *Island of Palmas* case. Similarly, after Spain lost the War of Spanish Succession, it agreed in the Treaty of Utrecht of 1714 to 'yield to the Crown of Great Britain the full and entire propriety of the town and castle of Gibraltar'. In light of article 52 of the Vienna Convention on the Law of Treaties 1969, which provides that a treaty is void if it has been procured by threat or use of force, any treaty of cession would not be valid were it to be obtained by force today. Security of title is preserved for any territory gained by cession which has been gained by the use of force prior to the 1945 UN Charter prohibition on the use of force. Such titles are protected by the principle of inter-temporal law; that is, so long as title is valid at the time it was acquired, it will remain valid.

A treaty will also be employed to transfer title where a colonial or administering power cedes authority to the indigenous or local population. An example arose where the four powers, France, the USSR, the UK and the US, entered into a treaty with the Federal Republic of Germany and the German Democratic Republic to transfer their powers to a united Germany in 1990. In a unique example, the UN Transitional Administration in East Timor (UNTAET) was granted treaty-making powers on behalf of the peoples of East Timor by the UN. On independence, UNTAET transferred these powers by treaty to the new state of Timor Leste. In the Sino-British Joint Declaration of 1984 the UK agreed to transfer to China that part of Hong Kong that China had ceded to it in the middle of the nineteenth century. It is also possible, though rare, for a state to sell its territory to another; a well-known example being the purchase of Alaska from Russia for $7.2 million in 1867.

Boundary Treaties

Boundaries are often, though by no means always, agreed by treaty by or on behalf of states. A boundary treaty is a root of title. International Tribunals have

recognized the vital role such treaties play in ensuring international stability. In *Eritrea v Yemen (Phase One)* the Arbitral Tribunal considered that boundary treaties constitute an objective territorial regime that is valid *erga omnes*, with an independent validity, even if the treaty itself comes to an end (para 153). For this reason, in a dispute over a boundary established by treaty a tribunal will, in the first analysis, be concerned with narrow questions of treaty interpretation rather than wider principles governing the acquisition of territory. The ICJ recognized, for example, in *Cameroon v Nigeria* that the dispute 'is in reality simply a dispute over the interpretation or application of particular provisions of the instruments delimiting that boundary' (para 85, p. 360). In *Cameroon v Nigeria* the Court accepted that its task was not to demarcate the boundary but to specify its course as set out by the instruments of delimitation. The ICJ then embarked on an extensive examination of each relevant treaty, interpreting and applying phrases such as 'source of the river' and 'prominent, pointed peak' to the available geographical evidence. A specific example of the methodology adopted by the Court arose when it was required to interpret the Thompson-Marchand Declaration. Paragraph 18 of this Declaration provides that the boundary is to follow 'the Keraua' river (para 95). In fact, this river splits into two channels, the Court's task being to identify which of them was intended by the states parties to define the boundary. The Court found that Cameroon had provided no evidence in support of its claim that the Keraua River had been diverted by an artificial channel, allegedly constructed by Nigeria. The Court also rejected the cartographic and photographic evidence produced on the ground that it did not confirm the existence of any works to divert the river. Relying instead upon a map showing the boundary to the east of two villages that were recognized to be within Nigerian territory, the Court concluded that the boundary lay in the eastern channel as the accurate location of the boundary.

While treaty interpretation tends to dominate the process of identifying a boundary, where a treaty is ambiguous, an international tribunal will also consider the customary law principles of territorial acquisition. It remains clear, however, as illustrated by the *Frontier Dispute (Burkina Faso/Mali)* case, that acts demonstrating effective occupation of territory cannot prevail over an otherwise valid title, particularly one created by treaty.

Relationship between title, the principle of uti possidetis *and* effectivités

In the *Frontier Dispute (Burkina Faso/ Mali)* case, the ICJ recognized the need to understand the relationship between *effectivités* and the principle of *uti possidetis* by identifying four categories:

1. If the 'act corresponds exactly to law' and acts of effective administrative are additional to *uti possidetis*, the only role for the *effectivités* is to confirm the right that is derived from title (para 63, pp. 586-587).

2. Where the act does not correspond to the law, and the territory is effectively administered by a state other than the one with title, preference will be given to the holder of title (para 63, p. 587).
3. Where the acts do not co-exist with any legal title, they 'must invariably be taken into consideration' (ibid.).
4. Where the legal title is not capable of showing exactly the territory to which it relates, 'the *effectivités* can then play an essential role in showing how the title is interpreted in practice' (ibid.).

Allen (2006:738) rightly observes that the Chamber's analysis of the relationship between title and *effectivités* 'invites reflection upon the concept of title itself'. The Chamber in the *Frontier Dispute* case had recognized that the idea of 'legal title' connotes more than just documentary evidence and that it might more broadly include 'any evidence which may establish the existence of a right, and the actual source of a right' (para 18, p. 564). Allen (2006:738) argues that while colonial acts cannot, in principle, affect the application of the right to title at international law, in practice, they will 'guide' the application of the *uti possidetis* principle. It seems that, 'in ambiguous situations, facts rather than "law" may determine the application of *uti possidetis juris*' (ibid.).

Role of acts subsequent to the date of title

Recognition of the vital relationship between title and *effectivités* does not, however, deny a role for subsequent activities in interpreting any ambiguous terms of a boundary treaty. When delimiting the *Eritrea-Ethiopia* boundary, the Commission accepted that the legal title established by treaty could be adjusted if the subsequent conduct of the parties indicated that they had accepted the change. The ICJ in the *Cameroon v Nigeria* case confirmed that the delimitation agreement could be modified by subsequent state conduct where it was agreed that the Sapeo area lay within Nigerian territory despite the terms of the boundary agreement (para 144).

Taking subsequent state conduct a step further, there is also support for the role of acquiescence in a change in title established by treaty. The ICJ in the *Cameroon v Nigeria* case (para 68) and the *Land, Island and Maritime Frontier Dispute* case (para 80) recognized that acquiescence by one state in modification of title agreed by treaty could not be 'wholly precluded as a possibility in law'.

Cession and terra nullius

The traditional capacity of a state to cede its territory to another state is now subject to the right *erga omnes* of the local inhabitants to self-determination. As the ICJ concluded in the *East Timor* case (para 29, p. 101):

> *Portugal's assertion that the right of peoples to self-determination, as it evolved from the Charter and from United Nations practice, has an* erga omnes *character, is irreproachable. The principle of self-determination*

> *of peoples has been recognized by the United Nations Charter and in the jurisprudence of the Court… it is one of the essential principles of contemporary international law.*

In the past, the asserted principle that no cession of territory would be valid in the absence of provision for an expression of opinion by its inhabitants has been of doubtful credibility, partly because states have accommodated any illegality by recognition. However, the more recent determinations of the ICJ and practices of the UN now confirm the status of the principle in customary law.

The right to self-determination may not, however, necessarily prevent third states from entering into a treaty with a state that has unlawfully gained control of territory to which the principle applies. The ICJ in the *East Timor* case recognized the characterization by the General Assembly of East Timor as a non-self-governing territory and of the right of its people to self-determination by its Resolutions 384 (1975) and 389 (1976). The failure of Indonesia to give effect to the right to self-determination did not persuade the court that Australia was thereby bound to deal only with Portugal as the administering power over the territory. It was noted by the court that, despite Portugal's protests against the conclusion of the Timor Gap Treaty in 1989, the Security Council and General Assembly took no responsive action (para 32, p. 104).

Aside from the question respecting the kinds of act that can validly occur despite a failure to respect the principle of self-determination, it is clear that any attempt to cede territory without giving effect to the principle will be ineffective. To this extent, the law governing territorial sovereignty has been significantly modified.

In practice, most titles to territory have been acquired through some form of cession as distinct from effective occupation of *terra nullius*. Indeed, the decision by Australia's High Court that Australia was not *terra nullius* at the time of colonial settlement has prompted a revision of thinking about the possibility of pre-existing native title. Many treaties transferring territorial sovereignty were negotiated with indigenous rulers of identifiable areas of territory. Judge Huber in the *Island of Palmas* case (p. 859) observed that such a treaty was:

> *not an agreement between equals; it is rather a form of internal organization of a colonial territory, on the basis of autonomy for the natives… [a]nd thus suzerainty over the native State becomes the basis of territorial sovereignty as towards other members of the community of nations.*

The ICJ in the *Western Sahara* case also recognized that agreements concluded with local rulers over tribes or people with a social and political organization 'were regarded as derivative roots of title' (para 80, p. 39). While the court in *Cameroon v Nigeria* noted that this mode of acquisition does not reflect current international law, it applied the principle of inter-temporal law so that the legal consequences of the treaties concluded in the Niger delta in the 1880s would be given effect today.

4.9 Accretion, erosion and avulsion

Changes in territory through accretion, erosion and avulsion are not accurately described as roots of title (Triggs 2006:248). Rather, states acquire any new territory formed through such natural processes by effective occupation and acquiescence. Accretion and erosion, being the gradual addition or reduction of territory, may result in the acquisition or loss of territory depending on whether the respective states are in effective occupation of it or acquiesce in title becoming consolidated.

International law will acknowledge that there has been a change in title to territory if that territory has changed as a result of accretion or avulsion.

- Sovereignty will change in the event of an accretion. For example, if a change in the course of a river is gradual, the boundary, usually at the *thalweg* or middle of the channel, will change with it.
- Sovereignty will remain as it was if the change arises rapidly by an avulsion. Avulsion refers to the violent change in territory through a flood or creation of new islands. Where the change, whatever the cause, is within the territory or maritime zone of a state, international practice assumes title. For example, when a volcano erupted creating a new island in the territorial seas of Japan, the UK Government recognized it as Japanese territory (Shaw 2003:420).

These working rules will, in practice, depend upon the presence of other factors including the relevant treaties, and evidence of occupation and acquiescence. The leading authority on the legal consequences of gradual change is the *Chamizal Arbitration* in 1911. The Rio Grande, as the boundary established by a Treaty of 1848 between the United States and Mexico, slowly changed its course so that by 1911 a 600-acre area, known as the Chamizal Tract, had been formed on the US side of the new river. Both states claimed title and the dispute was submitted for determination by an International Boundary Commission. While finally concluding that the United States held title to that part of the tract resulting from accretion and Mexico held title to that part resulting from a flood in 1864, the Commission applied the terms of the Treaty rather than any general principle of international law.

While these rules on accretion and avulsion can thus be useful tools for resolving a dispute, each boundary dispute will depend upon its particular circumstances.

5. Recognition, Acquiescence and Estoppel

International Tribunals will take into consideration many factors that are not strictly formal roots of title when considering which of the claimant states has

the better title to territory (Triggs 2006:231). In addition to the relative value of evidence and the adoption of a balancing process, tribunals have been concerned to promote international harmony by awarding title to one contender rather than to create a legal vacuum. Significant among such factors are recognition, acquiescence and estoppel, which facilitate an international decision based upon the express or tacit consent or good faith of the states concerned. In particular, recognition and acquiescence provide valuable probative evidence to supplement competing and inconclusive evidence of effective control and government activities in the territory.

5.1 Recognition

Recognition by one state, whether express or implied, that title to territory lies with a state will be evidence of that title. In the *Eastern Greenland* case, Denmark was entitled to rely on treaties between it and other states, other than Norway, to the extent that they constituted evidence of recognition of sovereignty over Greenland. Recognition by the competing state is thus both binding on the recognizing state and powerful evidence of title. Recognition of title will not, however, bind third states, although it will have some evidentiary weight.

The leading international decision on the role of recognition is the boundary dispute in the *Temple of Preah Vihear* case which concerned the frontier between Thailand and that part of French Indo-China that is now Cambodia. The temple had been mistakenly represented on a map of 1908 to lie on the Cambodian side of the frontier, when it had been the intention of the Commission of Delimitation in 1904 that it was to be on the Siamese side. The ICJ found that the Government of Siam had received and accepted the map and that no query was raised challenging its accuracy, despite numerous opportunities to do so. The court was strongly influenced by the acts of Siamese officials (pp. 30-31):

> *much the most significant episode consisted of the visit paid to the Temple in 1930 by Prince Damrong…charged with duties in connection with the National Library and with archaeological monuments. The visit was part of an archaeological tour made by the Prince with the permission of the King of Siam, and it clearly had a quasi-official character. When the Prince arrived at Preah Vihear, he was officially received there by the French Resident for the adjoining Cambodian province, on behalf of the Resident Superior, with the French flag flying. The Prince could not possibly have failed to see the implications of a reception of this character. A clearer affirmation of title on the French Indo-Chinese side can scarcely be imagined. It demanded a reaction. Thailand did nothing.*
>
> …

> *Looking at the incident as a whole, it appears to have amounted to tacit recognition by Siam of the sovereignty of Cambodia (under French Protectorate) over Preah Vihear.*

Such evidence of recognition, albeit tacit, played a significant role in the decision of the ICJ that the disputed boundary left the Temple on the Cambodian side.

5.2 Acquiescence

By comparison with recognition, acquiescence is essentially passive and consists of tacit consent where more active protest might reasonably have been expected (Triggs 2006:231). MacGibbon describes the function of acquiescence as follows:

> *it constitutes a procedure for enabling the seal of legality to be set upon rules which were formerly in process of development and upon rights which were formerly in process of consolidation. The primary purpose of acquiescence is evidential; but its value lies in the fact that it serves as a form of recognition of legality and condonation of illegality and provides a criterion which is both objective and practical.* (The Scope of Acquiescence in International Law, (1954) 31 *Brit YBIL* 143.)

In the *Honduras Borders* case the tribunal awarded title to Guatemala where Honduras failed to protest against public assertions of sovereignty. It observed that the 'intense feeling existing at the time, and the natural jealousy of the new States with respect to their territorial rights, would have caused a prompt reaction. But it does not appear that such a protest was made or that opposing action was taken by Honduras' (p. 1328).

International tribunals have regularly concluded that title in one state has been demonstrated where the competing state has failed to protest. In the *Grisbådarna* case, for example, the tribunal stressed that the payment of considerable sums by Sweden for the stationing of light boats and beacons, in the absence of protest by Norway, indicated acquiescence in Swedish claims to the disputed fishing banks. In the *Island of Palmas* case the ICJ noted the complete lack of contestation or protest against activities by the Netherlands and in the *Minquiers and Ecrehos* cases the court gave weight to the failure by France to protest against the application of British legislation to the islands.

The *Anglo-Norwegian Fisheries* case differs from other precedents in that the baseline system extended maritime jurisdiction into international waters that were *res communis* rather than *res nullius*. In these circumstances, it was essential that the international community as a whole should have impliedly acquiesced in the novel system. The ICJ stressed (p. 139): 'The notoriety of the facts, the general toleration of the international community, Great Britain's position in the North Sea, her own interest in the question, and her prolonged abstention

would in any case warrant Norway's enforcement of her system against the United Kingdom.'

The Court is thus led to conclude that the method of straight lines, established in the Norwegian system, was imposed by the peculiar geography of the Norwegian coast. It found that even before the dispute arose, this method had been consolidated by a constant and sufficiently long practice, in the face of which the attitude of governments bears witness to the fact that they did not consider it to be contrary to international law. In his Dissenting Opinion, Judge McNair observed (p. 162) that:

> *Governments are not prone to understate their claims.… They will usually give air to their grievances by the formulation and dispatch of a protest, the purpose of which is to build up an almost instinctive defense mechanism designed to vitiate any possible interpretation of silence as acquiescence.*

Mere silence can, however, be ambiguous and authorities have been reluctant to treat silence as consent without knowledge of relevant facts (Triggs 2006:232). As Great Britain argued in the *Alaskan Boundary* dispute with the United States, 'you cannot protest against a thing you have never heard of' (Proceedings of the Alaskan Boundary Tribunal, 98 Brit. Foreign and State Papers, (1903) 152). In the *Island of Palmas* case Judge Huber doubted that relevant information would not be available in practice because a 'clandestine exercise of State authority over an inhabited territory during a considerable length of time would seem to be impossible' (p. 868). Not only would it be impossible, it would contradict any assertion of effective occupation. International tribunals have readily imputed knowledge of legislative enactments and the published maps of other states. In the *Temple of Preah Vihear* case the ICJ found (p. 23) that

> *the maps were given wide publicity in all technically interested quarters by being also communicated to the leading geographical societies in important countries, and to other circles regionally interested; to the Siamese legations accredited to the British, German, Russian and United States Governments; and to all the members of the Mixed Commission, French and Siamese.… [I]t is clear that the circumstances were such as called for some reaction, within a reasonable period, on the part of the Siamese authorities, if they wished to disagree with the map or had any serious question to raise in regard to it. They did not do so, either then or for many years, and thereby must be held to have acquiesced.*

The requirement that acquiescence cannot occur in the absence of relevant knowledge raises the question whether, as Judge Huber asked in the *Island of Palmas* case (p. 868), it is a 'condition of legality' that a claimant should notify its pretensions to other states. It is probable that notification is not required at international law, though states have objected when they have not received notification of occupation of territory. Notification may, in practice, be made both to

avoid such objections and as evidence of the intent and will to act as sovereign. When transferring part of its claim to the Antarctic Territory to Australia in 1933, for example, the UK was careful to advise France accordingly.

It will be recalled that Judge Huber considered that 'the continuous and peaceful display of territorial sovereignty (peaceful in relation to other States) is as good as title' (*Island of Palmas* case, p. 839). He has not been taken to have intended that sovereignty cannot be established wherever there is a protest, but rather, he was concerned to consider the effects of a lack of protest. Norway's protests against Denmark's displays of sovereign authority in Greenland did not alter the peaceful character of Denmark's claim to title in the *Eastern Greenland* case. It is also likely that where a state has effectively occupied the territory, the protests of a competing state could at best be a temporary bar to title where the occupying state continues to remain in possession. The implication in the *Anglo-Norwegian Fisheries* case was that, had the UK constantly and unambiguously objected to the Norwegian system of delimitation, the baselines would not have been opposable against it. It is quite another step to argue that protests can prevent a state from acquiring territory that is *terra nullius*. It is thus unlikely that protests could be a permanent bar to acquisition of territory by effective occupation. If, by contrast, the disputed territory is *res communis*, persistent objections from a majority of the international community could prevent consolidation of title.

5.3 Estoppel

While recognition and acquiescence are founded in express or implied consent, the principle of estoppel operates to require a state to maintain a position that does not represent its intentions (Triggs 2006:234). Judge Fitzmaurice observed that estoppel is 'essentially a means of excluding a denial that might be *correct* – irrespective of its correctness. It prevents the assertion of what might in fact be *true*' (*Temple* case, p. 63). A state cannot, it seems, 'blow hot and cold'. Where a state gives express recognition by treaty to the existence of title in the other party to the dispute, as in the *Eastern Greenland* case, it will effectively be estopped from denying title. The ICJ went further in this case by holding Norway was bound by its foreign minister's undertakings not to contest Danish sovereignty over Greenland as a whole.

In the *Temple of Preah Vihear* case, Thailand was, in effect, estopped from denying the validity of the map, though the decision was also based on implied recognition, acquiescence, failure to protest, peaceful occupation, prescription and principles of treaty interpretation. The ICJ stated (at 32) that:

> *Thailand is now precluded by her conduct from asserting that she did not accept [the map of 1908]. She has, for fifty years, enjoyed such benefits as the Treaty of 1904 conferred on her, if only the benefit of a stable frontier. France, and through her Cambodia, relied on Thailand's acceptance of*

> *the map.… It is not now open to Thailand, while continuing to claim and enjoy the benefits of the settlement, to deny that she was ever a consenting party to it.*

The *Temple of Preah Vihear* case is an illustration of the difficulties inherent in isolating bases of title where they are integrated with each other and dependant on particular circumstances. There is little apparent difference between implied recognition, acquiescence and estoppel, so that the inaction or silence of a state may mislead another to its detriment, thereby creating an estoppel.

6. Geographic, Social, Historic, Economic and Cultural Links with the Territory

International tribunals have, along with acts of recognition, acquiescence, estoppel and protest, also given weight to social, geographic, historic, security and cultural links between the claimant and the disputed territory as part of the process of adjustment of competing considerations (Triggs 2006:235). The wishes and welfare of the inhabitants, the regional interest in stability and security, dominant geographic features, and historic ethnic and economic factors have variously played a role in the resolution of territorial disputes. In the *North Atlantic Fisheries* case between the US and Great Britain in 1910, the tribunal (p. 199) found that it could take account of:

> *all the individual circumstances which for any one of the different bays are to be appreciated, the relation of its width to the length of penetration inland, the possibility and the necessity of its being defended by the State in whose territory it is indented; the special value which it has for the industry of the inhabitants of its shores; the distance which it is secluded from the highways of nations on the open sea and other circumstances not possible to enumerate in general.*

While international determinations on delimitation of maritime zones or the continental shelf may differ in important respects from acquisition of territory, they have also emphasised wider considerations than formal roots of title. In the *Anglo-Norwegian Fisheries* case the court gained little from general rules of international law and turned instead to geographic, economic, social and historical criteria when assessing the validity of Norway's baseline system. It deduced three criteria from 'certain basic considerations inherent in the nature of the territorial sea', the third of which was the 'economic interests peculiar to a region, the reality and importance of which are clearly evidenced by long usage' (p. 133). The Court in the *Anglo-French Continental Shelf* case also found (para 194, p. 92) that the principle of natural prolongation is dependant on 'any relevant considerations of law and equity', including the economic value

of natural resources, navigation, defence, security, demographic factors, and the political organisation and legal status of the islands. The Court placed particular weight on the fact that the Channel Islands were 'populous islands of a certain political and economic importance' (para 197, p. 93), that there were 'close ties between the islands and the United Kingdom and the latter's responsibility for their defence and security' (101).

Generally, international tribunals have been cautious in allowing considerations of demography or inequality of natural resources to modify a boundary that is otherwise established on the evidence. In the *Land, Island and Maritime Frontier Dispute* case the Chamber of the ICJ noted El Salvador's evidence that there were demographic pressures on it 'creating a need for territory, as compared with the relatively sparsely populated Honduras' and the 'superior natural resources (e.g., water for agriculture and hydroelectric power) said to be enjoyed by Honduras' (para 58, p. 396). The Chamber stated (ibid.):

> *On the first point, El Salvador apparently does not claim that a frontier deriving from the principle of the* uti possidetis juris *could be adjusted subsequently (except by agreement) on the grounds of unequal population density, and this is clearly right. It will be recalled that the Chamber in the* Frontier Dispute *case emphasized that even equity* infra legem, *a recognized concept of international law, could not be resorted to in order to modify an established frontier inherited from colonization, whatever its deficiencies (see* I.C.J. Reports 1986, *p. 633, para. 149). El Salvador claims that such an inequality existed even before independence, and that its ancient possession of the territories in dispute, 'based on historic titles, is also based on reasons of crucial human necessity'. The Chamber will not lose sight of this dimension of the matter; but it is one without direct legal incidence. For the* uti possidetis juris, *the question is not whether the colonial province needed wide boundaries to accommodate its population, but where those boundaries actually were and post-independence* effectivités, *where relevant, have to be assessed in terms of actual events, not their social origins. As to the argument of inequality of natural resources, the Court, in the case concerning the* Continental Shelf (Tunisia/Libyan Arab Jamahiriya), *took the view that economic considerations of this kind could not be taken into account for the delimitation of the continental shelf areas appertaining to two States…; still less can they be relevant for the determination of a land frontier which came into existence on independence.*

In rejecting the 'human' elements, the tribunal was prepared to take account of topographical features to provide, where the evidence is otherwise ambiguous, an 'identifiable and convenient boundary' (para 101, p. 422). This practical view is consistent with the general aim of ensuring stability of boundaries.

7. CONTEMPORARY INFLUENCES UPON ACQUISITION OF TERRITORY

International law has promoted the stability of international relations through the principle of sovereignty over territory, the norm of *uti possidetis* being a high-water mark of the value of the status quo (Triggs 2006:250). Judge Huber has, nonetheless, observed that rights in relation to territory are subject to evolving principles of international law. Foremost among contemporary ideas has been the development of the right of self-determination by the UN Charter and the 1966 *Declaration on the Granting of Independence to Colonial Countries*. Of comparable magnitude in moderating traditional approaches to territorial acquisition has been the development of the concept of the common heritage of mankind and of rights *in rem* over territory for the benefit of the international community as a whole. As the editors of *Oppenheim* (Jennings & Watts, 9th ed, 1992:716-17, s275) have observed, one of the most important new factors to be considered when balancing evidence of territorial sovereignty is the attitude of the international community expressed through the UN. Security Council Resolution 662, for example, states that the annexation of Kuwait by Iraq 'under any form and whatever pretext has no legal validity, and it is considered null and void'.

7.1. Self-determination of peoples

It has been noted that international law does not permit the cession of territory in the absence of ensuring the local people have had the opportunity to express their wishes. Generally, the views of the peoples affected by a decision concerning territory, including exploitation of offshore petroleum resources, will now be relevant to an international tribunal. Judge Vereshchetin in a Separate Opinion in the *East Timor* case observed (pp. 135, 137-138):

> *Besides Indonesia…there is another 'third party' in this case, whose consent [was not sought]…The 'third party' at issue is the people of East Timor. Since the [majority] Judgment is silent on this matter, one might wrongly conclude that the people, whose right to self-determination lies at the core of the whole case, have no role to play in the proceedings. This is not to suggest that the Court could have placed the States Parties to the case and the people of East Timor on the same level procedurally…This is merely to say that the right of a people to self-determination, by definition, requires that the wishes of the people concerned at least be ascertained and taken into account by the Court…[There is a] necessity for the Court at least to ascertain the views of the East Timorese representatives of various trends of opinion on the subject-matter of the Portuguese Application.*

Recognition of the *erga omnes* character of the right to self-determination has, however, evolved within the structure of traditional international law. The rights to self-determination and to participation in decisions affecting the territory have been constrained by the interpretation that the right must give way to the principle of *uti possidetis*. Another fetter on the right of self-determination is its confinement to peoples within recognised administrative or colonial boundaries. Minority groups and indigenous peoples, outside the colonial context, have not been able to give effect to their right to self-determination by seceding from pre-existing boundaries. Rather, they must seek their rights to internal self-determination within the established framework of the state.

While international law thus proceeds cautiously in the interests of peace and stability, evolving jurisprudence can contribute to the ways in which international and domestic courts consider rights respecting territory. The willingness of the majority in the *East Timor* case to recognise multiple interests in territory may facilitate qualification in the future of exclusive sovereignty in order to protect rights of self-determination. The UN through UNTAET, Portugal as the administering power, Indonesia as the state in effective control over the day-to-day lives of the people with, possibly, the right to conclude treaties on their behalf, and neighbouring states all had a role in relation to East Timor for different functional purposes.

7.2. Indigenous peoples and rights to territory

Indigenous peoples have a special relationship with the land that is increasingly recognized by international law so as to moderate the rights of the territorial sovereign. The Advisory Opinion of the ICJ in the *Western Sahara* case had a powerful influence on national indigenous interests by unlocking the constraints imposed by the concept of *terra nullius*. Outside the context of an adversarial process, the ICJ was free to consider the possibility that the Western Sahara was not *terra nullius* at the time of occupation by Spain and thus was not subject to acquisition under the principles of effective occupation. The Australian High Court in *Mabo v Queensland (No. 2)* adopted the dicta of the ICJ stating (pp. 40, 41-42):

> *The theory of terra nullius has been critically examined in recent times by the International Court of Justice in its* Advisory Opinion on Western Sahara*…If the international law notion that inhabited land may be classified as terra nullius no longer commands general support, the doctrines of the common law which depend on the notion that native peoples may be 'so low in the scale of social organization' that it is 'idle to impute to such people some shadow of the rights known to our law' [*In re Southern Rhodesia *[1919] AC 211 at 233-4] can hardly be retained. If it were permissible in past centuries to keep the common law in step with international law, it is*

> *imperative in today's world that the common law should neither be nor be seen to be frozen in an age of racial discrimination.*

The possibility that the facts may not support the acquisition of *terra nullius* stimulated the High Court to reject the 'fiction by which the rights and interests of indigenous inhabitants in land were treated as non-existent' on the ground that it has been justified by a 'policy which has no place in the contemporary law of this country' (p. 42). Effective occupation of land was not possible where the territory was not *terra nullius*. The court was thus able to conclude that native title could continue to exist in those parts of Australia where no acts of cession or conquest had extinguished such title. In this way, the evolving jurisprudence of the ICJ had an influence on recognizing the native title of ingenious peoples within the legal framework of territorial sovereignty.

Other developments in international law are influencing the rights of indigenous peoples in respect of territory, though for the most part they are *de lege ferenda*; that is, international law is evolving but not yet binding on states. The *Draft Declaration on the Rights of Indigenous Peoples*, for example, seeks to protect, as a form of self-determination, their right to 'autonomy or self-government in matters relating to . . . land and resources management'.

While there has been a growing recognition of the land rights of indigenous peoples and of the right to self-determination, international tribunals have been disinclined to moderate established titles to territory when responding to the contemporary phenomenon of the movement of peoples. In the *Cameroon v Nigeria* case (2002), for example, the ICJ noted the influx of people from Nigeria into the Bakassi Peninsular in 1968 following the civil war, and accepted that as a result of this influx the Nigerian population had significantly increased in the area. The Court stated, nonetheless, that 'these facts of themselves do not establish Nigerian title over Bakassi territory; nor can they serve as an element in a claim for 'historical consolidation' of title' (para 221). This decision serves to underscore the primary value given to titles ceded by treaties that had typically been negotiated by colonial powers in the 19th and 20th centuries. Such titles will be upheld by international tribunals and are not capable of amendment to reflect today's population movements without the consent of the affected sovereign states.

7.3. Common heritage of mankind

The notion that territory and resources beyond the limits of national jurisdiction might be available to all mankind and not subject to unilateral territorial acquisition evolved through the 1960s and 1970s as the international community negotiated legal regimes for the regulation of outer space, the deep seabed and Antarctica (Triggs 2006:252). The concepts of the common heritage of mankind and *res communis* share the same core ideas and import a principle rather than

a set of detailed legal rules. The principle of a common heritage does, however, have certain identifiable characteristics under which territory is subject to communal ownership and control, and is hence *res communis* and not amenable to state sovereign title or rights. The central objectives are to safeguard a common heritage for future generations, to conserve the earth's resources and, not entirely consistently, to share the benefits of the use and exploitation of these resources. The principle of the common heritage has been successfully applied to outer space, the moon and other celestial bodies, and to the deep seabed of the high seas beyond the limits of national jurisdiction. There are also suggestions that the principle will, over time, come to apply to aspects of the environment, such as global climate, or to 'iconic' species of fauna, such as whales.

Of more immediate relevance to consideration of territorial boundaries is the proposal by some states, such as Malaysia, that the concept of common heritage should be applied to Antarctica. The consequence would be to deny the validity of the seven claims currently made to territorial sovereignty in the area south of 60 degrees South latitude. The legal merit of these claims and the legal issues that arise from differing juridical approaches to Antarctic sovereignty are considered in Chapter 14.

8. INTER-TEMPORAL LAW

A function of international law is to preserve a balance between stability in the relations between states and the dynamic growth of the law regulating those relations (Triggs 2006:224). This function is reflected in the doctrine of inter-temporal law which, though not confined in its application to questions of territorial acquisition, has typically been used to resolve competing territorial claims. The notion of inter-temporal law is a species of the general rule against retroactivity and signifies that 'the effect of an act is to be determined by the law of the time when it was done, not by the law of the time when the claim is made.' (Jennings, 1963:28)

Judge Huber applied the doctrine in the *Island of Palmas* case when considering the legal effect of the original Spanish claim to the island based on discovery in the sixteenth century. Judge Huber considered, probably incorrectly, that customary law recognized discovery as a basis of title at the time, but that by the nineteenth century discovery alone could no longer confer valid title. Discovery, he found, must be consolidated by peaceful and effective occupation. The legal task was thus to assess what impact changes in customary law have upon a title originally acquired on a basis that would no longer be recognized as valid. Judge Huber observed that 'a juridical fact must be appreciated in the light of the law contemporary with it, and not of the law in force at the time when a dispute in regard to it arises or falls to be settled' (p. 845).

The claimant states had little difficulty with this proposition. The problem arose with the second limb of Judge Huber's judgment in which he draws a distinction between the creation of rights and the existence of rights. He argued (pp. 845-839):

> *[I]t cannot be sufficient to establish the title by which the territorial sovereignty was validly acquired at a certain moment; it must also be shown that the territorial sovereignty has continued to exist and did exist at the moment which for the decision of the dispute must be considered as critical.…*
>
> *The same principle which subjects the act creative of a right to the law in force at the time the right arises, demands that the existence of the right, in other words its continued manifestation, shall follow the conditions required by the evolution of the law.*

The Huber doctrine of inter-temporal law thus requires satisfaction of two apparently inconsistent elements: acts must be judged according to the law contemporaneous with them and rights validly acquired may be lost if they are not maintained in accordance with evolving international law. Not only is this 'gloss' on the law a departure from the views of other international lawyers at the time, but also, as Jessup (1928:740) points out, the logical conclusion of Huber's extension of inter-temporal law is that '[t]itle insurance would be an impossibility'. Huber's gloss may not be as alarming as juristic writers have suggested. If the international rules differ as between the acquisition of title and maintenance of it, Huber's approach does not necessarily produce an injustice. If a state, on validly acquiring territory, carries out the functions of a sovereign in relation to it, no state could effectively challenge that title. If the state fails to act as sovereign and has abandoned the territory, no injustice is done if another state claims to have acquired title by prescription or acquiescence.

Subsequent international tribunals have adopted the Huber approach to inter-temporal law. In the *Island of Palmas* case, Judger Huber found that the prior Spanish title based on discovery could not prevail over the later acts of effective occupation by the Dutch. The ICJ in the *Minquiers and Ecrehos* case (at p. 57) also found that any original feudal title had lapsed as a consequence of events after 1204 and that title was subsequently acquired in accordance with the developing customary law of effective occupation.

While many cases considering both territorial and boundary disputes under treaties have favoured the first limb of the Huber doctrine, the ICJ applied both limbs in the *Aegean Sea – Continental Shelf* case. In an application to the court by Greece against Turkey regarding delimitation of the continental shelf, the Greek Government argued that the court had jurisdiction under the compulsory procedures established by the General Act of 1928, despite its reservation excluding all 'disputes relating to the territorial status of Greece'. Greece maintained that the reservation could not apply because 'the very idea of the continental shelf was wholly unknown in 1928 when the General Act was concluded' (para 77,

p. 32). The court found (ibid.) that the reservation was of a generic kind and that:

> *Once it is established that the expression 'the territorial status of Greece' was used in Greece's instrument of accession as a generic term denoting any matters comprised within the concept of territorial status under general international law, the presumption necessarily arises that its meaning was intended to follow the evolution of the law and to correspond with the meaning attached to the expression by the law in force at any given time.*

The court concluded on this basis that the rights were to be interpreted for the purposes of the General Act 'in the light of the geographical extent of the Greek State today, not of its extent in 1931' (para 78, p. 33). The reservation was thus interpreted to include disputes relating to the full geographical extent of Greece's rights over the continental shelf in the Aegean Sea. The paradoxical outcome of this analysis was that the court had no jurisdiction over the dispute, even though Greece herself had brought the application and preferred a restrictive approach to its reservation.

Article 31 of the Vienna Convention on the Law of Treaties provides that 'any relevant rules of international law applicable in the relations between the parties' are to be taken into account. The principle of inter-temporal law is one such rule that the courts have continued to apply where relevant.

9. CRITICAL DATE

An important tool for resolving territorial disputes lies in establishing the date at which the dispute has crystallized between competing claims (Triggs 2006:226). The function of the so-called 'critical date' is to determine the legal weight to be given to evidence of sovereignty. A rationale for determining the critical date lies in ensuring that the activities of a state have not been embarked upon with the purpose of improving its legal position through 'contrived manoeuvres'. Where relevant, however, state activities taking place after the critical date may prove useful in confirming or denying claims. Clearly, the date can be no later than the institution of legal proceedings.

The choice of the critical date can be the decisive issue between the states. In *Minquiers and Ecrehos* France argued (p. 58) that she needed only to demonstrate title up to the 1838, the year immediately preceding the date of the Anglo-French Fisheries Convention of 1839. Had the court accepted this as the critical date, the more favourable evidence of British acts of sovereignty after 1839 would have been excluded. The Court (pp. 59-60) avoided establishing a single critical date in the following way:

> *A dispute as to sovereignty over the groups did not arise before the years 1886 and 1888, when France for the first time claimed sovereignty over the Ecrehos and the Minquiers respectively. But in view of the special circumstances of the present case, subsequent acts should also be considered by the Court, unless the measure in question was taken with a view to improving the legal position of the Party concerned. In many respects activity in regard to these groups had developed gradually long before the dispute as to sovereignty arose, and it has since continued without interruption and in a similar manner. In such circumstances there would be no justification for ruling out all events which during this continued development occurred after the years 1886 and 1888 respectively.*

In some cases, establishing the critical date poses few difficulties. In the *Island of Palmas* case, the title of the US depended on whether Spain had sovereignty when she purported to cede the island under the Treaty of Paris in 1898. Judge Huber found that the conclusion and coming into force of the Treaty of Paris was the 'critical moment' where the question of the existence of sovereignty arose. Similarly, in the *Eastern Greenland* case, the dispute crystallised when Norway issued its proclamation of sovereignty on 10 July 1931. It may also be that the terms of reference to the tribunal state the relevant critical date, as in the *Western Sahara* case where the ICJ was asked for its Advisory Opinion by reference to the date of Spain's colonization of the territory.

More complex problems arise where, for example, a state needs to demonstrate that title gained by cession has not subsequently been abandoned. Generally, the critical date can be set when the dispute arises or crystallises between the parties. This may occur where one state asserts that it has gained title by prescription against another with an original but lapsed title, or, as is more likely, where the original sovereign protests. Where both states claim title on longstanding historical grounds, it may be necessary to allow evidence over the whole period, as in the *Minquiers and Ecrehos* case. A dispute of this kind may not crystallize for many years so the critical date should be when the dispute arises, to allow the range of evidence to be considered. The ICJ in this case, while considering the evidence from feudal times, nonetheless placed the primary emphasis on the period at which the dispute arose.

The critical date for assessing any challenge to title in cases of new states succeeding from colonial power would usually be the date of independence, as in the *Frontier Dispute* case. In the *Benin/Niger* case, the Chamber relied heavily on the *Frontier Dispute* case and recognized the principle of *uti possidetis* as 'freezing' title to territory at the moment of independence, thus becoming the critical date for determining the boundaries and, frequently, territorial sovereignty issues.

International tribunals have not, however, always relied upon the date of independence as the critical date. The Chamber of the ICJ in the *Land, Island and Maritime Frontier Dispute* case found that a later critical date may arise either from adjudication or from a boundary treaty where the 'date of the award [had]

become a new and later critical date' (para 67, p. 401). As the General Treaty of Peace of 1980 had established parts of the El Salvador/Honduras boundary, 1980 became the new critical date. The Chamber observed (para 67, p. 401) that if the principle of *uti possidetis* can be qualified by adjudication and by treaty:

> *…the question then arises whether it can be qualified in other ways, for example, by acquiescence or recognition. There seems to be no reason in principle why these factors should not operate, where there is sufficient evidence to show that the parties have in effect clearly accepted a variation, or at least an interpretation, of the* uti possidetis juris *position.*

While a tribunal might reject the date of independence as the relevant date at which to consider evidence of sovereignty, the tribunal might also choose not to establish a critical date at all. The ICJ in the *Frontier Dispute* case and the arbitral tribunal in the *Argentine-Chile Frontier* case considered the concept to be of little or no practical value. Similarly, in *Eritrea v Yemen (Phase One)*, the tribunal decided to examine all the evidence submitted to it, regardless of the date of the sovereign acts.

The critical date is thus no more than a technique by which a tribunal can assess the weight of evidence, thus each case will depend on its particular circumstances. Moreover, *effectivités* occurring after the notional critical date may also be considered as relevant evidence. In the *Land, Island and Maritime Frontier* case the Chamber accepted that the practices of El Salvador and Honduras subsequent to the date of their independence (the critical date) could supplement the *effectivités* to indicate the location of the frontier.

CONCLUSIONS

This chapter has considered the legal principles developed and applied by international tribunals when determining the respective limits of territorial sovereignty of disputing states. The reason for considering these principles at some length is that, while an international tribunal typically has the primary task of identifying the exact location of a boundary, it can do so only once the respective rights to territorial sovereignty on either side of the asserted boundary have been determined. While tribunals defer to the traditional legal modes of territorial acquisition, they also take into account principles of equity and contemporary norms of human rights and self-determination. It is notable, however, that any relevant treaty or other instrument delimiting a boundary is likely to be accorded priority in settling the final delimitation. Acts of effective occupation over time by one claimant state, for example, will not displace an otherwise valid title held by another. Indeed, an examination of the cases indicates that international tribunals have been preoccupied in practice with interpreting the terms of boundary treaties

and applying them to the facts as evidenced by maps, diplomatic correspondence and acts of administration and other governmental functions. While maps have, in particular, been treated by tribunals with considerable caution, as technology and accuracy have improved, they now play an increasingly valuable role in delimitation of boundaries. The following chapter considers the use of maps by international tribunals in boundary disputes.

6. Maps as Evidence of Territorial Frontiers
From colonial sketches to satellite imagery

1. Introduction

Maps and other cartographic materials can provide vital evidence of the intended location of territorial boundaries and they have been the subject of detailed analysis by many international judicial and arbitral tribunals. The arbitrators in the *Beagle Channel Arbitration* appreciated maps as a source of 'great beauty' and gave detailed attention to the over 400 maps produced by Chile and Argentina in support of their claims (para 136). Traditionally, however, international tribunals have been cautious in accepting maps as having any value beyond that of a secondary source of corroborative evidence. As Twiss put it, maps are 'but pictorial representations of supposed territorial limits, the evidence of which must be sought for elsewhere' (Sandifer 1975:229-230). Sandifer observes that international tribunals have 'probably applied severer tests in evaluating maps than almost any other evidence' because they are secondary rather than primary in character and frequently hearsay in nature (1975:229). Caution in giving probative value to maps is warranted as, in the past, maps have lacked precise geographical data, reliable cartographical techniques were not available to early map-makers and maps can be highly self-serving in support of a state's sovereign interests (Hyde 1945:496). At best, the evidentiary value of a map was restricted to the corroboration of facts or conclusions established by other means of proof (Brownlie 1998:156). As a consequence, maps have typically been afforded only limited weight as evidence, if any at all, by international tribunals.

The following description of how the frontier between Burkina Faso and Mali was drawn illustrates the practical difficulties that arise in map-making (*Frontier Dispute* case, para 61, quoting from a note dated 27 January 1975 and submitted to the Chamber by IGN during the proceedings):

> *with the help of the texts, the cartographers tried to locate the frontier in relation to the map base. Unfortunately, the inaccuracy of the texts made it impossible to draw a sufficiently reliable boundary in certain areas. Some names quoted in the texts could not be found, others referred to villages which had disappeared or been moved, or again the actual nature of the terrain (course of rivers, position of mountains) appeared different from that described in the former itinerary surveys.*

> *The actual frontier was, therefore, recorded in the light of information supplied by the heads of the frontier districts and according to information gathered on the spot from the village chiefs and local people.*

If reluctance to afford probative weight to maps in boundary disputes has been justified by the lack of precise technical data and geographical information, this ground for caution is no longer necessarily applicable to today's maps. Contemporary technology, including satellite imagery, has revolutionised the map-maker's skill and accuracy. Provided the map is objectively and professionally produced, it may be close to irrefutable evidence of the precise boundary line, limited only by interpretation of the concepts and words employed by states and their representatives when negotiating the boundary. More recently, as map-makers have acquired accurate technical skills and information, international tribunals have been willing to afford maps stronger evidential value where they meet certain criteria laid down by evolving jurisprudence. For example, maps produced by the Soviet Union, the United States, France and Japan, using satellite imagery, proved valuable during the delimitation stage of the work of the Eritrea-Ethiopia Boundary Commission in April 2002. Maps were also important in the ICJ's Advisory Opinion in the *Israeli Wall* case. Perhaps for the first time, and in the absence of participation by Israel in the Court's deliberations, the ICJ took note of a map setting out the route of the 'security fence' that had been posted by the Israeli government on its Ministry of Defence website. The Court, for the purposes of its Advisory Opinion, relied in part on this electronic map to determine the place of the existing and proposed wall on the Palestinian Occupied Territories (para 80).

The willingness of tribunals, including the ICJ in the *Israeli Wall* case and the members of the *Beagle Channel Arbitration*, to employ maps as evidence suggests a discernable change in the treatment by international tribunals of maps. The better view is that, while the legal principles on the probative value of maps remain unchanged, the accuracy and objectivity of maps have improved, thereby strengthening their credibility and weight as evidence.

Striking a blow for the credibility of contemporary map-making, Rushworth (1998:55, note 2), a land surveyor and mapping consultant, has questioned the penchant of international lawyers for quoting apparently outdated and irrelevant legal precedents:

> *quotations are often made from the dicta on maps by Judge Huber in the Palmas case. In fact he was not talking about maps at all but about 17th century charts of the Pacific Ocean made privately by European sea captains of varying competence using primitive methods. To a cartographer it seems odd to apply his remarks to 20th century mapping.*

As will be seen in the following pages, international lawyers and tribunals continue to give almost oracular probity to the words of Judge Huber, whose views in the 1928 *Island of Palmas* case are discussed below.

2. EVIDENTIARY ROLES OF MAPS

Maps and other cartographic materials such as surveys will be accepted as credible evidence by international tribunals depending upon factors such as their provenance, clarity, scale, technical and professional skill and accuracy, official status publicity accorded to them, institutional affiliation of the map-maker and, in particular, the circumstances under which the map was prepared and the subsequent use made of it by the parties (*Eritrea-Ethiopia* Boundary Commission, 2002).

The arbitrators in the *Beagle Channel Arbitration* in 1977 made a useful contribution to our understanding of the probity of maps as evidence by articulating the 'applicable principles of evaluation' (paras 142-143) and posing concrete questions for consideration by a tribunal.

In addition to the probative weight to be accorded to maps, it is necessary to understand the circumstances in which they can play a role as evidence in a boundary dispute. It is now well recognised that maps may be evidence of state practice and hence of customary international law, of the intentions of a state, and of acquiescence and recognition of a boundary. Maps may also be determinative of a dispute over a boundary if they are annexed to, or otherwise integrated as part of a legal instrument such as a treaty. Finally, maps may also be independent documents with the limited function of illustrating a legal text.

The Tribunal in the *Beagle Channel Arbitration* of 1977 confirmed the following principles governing the use of maps as evidence:

- Maps concluded prior to the Treaty could throw light on the intentions of the parties (para 137).
- Maps could give graphic expression to situations and facts that were known to the negotiators of the treaty (ibid.).
- Maps published after the Treaty was concluded could be evidence of how the parties intended to interpret the Treaty (ibid.).
- Maps can indicate a 'widespread repute or belief' in a state of affairs (para 139).
- Maps are a useful indication of the view taken by a government at the date of publication.
- Maps provided evidence of the views of the states and their officials when the treaty was negotiated as contrasted with their positions asserted during the Tribunal's deliberations.
- Maps that have been unilaterally produced, acted upon or adopted by a state are not necessarily devoid of all value.
- The attitude of states and their officials to maps could be evidence of their intentions, regardless of the technical accuracy of a map.
- While the official endorsement of a map is an indicator of its probity and weight, the question whether a map is official or not is of only 'relative importance';

that is, even official maps are not necessarily 'rendered infallible or objectively correct' (para 138).
- Absolute, unqualified concordance of map evidence with the asserted claim is not required; rather, there should be a 'definite preponderance' or cumulative impact that 'tell[s] the same story' in favour of one state or another (para 139).

This chapter will consider, first, the factors that determine the probative value of maps and, secondly, each of the identified contexts in which maps can contribute to delimitation of a boundary between neighbouring states.

The following categories where maps have been afforded evidentiary value have been gleaned from international judicial and arbitral decisions (Highet 1987; Brownlie 1998). These categories will be adopted for the purposes of this chapter as a convenient means of understanding the evolving jurisprudence.

3. Probative Weight given by International Tribunals to Maps

3.1 Cautious approach of international tribunals to maps as evidence

The traditionally cautious approach of international tribunals to maps as evidence of a boundary is illustrated by an early decision of the PCIJ in the *Polish-Czechoslovakia Frontier (Question of Jaworzina)* case. The Court stated the accepted view that maps cannot be regarded as conclusive proof independently of the text in treaties. The Court had been asked to interpret a boundary that had been defined in the Conference of Ambassadors of July 1920, to which documents were annexed two maps marking the boundary between Poland and Czechoslovakia. The Court stated (at 33) that:

> *It is true that the maps and their tables of explanatory signs cannot be regarded as conclusive proof, independently of the text of the treaties and decisions; but in the present case they confirm in a singularly convincing manner the conclusions drawn from the documents and from a legal analysis of them; and they are certainly not contradicted by any document.*

The Court was willing to accept the appended maps as evidence of the boundary line only because they met a high standard of corroborative proof of the intentions of the states concerned, as these maps were apparently authoritative in their source and there was no contrary evidence.

The careful treatment of maps was also adopted by Judge Huber in his Arbitral Award in the *Island of Palmas* case in 1928 (pp. 852-854):

> *only with the greatest caution can account be taken of maps in deciding a question of sovereignty…If the Arbitrator is satisfied as to the existence of legally relevant facts which contradict the statements of cartographers whose sources of information are not known, he can attach no weight to the maps, however numerous and generally appreciated they may be…a map affords only an indication – and that a very indirect one – and, except when annexed to a legal instrument, has not the value of such an instrument, involving recognition or abandonment of rights.*

A well-established rule was moreover embodied in Article 29 of the Treaty of Versailles of 28 June 1919. This rule states that, when there is a discrepancy concerning a frontier delimitation between the text of a treaty and maps, it is the text and not the maps which is final.

3.2 Special vigilance

Not only do international tribunals treat with caution maps as evidence of a boundary, but also they are somewhat worldly in understanding the risk that unhelpful maps will be lost. The ICJ in the Burkina Faso and Mali *Frontier Dispute* case observed (para 58) that the maps produced had

> *assumed unaccustomed proportions…to the point of creating a dual paradox.… [W]henever there is some question of a map annexed to a regulation or enclosed with an administrative document which the Chamber has to interpret, that is the very map, of all those which the Parties have managed to assemble, which is found to be missing. These circumstances call for special vigilance from the outset when examining the file of maps.*

3.3 Map-makers and hearsay evidence

Tribunals have been particularly wary of maps as hearsay evidence. Sandifer, the eminent commentator on the rules of evidence before international tribunals, has observed that maps can sometimes border on hearsay unless they have been drawn or officially adopted by officials responsible for the negotiation of a frontier or were prepared by an individual or commission designated to identify the line. The map-maker is subject, it seems, to the same rigorous examination as any other form of testimony. As Sandifer (1975:373) observes,

> *The possibility of error is enhanced by the fact that the cartographer must combine a high degree of geographic skill with an unusual competence in deciphering political documents. Such a combination, it is superfluous to state, is rare.*

This point was also made by the Tribunal in the *Guatemala-Honduras Boundary Arbitration*:

> *A map is primarily a statement of geographical facts, designed in theory to present visually the unvarnished truth. Its purpose is to bring home that truth to the mind through the eye…*
>
> *But the map-maker does not stop at this point. He commonly undertakes to do much more – to state the political as well as geographical facts. Here again his duty in such a case is to reveal the truth, relative to national pretensions or accepted limits and known boundaries. The sources of his information simply differ, however, from those concerning the purely geographical facts. The tests of his accuracy are not in the decrees of Nature, but in those of states. When their claims clash, or are vague or loosely defined, or only partially revealed, the map-maker, however honest, is at best a mere guesser who is incapable of making a scientific representation or picture of more than the scope of national pretensions* (counter case of Guatemala, 341-42, cited in Sandifer 1975:237).

Superior acts of sovereignty were, for example, given preference above maps published by the Survey of India in the *Rann of Kutch Arbitration.*

Tribunals have often voiced their concerns about the flaws in maps presented to them. The Commission in the *Eritrea-Ethiopia* Boundary Dispute noted (para 3.19) that

> *Topography is dependent upon the state of knowledge at the time the maps were made, and particularly with older maps this may have been inadequate. When man-made features are superimposed, such as places of habitation or territorial limits, there is room for political factors to play a part. Particularly in the case of maps portraying a boundary which is in the interests of the Party responsible for the map, the possibility exists that they are self-serving.*

Fear that the map is merely a political tool to advance national pretensions probably underlies many cases in which other relevant evidence of jurisdiction will outweigh maps. There is also a concern that there is a risk of 'multiplication of maps copying each other's mistakes' (Sandifer 1975:239).

3.4 Reluctance of international tribunals to accord probative value to maps

A particularly restrictive approach to maps as evidence was adopted by the ICJ in the *Minquiers and Ecrehos* case (1953) (2 ICJ Pleadings, Annex A/25, at 169-70) which was the first occasion on which the Court had an opportunity to consider and assess maps in evidence. Following their joint referral of the Minquiers and Ecrehos dispute to the Court, the United Kingdom and France

submitted a number of maps in support of their claims to sovereignty over a number of small islets and rock formations in the English Channel. The maps submitted by Britain included a number of maps created in Germany, which Britain relied upon as evidence of the 'general notoriety of the situation' and, therefore, 'evidence which the Court may, and indeed should, take into account'. (ibid.) France responded by agreeing that 'in a territorial dispute, maps served a useful purpose', and introducing several maps produced independently in other countries which did not identify the disputed territory as British (ibid., at 201). In reaching its unanimous finding that the islets and rocks belonged to the United Kingdom, the Court was unwilling to give weight to the conflicting maps which the parties had submitted.

In his Separate Opinion in the *Minquiers and Ecrehos* case, Judge Levi Carneiro stated (para 20) that he attached no probative value to the map evidence. After remarking that 'evidence supplied by maps . . . is not always decisive in the settlement of legal questions relating to territorial sovereignty', Judge Carneiro acknowledged that maps may yet 'constitute proof of the fact that the occupation or exercise of sovereignty was well known' (para 20). He went on to observe that, given the conflicts in the maps submitted by the parties, 'A searching and specialized study would be required in order to decide which of the contending views in respect of maps should prevail. At any rate, maps do not constitute a sufficiently important contribution to enable a decision to be based on them.' For these reasons, Judge Caneiro concluded that he would 'not take the evidence of maps into consideration' (para 20).

A recent example of the reluctance of international tribunals to accord evidentiary probity to maps is the decision of the ICJ in the *Kasikili/Sedudu Island* case. The Court was unable to draw any conclusions from the various cartographic materials produced in that case because there was no single map which officially reflected the intentions of the parties, and because, when taken as a whole, the materials revealed numerous uncertainties and inconsistencies. The Court concluded that the map provided was not capable of endorsing the conclusion which the Court had arrived at by other means, nor could it alter the results of the Court's textual interpretation of the treaty in dispute (para 87). In these respects, the case reflects several other such boundary adjudications.

The ICJ's decision in the *Maritime Delimitation and Territorial Questions between Qatar and Bahrain* case differs from other judgments because the majority of the Court almost entirely ignored the maps that had been produced by both parties (see maps 6.5 and 6.6). Rejection of the maps by the majority prompted criticism by the joint dissenting opinion of Judges Bedjaoui, Ranjeva and Koroma. They argued (para 148) that:

> *The existence of a collection of map evidence as extensive as that presented to the Court by Qatar, drawn from such varied sources and covering both the nineteenth and the twentieth centuries, cannot fail to be significant. Where this evidence gives a virtually uniform description of the political*

> *and geographical situation of Qatar and Bahrain over such a long period, it is impossible not to accord it substantial weight in confirming the existence of a title which Qatar possesses to the Hawar Islands* (and to Zubarah as well). *It is in any event impossible to ignore that evidence completely, as the Court's Judgment does, without providing any explanation. (Emphasis in original.)*

For these dissenting judges, the failure to accord greater weight to the maps adduced by the parties was compounded by the Court's delimitation of a single maritime boundary based on an incompatible combination of two contradictory maps in different sectors of the maritime boundary (para 205).

3.5 Case studies

Despite the caution of international tribunals in giving probative weight to maps as evidence of boundaries, they will take immense care in balancing and assessing the relative value of maps. The following detailed review of the many maps and charts introduced by the competing state parties to support their claims in the *Frontier Dispute* case between Burkina Faso and Mali and the *Eritrea and Yemen* arbitration provide useful illustrations of how contradictory and inaccurate maps are likely to be treated by the ICJ and arbitrators.

***Frontier Dispute* case (Burkina Faso and Mali) 1986**

The leading decision on the probative value of maps by international tribunals was made by the ICJ in the *Frontier Dispute* case. The Court recognised that if maps form an integral part of the expression of the will of the states, they can be a form of legal title to territory. While giving priority to the text, the Court also confirmed that maps could not constitute legal title in and of themselves (para 54). The decision elaborated a clear framework for the evaluation of maps as evidence by listing the various considerations which an international tribunal should take into account when determining the relevance and probative weight of cartographic materials.

The Chamber had been asked by the parties to indicate the line of the frontier inherited by both Burkina Faso and Mali from their colonial governors. The methodology developed by the Chamber has been endorsed and applied by later decisions of the Court and other arbitral tribunals. As such, it is useful to quote the Chamber's description of its approach to the evaluation of maps.

In relation to the technical reliability of maps, the Chamber remarked (at 582-583):

> *The actual weight to be attributed to maps as evidence depends on a range of considerations. Some of these relate to the technical reliability of the maps. This has considerably increased, owing particularly to the progress achieved*

> *by aerial and satellite photography since the 1950s. But the only result is a more faithful rendering of nature by the map, and an increasingly accurate match between the two. Information derived from human intervention, such as the names of places and geographical features (the toponymy) and the depiction of frontiers and other political boundaries, does not thereby become more reliable. Of course, the reliability of the toponymic information has also increased, although to a lesser degree, owing to verification on the ground ; but in the opinion of cartographers, errors are still common in the representation of frontiers, especially when these are shown in border areas to which access is difficult.*

Turning to the objectivity and neutrality of map-makers, the Chamber observed (at 583):

> *Other considerations which determine the weight of maps as evidence relate to the neutrality of their sources towards the dispute in question and the parties to that dispute. Since relatively distant times, judicial decisions have treated maps with a considerable degree of caution; less so in more recent decisions, at least as regards the technical reliability of maps. But even where the guarantees described above are present, maps can still have no greater legal value than that of corroborative evidence endorsing a conclusion at which a court has arrived by other means unconnected with the maps.*

While the Chamber was able to articulate the evidentiary role of maps in boundary delimitation disputes, it did not actually rely on the maps produced by the parties when reaching its conclusions. Rather, at the close of the proceedings the Chamber identified a paradox which has become familiar in disputes over boundary delimitation. While a wealth of cartographic material had been produced in support of the submissions of the parties, they did not reliably identify a frontier on which the tribunal could base its determination. As the Chamber concluded, '[n]ot a single map' available to the Chamber can reliably be said to reflect the intentions of the colonial administration expressed in the relevant texts concerning the disputed frontier (para 57).

While the Chamber was unable to found its conclusion on the map evidence provided because of the historical unreliability and inaccuracies of maps (paras 110 and 154), the Chamber referred to two maps that it considered were 'of special overall significance' (para 59). The first was the 'Blondel la Rougery' map produced by the Geographical Service of French West Africa in Dakar (map 6.4). This map had been referred to by the colonial territorial authorities in an administrative circular. While taking this map into account the Chamber concluded that the maps did not 'in themselves possess any particular authority' (para 60).

The second map was a large-scale map which had been prepared by the French Institut Géographique National (IGN). The Chamber observed that in general the map had'enjoyed the approval of both Parties in its description of

the topography'. The IGN map was also endorsed by the parties as 'a model of reliability' and as offering 'guarantees of both technical precision and official authority, since they were compiled by an impartial official body directly connected with the administrative authorities of the period' (para 61). The Chamber also gave its endorsement to the map as evidence, regarding it as 'a visual portrayal both of the available texts and of information obtained on the ground' (para 62). Notwithstanding its quality as a map, the Chamber recognised the limits of its value as a means of proof, holding that the map 'in itself is not sufficient to permit the Chamber to infer that the frontier line depicted…in the successive editions of the IGN map, corresponds entirely with the boundary inherited from the colonial administration' (ibid.). The best use to which such a reliable map could be put was in considering (ibid.):

> *how far the evidence offered by this or any map corroborates the other evidence produced. The Chamber cannot uphold the information given by the map where it is contradicted by other trustworthy information concerning the intentions of the colonial power.*

Ultimately, the Chamber was persuaded by the timing of the map's production and the neutrality of its authors to give its approval to the evidential use of the IGN map, but only in precisely defined circumstances. In the words of the Chamber, 'where all other evidence is lacking, or is not sufficient to show an exact line, the probative value of the IGN map becomes decisive' (ibid.).

In the *Frontier Dispute* case, the Chamber developed an influential approach to maps as evidence of a territorial boundary. The Chamber's approach recognises the significant technical progress that has been made in the art and science of cartography since the seminal decisions on territorial sovereignty and boundaries which were made in the first half of the twentieth century. Certainly, the jurisprudence relating to the evaluation of map evidence in international litigation has been more robust since this decision and the ICJ has been consistent in its use of the methodology it has developed.

3.6 Maps drawn by boundary commissions and other official or government bodies

Maps drawn by neutral or professional geographers, map-makers and boundary commissions are likely to have higher evidential value than those drawn to advance particular claims or expressing a personal opinion. Moreover, as the Judicial Committee of the Privy Council decided in the 1927 *Canada-Newfoundland Boundary* dispute, even those maps drawn up by a government department are not necessarily binding on the government without clear authorisation and adoption.

The lack of official status or authority of a map may militate against its probative value. In the *Frontier Dispute* case, for example, Mali submitted a map which, whilst 'absolutely positive' as to the frontier line (para 171), lacked any authenticating features regarding which official body compiled it or which administrative authority may have approved this line. The Chamber was impressed by the technical proficiency of the map's production, but was unable to ascribe to it the authoritative status of a document explaining the applicable colonial Order, because it could not be shown that the map had been produced by the colonial administration.

By contrast with maps lacking official status, international tribunals are inclined to accord probative weight to maps drawn up by a boundary commission under the mandate of the disputing parties as part of a peace agreement. In the *Certain Frontier Lands* case between Belgium and Netherlands, the maps had been prepared for the Mixed Boundary Commission established to identify the disputed boundary. The dispute concerned sovereignty over a number of plots of land on the territorial frontier. The states had submitted detailed survey maps and topographical maps, as well as a 'special map' of the disputed region. The Court was not only willing to consider the maps submitted by both parties but also to attach a certain, and at that time, unprecedented, significance to them. It was of signal importance, however, that the maps drawn up for the Mixed Boundary Commission had been annexed to the Convention that was subsequently agreed between the states parties (Weissberg 1963:788). The reliance placed on these maps by the Court is therefore best understood as resting upon the integral status of the maps as part of the treaty itself. The maps were interpreted as part of the obligation to apply the terms of the treaty rather than as separate corroborative evidence.

While the ICJ in the *Certain Frontier Lands* case found the maps to be worthy of consideration, it stressed, nonetheless, that such maps 'require most careful preparation and checking' (at 220). In addition, the Court appeared to endorse Belgium's argument that certain military maps which identified the disputed plots as Belgian were evidence of its acts of jurisdictional sovereignty in the disputed area.

Maps produced by officials of government agencies are particularly likely to be accorded some probative value. The Boundary Commission in the *Eritrea-Ethiopia* dispute observed (para 3.21) when stating the general principles upon which their findings were to be based:

> *a map produced by an official government agency of a party, on a scale sufficient to enable its portrayal of the disputed boundary area to be identifiable, which is generally available for purchase or examination, whether in the country of origin or elsewhere, and acted upon, or not reacted to, by the adversely affected party, can be expected to have significant legal consequences.*

Official maps prepared by third states will also be afforded weight, in the view of the Commission, in circumstances in which an estoppel might be raised. The Boundary Commission remarked (para 3.21):

> *a State is not affected by maps produced by even the official agencies of a third State unless the map was one so clearly bearing upon its interests that, to the extent that it might be erroneous, it might reasonably have been expected that the State affected would have brought the error to the attention of the State which made the map and would have sought its rectification.*

As will be discussed further below, the known or knowable existence of maps contrary to a state's interests requires some response from that state if it is to avoid an implication of acquiescence made against it in any later dispute.

Disclaimers

Some unique observations in respect to the official status of maps were made by the Boundary Commission in the *Eritrea-Ethiopia* dispute. The Commission considered the impact of disclaimers that are typically appended to maps, even to apparently 'official maps'. Examples include the statement made on UN maps that they are not to imply 'official endorsement or acceptance by the UN' (para 3.26). The Commission considered that (para 3.27):

> *such disclaimers do not automatically deprive a map of all evidential value. The map still stands as an indication that, at the time and place the map was made, a cartographer took a particular view of the features appearing on the map.*

Moreover, where a state has been adversely affected by a map, the disclaimer could not relieve it of the need to protest against the unacceptable feature. The Commission also opined that the disclaimer cannot 'neutralize the fact that that State itself published the map in question'. Rather, the map remains as a 'geographical fact', particularly if the state adversely affected produced and disseminated the map (para 3.28). The Commission thus took a flexible approach to maps that are accompanied by disclaimers, affording them an evidential value in certain circumstances.

'Signature'

In another unusual aspect of its findings, the Boundary Commission in the *Eritrea-Ethiopia* dispute considered an issue that had played a large part in the arguments put by the parties; that is, that the 'signature' of a map can help to determine the location of a frontier. In this context, 'signature' means the 'shape, silhouette, contour or outline on maps, as distinct…from its particular details' (para 3.23). The Commission, as might have been expected, approached this idea 'with caution'. Nonetheless, it conceded that (para 3.24):

> *if a general shape is sufficiently clear and specific, and is both distinctive in itself and depicted with clarity in that distinctive form on a range of maps in a consistent, or near consistent, manner, particularly on maps published or used by both parties in a dispute, the Commission must attribute to such a general shape the appropriate legal consequences.*

The signature map will have a particular value where there is no more specifically illustrative map that has been annexed to a treaty.

4. MAPS AS EVIDENCE IN IDENTIFYING A BOUNDARY

4.1 Maps are not a root of legal title per se

Maps do not, of themselves, constitute title or, therefore, conclusively determine a territorial boundary. As the ICJ confirmed in the *Frontier Dispute* case, legal force may be derived from maps where they articulate the intentions of states in an instrument such as treaty. The Court stated the principles thus (para 54):

> *Whether in frontier delimitations or in international territorial conflicts, maps merely constitute information which varies in accuracy from case to case; of themselves, and by virtue solely of their existence, they cannot constitute a territorial title, that is, a document endowed by international law with intrinsic legal force for the purpose of establishing territorial rights. Of course, in some cases maps may acquire such legal force, but where this is so the legal force does not arise solely from their intrinsic merits: it is because such maps fall into the category of physical expressions of the will of the State or States concerned. This is the case, for example when maps are annexed to an official text of which they form an integral part. Except in this clearly defined case, maps are only extrinsic evidence of varying reliability or unreliability which may be used, along with other evidence of a circumstantial kind, to establish or reconstitute the real facts.*

Subsequent decisions by international tribunals have been consistent in applying this dictum, treating maps as secondary evidence of title to territory or the location of a frontier.

4.2 Maps as integrated into a boundary treaty

While a map is not an independent or primary root of title, it may be determinative evidence of the location of a boundary if the map has been integrated as part of a treaty between the relevant states. The Boundary Commission in

the *Eritrea-Ethiopia* dispute confirmed that 'where a map is made part of a treaty then it shares the legal quality of the treaty and is binding on the parties' (para 3.20).

In the *Certain Frontier Lands* case, the Court decided that, under Article 3 of the Boundary Convention of 8 August 1843, the survey maps and topographical maps became part of the Convention and 'had the same legal force as the Convention itself' (at 220). Similarly, in the Advisory Opinion of the ICJ in the *Israeli Wall* case, the 'administrative boundary' between Israel and Jordan was found to have been set out in maps in Annex 1 of the peace treaty between them on 26 October 1994 (para 76).

A further example of the binding nature of maps annexed to a treaty is found in the *Eritrea-Ethiopia* boundary dispute. The Commission relied on Article 1 of the Treaty of 1900 to the effect that (para 4.2) the 'line Tomat-Todluc-Mareb-Belesa-Muna, traced on the map annexed, is recognized by the two Contracting Parties as the boundary between Eritrea and Ethiopia'.

The annexed map was accordingly granted a quasi treaty status and was treated by the Commission as 'of critical importance for the course of the determination of the boundary' that the parties intended to adopt (para 4.8). The Commission found that the map therefore represented the Parties' agreed delineation of the boundary. It was therefore justified in adopting the same rules of interpretation to the map as to the Treaty of 1900 itself. In particular, the maps were useful in clarifying the confusion over the names of certain rivers. The Commission was liberal in its view that the treaty map was to be followed, 'so long as it is not shown to be so at variance with modern knowledge as to render it valueless as an indicator of what the Parties could have intended on the ground' (para 4.36).

In the *Certain Frontier Lands, Israeli Wall* and *Eritrea-Ethiopia* cases, each of the maps in issue had been accepted as evidence through a textual interpretation of the relevant treaty and their related annexes. It was on significantly different grounds of equity that, in the *Temple of Preah Vihear* case, the ICJ concluded that the map had been accepted by them as delimiting the frontier included in Annex 1 of the Boundary Treaty between Cambodia and Thailand of 13 February 1904, saying (at 32-34):

> *The Court… considers that Thailand in 1908-1909 did accept the Annex I map as representing the outcome of the work of delimitation, and hence recognized the line on the map as being the frontier line, the effect of which is to situate Preah Vihear in Cambodian territory…*
>
> *The Court considers that the acceptance of the Annex I map by the parties caused the map to enter the treaty settlement and to become an integral part of it… [T]he Parties at that time [1908] adopted an interpretation of the treaty settlement which caused the map line, in so far as it may have departed from the line of the watershed, to prevail over the relevant clause of the treaty.*

It was the acceptance by Thailand of the map delineating the boundary that rendered it a part of the treaty itself and thereby binding on both states.

As Judge Fitzmaurice recognised, the somewhat surprising effect of the finding in the *Temple of Preah Vihear* case was to favour the line in the map above the language of the treaty itself (at 65-66). It is usual interpretive practice, where there are discrepancies between the terms of a treaty and a map which has been incorporated in the text, that an express provision in the treaty will override the map. But where the treaty is silent, the usual rules of treaty interpretation, under the Vienna Convention on the Law of Treaties 1969, will be applied to the map and the text to infer the real intention of the parties at the time of concluding the agreement. While considerations of acquiescence and estoppel underpinned the finding that the map had been accepted by Cambodia and Thailand, the case illustrates how a map can be integrated into a boundary treaty and can thereby be determinative of the location of the frontier.

4.3 Maps as corroborating other evidence

The role of maps in boundary delimitations has usually been as corroborating and extrinsic evidence. An early example of the role of maps as secondary evidence of a frontier arose in the findings of Queen Cristina of Spain in her award respecting the disputed frontier between Colombia and Venezuela in 1891 (*Colombia-Venezuela Arbitration*, p. 387). The Award referred to several maps along with various official dispatches, returns of populations, the description of a journey and reports, all of which were found to 'clearly fix the line of the frontier as far as the law is concerned' (p. 389). Maps thus formed a part only of the corroborative evidence that underlay the final determination of the frontier.

It has been noted that the ICJ in *Qatar v Bahrain* (para 37) gave little credence to the map adduced in evidence. A more tolerant approach was taken by Judge Torres Bernárdez in his dissenting opinion in which he endorsed the principles adopted by the majority of the Chamber, but rejected the manner of its application to the maps that had been produced in support of the respective positions of the parties. Judge Bernárdez argued that the maps were in fact reliable and sufficiently consistent to provide some probative value for the purpose of identifying the boundary, saying (para 37):

> *The weight of maps as evidence depends on a range of considerations such as their technical reliability and accuracy determined by how and when they were drawn up, their official or private character, the neutrality of their sources towards the dispute in question and the parties to that dispute, etc. In general, the value as evidence attached to them by international courts and tribunals is corroborative or confirmatory of conclusions arrived at by other means unconnected with the maps, because the maps as such are not a legal title. However, if map evidence produced by third parties is reliable,*

> *uniform and voluminous it may even constitute a highly important evidential element, of recognition or general opinion or repute, as to the fact of a territorial situation in a given period* (see, for example, Chapter VIII of the 1998 Arbitral Award in the Eritrea/Yemen Arbitration).

Similarly, the majority of the Court in the *Frontier Dispute* case saw the role of maps as secondary in nature. It stated (para 56):

> *except when the maps are in the category of a physical expression of the will of the State, they cannot in themselves alone be treated as evidence of a frontier, since in that event they would form an irrebuttable presumption, tantamount in fact to legal title. The only value they possess is as evidence of an auxiliary or confirmatory kind, and this also means that they cannot be given the character of a rebuttable or* juris tantum *presumption such as to effect a reversal of the onus of proof.*

In the *Benin/Niger* case, the Court attached value to the cartographic evidence as confirming and reinforcing the conclusions which flowed from the Court's analysis of other sources, namely the texts of the effective administrative documents (paras 44, 138).

The corroborating role of map evidence was confirmed by the arbitrators, with Sir Gerald Fitzmaurice as President, in the *Beagle Channel Arbitration* (paras 136-63). The arbitrators made detailed analysis of over 400 maps produced by Argentina and Chile in support of their competing boundary claims in a seaway known as the Beagle Channel. The Tribunal set out its views of the legal effect of these maps, because of the 'part they played in events closely connected with the conclusion of the [Boundary Treaty of July] 1881' (para 136). This Treaty was intended to be a final settlement of all territorial issues between these states. The Tribunal observed (para 137) that, while map evidence had historically been treated with a 'good deal of hesitation', the ICJ had 'manifested a greater disposition to treat map evidence on its merits', citing the decisions in the *Temple of Preah Vihear, Certain Frontier Land* and *Minquiers and Ecrehos* cases as examples of this new confidence.

In essence, the Tribunal chose to employ the maps to elucidate the language of the boundary definitions in the Treaty rather than to set the maps in opposition to the Treaty. The issue was thus one of interpretation of the Treaty to which process the maps could contribute. Applying these principles to the maps provided, the Tribunal agreed with the Argentinean submission that 'most possible interpretations of the Treaty could find a map to support them' (para 139). While this was not literally the case, the point was well made that the maps presented by Argentina were subject to 'doubts, queries and inconsistencies' (para 162). The Tribunal found that the 'Argentine cartography, viewed as a whole, does not support the present Argentine contentions…while much of it supports the Chilean position' (para 162). In these circumstances, the Tribunal adopted the established jurisprudence and found that the island group in dispute was Chilean on the basis of interpretation of the Treaty itself. Notably, the Tribunal stressed

that it reached this conclusion independently of the maps which were taken into account 'only for purposes of confirmation or corroboration' (para 163).

4.4 Maps as contradictory evidence

By emphasising that maps have an auxiliary role in confirming other evidence of a boundary, the decision in the *Frontier Dispute* case begs the further question as to the evidentiary value of a map that contradicts other evidence. The Chamber in the *Frontier Dispute* case provided an answer to this question when it gave weight to the topography set out in relevant documentation above an admittedly inaccurate but contradictory map (para 98). The Chamber argued (para 62) that it:

> *cannot uphold the information given by the map where it is contradicted by other trustworthy information concerning the intentions of the colonial power. However, having regard to the date on which the surveys were made and the neutrality of the source, the Chamber considers that where all other evidence is lacking, or is not sufficient to show an exact line, the probative value of the IGN map becomes decisive.*

The case law also indicates that maps do have an evidentiary value beyond that of corroboration. It is probable that the weight to be given to a contradictory map depends upon its authoritative status and relative probity.

4.5 Maps as evidence of the intention of states

Maps can be valuable as evidence of a territorial boundary where they attest to the intentions of the relevant states. While the Chamber in the *Frontier Dispute* case was not willing to give probative value to maps that did not have official authorisation, it did ascribe a special status to one map introduced by Mali as an indication of the intention of the states concerned. The Chamber inferred that the map's compiler had been able, after perusing the governing texts 'and possibly the accessible maps' (para 171) to acquire a clear understanding of the intention behind the colonial texts and 'to lend that intention cartographic expression'. The Chamber reasoned that the map therefore served as corroborative evidence that there had not been difficulties in interpreting the colonial Order at that time, contrary to Mali's contention (para 171).

A map can have probative weight where it can be demonstrated that the relevant states have agreed to it. While it is by no means easy to prove that states have agreed to a particular map, appending it to a treaty is one of the clearest means by which their intent to be bound by the map can be demonstrated. The probative importance of appending a map to a treaty is illustrated by the *Case Concerning Sovereignty Over Pulau Ligitan and Pulau Sipadan*, where the ICJ

was asked to consider the competing claims by Indonesia and Malaysia to two islands in the Celebes Sea, off the northeast coast of Borneo. A dispute had arisen in the context of discussions between them over delimitation of the continental shelf. Crucial to the decision was interpretation of the 1891 Convention between the Netherlands and Great Britain as the former colonial powers in the region. The Court remained faithful to its earlier views in the *Frontier Dispute* case and discounted most of the maps adduced by the parties as evidence on the grounds that they were inconsistent and inconclusive. By contrast, significant probity was accorded to the only map that had been appended to the subsequent 1915 Agreement which, the ICJ found, reflected the officially expressed views of both states as to the boundary line between them (paras 72, 91).

4.6 Maps as evidence of acquiescence

The role of maps as evidence of acquiescence in, or recognition of, title in another state is illustrated by the *Rann of Kutch* arbitration in 1968 in which the Tribunal accepted that maps of the disputed region could amount to acquiescence in Pakistan's claim. The Tribunal was nonetheless reluctant to accord any clear evidentiary value to the maps as they suffered from 'demonstrable inaccuracy, vagueness and inconsistencies'.

Acquiescence is at the heart of the decision of the ICJ in the *Temple of Preah Vihear* case. The Court took account of a map as part of the evidence of recognition and acceptance of the frontier between Thailand and Cambodia. Cambodia's claim to sovereignty over the Temple of Preah Vihear relied on a map drawn up by the Mixed Commission of Delimitation established by treaty to determine the frontier between Thailand (previously Siam) and Cambodia (previously French Indo-China). It had been agreed between France and Siam in the Treaty of 13 February 1904 that the frontier along the eastern frontier was to follow the watershed line, which would place the temple on the Thai side of the boundary. The Commission then surveyed and demarked the frontier. Accordingly, eleven maps were drawn in 1907 and given to the Siamese government, one of them mistakenly showing the temple on the Cambodian side of the boundary.

The Court held that the map was not binding upon the parties, because it had never been formally approved by the Mixed Commission (which had ceased to exist prior to the production of the map) and remained unsigned and did not have a binding character. In his Dissenting Opinion, Judge Quintana detailed the many deficiencies in the map on which Cambodia's case depended so heavily (at 39-70):

> *This line… appears only upon a map which Cambodia submits as Annex I to its Memorial and on which, pursuant to some unknown decision, the temple of Preah Vihear is shown on the Cambodian side. This map bears no date and is not signed by any authorized experts, still less by the contracting*

> *parties to the new treaty. It was published by Barrère, a Paris geographical publisher, acting apparently on behalf of only one of the two Commissions – the French and the Siamese – which were to survey the frontier line. In the top left-hand corner of the map it is stated that the work on the ground was carried out by two captains of the French colonial army, Captains Kerler and Oum, two technicians, therefore, who represented in principle only one of the Parties concerned and who should at least have had recorded on the map itself the capacity in which they were acting.…*
>
> *Now, territorial sovereignty is not a matter to be treated lightly, especially when the legitimacy of its exercise is sought to be proved by means of an unauthenticated map.… This being so, and until conclusive evidence establishes where Preah Vihear is situated, Article I of the 1904 Treaty, which stipulates the watershed as the territorial boundary of the two countries, supports the interpretation of Thailand equally as well as that of Cambodia.*

Putting aside these criticisms of the limitations of the map itself, the majority of the Court concluded that Thailand had accepted the map by virtue of its acquiescence when the map was communicated to the Siamese Government purporting to represent the outcome of the delimitation work required by the boundary treaty. Thailand had raised no objection for many years after, and even produced its own maps showing the temple on the Cambodian side of the border. The Court was strongly influenced by the acts of the Siamese officials (pp. 30-32):

> *much the most significant episode consisted of the visit paid to the Temple in 1930 by Prince Damrong…charged with duties in connection with the National Library and with archaeological monuments. The visit was part of an archaeological tour made by the Prince with the permission of the King of Siam, and it clearly has a quasi-official character. When the Prince arrived at Preah Vihear, he was officially received there by the French Resident for the adjoining Cambodian province, on behalf of the Resident Superior, with the French flag flying. The Prince could not possibly have failed to see the implications of a reception of this character. A clearer affirmation of title on the French Indo-Chinese side can scarcely be imagined. It demanded a reaction. Thailand did nothing.… [A]s a whole, it appears to have amounted to tacit recognition by Siam of the sovereignty of Cambodia (under French Protectorate) over Preah Vihear.…*
>
> *Thailand is now precluded by her conduct from asserting that she did not accept [the map of 1908]. She has, for fifty years, enjoyed such benefits as the Treaty of 1904 conferred on her, if only the benefit of a stable frontier. France, and through her Cambodia, relied on Thailand's acceptance of the map since neither side can plead error, it is immaterial whether or not this reliance was based on a belief that the map was correct. It is not now open to Thailand, while continuing to claim and enjoy the benefits of the settlement, to deny that she was ever a consenting party to it.*

Thailand was, in effect, estopped from denying the validity of the map, though the decision was also based on implied recognition, acquiescence, failure to protest, peaceful occupation, prescription and principles of treaty interpretation.

From these facts, the Court concluded that Thailand had accepted the boundary as represented mistakenly on the map. The effect of the decision was that acquiescence in Cambodia's sovereignty over the temple and the location of the boundary as set out on the map prevailed over the provisions of the boundary treaty itself. The Court's application of the principle of acquiescence is important because, as Weissberg (1963:802) points out, the effect of the decision is that, 'in the interest of certainty, stability, and finality of frontiers, an unsigned map in derogation of a treaty provision supersedes the text as a matter of treaty interpretation'. The decision is, however, essentially one founded in equity and is not authority for any proposition that maps can, without more, take precedence over a treaty provision.

4.7 Maps as evidence of acts of sovereign jurisdiction and administration

Maps can play a role as evidence of 'effective occupation' through acts of jurisdiction and administration. In the 1968 *Rann of Kutch Arbitration* between India and Pakistan, the Tribunal considered that the maps that had been relied on, principally by India to support its claim in the disputed area, formed a convincing ground in removing uncertainly and vagueness in the general location of the boundary. Arbitrator Lagergren stressed (p. 514), nonetheless, that the maps were not 'a conclusive and authoritative source of title to the territory' and that, at best, they:

> *cannot have been intended to offer more than a rather tentative indication of the actual extension of sovereign territorial rights.... When, however, the true extension of sovereignty over a territory became the subject of investigation and inquiry, and especially of an exhaustive judicial inquiry, the evidentiary value of the maps was lessened as far as the relevant boundaries were concerned, and they were made to yield to evidence of superior weight, particularly evidence of exercise of jurisdiction.*

The Tribunal stressed that the 'boundary of a State is nothing but the limit of the extent of its sovereignty. Therefore, the maps have to yield to the exercise of jurisdiction' (p. 177). A tribunal will accordingly search for evidence of 'true' sovereignty in the acts of the claimant states. Maps will have probative weight in demonstrating the existence of all legally relevant activities (for an overview, see map 6.3).

4.8 Maps as evidence of notoriety of the facts to an opposing state

Maps may also be evidence of the notoriety of territorial sovereignty in one claimant or another or the location of a boundary. In the *Minquiers and Ecrehos* case, a dispute between the United Kingdom and France over sovereignty over rocks and islets in the English Channel, the ICJ was asked by counsel to consider a letter and two charts from the French Minister of Marine to the French Foreign Minister. The letter states that the Minquiers were 'possédés par l'Angleterre' and one of the charts showed the islands as subject to British sovereignty (Weissberg 1963:786-787). Further evidence was also introduced by the United Kingdom of a well known German atlas that showed the island groups as British. While the ICJ did not opine upon this evidence, Judge Levi Carneiro in a Separate Opinion (at p. 105) recognised that the maps could 'constitute proof of the fact that the occupation or exercise of sovereignty was well known'.

4.9 Maps as evidence of the subsequent practice of states

International tribunals have been willing to use maps as evidence of what the state parties intended when they negotiated treaties upon which the maps were subsequently based. Maps can thus provide evidence of the practice of states in aid of interpretation of a treaty or other agreement settling the frontier. In the *Frontier Dispute* case the ICJ gave probative weight, in particular, to a map that had been drawn up by the IGN, a neutral body, in 1958-60. This was some years after the frontier had been declared to be that of the former colony of Upper Volta (Burkina Faso) in 1932. The Chamber employed the IGN map exclusively as corroborating evidence, but conceded (para 62) that 'where all other evidence is lacking, or is not sufficient to show an exact line, the probative value of the IGN map becomes decisive'.

The Chamber also confirmed (para 63) that maps can be used as evidence of a boundary in the following terms:

> *the* effectivités *can support an existing title, whether written or cartographical, but when their probative value has to be assessed they must be systematically compared with the title in question ; in no circumstances can they be substituted for the title.*

The Chamber's view of the legal principles regarding maps as evidence in the *Frontier Dispute* case was endorsed by the ICJ in the *Case Concerning Kasikili/ Sedudu Island* between Botswana and Namibia. The Court recognised the potential role of maps as evidence relevant to interpretation of an earlier treaty that has been drawn up to settle a boundary. The Court was required to interpret Article III of the Anglo German Treaty of 1890 which established the boundary

between the successor states Botswana and Namibia. The dispute concerned whether the boundary, stated to be the 'main channel', was to the north or south of Kasikili/Sedudu Island. As the maps published after the 1890 Treaty had not purported to interpret the phrase 'main channel', and as local authorities did not accept the maps as accurate, the Court rejected them as evidence of subsequent practice (para 85). The Court concluded (para 87):

> *In view of the absence of any map officially reflecting the intentions of the parties to the 1890 Treaty and of any express or tacit agreement between them or their successors concerning the validity of the boundary depicted in a map…and in the light of the uncertainty and inconsistency of the cartographic material submitted to it, the Court considers itself unable to draw conclusions from the map evidence produced in this case.*

Yet again, while the ICJ has consistently recognised the probative potential of maps as evidence of the subsequent interpretation of a boundary treaty, the maps actually produced by the claimants failed the tests of official status, accuracy and relevance.

More positively, the Boundary Commission in *Eritrea-Ethiopia* found that all relevant maps supported the Eritrean claim line and that, as there was no timely objection by Ethiopia to this line, and as other maps were consistent with it, the maps amount to 'subsequent conduct or practice of the Parties evidencing their mutual acceptance of a boundary corresponding to the Eritrean claim line' (para 5.88).

As Shaw (2007:783-784) points out, the interesting aspect of the findings of the Commission is that, where the treaty is ambiguous, the subsequent practice of the states parties evidenced in their response to maps based on the treaty can be determinative of what they intended the treaty to mean.

4.10 Maps as a means of interpreting a treaty

International tribunals have long relied on maps for their evidential value in assisting in interpretation of boundary treaties. In *Cameroon v Nigeria* the ICJ employed a sketch-map to locate the course of the River Kohom, which had been identified as the boundary between these states in a delimitation treaty known as the Thomson-Marchand Declaration. As the text of the Declaration did not provide a clear identification of the River Kohom, the Court referred to a sketch-map that had been prepared by French and British officials. The map had been used when drafting the Declaration, although it was not annexed to or an integral part of it. Nigeria argued that the sketch-map, nonetheless, showed what the intention of the parties was at the time when they referred to the 'River Kohom'. The Court compared the sketch-map – which clearly indicated the relief of the area and the direction of the river – with other maps provided by the Parties (see maps 6.1

and 6.2). The Court was then able to identify the course of the river and thus of the boundary between the States (para 101).

Similarly, the *Eritrea-Ethiopia* Boundary Commission acknowledged the evidentiary value of the Mai Daro map that had been used during negotiations to identify the course of the Mai Teb river boundary (para 3.21). The similarity of this map with the de Chaurand map of 1894, confirmed the view of the Commission that the river as delineated on the maps formed an agreed basis for negotiation of the boundary in the 1900 Treaty map.

4.11 Maps as evidence of certain facts

Maps may provide evidence of certain objective facts. Where the map is relevant evidence of that fact, and meets the standards of neutrality and objectivity, international tribunals have distinguished the *Frontier Dispute* case between Burkina Faso and Mali and relied upon that map without seeking further corroborating evidence. In the *Land, Island and Maritime Frontier Dispute* case between El Salvador and Honduras (see maps 6.7 and 6.8), the Chamber attributed legal value to an expedition report that had been combined with a map submitted by Honduras. The map, when considered alongside a report from the expedition which led to its preparation, left 'little room for doubt' as to the course of the Goascorán river constituting the boundary (para 316). The Chamber emphasised that this map was only 'a visual representation of what was recorded in the contemporary report' and did not purport to indicate any frontiers or political divisions. The Chamber sought to distinguish the earlier dicta of the Chamber in the *Frontier Dispute* case to the effect that 'maps can still have no greater legal value than that of corroborative evidence endorsing a conclusion at which a court has arrived by other means unconnected with the maps' (*Frontier Dispute* case, para 56).

Rather, the Chamber considered that the principle of corroboration applied 'in the context of maps presented "as evidence of a frontier"' (para 316) and would not apply where there was no intent in drawing the map to identify any such boundary. On the basis of this distinction, the Chamber concluded that the evidence of the expedition report, combined with the map, could be used to reach a determination of the location of the river. Of importance in making this distinction was the view that 'there is no apparent possibility of toponymic confusion, and the fact to be proved is otherwise a concrete, geographical fact' (para 316). It seems that the Chamber of the ICJ will give probative evidential value where a map is evidence of a fact, without the need to demonstrate that it also corroborates other independent evidence.

In relation to numerous other antiquated maps introduced during the *Land, Island and Maritime Frontier Dispute* case, the Chamber explicitly followed the reasoning in the *Frontier Dispute* case between Burkina Faso and Mali by

restricting its acceptance of maps to instances in which they provided corroborative evidence. On this basis, the Chamber accepted only those nineteenth century maps that showed the historical political limits of the two States (para 316).

The distinction made by the Tribunal in the *Land, Island and Maritime Frontier Dispute* case between maps as evidence of facts and maps as evidence of the agreed frontier is consistent with the *Frontier Dispute* case. The Chamber relied on a hydrographic survey as proof of a specific fact with respect to the location of a body of water referred to in the textual sources. It justified attaching probative weight to the survey for this limited purpose on the grounds that the survey had been specifically produced by the government of Upper Volta (the former name of Burkina Faso) to record the nature and location of water resources in the region (para 128).

CONCLUSIONS

International courts and tribunals have developed a consistent jurisprudence as to the probative value to be accorded to maps as evidence of the location of a boundary. The legal principles have remained largely unchanged over recent years, the precise role of maps varying with the highly individual facts of each case. While international tribunals have been, and continue to be, wary of affording probative value to maps in determining a boundary, technological developments have advanced map making skills and accuracy, so that maps are increasingly valuable tools for clarifying the intentions of state parties. Where maps meet high standards of professional objectivity, especially where they are accepted by the relevant government authorities, they will play an increasingly significant role in boundary delimitation. International tribunals will, nonetheless, continue to be cautious when considering maps as, even today, many boundary claims depend on ancient maps and other dated cartographic materials. International tribunals are also likely to continue to treat maps warily if they are contradictory, self-serving, or of doubtful accuracy or provenance.

7. River Boundaries and International Law

Introduction

Rivers have frequently been employed as an objectively identifiable and typically stable delineation of an international boundary between riparian states; the Rio Grande, the Danube and the River Uruguay provide, for example, relative certainty in identifying the limits of national sovereignty. The use of rivers to establish international boundaries is usually reflected in treaties concluded between states, sometimes after armed conflict or judicial or arbitral resolution and, more usually, after peaceful negotiations. Thirty-seven bilateral and multilateral river boundary treaties, listed by the International Boundaries Research Unit, have, for example, been negotiated between 1763 (a Peace Treaty between Great Britain, France and Spain) and 1975 (a Protocol between Iran and Iraq).

River boundaries, convenient though they have been in fostering good neighbourly relations between territorial sovereigns, attract special legal problems. The obvious limitation of rivers as boundaries is that water is transitory. The paradox inherent in conceiving of water flowing between two states as a territorial boundary is that the passage of the water is necessarily temporary, while sovereignty imports the notion of permanence. Commentators have readily accepted the idea of transplanting the traditional concept of territorial sovereignty to rivers as international boundaries. Contemporary concerns are, however, to protect the environment and conserve water resources suggesting that states can no longer enjoy complete autonomy in their use of waters within their territorial jurisdiction. The Institute of International Law's *Madrid Resolution* of 1911, for example, observed that states with a common river boundary 'are in a position of permanent physical dependence on each other which precludes the idea of the complete autonomy of each State in the section of the natural watercourse under its sovereignty' (cited in McCaffrey 2001:68).

Throughout the twentieth century and in the early years of the twenty-first, international tribunals have developed principles for shared water resources such as equitable and reasonable use and the obligation not to cause significant environmental harm. A recent indication of how these principles might be enforced in the future is the request by Argentina in 2006 for the ICJ to indicate provisional measures in the *Case Concerning Pulp Mills on the River Uruguay* (*Argentina v. Uruguay*) (Orders of 13 July, 2006 and 23 January, 2007). This request turned

upon whether the construction of the pulp mills presented an 'imminent threat of irreparable damage to the aquatic environment' of the River Uruguay. While the Court considered that there was no such threat at the time, and the case has yet to be finally determined, the reasoning of the tribunal confirms the obligations to protect the ecosystems of shared river boundaries while also allowing for sustainable economic development.

This chapter examines state practices in delineating river boundaries, typically through the negotiation of bilateral treaties. Efforts by international bodies, such as the International Law Commission, the Institute of International Law and the International Law Association, to develop guidelines for the management of river boundaries, are also considered as precedents for the conclusion of the framework 1997 United Nations Convention on the Non-Navigational Uses of International Watercourses.

While the principal concern of this work lies with the delimitation of territorial boundaries, the particular legal issues raised by river boundaries warrant consideration of the evolving principles of international law regulating the use of shared water resources. This chapter provides some international case studies to illustrate the kinds of disputes that have been submitted for resolution by international courts and tribunals. The jurisprudence arising from these cases is examined to distil the international principles of equitable and reasonable use of international watercourses.

1. Principles of Delineation of a River Boundary

State practice is that those negotiating river boundaries have selected one of three principal means of locating the exact boundary:

- Geographic middle of the river or *medium filum acquae*
- Middle of the channel or *thalweg*
- Shore or bank of the river.

1.1 Geographic middle

Hugo Grotius, the Dutch jurist, is credited with identifying the boundary by using the geographic middle of the river; that is, the boundary is determined by drawing a median line, every point of which is equidistant from the nearest points on the opposite shores. As Grotius (1625: vol. 2, book 2, ch. 2, section 18) observed, 'In case of any doubt, the jurisdictions on each side reach to the middle of the river that runs betwixt them'.

1.2 Thalweg

The disadvantage of accepting an equidistant line as the river boundary is that it takes no account of the fact that the river may be navigable along a channel that does not necessarily represent the median line. While the middle of the channel may define the legal boundary, ships taking the navigable route will move from one sovereign jurisdiction to another, depending upon the deepest soundings. The need for a more practical approach led to the adoption of the principle of the *thalweg* to the effect that, where a navigable river divides sovereign nations, the middle of the channel of navigation forms the international boundary. The derivation of the word *thalweg* is described by Westlake (1910:144 and n. 1) as being the 'downway', or the course taken by boats going downstream on the strongest current, the slack current being for the upstream boats.

While there are thus good reasons for adopting a boundary that better reflects the needs of navigation, the geographic middle of the river is taken *prima facie* as the boundary, unless it can be demonstrated that 'the vessels which navigate those parts keep their course habitually along some channel different from the *medium filum*' (*Iowa v Illinois* 147 US 1, 9 (1893)). The US Supreme Court in *Iowa v Illinois* (pp. 8-9, citing Creasy) recognised that, where the river is not navigable, the middle of the river remains the boundary.

The International Court of Justice has recently had the opportunity to set out its views on interpretation of the 'thalweg' or 'main channel' in the *Kasikili/Sedudu Island* case in 2000.

The *Kasikili/Sedudu* decision demonstrates the extensive range of evidence the ICJ will examine to determine the intentions of the parties to a treaty that adopts a river as the boundary. While wide language may have been employed to describe the boundary, subsequent practice and evidence of navigability of the river will be taken into account to establish the exact location. The use of the phrase 'main channel' is likely to be interpreted as the thalweg or channel of deepest soundings where navigability is the criterion of particular importance to the parties.

1.3 Shore of the river bank

In some exceptional cases, the river will lie entirely within the territory of one state, so that the boundary is formed by the shore of the other state. This will typically arise where one state, the original holder of the territory, cedes territory on one side of the river to another state, retaining the river within its sovereignty. The Spanish-American Treaty of 1819, for example, provided that the Red River and all the islands within it belonged to the United States. The boundary of Texas is thus taken to be the south bank of the Red River (Shalowitz 1964:376). As McCaffrey points out (2001:71), such boundaries can lead to continuing instability.

Kasikili/Sedudu Island

39 ILM 310 (2000)

The International Court of Justice was asked by Botswana and Namibia to determine, on the basis of the Anglo/German Treaty of 1890 and of international law, the boundary between them around the Kasikili/Sedudu Island in the Chobe River. The respective spheres of colonial influence of Britain and Germany had been divided by the 1890 Treaty at the 'main channel' of the River Chobe, the English interpretation being the 'centre' of the main channel and the German version being the 'thalweg' of that channel. Some 110 years later, Botswana and Namibia each adopted differing means of interpreting these terms (see map 7.1). The Court noted (para 24-25) that:

various definitions of the term 'thalweg' are found in treaties delimiting boundaries and that the concepts of the thalweg of a watercourse and the centre of a watercourse are not equivalent. The word 'thalweg' has variously been taken to mean 'the most suitable channel for navigation' on the river, the line 'determined by the line of deepest soundings', or 'the median line of the main channel followed by boatmen travelling downstream'. Treaties or conventions which define boundaries in watercourses nowadays usually refer to the thalweg as the boundary when the watercourse is navigable and to the median line between the two banks when it is not, although it cannot be said that practice has been fully consistent.

…[A]t the time of the conclusion of the 1890 Treaty, it may be that the terms 'centre of the [main] channel' and 'Thalweg' de Hauptlaufes *were used interchangeably.… Indeed, the parties to the 1890 Treaty themselves used the terms 'centre of the channel' and 'thalweg' as synonyms, one being understood as the translation of the other.*

On this basis, the Court proceeded to determine the meaning of the words 'main channel' by reference to the commonly used criteria in international law, particularly the rules of interpretation agreed in the 1969 Vienna Convention on the Law of Treaties (Article 31). As the natural features of a river vary markedly, the Court found that it could not rely on one criterion only. Rather it examined the mean depth and width (based on the low water baseline) of the river, and factors such as the role of a 50-metre high escarpment and favourable conditions for navigability. A review of the object and purpose and *travaux preparatoires* of, and subsequent practices of the states parties to, the 1890 Treaty confirmed the Court's view that this agreement was intended to establish a frontier line in addition to delineating spheres of colonial influence. Relying upon evidence of navigability and on-site investigations, the Court finally concluded, eleven votes to four, that the northern channel of the River Chobe was to be regarded as the main channel for the purposes of the 1890 Treaty and that the thalweg, as formed by the line of deepest soundings, marks the boundary. As the ICJ rejected, eleven votes to four, Namibia's argument that the island in dispute was part of its territory under the international principles of prescription, the Kasikili/Sedudu Island necessarily forms part of the territory of Botswana (para 351).

In the Iran-Iraq Protocol of 1975 (14 ILM 1133), for example, the Shatt-al-Arab waterway, which had been within the exclusive sovereignty of Iraq, was revised to adopt the thalweg principle. Other examples of river bank boundaries are discussed in Chapters 4 and 10.

1.4 Avulsion and accretion

In addition to these three principal means of determining the location of a river boundary, international law employs special rules where the river changes course, as they are prone to do. As has been described in Chapter 5, if the change is rapid, by avulsion, the boundary remains the same; if the change is gradual, by accretion, the boundary changes accordingly. Similar rules have long been adopted by domestic tribunals where rivers form the boundaries between units within a federal constitutional structure and between private proprietors of land titles (Horlin 1994).

The principles of avulsion and accretion do not, however, fully resolve all legal issues that can result from gradual or rapid river changes. A recent, and as yet unresolved dispute, concerns the respective rights of Croatia and Serbia to the boundary formed by the River Danube. Serbia claims that the border lies at the middle of the river, while Croatia argues that the border should be the cadastre border at the far or opposite side of the river. The problem of finally agreeing a border is further exacerbated by frequent flooding of the area and by the movement of the main stream over past decades.

2. Principles of Equity and Delineation of River Boundaries

Formal legal rules such as avulsion and accretion have been moderated in their effect by wider considerations of equity, a point that is illustrated by the *Chamizal Arbitration* case (discussed in Chapter 5). Here the Rio Grande slowly changed its course, creating a 600-acre tract of land, known as the Chamizal Tract, formed on the US side of the river. While the International Boundary Commission decided that where the tract resulted from accretion, title lay with the United States and where it resulted from a flood, title remained with Mexico, there were additional questions as to the legal effect of the equitable considerations of acquiescence and protest on title. The United States had, in addition to reliance upon the principle of accretion, founded its claim to the tract on the United States' peaceful and uninterrupted possession of the land known as 'prescriptive title'.

The International Boundary Commission dismissed this element of the United States' claim in the following terms (pp. 806-807):

the political control exercised by the local and federal governments, have been constantly challenged and questioned by the Republic of Mexico, through its accredited diplomatic agents… From [1867] until the negotiation of the Convention of 1884, a considerable amount of diplomatic correspondence is devoted to this very question, and the Convention of 1884 was an endeavour to fix the rights of the two nations with respect to the changes brought about by the action of the waters of the Rio Grande.

The very existence of that Convention precludes the United States from acquiring by prescription against the terms of their title and… the two republics have ever since the signing of that convention treated it as a source of all their rights…

Another characteristic of possession servicing as a foundation for prescription is that it should be peaceable.… [H]owever much the Mexicans may have desired to take physical possession of the district, the result of any attempt to do so would have provoked scenes of violence and the Republic of Mexico cannot be blamed for resorting to the milder forms of protest contained in its diplomatic correspondence.

The Commission, it seems, was not willing to recognise the acquisition of territory over the Chamizal tract on the sole basis of possession, where Mexico had done all it reasonably could, short of the use of force, to protest against recognition of United States' title. Indeed, an international tribunal might be expected to have favoured the state that had chosen the path of lawful and peaceful negotiations above a forceful taking.

3. River Boundaries and Treaties

While states have negotiated river boundary treaties to provide certainty in identifying the exact location of the respective limits of their exclusive jurisdiction, an examination of these agreements suggests that negotiators have, in fact, used relatively imprecise or loose language. The Treaty of Guadelupe Hidalgo of 1848 following the end of the US-Mexican War, for example, states that the boundary was 'up the middle' of the Rio Grande, 'following the deepest channel where it has more than one' (Hyde 1922:244-245). In the *Kasikili/Sedudu* case, the ICJ observed that the broad phrase 'centre of the main channel', used by Germany and Britain in the 1890 Treaty, reflected the rudimentary information available about the river (para 43). As the ICJ also noted in the *Temple of Preah Vihear* case (p. 34), 'There are boundary treaties which do no more than refer to a watershed line, or to a crest line, and which make no provision for any delimitation in addition.'

The ICJ has thus shown a tolerance for the description of river boundaries in general terms, so that, as the relative importance of the river, its navigability

and resource potential become available, more precise delineations can be made by the riparian states.

Commentators such as Caflisch suggest that the lack of consistency in such treaty provisions demonstrates that there is not yet any rule of customary international law on the means by which a river boundary is to be determined (McCaffrey 2001:72) The better view, however, is that state practice and prevailing opinion support the adoption of either the median line or thalweg principles as the recognised means of identifying an international boundary river.

4. INTERNATIONAL LAW AND SHARED WATER RESOURCES OF RIVER BOUNDARIES

While states have adopted notional lines in river boundaries to delineate the extent of their respective sovereignty and jurisdiction, the practical fact remains that exploitation of the water resource is necessarily shared. An analogy with the rights of neighbouring states to an oil deposit which straddles an agreed boundary may be apt to illustrate the problem of shared water resources of river boundaries. Either state may exploit the resource, by extracting a greater share of the oil or water than it is technically entitled to, to the significant detriment of the other. Hardin (1968:1244) describes this as the 'tragedy of the commons' in which each state has, in theory, an incentive to withdraw ever-increasing amounts of water. There is the added risk that states will be tempted to over-fish or to pollute the water of a boundary river even, curiously, where this may inure to their disadvantage (McCaffrey 2001:74). Contemporary needs for irrigation and hydroelectric power also place ever increasing pressures on the equitable use of such shared water resources as recent international disputes between riparian states illustrate.

Global and domestic concerns to protect the environment have prompted late twentieth century efforts to moderate traditional and absolute approaches to territorial sovereignty over river boundaries. Some normative rules of international law have evolved including the obligation to exercise rights over shared water resources in an equitable and reasonable way relative to the interests of other states. The Institute of International Law, for example, has stated that, 'Neither state may, on its own territory, utilize or allow the utilization of the water in such a way as seriously to interfere with its utilization by the other State or by individuals, corporations, etc. thereof' (Madrid Resolution 1974:200, article 1).

The Institute subsequently agreed, through resolutions of 1961 and 1979, upon the core principle that water resources should be used in an equitable and reasonable manner. Importantly, the Institute also recognised the practical value of establishing joint management regimes as a means of protecting the interests of all riparians. Further efforts to regulate the shared waters of a boundary river

were made in the Convention of 31 May 1976 on the Regulation of Water Management Issues of Boundary Waters.

Also adopting the principle of equitable utilization have been the resolutions of the International Law Association (ILA) which, in 1966, adopted a set of articles known as the Helsinki Rules on the Uses of the Waters of International Rivers. These Rules articulated the principle of 'reasonable and equitable share' as a primary obligation of international watercourse law (article 4). This seminal work laid the foundations for the International Law Commission's 1994 draft articles on the non-navigational uses of international watercourses which, in turn, led to the adoption of the Convention on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly on 21 May 1997.

5. UN CONVENTION ON NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES 1997

The International Watercourses Convention had 15 state Parties as of 3 July 2007, and will come into force once thirty-five states have become Parties. The Convention applies to watercourses that are 'situated in different states' (article 2 (b)). The key ideas adopted by the UN Convention – equitable and reasonable use, optimal and sustainable use, equitable participation and affirmative cooperation, obligation not to cause significant harm, elimination or mitigation of harm, prior notification and protection of the ecosystem – are general principles that can be adopted in more specific watercourse agreements at the local level. Article 5, for example, encapsulates these central ideas by setting out the general principles applicable to international watercourses as follows:

1. *Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.*
2. *Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.*

The broad objectives of 'equitable and reasonable utilization' clearly need to be interpreted by reference to more precise elements. The Convention sets out in article 6 the factors that should be taken into account in achieving equitable and

reasonable use, including social and economic needs, natural phenomena such as climate and ecology of the region, the interests of any dependent populations, existing and potential uses and the conservation of water resources. In meeting the standard of equitable and reasonable use, the Convention provides that, absent any agreement to the contrary, 'no use of an international watercourse enjoys inherent priority over other uses' (article 10). Inevitably, however, there will be conflicts between uses. The Convention stresses the need to have special regard to the 'requirements of vital human needs' and to resolve any conflicts by reference to the core principles and identified factors set out in articles 5, 6 and 7 (article 10).

Importantly, the Convention recognises and adopts the customary international obligation not to cause significant harm by providing, in article 7, that watercourse states are to 'take all appropriate measures to prevent the causing of significant harm to other watercourse States'. Where such harm, nonetheless, arises, the state causing the harm is bound to eliminate or mitigate the damage. Reflecting the uncertain state of international law on the issue, the Convention parties were not able to agree upon any obligation to compensate for harm. Rather, article 7 requires the state causing harm to 'discuss the question of compensation' with the affected state. Parties do, however, have an obligation to prevent and mitigate harmful conditions, including waterborne diseases and desertification, and to notify other states of emergency situations (article 27).

In addition to the obligation not to cause significant harm is the positive obligation, individually and jointly, 'to protect and preserve the ecosystems of international watercourses' (article 20) More specifically, watercourse states are bound (article 21) to:

> *prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse.*

Implementation of the obligation not to cause pollution is to be achieved through consultations, for example, to set joint water quality objectives and to list substances that are to be prohibited or monitored. The importance of preservation of the ecosystem as a whole has also been recognised by the obligation of watercourse states to prevent the introduction of alien species and to protect the marine environment, taking into account international rules (articles 22 and 23). Special provisions have been agreed for regulation of the management and flow of waters of an international watercourse and for the protection of related installations.

5.1 Procedures for implementation of obligations

While the obligations not to pollute, to prevent significant harm, to ensure equitable and reasonable use and to cooperate are broadly recognised in international state practice, it is not clear how they will relate to each other. How, for example, will states balance their competing interests in hydroelectric power and irrigation against environmental impacts? Is causing environmental harm, per se, wrongful under the Convention and, if not, is compensation nonetheless payable? The Convention does not attempt to articulate precise rules for resolution of such issues, but adopts the practical approach of creating a process, including fact-finding and dispute resolution, through which these apparently conflicting interests might be balanced by state to state negotiations (McCaffrey 2001:309).

Integral to this process of resolution of potentially competing interests is the Convention emphasis upon cooperation and exchange of information. Article 8 requires watercourse states to cooperate to achieve 'optimal utilization and adequate protection' and to consider establishing joint mechanisms or commissions to do so. Such joint management might include planning for sustainable development and otherwise promoting the rational and optimal use, protection and control of the watercourse (article 24).

Linked to the obligation to cooperate is the requirement that there should be a regular exchange of data and information on the condition of the watercourse and its water quality. Moreover, states are required to employ their 'best efforts' to comply with requests for data (article 9), though they may condition compliance upon payment for the reasonable costs of collecting the information. Watercourse states are also bound to notify states where planned measures 'may have a significant adverse effect upon other watercourse States' and to provide them with available data and the results of any environmental impact assessment (article 12). Any such notification must allow the notified state six months within which to study and evaluate the effects of the planned measures and to respond to the notifying state. During this period, no action may be taken to implement the proposed measures. If the notified state responds to the effect that the measures are inconsistent with articles 5 or 7, both the notifying and the notified state are required to enter into good faith consultations or negotiations to achieve an 'equitable solution' (article 33), paying 'reasonable regard to the rights and legitimate interests of the other state' (article 17 (2)). If the notified state does not respond, the notifying state is free to go forward with its planned measures. Through this process of notification, the Convention has created a dispute resolution process that depends, in the final analysis, upon the good will of the states involved.

While the Convention establishes a regime for notification under article 12, it wisely anticipates the possibility that a watercourse state will not comply. Article 18 provides a procedure in the absence of notification where a watercourse state has reasonable grounds for believing that another watercourse state is, in

fact, planning measures that 'may have a significant adverse effect upon it'. If so, the potentially affected state may request the state planning such measures to comply with the article 12 procedure for notification. Again, resolution of any differences depends upon consultation and negotiation. Of practical value is the provision that, until resolution of any differences is achieved, the state planning adverse measures may not implement them for up to six months. Balancing this moratorium on carrying out new activities, the Convention also permits a state that is planning measures to implement them immediately if it can be demonstrated that they are of the 'utmost urgency in order to protect public health, public safety or other equally important interests' (article 19). Where this stringent test can be satisfied, there nonetheless remains an obligation to enter into consultations and negotiations as required under the article 17 provision for notification.

5.2 Dispute Resolution

Critical to the implementation of substantive obligations are complementary procedures for dispute resolution. Those negotiating the Convention were not, however, able to agree upon a binding or compulsory system. Rather, state parties have accepted limited fact-finding procedures (article 33). Where joint negotiations to resolve a dispute have not been successful, the Convention creates a three-member Fact-Finding Commission. State parties are bound to give the Commission the information that it requests and to permit access to their territory for inspections. The Commission may adopt its reports by a majority, but is confined to making recommendations only for settlement. Such a procedure does not therefore lead to a binding obligation to accept the recommendations. When becoming a party to the Convention, a state may also choose to accept compulsory adjudication by the ICJ or an arbitral tribunal. Again, however, in practice this option of voluntary and compulsory adjudication tends not to be accepted by states.

5.3 Summary

By establishing procedures for consultation and negotiation, the Convention has attempted to balance competing interests and to ensure resolution of different perspectives. While the Convention establishes relatively weak processes, reflecting the political compromises needed for agreement upon a multilateral treaty, it provides a foundation for more rigorous standards and principles in the future. As is well recognised in respect of multilateral treaties that are both a codification and progressive development of international law, the International Watercourses Convention provides a framework for the negotiation of further bilateral and regional agreements. In this way, the Convention stimulates the

development of generally-accepted new rules of customary international law. Negotiators repeatedly stressed, however, that the Convention provisions do not have the status of *jus cogens*. Rather, their legal status will evolve through the practice of states in the years following adoption.

It remains to be seen whether the required 35 states will ratify the Convention, though it might be thought that, as the last ten years have brought only 15 adherences thus far, it is improbable that the Convention will come into force in the near future. Rather, and more positively, the Convention provides benchmarks for state practice that, over time, may come to reflect accepted principles binding on all states as customary law.

6. PRINCIPLES DEVELOPED BY INTERNATIONAL COURTS AND TRIBUNALS

The role of international courts and tribunals provides a particularly important means of identifying the status and substantive content of evolving legal principles for the use of shared water resources of river boundaries. The principles of equality of access and common legal rights of riparian states were first recognised by the Permanent Court of International Justice in its decision in the 1929 *River Oder* case. The Court was asked to consider the principle of freedom of navigation of tributaries of the River Oder, which formed part of the border between Germany and Poland and had an international status under article 331 of the Treaty of Versailles. More precisely, the legal question was whether freedom of navigation gives downstream states access to parts of the tributaries in the upstream states. In responding, the Court observed (pp. 27-28) that the:

> *community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the user of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.… If the common legal right is based on the existence of a navigable waterway separating or traversing several States, it is evident that this common right extends to the whole navigable course of the river and does not stop short at the last frontier.*

The principles of equality of access and common legal rights were subsequently adopted in respect of uses other than navigation by the 1997 UN Convention on Non-Navigable Uses of International Watercourses as encompassed by the concept of ‘equitable utilization’.

The Permanent Court of International Justice had another opportunity in 1937 to consider further the rights of riparian states in the *Diversion of Water from the River Meuse* case. The Netherlands argued that Belgium could not construct a canal on its territory if this had the effect of diverting normal water flows from

the Meuse contrary to the Netherlands' interests. While the Court explicitly confined itself to interpretation of the 1863 Treaty between these states governing diversions of water from the Meuse, it recognised a wider principle that the upstream state could not divert waters within its territory if do so would diminish downstream state rights to the normal flow of these waters.

6.1 *Lac Lanoux* Arbitration

The views of the Arbitral Tribunal in the *Lac Lanoux* dispute between France and Spain in 1957 have also provided benchmarks for balancing the respective interests of riparian states in boundary river resources. The dispute arose over the respective rights of the states parties to the 1886 Treaty of Bayonne under which Spain and France were accorded sovereignty over the waters within their boundaries, particularly Lake Lanoux in the Pyrenees. The downstream riparian, Spain, was to have a right to the 'natural waters which flow from higher levels without the hand of man having contributed thereto', so long as the rights of the upstream state, France, were not harmed. Any new proposed works were to be subject to consultation. After the Second World War, France dammed Lake Lanoux to increase the flow of water for hydroelectricity, thereby restricting Spain's use of these waters for irrigation.

The Tribunal (para 22) set out a number of guiding principles for resolution of the dispute:

> *Account must be taken of all interests, of whatsoever nature, which are liable to be affected by the works undertaken, even if they do not correspond to a right.*....
>
> *The Tribunal is of the opinion that, according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own.*

The Tribunal considered Spain's argument that there is a customary law obligation not to cause serious harm, but concluded (para 129) that:

> *if it is admitted that there is a principle which prohibits the upstream State from altering the waters of a river in such a fashion as seriously to prejudice the downstream State, such a principle would have no application to the present case, because*.... *the French scheme will not alter the waters [in question].*

France had not infringed the treaty rights of Spain, in the Court's view, as it had not been 'clearly affirmed that the proposed works would entail an abnormal

risk in neighbourly relations or in the utilization of the waters' (para 6). While the views of the Tribunal are useful in stressing the importance of good faith negotiations to reconcile conflicting interests, it should be recalled that its final decision rested upon an interpretation of the Treaty of 1886, not explicitly upon any principles of customary international law.

6.2 *Gabčíkovo-Nagymaros Project (Hungary and Slovakia)* 1997

Treaty interpretation, rather than principles of customary international law, was also central to the reasoning of the International Court of Justice in the dispute between Hungary and Slovakia in the *Gabčíkovo-Nagymaros* case (para 85) where the Court rested its conclusions upon the terms of a joint development agreement binding on both states. The dispute, nonetheless, remains illustrative of the kinds of problems encountered by states with river boundaries and of the recognition by the ICJ of the 'community of interests' in non-navigational uses of river boundaries.

The facts are complex and have been simplified as follows. In 1977, Hungary and Czechoslovakia entered into a treaty for the construction and operation of a system of locks on the Danube River, which forms a significant part of the boundary river between them. The aim was to produce electricity and to improve navigation and flood protection by creating 'a System of Locks as a joint investment constituting a single and indivisible operational system of works' (para 77). Construction was well advanced by 1989 in the upstream part of the project in Czechoslovakia, but had reached a preliminary stage only in the Hungarian part downstream. By this time, Hungary had become increasingly concerned about the economic and environmental viability of the works and, in May 1989, it suspended the project (see map 7.2). When negotiations failed, Czechoslovakia adopted a 'provisional solution', known as Variant C, to dam the river upstream. On 19 May 1989, Hungary terminated the 1977 Treaty. Czechoslovakia went ahead with Variant C, which part of the project was completed in October 1992, diverting 80 to 90 per cent of the waters of the Danube into its bypass canal. On 1 January 1993, Slovakia became an independent state as successor to Czechoslovakia.

On 7 April 1993, Hungary and Slovakia, by Special Agreement submitted their dispute to the ICJ asking whether each state had been entitled to act as they did under international law. The Court concluded, *inter alia*:

- Hungary was not entitled to suspend and subsequently abandon the project;
- Czechoslovakia was not entitled to put into operation its 'provisional solution' in Variant C; and
- Notification by Hungary purporting to terminate the Treaty did not have legal effect.

In making this decision, the Court provided valuable comments on the principles that apply where water resources are shared between two states. The principles recognised by the ICJ in this case are summarised below.

Equality of rights: The ICJ in *Gabčíkovo-Nagymaros*, recognized the earlier views of the PCIJ in the *River Oda* case (p. 27) that the principles of equitable share and equality of rights arise in the following way (para 85):

> *[the]community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the user of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.*

Proportionality: The ICJ also stressed the importance of the principle of proportionality, arguing (para 85) that:

> *Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube – with the continuing effects of the diversion of these waters on the ecology of the riparian area of Szigetköz – failed to respect the proportionality which is required by international law.*

Sustainable development: The Court emphasised the need for riparian states to reconcile their needs for economic development with the objective of sustainable development and stated (para 141) that the Parties should 'find an agreed solution that takes account of the objectives of the Treaty.... as well as the norms of international environmental law and the principles of international watercourses.'

Citing article 5(2) of the Convention on International Watercourses, the ICJ required the Parties to re-establish the joint regime created by the 1977 Treaty. It urged them to 'take all necessary measures to ensure achievement of the objectives of the Treaty' including the concept of common utilization of shared water resources.

In his Separate Opinion, Vice-President Weeramantry elaborated on the view of the majority of the Court that reconciliation of economic development with environmental protection is to be achieved through the 'concept' of sustainable development. Judge Weeramantry argued that sustainable development is a 'principle' of reconciliation of sometimes conflicting norms that, with world-wide recognition, has the status of modern international law (p. 88). Whether the notion of sustainable development is a 'concept' or a 'principle', it is an effective tool with which to balance competing norms regulating the shared use of water resources of a boundary river.

Interpretation of treaties taking account of new environmental norms: yet another valuable contribution by the ICJ to the principles of shared water rights of river boundaries was its recognition in the *Gabčíkovo-Nagymaros* case of the impact of evolving international law on the application and interpretation of the 1977 Treaty between Hungary and Slovakia. The Court (para 142) considered:

> *that newly developed norms of environmental law are relevant for the implementation of the Treaty and that the parties could, by agreement, incorporate them through the application of Articles 15, 19 and 20 of the Treaty. These articles do not contain specific obligations of performance but require the parties, in carrying out their obligations to ensure that the quality of water in the Danube is not impaired and that nature is protected, to take new environmental norms into consideration when agreeing upon the means to be specified in the Joint Contractual Plan.*

In short, when interpreting and applying a treaty, the state parties are required to take into account new environmental norms such as equitable utilization and sustainable development. A treaty regulating the use of shared waters of a boundary river will be dynamic in adapting to contemporary developments in international environmental law.

Obligation to enter into good faith negotiations to resolve disputes: the ICJ in the *Gabčíkovo-Nagymaros* case confirmed the evolving jurisprudence of international courts and the Convention on International Watercourses that requires states to enter into good-faith and meaningful negotiations to resolve disputes over access to natural resources. The Court drew attention to the idea of 'equitable participation' set out in Article 5(2) of the Convention on International Watercourses:

> *States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof.*

Summary

In the *Gabčíkovo-Nagymaros* case, the ICJ confirmed evolving jurisprudence on the use of water resources of international watercourses, thereby enabling identification of certain general principles of international law:

- The upper riparian state may not alter the flow of water to a lower riparian state where to do so will lead to serious injury to that lower riparian.
- States should take into account the interests of all states, even if they do not amount to a legal right, if their interests are likely to be adversely affected by activities altering the waters of a shared river.
- There is an equality of rights, or community of interests, in the non-navigable use of international watercourses.

- States are entitled to rights of equitable utilization of shared water resources.
- The concept of sustainable development is a tool by which the right to economic development and concerns for environmental protection can be balanced and reconciled.
- States are required when interpreting and applying treaties regulating their use of shared water resources to take into account new rules of international environmental law.
- States are obliged to enter into meaningful negotiations in good faith to resolve disputes between them over shared resources of international watercourses.

CONCLUSIONS

Historically, rivers have provided a readily identifiable means of delineating the spheres of influence of nineteenth century colonial powers and of identifying the limits of sovereignty of recognised and new riparian states. For practical purposes, phrases such as 'the middle', 'centre' or 'main channel' of the river sufficed to mark the boundary in treaties. By the early twentieth century, however, it became apparent that rivers are vital navigational routes for trade and that their waters are both a valuable resource for hydroelectricity and especially vulnerable to pollution. It thus became important to identify exactly where the boundary, and hence the limits to jurisdiction, lies in the river. Similarly, sovereignty claims to islands located within rivers used as boundaries prompted otherwise inexplicable legal disputes, and sometimes the use of force, to determine the precise location of the boundary. Modern technological advances have enabled the navigable channel to be identified with relative exactness. Evolving jurisprudence of domestic and international tribunals has also given legal content to contemporary concepts of equitable and reasonable use, and sustainable development.

For the future, traditional notions of territorial sovereignty are no longer entirely appropriate for the management of international rivers. New ideas of joint management and shared responsibility for, and exploitation of, river resources are becoming the norm as states and international tribunals increasingly defer to the framework principles of the UN Convention on International Watercourses. The 'complete autonomy' of nation states in that part of a river boundary over which they have sovereignty is, today, being replaced by the general priorities of the international community in environmental protection and sustainability, equitable and reasonable access, avoidance and mitigation of harm and cooperative management. The continued use of rivers as international boundaries remains, nonetheless, a powerful instrument for peace between neighbours and a practical delineation of jurisdiction.

8. THE AMERICAS

There is a marked contrast between the three long international boundaries in North America and the 35 long and short boundaries in Central and South America. The boundaries, in the two continents, were produced by distinct processes and they will be considered separately.

NORTH AMERICA

Nicholson (1954, 5) described briefly some of the boundaries between indigenous groups in the period before European colonization. However, he concluded that these pre-European boundaries had little or no effect on the evolution of the Canada-United States boundaries. The boundary between Alaska and Canada was first negotiated between the British and Russian empires in February 1825. It was generically similar to the Portuguese-Spanish boundary of 1777 in South America, the Sino-Russian limit of 1864 in central Asia and the Anglo-French line of 1890 in West Africa. They were all boundaries negotiated between imperial powers, whose knowledge of the areas being divided was imperfect. Canada's southern boundary and Mexico's northern boundary were distinct from these colonial boundaries. In the area that became the United States European colonists successfully seceded from the metropolitan powers. In the north they negotiated a boundary with Britain and in the south they settled a boundary with Mexico that had seceded from Spain in 1821.

In 1763 France was eliminated from the North American continent and was restricted to St. Pierre and Miquelon Islands, that still form part of France. In 1972 Canada and France settled the maritime boundary between the islands and the Canadian mainland (Alexander, 1993, 387-98). In 1992 a Court of Arbitration completed the delimitation of the marine area attached to St. Pierre and Miquelon Islands (Charney, 1993, 399-401). The area consisted of an irregular shape around the islands with a maximum width of about 60 nm and a minimum width of 37 nm, from which a corridor 10.5 nm wide and about 175 nm long projected southwards.

After the defeat of France the hegemony that Britain secured lasted less than 20 years. The American War of Independence ended in 1783 and Nicholson has

recorded that Britain was left in the position occupied by France in 1697, with the American colonists playing the British role of that period.

> *It was natural then that the United States should press for the same boundaries between themselves and Canada as Britain had claimed against the French, and the ultimate result was that Great Britain retained Quebec, Nova Scotia and Newfoundland of 1763, but lost the Illinois country and the lands south and west of the Great Lakes that had been included in Quebec by the Act of 1774.* (Nicholson, 1954, 18)

Paullin (1932, 52-5) has provided a well illustrated account of the negotiations that led to the definitive Treaty of Peace on 3 September 1783. On 19 March 1779 the American Congress defined the boundary to be claimed at the end of the war. From the Bay of Fundy the proposed boundary lay close to meridian 67º west as far as the junction of the watershed south of the St Lawrence River. This watershed was then followed southwestwards to the Connecticut River, that was followed to parallel 45º North. This parallel formed the boundary westwards to the St Lawrence River and from this junction the boundary passed directly to the south end of Lake Nipissing. From this point the boundary went directly to the source of the Mississippi River (Paullin, 1932, 52).

By 8 October 1782, after many proposals and counter proposals by both sides, and some contributions by French and Spanish diplomats, the American and British representatives agreed on a line very close to that defined by the American Congress three years earlier. The British Government declined to accept the new line, and one month later after some minor adjustments an agreement was adopted by both parties that was settled formally in 1783 (Figure 8.1).

The new boundary followed the course of the earlier line as far as the St Lawrence River. It then followed that river and passed through the middle of Lakes Ontario, Erie, Huron and Superior to the Lake of the Woods and on to the source of the Mississippi River. An alternative line was offered to Britain at the same time, which would have given it parts of Wisconsin and increased the area of Ontario. The British authorities declined the offer, preferring to keep riparian rights in all the Great Lakes except Michigan.

The Treaty of London, signed on 19 November 1794 raised two difficulties (Douglas, 1930, 9). The first related to the possibility of the Mississippi not extending as far north as the parallel extending westwards from the Lake of the Woods. The second concerned the identity of the St Croix River,that had been a problem since 1764. Both countries nominated a commissioner to deal with the St Croix difficulty and they then chose a third commissioner. Four years later the three commissioners decided that the River Schoodiac and its northern branch called Cheputnaticook were the true St Croix River. A monument was erected at its source.

Ermen (1990, 82-3) reproduces a 1797 map, at a scale of 1:6.9 million, showing the boundary from the coast to the Lake of the Woods. It was published by William Faden of London, publisher of a series of boundary maps from 1784.

Parallel 45º north had been marked in the period 1771-4 by the chief surveyors of Quebec and New York, who were respectively called Thomas Vallentine and John Collins. In 1802 this line was found to be as much as three-quarters of a mile north of the true parallel. As a contribution to compromise Britain agreed that the Vallentine-Collins line should stand (Paullin, 1932, 62).

The Treaty of Ghent signed on 24 December 1814 provided for the final adjustment of the boundaries described in the 1783 Treaty by commissioners. There were three main questions to be decided. First there was the issue of the ownership of Grand Manan, an island in the Bay of Fundy, and certain islands in the Bay of Passamaquaoddy, an inlet on the Bay of Fundy. The second uncertainty involved the course of the boundary from the source of the St Croix River to the St Lawrence River. The third related to the course of the boundary overland to the Lake of the Woods.

The first commission awarded Moose, Dudley and Frederick Islands to the United States. The remaining islands in Passamaquoddy Bay and the Island of Grand Manan were awarded to Britain. The third commission produced a detailed description of the boundary from the junction of parallel 45º north with the St Lawrence River to the entrance of Lake Superior.

The second issue was referred to the King of the Netherlands in 1829 (Douglas, 1930, 17). The award was delivered in 1831.

> *However disposed the Government of the United States might have been to acquiesce in the decision of the arbiter, it had not the power to change the boundaries of a State without the consent of the State. Against that alteration the State of Maine entered a solemn protest by resolution of January 19, 1832, and the Senate of the United States accordingly refused to give its assent to the award.* (Douglas, 1930, 17)

Eleven years later the Webster-Ashburton Treaty of 1842 settled the boundary from the source of the St Croix River to the St Lawrence River. The result was that the United States received about 1,000 square miles fewer than the award of the Dutch King. However, Maine benefited from reimbursement for boundary surveys and the receipt of a share of the revenue generated from timber cut in the disputed area.

The United States regarded parallel 49º north as the boundary with British possessions (Paullin, 1932, 60). Paullin (1923) described the origin of parallel 49º north as a boundary, and Nicholson (1954, 26) observed that it had been so frequently marked on maps as a boundary before 1803, that its acceptance was unsurprising. The boundary from Lake of the Woods to the Stony [Rocky] Mountains was defined in an agreement dated 20 October 1818 (Jones, 1932).

> *Article II. It is agreed that a line drawn from the most northwestern point of the Lake of the Woods, along the forty-ninth parallel of north latitude, or if the said point shall not be the forty-ninth parallel of north latitude, then that a line drawn from the said point north or south, as the case may be,*

> *until the said line shall intersect the said parallel of north latitude… from the Lake of the Woods to the Stony Mountains.* (Douglas, 1930, 13)

The northwestern point was located by two British surveyors and the American authorities accepted it. It was about 27.5 miles north of the 49th parallel in a swamp. A point was fixed about 4,600 ft to the south, where a pile of logs 12 ft high and 7 ft square was established. An iron monument was established close to the wooden pile. In 1912 this iron marker was recovered and set in concrete. Its location was at latitude 49º 22' 39.6" and longitude 95º 09'11.6". The boundary was carried from this location to the 49 th parallel by 13 iron markers (Douglas, 1930, 14).

The American authorities pressed for the parallel to be continued to the Strait of Juan de Fuca on the Pacific Coast. Britain preferred a boundary that coincided with the Columbia River that reached the coast 250 km south of the Strait. The United States continued to offer parallel 49º north, and after four refusals, Britain proposed its use in 1846 (Nicholson, 1954, 29). The parallel's continuation to the mainland coast was confirmed in the treaty of 15 June 1846 (Jones, 1937). The boundary was continued through the Strait to the western entrance of Juan de Fuca.

The remaining positional problem occurred in Juan de Fuca Strait. The agreement of 15 June 1846 carried the boundary along parallel 49º north from the Rocky Mountains to the mainland coast at the head of Juan de Fuca Strait (Parry, 1977, 36). This agreement did not specify which of the two main channels carried the boundary to the open sea. The two countries could not settle this problem and referred the matter to Emperor William of Germany in 1871. By his decision of October 1872 the Emperor selected Haro Strait, flowing between the San Juan Islands and the islands immediately adjacent to Vancouver Island for the course of the boundary. The seaward terminus of the boundary was fixed as an equidistance point between two nominated points that are '…nearly due North and South true' (Parry, 1977: 39). The Canadian point was Bonilla Point on the south coast of Vancouver Island, 2 nm southeast of Carmanah Point. The American point was Tatooch Lighthouse on a small island of the same name, that is 3.6 cables northwest of Cape Flattery. A cable is 185 metres long in the British and German Navies and 218 metres in the American Navy. The American measure was applied in this case. The terminus appears to be located near 48º North and 124º 40' West, and it is from this point that the American-Canadian maritime boundary will be delimited.

Settlement of the boundary between the United States and Mexico was more complicated than the settlement with Canada (Figure 8.2). The boundary evolution began in 1847. The previous history of the borderland, through which the boundary was drawn, has been described and interpreted by Bancroft (1884), Bannon (1970), Bustamante (1979) and Spicer (1962). House (1982) provided a useful summary of the earlier history of this region when it was either a political or settlement frontier.

A state of war legally came into existence between Mexico and the United States on 13 May 1846. In less than a year the American forces had advanced on a wide front and secured the Mexican Provinces of New Mexico, Upper and Lower California, Coahuila, Tamaulipas, Nuevo Leon and Chihuahua. The American government appointed a commissioner, who would remain with the army, and be ready to accept any opportunity for negotiating a satisfactory peace (Miller, 1937, 261). The conditions that the United States Government would find satisfactory were carefully laid down in a draft agreement given to the commissioner. This discussion is only concerned with the territorial provisions.

At that time the *de jure* boundary between the two states was that promulgated in 1819. It was coincident with the Sabine, Red and Arkansas Rivers and latitude 42º North. Under Article IV of the draft treaty, the United States sought a southward extension of the boundary to include all of Texas,that had joined the Union in 1945, Mexico and Upper and Lower California.

> *The boundary line between the two Republics shall commence in the Gulf of Mexico, three leagues from land opposite the mouth of the Rio Grande, from thence up the middle of that river to a point where it strikes the Southern boundary of New Mexico, thence westwardly along the Southern boundary of New Mexico, to the South Western corner of the same, thence Northward along the Western line of New Mexico until it intersects the first branch of the river Gila, or if it should not intersect any branch of that river, then to the point on the line nearest to such branch and thence in a direct line to the same and down the middle of said branch of said river until it empties into the Rio Colorado, thence down the middle of the Colorado and the Middle of the Gulf of California to the Pacific Ocean.* (Miller, 1937, 265)

In addition to this territorial gain, the United States sought to secure transit rights for American citizens and goods across the Istmo de Tehuantepec, which is about 220 km wide. The draft agreement represents the maximum concessions America hoped to gain. However, the government indicated that it would be satisfied with less and outlined a series of payments that could be offered to Mexico depending upon the territory and the rights secured. The gain of Upper and Lower California and New Mexico and transit rights over the Istmo de Tehuantepec would be worth $US 30 millions. The three provinces alone, or Upper and Lower California and transit rights across the Peninsula would be worth $US 25 millions. Finally Upper California and New Mexico would be worth $US 20 millions.

If it proved impossible to secure Lower California, the conclusion to the boundary description would be altered.

> *…to a point directly opposite the division line between Upper and Lower California; then, due West, along the said line which runs north of the parallel of 32º and South of San Miguel to the Pacific Ocean.* (Miller, 1937, 263)

A map at a scale of 1:7 million by Colton, dated 1862, shows that San Miguel was located about 10 miles south of latitude 32º North (Ermen, 1990, 108). The final terminus on the Pacific Coast was near 32º 30' North. While the intention of the boundary definition was clear, Boggs (1940) exposed the problems that the definition contained. They included identifying the middle any river of even modest width, the imprecision of some internal Mexican boundaries, such as the southern boundary of New Mexico and the trials of locating the point on the western boundary of New Mexico nearest any tributary of the River Gila. In fact the safeguard regarding the Gila River was unnecessary because the river originated 105 km east of New Mexico's western boundary.

Further choices were suggested to the commissioner with the army. In order to gain the Paso del Norte and the whole of the Gila River, that had been identified as a good route to the Pacific Ocean, it was suggested that the boundary should follow the Rio Grande to parallel 32º and along that latitude to the middle of the Gulf of California. This line could be extended across the Californian Peninsula if Lower California was not available. However, it was regarded as essential that the United States had uninterrupted access through the Gulf of California and that San Diego was secured. This course was recommended to prevent any dispute about the southern boundary of New Mexico, which, so far as the United States was aware, had never been 'authoritatively and specifically determined' (Miller, 1937, 770).

At the first meeting between American and Mexican commissioners the latter revealed their government's proposals. There were probably a number of possibilities but two indispensable conditions were set out that would have prevented even the minimum American conditions forming a basis for discussion. First the Mexicans required a neutral strip of territory adjacent to the north bank of the Rio Grande. It was designed to provide military protection against the United States and to restrict smuggling, which would reduce Mexico's revenue and injure their manufacturing industry. Second, Mexico required a land connection between Lower California and Sonora around the head of the Gulf of California.

Instead of breaking off the negotiations, the American commissioner exceeded his instructions and submitted to his government for consideration a line that met the Mexican conditions. Historians have undoubtedly judged the commissioner: a geographer can only deal with the results of his action. The recommended boundary was defined as follows.

> *The boundary line between the two Republics shall commence at a point in the Gulf of Mexico, three leagues from land, opposite to the middle of the Southernmost inlet into Corpus Christi Bay; thence, through the middle of said inlet, and through the middle of said bay, to the middle of the mouth of the Rio Nueces; then up the middle of said river to the Southernmost extremity of Yoke Lake, or Oagunda de las Yuntas, where the said river leaves the said Lake after running through the same; thence by a line due west to the middle of the Rio Puerco, and thence up the middle of said river*

> *to the parallel of latitude six geographical miles north of the Fort at the Paso del Norte on the Rio Bravo; thence due west, along the said parallel to the point where it intersects the western boundary of New Mexico; thence northwardly along the said boundary, until it first intersects a branch of the River Gila; (or if it should not intersect any branch of that river, then to the point on said boundary nearest the first branch thereof, and from that point in a direct line to such a branch) thence down the middle of said branch and of the said River Gila, until it empties into the Rio Colorado, and down or up the middle of the Colorado, as the case may require, to the thirty-third parallel of latitude; and thence due west along the said parallel, into the Pacific Ocean. And it is hereby agreed and stipulated, that the territory comprehended between the Rio Bravo and the above defined Boundary, from its commencement in the Gulf of Mexico up to the point where it crosses the Rio Bravo, shall for ever remain a neutral ground between the two Republics, and shall not be settled upon by the citizens of either; no person shall be allowed hereafter to settle or establish himself within the said territory for any purpose or under any pretext whatever; and all contraventions of this prohibition may be treated by the Government of either Republic in the way prescribed by its laws respecting persons establishing themselves in defiance of its authority, within its own proper and exclusive territory.* (Miller, 1937, 288)

The form of this description implies that the neutral strip lay within Mexico, although the sense of the description is that it would be the responsibility of both governments to restrict settlement there. It is not clear why, in order to give a land connection between Lower California and Sonora, the boundary had to be drawn along the parallel 33º north. This line would deny the United States access to San Diego. The parallel six geographical miles north of the fort at Paso del Norte on the Rio Bravo was coincident with the southern boundary of New Mexico on Disturnell's map, and this avoided any dispute about the position of the provincial boundary.

There was no chance of the United States accepting this boundary because it would compromise Texan sovereignty and deprive America of San Diego. The commissioner was recalled before the resumption of hostilities that forced Mexico to sue for peace (Miller, 1937, 289-93). The American commissioner continued to make history by ignoring his recall and remaining in Mexico to negotiate a treaty, although by then he lacked any authority!

Before examining further negotiations it is useful to note that before the war recommenced, the process of boundary evolution had been normal. Both states had proposed lines that would allocate more territory than they expected to gain. The boundaries proposed revealed that the geographical knowledge of both sides was imperfect. Mexico's proposal for a neutral zone was the transparent device of a weaker state trying to limit the territorial concessions that the stronger state was exacting.

The final round of negotiations started in December 1847. Mexican authorities gave up the idea of a broad neutral corridor and instead sought to draw the boundary parallel to and one league north of the Rio Grande. Further Mexico introduced a claim calling for part of the boundary to coincide with the summits of the Sierra do los Mimbres, that would have preserved the southwest quadrant of New Mexico. The Mexican authorities maintained its claim for a land connection between Lower California and Sonora that would include San Diego.

It was only this last point that prevented rapid agreement. The American government in its first draft, instructed the commissioner where the western segment of the boundary should be located.

> *…down the middle of the Colorado river and the Gulf of Mexico to a point opposite the division line between Upper and Lower California; then due west along said line which runs north of the parallel of 32º and south of San Miguel to the Pacific Ocean.* (Miller, 1937, 263)

The American commissioner found himself in some difficulties for three reasons. First some maps showed San Miguel to lie south of parallel 32º north. Second the Mexican Government and some other authorities showed the division between Upper and Lower California to lie north of San Diego. Third, it was suspected, correctly as it turned out, that the Colorado River entered the Gulf of California south of parallel 32º North.

Eventually, after various proposals and counter-proposals, the commissioners drafted a boundary that coincided with the original American draft, except in the extreme west. The final boundary segment followed a direct course from the confluence of the Gilas and Colorado Rivers to a point on the Pacific coast called Punto de Arena lying south of San Diego.

The commissioners sent the draft to the American authorities who accepted it and the treaty was endorsed by the American Senate with some amendments that did not relate to territorial provisions. The fifth Article defined the boundary.

> *The Boundary line between the two Republics shall commence in the Gulf of Mexico, three leagues from land, opposite the mouth of its deepest branch, if it should have more than one branch emptying into the sea; from thence, up the middle of that river, following the deepest channel, where it has more than one, to the point where it strikes the south boundary of New Mexico; thence westwardly, along the whole southern boundary of New Mexico (which runs north of the town called Paso) to its western termination; thence, northward, long the western line of New Mexico, until it intersects the first branch of the river Gila (or if it should not intersect any branch of that river, then to the point on said line nearest to such a branch, and thence in a direct line to the same); thence down the middle of the said river, until it empties into the Rio Colorado; thence across the Rio Colorado, following the division line between Upper and Lower California, to the Pacific Ocean.*

> *The southern and western limits of New Mexico, mentioned in this Article, are those laid down in the Map entitled 'Map of the United Mexican States, as organized and defined by various acts of the Congress of the said Republic, and constructed according to the best authorities, revised edition. Published at New York in 1847 by J. Disturnell'; of which Map a Copy is added to this treaty, bearing the signatures and seals of the Undersigned Plenipotentiaries. And, in order to preclude all difficulty in tracing upon the ground the limit shall consist of a straight line, drawn from the middle of the Rio Gila, where it unites with the Colorado, to a point on the coast of the Pacific Ocean, distant one marine league due south of the southernmost point of San Diego, according to the plan of said port, made in the year 1782 by Don Juan Pantoja, second sailing master of the Spanish fleet, and published at Madrid in the year 1802, in the Atlas of the voyage of the schooners Sutil and Mexicana.* (Miller, 1937, 213-5)

There are two points to notice. First the boundary description was similar to that originally proposed by America and it continued to reflect the generalized topographical knowledge available about the area in question. For example, apparently it was still unknown whether the River Gila or any of its tributaries originated in New Mexico. It is curious that in the Gulf of Mexico the boundary starts 'three leagues from land' and on the Pacific coast there is reference to 'one marine league'. Before Texas joined the Union, in 1845, it had proclaimed a maritime zone three leagues wide (Shalowitz, 1962, 132). Since these were maritime measurements this claim was equal to 9 nautical miles. One nautical mile is equivalent to one minute of latitude or 1,852 metres. The measurement south of San Diego was a marine league of 3 nautical miles, but it was measured over land. Second the definition hoped to avoid the two main points of controversy by specifying the maps that were authorities for fixing the southern and western boundaries of New Mexico and the terminal point on the Pacific Ocean. Subsequent events showed that controversy was not avoided.

In 1849 a commission tried to determine the Pacific coast terminus of the boundary. It found little correspondence between Pantoja's plan of San Diego in 1782 and the landscape 67 years later. One point near the port appeared to coincide with the present coast. Accordingly, they measured the distance on the map between this point and the southernmost point of the port in 1782. This distance was then laid off on the ground and the marine league was measured southwards from it.

In 1852 the United States Government made financial provision for the joint commission appointed to demarcate the southern and western boundary of New Mexico. The United States paid $15 millions for the territory gained. Then in December 1853 a further $10 millions in gold was paid for the Gadsen Purchase. It was named after the United States Commissioner James Gadsen. A series of straight lines replaced the Gila River and delivered the catchment of that river

to the United States. The new area was about 24,000 square miles in extent. The southern boundary departed from the Rio Grande at latitude 31º 47' North, that was followed westwards for 100 miles before turning due south to parallel 31º 20' north. This parallel was followed to longitude 111º West. The boundary was continued by a straight line to the Colorado River 220 English miles, below its confluence with the River Gila. The boundary was completed along the median line of the Colorado River north to the straight line agreed in 1848 (Malloy, 1910, 1122). The new boundary was demarcated in 1855. However, as new settlers moved into the area it became evident that the line was not satisfactorily demarcated and in the period 1891-1898 a joint-commission discovered the line and it was properly marked (Douglas, 1930, 39). Rebert (2000) has provided an excellent account of the mapping of the boundary between Mexico and the United States in the period 1849-1857.

The western boundary between Canada and the United States was based on the Anglo-Russian boundary of 1825. Russia occupied and claimed Alaska and the Aleutian Islands in 1803. In 1818 Britain and the United States had settled their boundary from the Lake of the Woods to the Rocky Mountains. It was agreed that the coastal area west of the Rocky Mountains would remain open to both parties for a decade (Douglas, 1930, 13). The British authorities were anxious to ensure that the territory of Canada had an outlet to the Pacific Ocean and that this corridor should be as wide as possible. The Russian government sought a boundary at least as far south as parallel 55º North. This parallel marked the southern limit of the area within which the Russian-American Company had been granted exclusive trading rights by the Russian authorities. The most southerly Russian settlement was Sitka on Chichagof Island.

In 1823 Sir Charles Bagot, the British Ambassador in Moscow was instructed to open negotiations with the Russian government to fix a boundary that would provide a satisfactory outlet on the coast for British Canada. Sir Charles opened the bidding at Cross Sound in latitude 58º North, then the Lynn Canal to its northern extremity and longitude 135º West to the Arctic coast. Over the next two years Russia argued for a more southerly line of latitude and Britain proposed a more westerly longitude. In 1824 Russia and the United States agreed that Russia would not claim territory south of 54º 49' North and the United States would not claim territory north of that line. This encouraged Britain to reach an agreement with Russia in 1825.

> *III. Commencing from the southernmost point of the Island called Prince of Wales Island, which point lies in the parallel 54 degrees 40 minutes north latitude, and between the 131st and 133d degree of west longitude (meridian of Greenwich) the said line shall ascend to the north along the channel called Portland Channel, as far as the point on the continent where it strikes the 56th degree of north latitude; from this last mentioned point, the line of demarcation shall follow the summit of the mountains situated parallel to the coast as far as the point of intersection of the 141st degree*

of west longitude (of the same meridian); and finally, from the said point of intersection, the said meridian line of the 141st degree, in its prolongation as far as the Frozen Ocean.

IV. That with reference to the line of demarcation laid down in the preceding article, it is understood
1st. That the Island called Prince of Wales Island shall belong wholly to Russia.
2nd. That whenever the summit of the mountains which extend in a direction parallel to the coast from the 56th degree of north latitude to the point of intersection of the 141st degree of west longitude shall prove to be at the distance of more than ten marine leagues from the ocean, the limit between the British possessions and the line of the coast which is to belong to Russia as above mentioned shall be formed by a line parallel to the winding of the coast, and which shall never exceed ten marine leagues therefrom. (Douglas, 1930, 42)

The charts that British and Russian negotiators used in delimiting this boundary were prepared and published by Captain George Vancouver after his voyages from 1792-4 (Vancouver, 1798). The relevant detailed charts had scales varying from 1:888,000 to 1:755,000 and the continental coast was mapped at 1:1.5 millions. The locations of major islands and some minor islands were plotted with considerable accuracy. Davidson (1903, 55) notes that Tebenkof based his 1848 atlas on Vancouver's charts and that American government vessels were still using them to navigate through the Alexander Archipelago in 1867.

The charts show relief in two ways. On the islands hachures are used to portray escarpments and low, isolated ranges. On the continent relief is shown by shaded drawings of hills and mountains. On these charts the landward limit is marked by a continuous range of mountains, about 9 km wide. This continuous range is the most inaccurate feature on these charts. Along the 1200 km of this limiting range only two peaks are named. They are Mounts Saint Elias and Fairweather. Their respective heights were later determined to be 5490 metres and 4666 metres. There can be no doubt that Davidson (1903, 54-5) was correct in asserting that Vancouver sought to convey the impression that behind the continental coast there was a range of mountains. Twenty-five years later the British and Russian negotiators were treating the charts as an accurate representation of the landscape and decided that the linear range was an excellent site for a boundary.

The boundary was not demarcated, but its delimitation allowed Britain to concentrate on completing its boundary, formed by parallel 49º North, between the Rocky Mountains and Juan de Fuca Strait. That segment was settled in 1846.

By a Convention dated 30 March 1867 the United States purchased Russia's Pacific territories, consisting of Alaska and the Aleutian Islands, for $US 7.2 millions in gold. The United States also inherited the Anglo-Russian boundary that was described in Articles III and IV of the 1825 treaty. It must have been

evident to the American and British officials that this definition contained some uncertainties and difficulties. First there was not a single line of mountain summits from the head of the Portland Channel to meridian 141º West. Second the word 'parallel' has a precise meaning that cannot be achieved unless the coast and the mountain range are either straight lines or arcs of circles drawn with different radii from a common centre. Douglas (1930, 43) notes that for many years both sides considered that the boundary should be located ten marine leagues from the mainland coast. Ten marine leagues equals 30 nm or 55.5 km. The advance of settlers along the Stikine River valley made it necessary for a Canadian official, called Hunter to interpret the location of the boundary according to the Convention (Paullin, 1932, 70). He fixed the boundary about 40 km above its mouth and it was accepted by both Governments. Surveys in the period 1892-96 were designed to provide information that would allow the boundary to be delimited. This matter became urgent in 1896 when gold was discovered in the Yukon valley in northwest Canada. A gold-rush started and lasted for seven years. Prospectors sought entry to the diggings along the Lynn Canal on the ground that Canadian authorities claimed the northern coast of that extended Inlet, but this was refused by the United States. Eventually provisional lines were agreed that allowed access via the Chilkoot and White Passes and the Dyea and Skagway trails (Nicholson, 1954, 40).

Further negotiations in 1898 involved proposals by Britain that the boundary should follow the mountains closest to the coast, '…crossing all the inlets of the sea up to Mount St. Elias' (Douglas, 1930, 43). This claim was not accepted by the American commissioners, who also declined the invitation to arbitration. When the boundary commission was ended the only temporarily defined points on the boundary were '…the summits of Chilkoot and White Passes and a point on the Chilkat River above Pyramid Harbor…' (Douglas, 1930, 43).

During January 1903 the two governments agreed that they would each appoint three impartial jurists of repute to the Alaskan Boundary Tribunal in the hope that they could solve the disagreement. It might have been expected that the American and British jurists would vote en bloc for any final arrangement. The British delegation consisted of Baron Alverstone, Lord Chief Justice of England and two Canadian lawyers. As it turned out Baron Alverstone sided with the three American jurists and the United States secured most of its aims in the delimitation that was announced on 20 October 1903 (Douglas, 1930, 43-4).

> *It [the boundary] commences at Cape Muzon. Thence it crosses in a straight line to the mouth of Portland Channel, this entrance being west of Wales Island, and passes up the Channel to the north of Wales and Pearse Islands to the 56th parallel of latitude. Then the line runs from one mountain summit to another, passing above the heads of all fiords. At the head of Lynn Canal it traverses White and Chilkoot Passes. Then by a tortuous southwesterly course it reaches Mount Fairweather and thence follows the highest mountains around Yakutat Bay to Mount Elias.* (Douglas, 1930, 44)

Part of the boundary was not defined precisely but the governments exchanged notes that enabled mutually satisfactory arrangements to be made. The boundary section, of meridian 141º West, measured 645 miles and was defined by intervisible monuments by 1913. The survey of the coastal boundary, that measured 892.7 miles, was completed by 1914 (Douglas, 1930, 44).

There has been one major disagreement regarding the straight line that connects Cape Muzon to the entrance of the Portland Channel. Canadian authorities regard this straight line as being a maritime boundary. This interpretation would mean that the United States possesses no territorial sea southeast of Cape Muzon. The tribunal's decision is silent on any maritime questions and there are several international agreements where islands have been divided between two or more countries without the lines being considered maritime boundaries.

CENTRAL AND SOUTH AMERICA

The procedures by which international boundaries in Central and South America evolved from colonial origins were prototypes of those followed in Africa and Asia. Four centuries before Britain and France drew a straight line between the River Niger and Lake Chad, to separate their spheres of influence in unsurveyed areas, in 1890, Portugal and Spain had partitioned South America by a meridian. This meridian was defined in the Treaty of Tordesillas of 1494 as lying 370 leagues west of the Cape Verde Islands (Figure 8.3). Depending on the point selected, from which the measurement is made, various writers have identified the meridian as lying between 42º 30' W and 49º 45' W (Harisse, 1897). Nearly 150 years before China and Russia divided Central Asia, in 1689, by a boundary that contained serious uncertainties, Spain had defined the boundary of the Viceroyalty of Peru, in a manner that bequeathed problems to the successor state that became independent in 1821. Finally, the grant of independence to French colonial territories, in the 1960s, within boundaries drawn and altered by France during the previous 70 years, had been preceded. 140 years earlier, when Spanish America fractured into independent states such as Argentina and Colombia.

The earlier establishment and demise of the Portuguese and Spanish empires in South and Central America, compared with other colonial empires in Africa and Asia, meant that the independent successor states, such as Colombia and Venezuela, inherited boundaries that were not fixed as precisely as the boundaries of Nigeria and Vietnam.

The evolution of state boundaries in the Spanish Empire was based partly on the doctrine of *uti possidetis juris*. This doctrine was defined by the Swiss Federal Council in a boundary award concerning Colombia and Venezuela in 1922.

> *When the Spanish Colonies of Central and South America proclaimed themselves independent in the second decade of the nineteenth century,*

> *they adopted a principle of constitutional and international law to which they gave the name* uti possidetis juris *of 1810, with the effect of laying down the rule that the bounds of newly created Republics should be the frontiers of the Spanish Provinces for which they were substituted. This general principle offered the advantage of establishing an absolute rule that there was not in law in the old Spanish America any territory without a master*… (Scott, 1922, 428)

Unfortunately this simple doctrine proved difficult to apply as the following long quotation from Ireland's meticulous study shows.

> *The four provinces of Upper Peru which the General Congress of the Provinces of the Plata declared on May 9, 1826, were free to dispose of their own future had, with the other eight of the viceroyalty of the Plata, last been described in a royal order of Charles III on August 22, 1783. The intendency of Cochabamba was to be composed of the then existing gobiernos of Santa Cruz de la Sierra and of the city of Cochabamba; and the district of Potosi included all the territory belonging to the province of Porco, in which it lay, and those of Atacama, Chayanta, Chichos, Lipes and Tarija. The gobierno of Santa Cruz de la Sierra was then the bishopric of the same name exclusive of the missions of Mojos and Chiquitos, which had been separated from that bishopric on August 5, 1777, and put under the viceroy of Buenos Aireas and so continued under the Intendents Ordinance of January 28, 1782 and the Royal Cédula of August 5, 1783. Another royal cédula of February 17, 1807, transferred Tarija from the archbishopric of Charcas to the newly created bishopric of Salta, but whether for spiritual purposes only or for temporal government as well was disputed. Atacama formed part of the intendency of Salta, and was defended by it from the Spaniards in Upper Peru in 1816; but in 1825 when Upper Peru had been wholly freed, General Miller, the acting president of the department of Potosi, in whose district it lay, claimed Atacama from General Juan Antonia Alvarez de Arenales, governor of Salta, and without waiting for Arenales' response issued orders to the commander of the district of Atacama. General Arenales, on August 6, 1825, protested to General Miller and complained to Bolivar, then commanding in Peru, who ruled on November 17, 1825, that Tarija and Atacama were apparently both included under the law of May 9, 1825, and therefore free to make their own provisions. The councillors of Tarija voted to join Upper Peru, and the Bolivian Congress by a law of October 3, 1826, declined to consider further demands from Salta and declared the matter closed. The sparsely settled Atacama was taken also to be part of Bolivia without further question.* (Ireland, 1938, 3)

Arbitration

Uncertainties connected with the location of the boundary between Portuguese and Spanish territory, and with the internal divisions of the Spanish territory, resulted in neighbours resorting to arbitration, when no territorial division could be reached.

Argentina and Brazil held contiguous territory between Uruguay to the south and Paraguay to the north. The Portuguese-Spanish Treaty of San Ildefonso of 1 October 1777 identified the boundary as following the Uruguay River and the Peperi Guazu River. Then the shortest line across the watershed to the San Antonio River and along that river to the Rio Parana. That boundary was agreed on 14 December 1857. Article 2 provided that the Perpiri Guazu and San Antonio Rivers were those named in the 1750 Treaty (Ireland, 1938, 13). A protocol signed on the same date agreed that it was unnecessary to recognize the validity or the invalidity of the treaty of 1750 (The Geographer, 1979, 2). Argentina approved the treaty but added an amendment that the Pepri-Guazu and the San Antonio were those situated further eastward. In short Argentina considered that rivers known by Brazil as Chapeco and Chopim were the Pepiri and San Antonio named in the treaty. These two pairs of rivers had similar configurations between the Uruguay and Parana Rivers.

The two countries submitted this question to the United States President Harrison on 2 July 1892. The cases for each party were submitted on 10 February 1894. For reasons that are not clear the cases were not exchanged and a decision was made by President Grover Cleveland on 5 February 1895 (Ireland, 1938, 15-6). The whole disputed area measuring 28, 750 sq. km was awarded to Brazil. This decision was based on the report of Commissioners in 1759, the report of a joint survey in 1788 based on the provisions of the treaty of 1777, and the map and report produced in 1887 by a Commission based on the 1885 Treaty. Argentina accepted the decision and the section of land boundary was demarcated by 1904. In addition islands in the boundary-rivers were allocated to each country.

Chile and Argentina achieved independence in 1810 and 1816 respectively. However, only the major centres were occupied by Spanish immigrants, and there was no boundary separating the Captaincy-General of Chile from the La Plata Vice-Royalty. Negotiations in 1899 did not produce a boundary and both sides agreed to seek the assistance of William Buchanan, the United States Minister in Buenos Aires. President McKinlay approved his involvement. Buchanan and a representative of Argentina and Chile formed a committee to draw a boundary between parallel 23º south and 26° 52’ 45” south. Seven segments of this northern line were identified; Buchanan and the Chilean delegate agreed on the first and fourth segments. Buchanan and the Argentinian delegate agreed on the second, third, fifth and sixth segments. All delegates agreed on the seventh segment that linked the Sierra Nevada to the San Francisco Pass. The first six segments were demarcated by 1905.

The southern section of the boundary had been defined in 1881 with the assistance of the United States Ministers in Buenos Aries and Santiago, both called Osborn! Unfortunately the definition included an ambiguous phrase that created serious problems for nearly a century. The phrase specified that the frontier should '…run by the most lofty peaks of said chains which divide the waters and to pass between the slopes which incline to one side and the other…' (Ireland, 1938, 23). Unfortunately long ago the eastward flowing rivers had cut through the most elevated crests, so that their sources lay west of the highest peaks. In 1896 Queen Victoria agreed to appoint a committee of British experts to solve this difficulty. She died before the committee reported, and the award was made by King Edward VII in May 1902. Britain was also requested to appoint a demarcation commission that would assist officials of Argentina and Chile to demarcate the boundary, and this was done in 1903.

Unfortunately three further disputes over alleged discrepancies in the demarcation have required arbitration since 1966. Two cases involved an area around Palena and in the vicinity of Lake San Martin. The third case involved the interpretation of Article 3 of the 1881 treaty. It specified that 'all the islands to the south of Beagle Channel to Cape Horn and those west of Tierra del Fuego to belong to Chile' (Ireland, 1938, 23). Argentina challenged the interpretation of this clause that delivered all the islands in Beagle Channel to Chile. The Court found in Chile's favour in 1977 and on 25 January 1978 Argentina claimed the judgement was a nullity and refused to accept it (de Aréchago, 1993, 720). The dispute was resolved by the involvement of Pope John Paul II. The islands awarded to Chile remained with that country. At the same time a maritime boundary was settled between the two countries. This boundary discounted Chile's claims from the islands that would otherwise have placed Argentina at a marked disadvantage.

In 1865 President Lopez of Paraguay, unwisely as it turned out, declared war on Argentina. Argentina was assisted in this conflict by Brazil and Uruguay. The war and the life of President Lopez ended in 1870. At the beginning of the war the three allies had signed a secret treaty that would have confined Paraguay to the area between the Paraguay and Parana Rivers. Argentina would have been the chief beneficiary of additional territory. When the terms of this agreement were published a number of South American states raised objections. Although Brazil had been a signatory to the agreement it now supported Paraguay in its boundary negotiations with Argentina. Fortunately Argentina decided that it would not assert the rights of a conqueror and impose new boundaries (Ireland, 1938, 30-3).

An agreement between Argentina and Paraguay in 1876 identified the territory in dispute. It was bounded by the Rio Verde to the north and the Rio Pilcomayo to the south. The agreement further provided that if this issue could not be settled within a year the question would be referred to the President of the United States of America for arbitration. In the absence of agreement the matter was referred to President Grant in January 1877. This invitation was accepted by his

successor President Hayes. Each side submitted their cases in March 1878 and the judgement was handed down eight months later. No reasons were given for the decision that delivered all the disputed territory to Paraguay. In May 1879 Paraguay changed the name of Villa Occidental to Villa Hayes.

The Dutch and French governments agreed in 1836 that the River Maroni would form their boundary between Surinam and Cayenne. Eventually, it was realised that 175 km from its mouth two rivers flowed into the Maroni. The headwaters of the Awa [Lawa] River were located to the southeast and the headwaters of the River Tapanahoni were located in the southwest. The two governments were unable to agree which of the tributaries should be regarded as a continuation of the Awa River and discussions ended in 1876. Twelve years later in November 1888 the Dutch and French administrations invited Czar Alexander III to adjudicate which river should mark the boundary beyond the Maroni River. The Czar objected that he was being restricted to choosing one of two rivers when some intermediate line might be more appropriate (Ireland, 1938, 243). After receiving pleadings from both sides, the Czar announced, in May 1891, that the boundary should follow the Awa River.

Further exploration presented the same problem when it was discovered that the Awa was formed by the junction of the Itani [Litani] River and the Marouini River 150 km above the junction of the Awa and Maroni Rivers. This time the governments did not resort to adjudication. The more westerly Itani River was selected, perhaps because it was almost perfectly aligned with the course of the Awa. It was also agreed that the Dutch authorities would recognise French properties, selected to the west of the Awa before 1888, for 40 years (Ireland, 1938, 244).

The Netherlands and Britain sought footholds on the northeast coast of South America from 1667. At first the Dutch were successful, but British privateers captured the Dutch provinces of Essequibo, Demerara and Berbice in April and May 1796. In 1802, they were returned to the Netherlands by the Treaty of Amiens (Ireland, 1938, 234). However, the three provinces were regained by Britain eighteen months later and remained a British colony. The territory became independent in 1966. Attempts by Britain and Venezuela to determine a common boundary were unavailing but both sides outlined their claims. For Britain the minimum claim was the Schomburgk Line surveyed by the British botanist in 1840-44 and advanced in 1886 (Rivière, 2007). Venezuela had no doubt that the Essequibo River was the correct boundary between the two territories. In the 1890s Venezuela sought the assistance of Brazil, Peru, the United States and the Pope. Only the United States made a serious effort to assist Venezuela. President Cleveland instructed Secretary of State Olney to issue a strong note to Lord Salisbury, the British Prime Minister. Roberts (1999) provides an interesting analysis of the following exchanges.

> *At a meeting on 7 August [1895], Bayard [American Ambassador] read Salisbury a long despatch from Olney which reiterated the history of the dispute, quoted at length from the Monroe Doctrine, stated the somewhat tenuous American interests involved, demanded a reply before the President's State of the Union speech to Congress, and even included the potentially bellicose phrase that the United States considered the controversy '…one in which both its honour and interests are involved'. …At the end of this lecture, Salisbury politely thanked Bayard, expressed surprise that such an insignificant subject as Venezuela could have so exercised the Administration, and said that as a reply would involve much labour and time the Americans were not to expect it too soon.* (Roberts, 1999, 615-6)

The British reply was ready on 27 November, but it was delivered after the President's State of the Union Address on 2 December 1895. This meant that the President could only announce that Britain had been asked for a definite answer.

> *Salisbury's answer was definite and came in two parts. The first accepted the principle of the Monroe Doctrine, as Britain had done for over half a century, but argued it did not apply to British Guiana any more than to Canada or the British West Indies or any other British possession in the Western Hemisphere, and the Venezuelan issue was thus 'a controversy with which the United States appeared to have no practical concern'.*
>
> *The second part gave a history of the dispute since 1796, and stated that whilst Britain was willing to discuss ceding land on one side of the Line that had been surveyed by the Royal Geographical Society naturalist Robert Schomburgk in 1841-3, on the other side 'Her Majesty's Government cannot in justice to the inhabitants offer to surrender to foreign rule ' Crown Subjects, especially as the Venezuelan claims were based on extravagant pretensions of Spanish officials in the last century and involving the transfer of large numbers of British subjects…to a nation…whose political system is subject to frequent disturbance, and whose institutions as yet too often afford very inadequate protection to life and property.* (Roberts, 1999, 616)

Roberts reports that Lord Salisbury told Queen Victoria that since nothing official had been received from Washington the ill feeling would shortly disappear. Ireland (1938, 237) provides a more plausible reason for the resolution of American and British differences.

> *Great Britain in January 1896 indicated her willingness to submit the controversy to arbitration if settled districts should be excluded. The United States refused to consider this condition, and it took further months of negotiation to obtain agreement in October 1896 upon the rule that possession of land for fifty years should be judged to constitute good and sufficient title. With this outcome, the United States gained practical recognition from the most*

> *important European maritime power for the Monroe Doctrine as it was then interpreted and gave it an international standing it had never previously enjoyed. After winning this point, the United States officials and most of the public appeared to lose interest in the outcome of the fundamental territorial question.* (Ireland, 1938, 237)

In 1897 the two sides reached agreement on the formation of a five-member tribunal to determine the boundary. It consisted of two British judges and two American judges. Venezuela appointed the Chief Justice of the United States and the United States Supreme Court nominated one of its members. The four judges were then required to select a fifth member and they chose Professor Frederic de Martens, a Russian Privy councillor (Ireland, 1938, 238). Both sides completed their claims, counter-claims and arguments by January 1899. The Tribunal then met in Paris from 15 June to 27 September 1899 and listened to oral arguments from seven counsel (Ireland, 1938, 239).

The Tribunal's decision was delivered on 3 October 1899. The new boundary gave neither side all that had been claimed. Much of the line lay close to the Schomburgk Line of 1886, but Venezuela secured important areas on the southeast shore at the mouth of the Orinoco River. The Commission defined the boundary to the western limit of Dutch Guiana in the mistaken belief that Venezuelan territory ran with British territory to that point. When the Anglo-Brazilian boundary was adjudicated in 1904 the western terminus was fixed at Mount Yakontipu. When Brazil and Venezuela settled their eastern boundary terminus at Mount Roraima in December 1905, Britain realised it had a much longer boundary with Brazil than had been realised. Brazil and Britain finalised their boundary in 1926.

It appears that Venezuela still hopes that the boundary with Guyana near the coast might be moved eastwards. On 10 July 1968 Venezuela proclaimed a straight baseline measuring 183 km that closes the mouths of the Orinoco River. The western terminus is located on the Venezuelan coast, while the eastern terminus is located 44 km east of the terminus of the land boundary at Punta Playa (The Geographer, 1970). This line appears to close the Waini River. There is no article in the Law of the Sea Convention that permits a country to anchor a straight baseline on the territory of a neighbouring country without permission.

French attempts to settle the colony of French Guiana from 1635, eventually failed in 1809, when the French Governor surrendered to a Portuguese force (Ireland, 1938, 146). In 1817 the colony was returned to France in accordance with treaties concluded at the end of the Napoleonic wars. The boundary with Portuguese territory was considered to be the River Oyapock. A disagreement arose between France and Brazil, that became independent in 1822. France started to claim that the correct boundary coincided with the River Araguari. that flows into the Atlantic Ocean between Cabo Norte and the Mouths of the Amazon River.

In 1836 France made a very ambitious claim to a boundary that followed the River Araguari, until its course turned northwards, then proceeding westwards to the Rio Branca, that was followed northwards to the watershed between the rivers flowing north to the Caribbean Sea and southwards to the Amazon. This claim would have interposed French territory between Brazil and Dutch and British Guiana. In 1841 both countries agreed that they would avoid making new settlements in the area between the Araguay and Oyapock Rivers. Negotiations then drifted without success only enlivened when the residents of Cacouene proclaimed an independent Republic that lasted one year, In April 1897 both countries invited the Government of Switzerland to adjudicate the boundary between them. This invitation was accepted in September 1898 and after both sides had delivered initial claims and replies the judgement was given on 1 December 1900. The Brazilian line was accepted. The boundary followed the River Oyapock to its principal source and then coincided with the watershed between rivers flowing north and south along the Tumuc Humuc Mountains. The total area between the two claimed boundaries was 77,500 sq. km and Brazil secured 75,000 sq. km. (Ireland, 1938, 151).

After a series of diplomatic skirmishes Britain and Brazil began to make determined efforts to agree on the southern boundary of British Guiana in 1891. British offers in 1891 and 1897 would each have given Brazil more territory than it finally secured. In 1901 both parties approached King Emmanuel III of Italy to act as arbiter. The area, within which the boundary was to be delimited, was bounded on the south by the Cotinga and Tacutu Rivers and on the north by the watershed, between rivers flowing north to the Caribbean Sea and south to the Amazon. Remarkably Brazil excluded from consideration 44,250 sq. km north of the watershed. Apparently Brazil only wished to claim what was claimed originally by Portugal (Ireland, 1938, 155). Each side presented their case, their counter-case and their arguments between February 1903 and February 1904. The decision, made in June 1904, declared that the boundary would follow the watershed from Mount Yakontipu to the source of the Ireng River, that river to its junction with the Tacutu River and that river to its source. From this point the boundary continued along the watershed. The award made a clear statement about the acquisition of sovereignty.

> *…to acquire sovereignty in new regions occupation was indispensable; there must be effective, uninterrupted and permanent possession in the name of a state, a simple affirmation of rights or a manifest intention to render occupation effective not being sufficient; Portugal first and Brazil subsequently had not taken effective possession of all the territory in dispute: the award of October 3, 1899, in the arbitration between Great Britain and Venezuela was ineffective against Brazil; the British rights, in succession to those of Holland, were based on the exercise of rights of jurisdiction of the Dutch West India Company, with sovereign powers from the Dutch Government,*

> *and like acts of authority and jurisdiction were afterwards continued in the name of Great Britain, resulting in the gradual development and acquisition of sovereignty over a part of the territory in dispute; historical and legal claims did not fix with precision the limit of the zone during the next three years over which the right of sovereignty of either party was established, and the contested territory should be divided in accordance with the lines traced by nature.* (Ireland, 1938, 156)

While useful, the statement finally begs the question of choosing between different lines of nature.

Guatemala, part of the Viceroyalty of New Spain, proclaimed its independence in 1821. Honduras followed this lead in 1838. Unsuccessful attempts were made to delimit their common boundary in 1845, 1895 and 1914. In July 1930 both countries agreed to invite a tribunal, presided over by Charles Hughes, Chief Justice of the United States (The Geographer, 1976, 1).

The tribunal began with the Spanish boundary as it existed in 1821, and then adjusted it in the light of major interests that might have been established, by either party, across the 1821 line. Because the available maps were unsatisfactory in some respects, the tribunal delayed consideration of the boundary until an aerial survey was made.

> *With respect to the line of* uti possidetis, *the Tribunal decided that: (1) the claim of Honduras to the territories adjacent to the Caribbean coast between the Rio Motagua and British Honduras [Belize] was not sustained; (2) east of the Rio Motagua along the Caribbean coast, available information did not afford a sufficient foundation for the assignment of the Omoa area and the contiguous Cuyamel area to either Guatemala or Honduras; (3) available data did not afford an adequate basis for the assignment of the territory from the Rio Motagua eastward to the Cordillera del Merendon to either of the two states; and (4) in the southern part of the disputed territory, administrative control was not continuous.* (The Geographer, 1976, 2)

The award was delivered on 23 January 1933 and, in the next three years, the boundary was delimited by 1,028 pillars.

In 1858 Costa Rica and Nicaragua agreed on a boundary stretching 320 km between the Pacific Ocean and the Caribbean Sea. Changes to the line, including the possible, substitution of the Rio Colorado for the lower reaches of the Rio San Juan, were raised but no agreement was reached. In 1888 President Cleveland of the United States was invited to adjudicate the points of disagreement. The President confirmed the propriety of the 1858 agreement. The two neighbours decided in 1896 to demarcate the boundary. On the recommendation of the American authorities the survey teams of Costa Rica and Nicaragua received the guidance of Edward Alexander to assist with the interpretation of uncertain phrases. For example he calculated the western terminus of the boundary in

the centre of Bahia de Salinas at 11° 03' 47" North and 85° 43'52" West (The Geographer, 1976a, 3).

Costa Rica and Panama finally settled their boundary, measuring 375 km, between the Pacific Ocean and the Caribbean Sea in 1941. Attempts to delimit a boundary continued from independence to 1896 without success, and it was decided to turn to arbitration. President Loubet of France was invited to resolve the problems. Unfortunately his award on 11 September 1900 satisfied only Panama (The Geographer, 1976b, 1). This situation was reversed in 1914. The two countries secured the services of the Chief Justice of the United States Supreme Court in 1910. His award on 12 September 1914 satisfied only Costa Rica.

In May 1941, without foreign assistance the two countries delimited the line. A mixed commission was appointed to demarcate the boundary. It was assisted by a Chilean surveyor, nominated by the President of Chile.

The collapse of Gran Colombia in 1830 required Colombia and Venezuela to define their boundary (Figure 8.5). The constitutions of both countries declared their territories should be those bounded by the previous sub-divisions of Gran Colombia. In short it was a declaration in favour of *uti possidetis juris*. A treaty dealing with friendship, commerce, navigation and boundaries was signed in December 1833, and it contained the proviso, insisted on by Venezuela, that the boundary should be a line of convenience rather than strict entitlements (Ireland, 1938, 206). The boundary was described in Article 27, and contained both precise and general terms such as '…thence down by its waters [Rio Oro] to the confluence of the Catatumbo, thence by the foothills of the mountains…' (Ireland, 1938, 208).

Venezuela declined to ratify this treaty. Instead, in July 1842, both sides agreed settle their boundary within four years. In April 1844 significant agreement was reached on the boundary from the coast to the confluence of the Meta and Orinoco Rivers. However, it proved too difficult the draw the boundary in the upper Orinoco River and the Rio Negro. In 1845 Colombia suggested recourse to arbitration but Venezuela refused this invitation and subsequent invitations in 1872 and 1875. At last, on 14 September 1881 the two foreign ministers signed a treaty to arrange arbitration.

> *…for the purpose of reaching a true legal territorial delimitation, such as existed by the decrees of the former common sovereign, and claimed by both parties for a long period without their having come to an agreement as to their respective rights or the* uti possidetis juris *of 1810, providing that:*
>
> *Article 1, the parties submitted to the judgement and decision of the government of the King of Spain as arbiter and legal judge the points of difference on such boundary question, to obtain a final unappealable decision according to which all the territory which belonged to the jurisdiction of the ancient captaincy-general of Caracas by royal acts of the former sovereign till 1810 should remain jurisdictional territory of Venezuela and*

> *all which by similar acts to the same date belonged to the jurisdiction of the viceroyalty of Santa Fe should remain territory of Colombia;*
>
> *Article 2, both parties shall request the King of Spain to accept the office, and eight months thereafter they should present cases with their claims and supporting documents.* (Ireland, 1938, 209)

Venezuela's policy of favouring a convenient boundary had been abandoned, apparently because that would '…involve the alienation of territory that was prohibited by the federal constitution' (Ireland, 1938, 209). On 19 November 1883 King Alfonso XII appointed a tribunal of five to report on the matter. The death of the King before the tribunal's examination was completed was finessed by the appointment of the Queen-Regent to act on behalf of the infant King Alfonso XIII. The award was published on 16 March 1891. The preamble noted the imprecision and uncertainties of the royal decrees that defined the Viceroyalties, and the award then proceeded to divide the boundary into six sections. The sixth section consisted of two parts. After seven years of manoeuvring the two countries appointed two commissions to examine the boundary sections that had been grouped into 'two great portions'. The first consisted of Sections 1-4 and the second consisted of Sections 5, 6-1 and 6-2. The commissioners were appointed in 1899 and they started work in 1900. Alas! Their work ended in 1901 because of internal disagreements amongst the commissioners, a civil war in Colombia and discord within Venezuela (Ireland, 1938, 215). Relations between the two countries deteriorated and by 1914 it was clear no lasting progress had been made. Ireland summed up the situation as follows.

> *The negotiations upon this boundary thus lasted for fifty years before even arbitration could be agreed upon. It was ten years more, before the arbiter decided the case, and the disappointed party [presumably Venezuela] postponed execution of the award for another twenty-five [twenty-four] years, leaving the actual boundary on the ground nearly as far from settlement after eighty-five years as it had been at the creation of the two Republics,* (Ireland, 1938, 215).

In November 1916 the disagreement between the two countries crystallised. Venezuela held the view that neither country could possess the territories awarded in 1891 until the boundary had been demarcated. Conversely Colombia asserted that it could take possession of territories granted in the award if the area was bounded by nature or by a line determined by the commissioners in 1900. These views were contained in a treaty signed in 1916.

In 1917 both sides agreed to invite the Swiss Federal Council to interpret the content of the 1916 treaty and the award of 1891. A tribunal was appointed and the cases and replies of both countries, together with additional information requested by the tribunal, was submitted by 30 April 1921. The Swiss Federal Council handed down the decision on 24 March 1922. It was ordered that the

award of 1891 would be carried out in sequence. First both countries could enter into possession of territories within natural boundaries awarded in 1891 and territories awarded by the commissioners in 1900. Second, unsettled matters would be dealt with, by the Swiss delegates, before 31 December 1924. In fact the adjudication was completed by 30 July 1924.

Four years later the two countries reached the following agreement.

> *…the line should be marked in a conspicuous and permanent manner, the main channel of the Arauca and other frontier rivers should be determined and maintained, and two sectional mixed commissions, each of one nominee of each government, with the necessary assistants, should carry out the technical work, with power to determine facts only and not to modify any of the decided lines.* (Ireland, 1938, 218)

This was a case where both sides tried hard to identify the Spanish boundaries that separated the captaincies-General of Venezuela and Granada, later Colombia. Their efforts were unsuccessful and eventually this boundary, like many others in South and Central America, was determined with the assistance of arbitration.

There is one uncertainty about the coastal terminus of the boundary between Colombia and Venezuela. Nweiheid (1993, 282) in an essay dealing with maritime boundaries explains that the boundary terminates on a mound 100 metres short of the low-water line. Therefore until the boundary is completed to the low-water line it is impossible to define the origin of the maritime boundary. It is a fact that Colombia and Venezuela have both been very successful in defining maritime boundaries with neighbouring or opposite states, but they have not been able to settle their common boundary.

Geographical boundary problems

A common problem facing officials delimiting boundaries was the unreliability of the maps they were using. A perfect example of this situation was provided by the boundary defined in the treaty of 12 November 1891 by Argentina and Bolivia.

> *Article 1: in the territory of Atacama, to follow the cordillera of the same name from the head of the Diablo ravine to the northwest by the east branch of the same cordillera to where the Zapalegui ridge begins; from this point the line continues to the Esmoraca ridge along the highest summits until it reaches the head of La Quiaca ravine, thence descending by this ravine to its opening on to the Yanapalpa, and thence straight from west to east to the peak of the hill of Porongal; thence descending to the western source of the Porongal river and by its waters to its confluence with the Bermejo river opposite Bermejo town; from this point down the Bermejo to its confluence with the Rio Grande de Tarija, or to the town of Las Juntas de San Antonio;*

> *from Las Juntas up the Tarija to the mouth of the Itau, and thence by the waters of the Itau to the 22° parallel and by such parallel to the waters of the Pilcomayo.* (Ireland, 1938, 5)

The boundary was delimited on a map in 1899 but when demarcation commenced in 1913 problems arose because the map and the landscape did not correspond in important details. From Zapalegui there were two possible continuations of the ridge. Argentine favoured the ridge called Azulejos and Pupascayo north of the San Juan River, while Bolivia preferred the Esmoraca Ridge that lay to the south of the river. The La Quiaca Ravine joined other ravines that led to the Sococha River, that flows into the Yanapalpa River. Argentine favoured this interpretation because it delivered the settlements of Sococha and Yanapalpa. The Bolivian delegate argued for the boundary continuing from the junction of the La Quiaca Ravine and the Toro-Ara Ravine to the La Raya Ravine and then to the Yanapalpa River, that would put the two settlements in Bolivia.

Porongal Hill was interpreted by Argentina to be Mecoya Hill 40 km northwest of Bermejo, while Bolivia argued that it was Negro Hill 50 km southwest of Bermejo. The difficulty with the Bolivian position was that the boundary then had to follow the Pescado River that flows into the Bermejo River south of the town of Las Juntas de San Antonio. The boundary description clearly traced the line southwards along the Bermejo River to the junction with the Rio Grande de Tarija. On 9 July 1925 the two countries agreed on a reliable delimitation of the boundary and apart from sections along rivers it was demarcated by pillars.

Most commonly when a boundary coincides with a river it is located in the river. Often the *talweg*, that is the deepest continuous channel of the river, will provide the site for the boundary. Rarely is the boundary located along one of the banks of the river so that the river belongs entirely to one country. However that arrangement occurs in three treaties in Central and South America.

Guatemala and Honduras declared their independence in 1838. Attempts to define the boundary between them in 1845, 1895 and 1914 were unsuccessful. On 16 July 1930 the disputed boundary was submitted to a Special Boundary Tribunal whose chairman was the Chief Justice of the United States (Marchant, 1944, 317-19). The award was published on 23 January 1933 (The Geographer, 1976, 2). Under the terms of the Treaty of Arbitration the Tribunal was permitted to modify a line based on the principle of *uti possidetis juris.* After an aerial survey of the borderland had been made, the Tribunal defined the boundary between the two states from their trijunction with El Salvador to the Gulf of Honduras.

This boundary is 265 km long but only the most easterly 41 km is relevant to this analysis.

> *…northeasterly straight (11.2 miles) to a point at the center of the Cuyamel Railroad bridge over the Santo Tomas river, northeasterly straight to the southernmost point on the right bank of the Tinto river which flows out of the Laguna Tinto, along the right bank, taken at mean high water mark, of*

> *the Tinto river downstream to its point of discharge into the Motagua river, along the right bank, taken at mean high water mark, of the Motagua river downstream to its mouth on the Gulf of Honduras. As thus described, the boundary is established on the right banks of the Tinto and Motagua rivers at mean high water mark, and in the event of changes in these streams in the course of time, whether due to accretion, erosion or avulsion, the boundary shall follow the mean high water mark upon the actual right bank of both rivers.* (The Geographer, 1976, 5)

This delimitation defines the boundary along the river-bank as the mean high water mark.

This means that the mean high water must be determined by both countries maintaining records at a set of stations along the boundary for an agreed period. Where the river-bank that marks the boundary has a steep gradient, the country that possesses the water will be favoured. When the river bank that marks the boundary has a shallow gradient the country that owns the bank will be favoured.

This delimitation does not define the point where the mean high water mark of the river terminates at the coast. Each country has a vested interest in identifying the optimum intersection that will provide the origin of any future maritime boundary. Presumably hydrographers for each country will identify this optimum intersection, after considering the tidal range in the estuary and the configuration of the low-water line adjoining the estuary. At the time of writing, these two countries have not delimited their maritime boundary. However, facilitators have been trying to arrange for a series of boundaries involving Belize, Guatemala and Honduras. Strict lines of equidistance would constrict any maritime claims made by Guatemala and it is hoped that Guatemala's access to the waters beyond its territorial seas can be assured.

Costa Rica and Nicaragua defined their land boundary on 15 April 1858 (The Geographer, 1976a). It traverses the Panama Isthmus between the Caribbean Sea and the Pacific Ocean and consists of two parts. In the east the boundary extends along the right bank of the San Juan River for about 133 km from Pillars 1-2. The remaining 186 km consists of straight lines that terminate in the centre of the Bahia de Salinas.

> *The dividing line of the two Republics starting from the North [Caribbean] Sea, shall begin at the extremity of Castilla Point, at the mouth of the San Juan River, in Nicaragua, and shall continue along the right bank of said River to a point 3 English miles from El Castillo Viejo, measured from the exterior fortifications;* (Marchant, 1944, 298)

The definition establishes that the boundary terminus on Castilla Point is '…in Nicaragua…'. However, no guidance is given about the water level with which this point is identified. Presumably both countries will argue in favour of the water-level definition that in their judgement provides the most satisfactory origin for the maritime boundary.

Following this treaty, changes were proposed by both sides over the next thirty years, but no agreement was reached. The United States President was asked to arbitrate and he decided that the 1858 Treaty was appropriate. Eight years later the two countries decided to demarcate the boundary and appointed Edward Alexander to arbitrate on any disagreements. Alexander made five awards and only the first concerns this analysis; it was given on 30 September 1897.

> *…the following initial line of the boundary: its direction shall be northeast and southeast …across the sandbank from the Caribbean Sea to the waters of Laguna Harbor Head. At its closest point it shall pass 300 feet from the northwest side of a small cabin now existing in that neighbourhood. On reaching the waters of Laguna Harbor Head, the line shall turn to the left, that is toward the southeast and shall follow the shore around the harbor until it reaches the River properly so-called [Rio San Juan] by the first channel that it meets. The line shall continue as provided in the Treaty, going up this channel and up the River properly so-called [Rio San Juan].* (Marchant, 1944, 289-9)

In the absence of any map that might have been attached to the award this boundary description is difficult to follow. For example, it is uncertain whether the 'sandbank' is the submarine bar or a bank standing above high-water, on which Castilla Point is located. On its course across the sandbank to the waters of Laguna Harbor Head the line passes '…300 feet from the northwest side of a small cabin now existing in the neighbourhood'. It is remarkably unhelpful to fix a point on the boundary by reference to a feature that might not be permanent. The reader is then told that 'On reaching the waters of Laguna Harbour Head, the line shall turn to the left, that is towards the southeast and shall follow the shore around the harbor until it reaches the river properly so-called by the first channel it meets'. Neither in this sentence, nor in the following sentence is the phrase 'right bank' used. The absence of any reference to Castillo Point by Alexander leaves the reader with at least two choices. First, relying on the Arbitrator's description it could be argued that the mouth of the River is only reached after passing from the sea through waters of Laguna Harbor Head. Second, relying on the Treaty it could be argued that Castillo Point is the most seaward point where the river meets the sea, and therefore the waters of Laguna Harbor Head form part of the River's mouth or estuary.

The British Pilot refers to 'Harbour Head lagoon' (Hydrographer of the Navy, 1970, 99). A lagoon is defined as follows.

> *Lagoon. An enclosed area of salt or brackish water separated from the OPEN SEA by some more or less effective, but not complete obstacle such as a low sand bank.* (International Hydrographic Organization, 1990, 115)

This definition of the word Laguna in Alexander's award favours the second interpretation.

The British Pilot notes that the superfluous water from Lago de Nicaragua is discharged through the San Juan River. The maximum flow occurs in October and the lowest flow occurs in May. A principal consequence of this varied discharge is that the navigable channel changes frequently (Hydrographer of the Navy, 1970, 98-99). The bar at the entrance has a least depth of 5 feet but the sea breaks heavily on it. Only small craft with cargo for San Juan del Norte are allowed to enter. Vessels with cargo for Rio San Juan and Lago de Nicaragua proceed via the Rio Colorado. This is a distributary of the San Juan River that reaches the sea about 12 nm south of the main mouth. At the time of writing no maritime boundary has been drawn by Costa Rica and Honduras.

Suriname became independent in 1975 and it inherited the Anglo-Dutch boundary that, in part, was defined as follows.

> *The western boundary [of Suriname] is formed by the low-water line on the left bank of the Corantjin [Courantyne], from origin to mouth. The boundary therefore runs from a point to be further determined on the southern boundary to the origin of the Upper-Corantjin, next from this origin along the low-water line on the left bank of the Upper-Corantjin and the Corantjin up to the point where the river bank changes into the coastline*… (Republic of Suriname, 2005, 8)

In February 2004 Guyana instituted proceedings in an Arbitration Tribunal seeking a determination of the maritime boundary between the two countries. It appears the whole case turns on identifying the terminus on the land that will be the origin of the maritime boundary. In this case there are twin technical difficulties associated with determining the point where the river's left bank becomes the coastline. First the Corantjin enters the Caribbean Sea via an estuary. It could be argued that the coastline will adjoin the sea rather than an estuary. Therefore it would be necessary to determine the extent of the estuary. Second the river's bank and the adjoining coastline merge in a smooth arc with a radius of 45.4 km. There is no promontory that stands out as a possible origin for a maritime boundary. The horizontal distance between the mean low-water spring tide and the mean high-water spring tide varies from 0.6 km to 2.4 km.

In most cases, when boundaries coincided with rivers, the river was partitioned between the two countries. However sometimes there were complications that required particular solutions (Figure 8.6). The 1876 boundary between Argentina and Paraguay coincided with the Pilcomayo River. The section of the river between Punto Horqueta and the waterfalls of Salto Palmar was flat and subject to frequent changes of course.

> *…the river was one of the geographical unknowns of South America. Its headwaters in Tarija and Chuquisaca, and the neighbourhood of its mouth, on the Paraguay, had been known for many years, but its interior course across the flat marshy lands of the Chaco, spreading out into wide swamps and dividing into inconstant channels, remained a puzzle. The scattered*

> *groups of Indians were fierce and intractable and combined with the waters to make exploration difficult. Crevaux was treacherously killed by the Tobas while making his way downstream in 1882; Ibaretta was defeated in his attempts at exploration in 1898, as were numerous others after him.* (Ireland, 1938, 33)

Finally in 1945, after aerial photography became available, the boundary was defined as following the course of the waters as they exist in the dry season. Five specific points were identified along the 132 km section between Punto Horqueta and Salto Palmar.

The Uruguay River that separates Argentina and Uruguay for 530 km has 128 islands in the northern 400 km. The river has a width of 1 km in the north and widens to 9 km in the south of the chain of islands. The river was effectively selected as the boundary between the two countries in 1828. In 1916 an attempt to allocate the islands to each side failed, but an investigation of land titles in 1935 paved the way for a final decision. On 7 April 1961 the boundary was delimited. The boundary follows the main navigable channel. However, in the vicinity of five islands, belonging to Uruguay, near latitude 33° S, the boundary separates into two parts. The islands are called Filomena Grande, Filomena Chica, Palma Chica, Bassi and Tres Cruces. The line that passes east of the islands divides the waters between Uruguay and Argentina. The line that passes west of the islands separates the islands, so the islands between the two segments of boundary belong to Uruguay. The two boundary segments rejoin and continue to the Rio de la Plata.

CONCLUSION

This review suggests five conclusions. First the indigenous populations, that had established themselves in north, central and south America, played no significant role in fixing the international boundaries that divide the two continents today. Second in North America, the early involvement of French and British colonists and administrators and Russian hunters, was overtaken by divisions between colonists seeking independence and British authorities maintaining control over Canada. Third in Central and much of South America, Spanish authorities and colonists overcame the indigenous population and the difficult terrain to establish several large colonies. Fourth in the beginning and medium term, the Portuguese seemed more successful than any of the other European invaders by spreading widely throughout the Amazon Basin. Finally it is clear that throughout the Americas the European colonists played the dominant role in fixing the international boundaries. Britain played a major role in fixing the southern and western boundary of Canada. Britain, France and the Netherlands, on the northeast shoulder of South America, played cameo roles in the Guianas.

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9. THE MIDDLE EAST

The Middle East is the intercontinental region bounded by Europe, Asia and Africa. With an area of 6,504,965 sq. km, the Middle East is equivalent to 75 per cent of the Australian continent. In 2000 the population of the fourteen states was 227,603,000.

Dewdney (1987, 7-9) notes that there are two prime physiographic zones in the Middle East. To the north there is a region of folded mountains and plateaus; to the south there is an ancient crystalline block of Arabia. The border between the two zones corresponds closely to the southern boundaries of Iran and Turkey. The mountains were created, during the period of the Cretaceous to the Pliocene, from the thick sediments that underlay the ancient Tethys Sea. The adjoining continents of Eurasia formed the anvil against which the hammer of the Afro-Arabian plate fashioned the folded mountains that were subsequently lowered by erosion.

The Arabian Peninsula was tilted downwards towards the north and northeast so that the highest elevations are found in Yemen. The northern part of this stable block was overlain by considerable thicknesses of more recent sandstones and limestones. Thick sediments have filled the depression that previously existed along the line of the present Tigris and Euphrates Rivers and they have recreated a flat surface with low gradients. In the vicinity of the Persian Gulf and its structural continuation along the lowlands associated with the Tigris and Euphrates Rivers, geological conditions favoured the formation of oil and gas fields. The thick porous strata that had been significantly deformed and tilted created traps, within which hydrocarbons could accumulate from the rich deposits of remains of creatures that once lived in the warm Tethys Sea.

The physiographic regions coincide with political regions. The northern region consists of only two states, Iran and Turkey, both with populations of about 66 millions, that represent about 57 per cent of the total population in the Middle East. The main languages spoken in the northern region are Baluchi, Kurdish, Persian and Turkish. Both these states, at different times in their history, had been the seats of empires. Although both negotiated boundaries, at a disadvantage, with the powerful British and Russian governments, they secured lines that have proved permanent and well defended.

In the southern region Arabic is the principal language for eleven of the twelve states. The size of the populations in these states varies from 579,000 in Qatar to

20,181,000 in Saudi Arabia. Throughout the southern region Britain and France played influential roles in boundary construction, after the Ottoman Empire's domination in Arabia was ended (Figure 9.1), during and after World War I. Before and after World War I there had been various unsuccessful attempts to consolidate the extensive territory of Saudi Arabia into a single state. That was accomplished by Ibn Saud in 1932. Yemen became independent in 1918. The only other independent state in the southern region at that time was Oman, that had dislodged the Portuguese in 1650. France governed Lebanon and Syria while Britain played a similar role in the other territories, within boundaries that the colonial powers decided. All these entities became independent in the period from 1932 to 1971.

Throughout the Middle East all states are disadvantaged when claims to maritime zones are considered. Although no state is landlocked, Jordan and Iraq only have coastlines 15 km long. Jordan's only access is to the narrow Gulf of Aqaba. Iraq's maritime claims are constricted, by its neighbours Kuwait and Iran, at the head of the Persian Gulf. Although Turkey can secure a significant proportion of the Black Sea it is restricted to negligible claims in the Mediterranean by Greek islands, close to the Turkish coast, and the presence of Cyprus and Syria. Only Oman and Yemen can claim exclusive economic zones 200 nautical miles wide. Yemen is favoured by possessing sovereignty over Socotra Island and the adjoining small islands called Abd-al-Kuri, Jazirat Samha and Jazirat Darsa. Socotra Island is located about 200 nautical miles from the coast of Yemen and has an area of 3,500 sq. km. The Persian Gulf is the only maritime area adjoining the Middle East that has yielded great wealth. For this reason it is understandable that claims to islands in the Gulf are made and defended vigorously.

BOUNDARIES IN THE NORTHERN REGION

Proceeding from east to west the boundaries defining the northern limit of the northern region were negotiated between Britain and Persia, Russia and Persia, Russia and Turkey, and Turkey with Bulgaria and Greece.

In the 1860s Britain was searching for a western limit to its Indian Dominions at the same time that the Shah of Persia's army was moving eastwards to threaten Kalat, a British protected state. Britain had laid a submarine cable through the Persian Gulf to improve communications, and, as a precaution, had been given permission by the Shah to construct a land-line westwards from Gwatar Bay to the vicinity of Bandar Abbas. When General Goldsmid began to construct this line he was hampered by minor chieftains of Tump, Mand and Boleda. These minor political units, of fifteen, twelve and five villages respectively, had been raiding into Persian territory, and reprisals by the Shah's forces were impinging on the Kalat border (Prescott, 1975, 212-3). When the Shah suggested that a

boundary should be drawn between his territory and the territory of the British Empress, the offer was enthusiastically accepted. The Persian delegate sent by the Shah was unhelpful, so Goldsmid retired to Gwatar Bay while Major Lovett was sent on a rapid reconnaissance of the border. Based on this new information and surveys performed by Goldsmid in 1861-4, the General produced a boundary, measuring 453 km that the Shah accepted on 4 September 1871.

In 1872 Goldsmid sent Major St. John to verify Lovett's survey. Only one error was found, when the Askan River was discovered lying further west of the position recorded by Lovett. St John noted that the terrain was very complicated in this region.

> *Any exact delimitation of the frontier is here, however, impossible. The country consists of innumerable parallel ranges of inconsiderable elevation, divided by narrow torrent beds. In these occur, at long intervals, small clusters of date palms, with less frequent patches of cultivation.* (India, Foreign Department, 168/1896. No. 4, 12)

British authorities declined to take advantage of the new information about the location of the Askan River. The Shah claimed the area of Kuhak that Goldsmid thought was either independent or part of Kalat. The authorities in London decided that the advantage of possessing this small territory was outweighed by the damage that might be caused to the excellent relations with the Persian authorities.

Delimitation and demarcation of the boundary with Persia started in February 1895 and was completed in March 1896. Holdich arranged the surveying to avoid the hot season that lasted about four months. At this time Holdich was the most eminent British military surveyor. He worked mainly in Asia and South America. In 1916 he published '*Political frontiers and boundary making*', that was regarded as a surveying bible for two decades. However, when he delimited and partly demarcated the boundary north of Kuhak, he was human and he erred. The progress of the survey can be followed by quotations from Holdich's report.

> *Fortunately, the whole area under discussion had already been surveyed by members of my party, and the published maps were sufficiently accurate to enable me to decide what line would constitute a sound boundary consistent with the Government's instructions, before the actual commencement of demarcation.*
>
> *There is nothing to compare with a rugged immovable line of watershed for boundary definition. Every nomadic robber in the frontier understands it, and is perforce obliged to respect it as it is quite beyond his powers of interference. It was these considerations which decided me to adopt, if possible, a line of boundary from the Malik Siah Koh to the Mashkel date groves which would be marked by such strong natural features as would render artificial demarcation unnecessary.*

> *No more perfect boundary than that afforded by mountains and river combined could be devised. The bank of craggy watershed is a feature that stands up like a solid wall when viewed across the eastern desert, and the river course winding through the dasht [desert], whilst free from the besetting evils of river boundaries in general, is the only sure and certain mark which could possible be recognisable in such a wilderness as the desert of Mashkel Hamun*
>
> *The Persian Commissioner showed much intelligence in survey matters and his previous experience when working with English surveyors induced him to accept our mapping as it stood. I was assured of their general accuracy. They had been prepared by some of my ablest assistants with all the advantages of cold weather atmosphere and ample opportunities.* (India, Foreign Department, 168/1896, no. 4 1-5)

Holdich cut some corners for two reasons, with unfortunate results, First he wanted to avoid surveying in the hot season. Second he wished to avoid any involvement with the Persian Governor of Khurasan who might interfere with the northern terminus. Holdich knew that there was an influential Russian consul in that province. So he decided to rely on existing maps, and he agreed to make three concessions to the Persian Commissioner. First, instead of running the boundary from the Mashkid River westwards to the Bonsar Pass, along the southern spurs of the Siahan Range, it was made to coincide with the watershed. This was justified by the claim that the lower date groves drew their water from the upper slopes. Second an area at the eastern end of the pass was awarded to Persia. The third deviation was the most significant. Instead of drawing the northern part of the line directly to Koh-i-Malik Siah from a point midway between Jalq and Ladgasht, the boundary was drawn northwards for 45 kilometres. This new point was on the edge of the Hamun-i-Mashkel, an extensive marsh and a straight line to Koh-i-Malik Siah presented Persia with 1080 sq. km. Holdich might have had an excuse for this last concession because Sir Mortimer Durand had foreshadowed it in a letter. The suggestion, from the Persian Commissioner, that if necessary the matter would have to be referred to the Shah, threatened a delay and Holdich gave way.

Holdich was in such a hurry, that he declined an early proposal by the Persian Commissioner that would have given Britain another 1300 sq. km. This would have included the glacis that led up to the ‘craggy watershed’. Colonel McMahon, who later gave his name to the boundary drawn by Britain against China, was asked to review Holdich’s boundary. He was very critical on the grounds that an accurate survey had not been made, that Britain gained no compensation for the three concessions to Persia in the southern part of the line, and that the northern section of the boundary allowed Persian forces to overlook the main road northwards in British India. Holdich’s view that the Persian commissioner

'showed much intelligence in survey matters' turned out to be a major understatement. The Persian was clearly a masterly negotiator.

The boundary between Afghanistan and Iran was delimited and demarcated in four sections during the period 1872-1935 (Figure 9.2). Each segment was the result of an arbitral award by a senior army officer. General Goldsmid, fresh from his demarcation of the Anglo-Persian boundary during the previous year, was sent to the Sistan Basin. This Basin is a depression with an area of about 18,000 sq. km in eastern Persia. It acts as a sink for drainage from western Afghanistan, which has a catchment of about 323,000 sq. km. The Helmand River, with a length of 1,125 km, is the longest river in Afghanistan, and it terminates at a delta in the Hamun [Marsh] Saben. After flooding, the Hamun has depths of 5 metres, but during the season of low-flow and high temperatures the lake contracts in area. Most water is lost through evaporation rather than seepage. The distributaries in the delta have been built up above the surrounding area and breaches in the banks allow the development of new channels. The Hamun does not seem to be filling with sediment and one explanation for this situation is that fierce winds up to 115 kmph blowing from May to late September provide dust-storms.

In 1872, the Hamun and the higher land to the east in Afghanistan, was occupied by 45,000 Persian farmers and Afghan nomadic herders. The herders used the winter pastures. Goldsmid stayed less than two months before deciding on the boundary. This was insufficient time to do the survey thoroughly but the Persians were consistently obstructive.

> *Nothing too severe can be said as to his [Persian Commissioner] conduct from the moment in which he first came within the influence of the Amir of Kain [Persian], whose power terrified him, and whose constant bribes excited his cupidity.* (Goldsmid, 1876, volume 1, 260)
>
> *The direct evidence gathered in Seistan was not such as had been contemplated. Neither the Amir of Kain nor the Persian Commissioner assisted the arbitrator to carry out the professed objects of the Governments of England and Persia in the manner which he himself judged proper; and admission was denied to the British officers at Jananabad, Nad Ali and Kuhak.* (Goldsmid, 1876, volume 1, 398)
>
> *Sir Henry has already told us of the persistent obstruction and hostility shown by the Persians to Sir Frederic Goldsmid when he was deputed to settle this frontier in 1872, His movements were restricted, and difficulties of every kind were placed in his way. I need not dilate on this further now except to say that had Sir Frederic Goldsmid been permitted by the Persians to examine the southern portion of the frontier he was deputed to settle, I cannot help thinking that he would have drawn the line to the north of Koh-i-malik Siah, somewhere along the dividing-line between the Tarakun-Ramrud and Band-i-Seistan irrigation systems. As it was, owing to the restrictions placed upon his movements by the Persians, he was compelled to lay down*

> *his boundary at haphazard, and Koh-i-malik Siah being about the only fixed point that his survey officer had been able to get a shot at in this part of Sistan, he simply drew an imaginary line on the map from Band-i-Seistan to Koh-i-malik Siah, without ever having been able to examine the ground across which that line was to run.* (McMahon, 1906, 344)

Goldsmid's boundary was not demarcated but serious difficulties between Persian farmers and Afghan herdsmen were either avoided or sensibly settled. However, in 1902 an exceptional drought caused serious competition for the available water. Eventually the Afghans occupied a Persian settlement. Sykes claimed that this act was designed to made British arbitration unavoidable (Sykes, 1940, volume 2, 209). If he was correct the ploy was successful. McMahon was sent with 1,500 British soldiers and surveyors in 1903 to mark Goldsmid's boundary. He made a careful survey and presented the Afghan and Persian commissioners with a written text describing each of the 90 stone pillars and two maps. The first, at a scale of 1:253,440, showed the entire line. The second, at a scale of 63,360, showed the line in the vicinity of the Siskar and Rud-i-Pariun Rivers.

Attention then switched to the northern sector of the Persian-Afghan boundary. The northernmost section of the boundary coincides with the Hari Rud [River]. This river rises west of Kabul and flows along an entrenched valley for 516 km to an Afghan settlement called Eslam Qal'eh, where it turns north. About 100 km north of Eslam Qal'eh the Hari Rud reaches the trijunction with Russia, where it takes the name Tedzhen River and forms part of the boundary between Iran and Russia. The territory through which the Hari Rud flows northwards was called Hashtadan. In April 1885 the Persian Governor ordered the local population to clear the khanats, so that the area could support farming communities. Khanats are underground canals that convey water many kilometres without significant loss by evaporation. Afghan forces stopped the work and drove the labourers away from the rivers. Both sides called for British arbitration and General C.S. MacLean was sent to find a solution to the difficulties in 1888.

Over the next two years he compiled a history of the area and reached two important conclusions. First it was obvious that the Hashtadan had not been used for several decades.

> *But from the appearance of the ruins and abandoned fields it is quite evident that the valley has been deserted for generations.…In fact there is every reason to believe that the place has been deserted for at least one hundred years.…Upon the whole, looking to the nature of my present information, it seems to me that neither Persians nor Afghans can produce proofs of recent possession in support of the respective claims, neither having felt inclined to stand the brunt of collisions, in such an exposed locality, with the Turkomans.* (India, Foreign Department, 1890, 6, 25, 27)

MacLean found village ruins, faint field patterns and remnants of the system of khanats that proved the area had been inhabited and productive. However, it was

also recorded that around 1788 an epidemic throat disease had caused deaths and outward migration. The desolation of the region was completed by Turkoman freebooters. MacLean implied that there now existed an unoccupied frontier between the Afghan and Persian outposts. The Persian posts were at Kariz and Karat while the Afghan posts were Kohsan, Eslam Qal'eh and Ghurian.

MacLean's second major conclusion was that the waters of the khanats were not used only by Persian settlements. At least one major khanat provided water to Eslam Qal'eh that belonged to Afghanistan. He agreed to consider evidence provided by both sides before he proposed his award. The evidence was certainly imaginative, but it did not point to a single conclusion. Information provided included a Persian tombstone dated 1426, many title deeds from both sides, testaments, and payments of compensation for robbery and damage. MacLean had to steer a course that would lead to a compromise that gave something to both sides.

> *The case seems eminently one for compromise, in which both parties abate their pretensions in order to render an equitable settlement possible. Such a settlement is possible only by a division of the water-supply available for irrigation as indicated by the old karezes or khanats. It is on this principle that the compromise indicted on the map of Hashtadan has been based.*
>
> *By accepting the above compromise Persia will secure the greater portion of the arable land of the valley including the actual land over which the dispute arose, and on which the work was interrupted by the Afghans, as already described. On the other hand the Afghans will secure what they profess to desire, viz, a supply of water for the irrigation of the Kafir Kala [Eslam Qal'eh] and all the grazing grounds lying on the southern end of the valley. The Afghans will also have a considerable area of arable land at Chakar Kala, as well as a large tract near the mouth of the Shorab Pass, which can be irrigated from the large canal, and the cultivation of Tir Kisht can be extended to a considerable extent.* (India, Foreign Department, 1890, 27)

Both parties accepted the award, although the Shah required the name Hashtadan to be printed west of the boundary line on MacLean's map! MacLean supervised the location of 39 masonry pillars up to 3 metres in height. The Hari Rud defined the boundary north of Pillar 1 but MacLean did not specify any particular line within the river.

The gap of 400 km between MacLean's most southerly Point 39 and McMahon's most northerly Point 90 on Koh-i-malik Siah was closed in 1935. In 1928 Afghanistan and Persia had agreed to appoint a joint-commission that would meet to resolve territorial disputes in the borderland. It was not a perfectly satisfactory arrangement and Persia suggested that a Turkish arbitrator should be appointed to delimit a definite boundary. Turkey enjoyed good relations with both countries and General Altai was appointed to fix the boundary. His team worked from October 1934 to May 1935. Altai had an easier task that the three British surveyors as part of his report recorded.

> *Outside of the three farms located at Yezdan, this vast area does not contain any inhabited place or cultivated area. There exists, however, several wells and sources of fish and salt water.* (The Geographer, 1961, 8)

The selected boundary followed a fairly direct course between the two British termini. However, there was a small Persian salient at Yezdan and adjustments were made to allow nomads access to traditional winter pastures and quarries that provided mill-stones. Altai completed two unfinished matters along the MacLean boundary. First he placed five pillars to join MacLean's Pillar 1 northwards to the bank of the Hari Rud. Second he defined the boundary, within the north-south sector of the Hari Rud from the trijunction with Russia to the point, identified by Altai, where the river's course turned sharply southeastwards then east. Altai selected the talweg as the Afghan-Persian boundary.

This boundary was delimited and demarcated by four foreign soldiers. Apart from the difficulties that the Persians created for Goldsmid, the line appears to have been accepted, with satisfaction, by Afghanistan and Iran.

Iran's northern boundary with Russia did not involve any foreign interventions or arbitrations. To the west of the Caspian Sea Russia and Iran share a boundary that measures 700 km. East of the Caspian Sea the boundary extends for 990 km to the tri-junction with Afghanistan. Both west and east of the Caspian Sea the two countries were separated by frontiers and their conversion to boundaries occurred over 80 years after 1813. The frontiers west of the Caspian were narrow while those to the east were broad. The region between the Black and Caspian Seas was complex in terms of its geology, morphology, local climate and agricultural potential. Invasions from north and south created the conditions for conflict and resulted in a pattern of small states, the boundaries of which often altered. By 1800 the Ottoman, Persian and Russian Empires had converged and were competing for control.

In 1813 Russian forces occupied the Kura River lowlands adjacent to the Caspian Sea, and sovereignty was conferred by the Treaty of Gulistan in the same year. Fifteen years later Armenia and the detached fragment of Azerbaijan around Nakhichevan also fell to Russia. Apart from some minor changes, the present boundary was established by the Peace Treaty of Torkaman, southeast of modern Tabriz, on 10 February 1828. It was located on the Iranian bank of the River Aras, but in 1954 it was moved to the talweg.

East of the Caspian Sea Russian advances towards areas of Persian settlement required a boundary agreement in 1869. The boundary followed the River Attrek, which at that time flowed into the Caspian Sea. In 1881 this boundary was extended to Babadurmaz, about 75 km east of Ashkhabad. In 1893 the boundary was carried through to the Afghan tri-junction. The Geographer (1978, 6, 9) has noted that while the Atrek River flowed into the Caspian in 1869 it now sinks into the sand 85 km east of the Caspian Sea. In 1954 the boundary was redefined.

> *East of the Caspian Sea, the boundary leaves the seacoast [of the Caspian] at a point 14 miles north of the Iranian Lagoon of Naftlijeh and proceeds in a straight line east-southeast across the desert for 18 miles to join the old boundary at Senger Tepe [Hill]. Here it turns northeast across the desert for 13 miles to the Musa Khan, or 'dry bed' of the Atrek, which it follows for 20 miles to a point near the Iranian town of Inchaburun, meeting there the permanent channel of the Atrek.* (The Geographer, 1978, 9)

In 1954, 1957 and 1970 Iran and the Soviet Union settled boundary issues concerned with minor changes in position, Russian sovereignty over the oasis of Firyuza, and hydro-electric plants on boundary rivers. In 1991 the Soviet Union shattered into a number of states. West of the Caspian Sea Azerbaijan and Armenia inherited Russia's boundary with Iran.

The Ottoman and Russian Empires moving in opposite directions became neighbours east of the Black Sea. Russia inflicted a major defeat on the Turks in 1829, and by the Treaty of Adrianople of the same year extracted a number of territorial and strategic concessions, The boundary east of the Black Sea was delimited along the northern limits of the Turkish Sanjaks of Batumi, Ardahan and Kars. Turkey and Russia collided again in the Crimean War of 1853-6, but Britain and France became Turkish Allies and Russia was prevented from obtaining further concessions from Turkey. In 1877 another war flared and this time Turkey was left to fight alone and experience another major defeat. By the Treaty of San Stefano of 3 March 1878 Russia exacted major concessions that Turkey could not refuse (Roberts, 1999, 185). It appears Russia overplayed its hand because Britain and other major powers insisted that the Treaty of San Stefano must be changed, for reasons that Lord Salisbury set out clearly.

> *It is in the power of the Ottoman to close or to open the Straits, which form the natural highway of nations between the Aegean Sea and the Euxine. Its dominion is recognised at the head of the Persian Gulf, on the shores of the Levant, and in the immediate neighbourhood of the Suez Canal. It cannot be otherwise than a matter of extreme solicitude to this country that the Government to which this jurisdiction belongs should be so closely pressed by the political outposts of a greatly superior power that its independent action, and even existence, is almost impossible. The result not so much from the language of any single article in the Treaty as from the operation of the instrument as a whole.* (Roberts, 1999, 189)

At the Berlin Congress of June 1878 Russia's demands against Turkey were moderated. The Sanjaks of Batumi, Ardahan and Kars were ceded to Russia and the boundary between the two countries became their southern limits.

The next boundary change was contained in the Treaty of Sevres on 10 August 1920. If it had been adopted the independent state of Armenia would have been created. However, Soviet and Turkish forces combined. Azerbaijan became a Soviet Republic and joined the Revolution and Turkey annexed the southern

parts of Armenia. This territorial redistribution was confirmed by the Treaty of Alexsandropol on 2 December 1920, when the Sevres Treaty was annulled. Turkey received the southern half of Batumi, Ardahan and Kars. Three months later on 16 March 1921 the Soviet Union and Turkey confirmed the transfer of about 25,000 sq. km of Soviet-controlled territory to Turkey (The Geographer, 1964, 7).

In terms of territory the Ottoman Empire reached its maximum extent, west of the Dardanelles, in Europe in 1683 when it failed to capture Vienna. Although major retreats were punctuated by short advances, eventually the Ottoman Empire was restricted to Thrace. Turkey's modern boundaries with Bulgaria and Greece were fashioned, respectively, shortly before and shortly after the First World War. When Turkey was weakened by a war with Italy, that ended in 1912, the Balkan states, Bulgaria, Greece, Montenegro and Serbia formed an alliance and in October 1912 attacked Turkey. By May 1913 Turkish territory in Europe consisted of a small area, lying east of a line joining Enez on the Aegean coast to Midye on the shore of the Black Sea (The Geographer, 1965, 4). Turkey's defeat was followed immediately by a war between Bulgaria and the other Balkan states. Turkey seized the opportunity to recapture most of Thrace and a Treaty was forced upon Bulgaria on 29 September 1913. The boundary measured 240 km of which 98 km coincided with rivers. A small revision was made to the boundary in the vicinity of Shtit in 1915 and treaties in 1919, 1921 and 1923 confirmed this boundary and arranged for its demarcation.

Turkey was on the losing side in the First World War. According to Ataturk the beginning of the War of Independence was 19 May 1919.

> *In May 1919 Kemal found himself at Sivas with a defeated, exhausted and dispirited country, surrounded on all sides by the Victorious Allies; British sea-power on the north, west and south; British troops on the northeast, east and southeast; the French in occupation of the fertile Cilician plain and the slopes of the Taurus; the Italians, based on the Dodecanese, in occupation of the southwest; Greeks in the rich valleys of western Anatolia.* (Naval Intelligence Division, 1942, 312)

In 1920 the Treaty of Sevres provided for Turkish territory in Europe to be restricted to a small area around Istanbul. The Nationalists, led by Ataturk, rejected the terms of the Treaty. Gradually the tide turned in Turkey's favour. Support from the Soviet Union and Greece's insistence on exceeding its territorial rights, persuaded the powerful European states to leave Greece to fight alone. In October an armistice was agreed and a month later the Treaty of Lausanne restored Turkey's 1913 boundaries with Bulgaria and Greece in Thrace. Turkey was also awarded a salient across the Maritsa River from Edirne that gave it part of a railway and the settlements of Bosna and Karaagac. Apart from 11 km the boundary, that measures 213 km, is marked by the River Maritsa.

The boundary between Iran and Turkey is very old. On 17 May 1639 the two countries agreed on a boundary stretching from the vicinity of the Caspian Sea

to the head of the Persian Gulf, a distance of about 2,000 km. Two centuries elapsed before the Treaty of Erzerum on 31 May 1847 made provisions for a joint committee to delimit the line. By the Treaty of Berlin, on 13 July 1878, the northern terminus of the line was moved to a point approximately midway between the Black and Caspian Seas. By agreements dated 21 December 1911 and 17 November 1913 the delimitation of the boundary was completed and provisions were made for its demarcation by 125 pillars early in 1914. The survey teams consisted of British, Iranian, Russian and Turkish members. A series of maps were drawn to show the location of the pillars at a scale of 1:73,050 (The Geographer, 1978a, 4).

After its defeat in World War I Turkey was stripped of much its Empire in Arabia and North Africa. The British Mandate of Iraq reduced the boundary between Turkey and Iran to about 520 km. The shortened boundary between Iran and Turkey was demarcated by 1937. Iraq inherited the former Turkish boundary with Iran that extends over 1,100 km.

In 1918 Turkey was divested of its Empire in the Middle East and North Africa. The new southern boundary of Turkey consisted of two segments. The eastern segment separated Turkey and the British Mandate of Iraq. It extended for about 365 km from the boundary with Iran. The second, longer, section stretched for about 820 km between Turkey and the French territory of Syria. It extended from the Anglo-Turkish tri-junction to the Mediterranean coast. Britain and France negotiated separate agreements with Turkey.

The British Mandate of Iraq consisted of the Vilayets [Provinces] of Al Basra, Baghdad and Mawsil. The Turkish boundary extended from the tri-junction with Iran to the vicinity of Fayshkhabur.

In 1923 the parties tried to negotiate a boundary but were unsuccessful. Britain thought the line should lie between 6 km and 43 km north of the boundary of the Vilayet, while Turkey thought that the southern boundary of Mawsil Vilayet would be appropriate. The matter was referred to the League of Nations and no alteration of the boundary was permitted during its deliberations. With only very small modifications the Council announced that the existing northern boundary of the Vilayet should become the international boundary. Both countries then agreed to refer the matter to the International Court of Justice. The three members of the Court agreed that the boundary should be the existing northern boundary of the Mawsil Vilayet. By a treaty dated 5 June 1926 Turkey and Britain approved the Vilayet boundary with one deviation. The line was diverted southwards, in favour of Turkey in the vicinity of two villages called Aluman and Ashuta. This was done so that the road linking them would not intersect the international boundary (The Geographer, 1964a, 5).

In April 1920 France secured a mandate for Syria and Lebanon. The extent of Lebanon was increased by the addition of Trablou [Tripoli], Beyrouth [Beirut], Saida [Sidon], and Sour [Tyre]. Syria consisted of Dimashq [Damascus], Al Ladhiqiyah [Latakia], Halab [Aleppo], the Sanjak of Alexandretta [Iskenderon] and

Jebel Druze. The peace treaty of 10 August 1920 outlined the boundary between Syria and Turkey. Agreement between France and Turkey on 20 October 1921 defined some changes in the line from the Mediterranean to the tri-junction with Iraq on the Tigris River. The Sanjak of Alexandretta was subjected to a special status within the French Mandate.

The boundary was defined in four sectors. They were the Mediterranean to Maydan Ikbiz, from Maydan Ikbiz to Cobanbey, Cobanbey to Nusaybin and Nusaybin to the Tigris River. The second and third sectors were defined in the Franco-Turkish Convention of 30 May 1926. The fourth sector was set out in the Franco-Turkish Protocol of 22 June 1929. Some small changes were made in these sectors by an agreement dated 23 June 1939 (The Geographer, 1978b, 14-15).

In 1936 the future of the Sanjak of Alexandretta became an important issue in Franco-Turkish relations.

> *When France commenced negotiations with Syria regarding its independence Turkey raised the question of the future of the Sanjak of Alexandretta. Conditional recognition given by Turkey in 1921 to French rule in Antioch and Alexandretta had not implied the inclusion of these districts in the mandated territories, and that if France intended to reduce her responsibilities in the Levant, she should concede independence to the Sanjak as a separate unit, on the same terms as to Syria and Lebanon. In December 1936 the Turkish Government, with the assent of the French, referred this question to the League of Nations. With assistance from that quarter, French and Turkish representatives agreed on the separation of the Sanjak from Syria, qualified by Syrian control of its foreign policy, and by tariff and monetary union with Syria. The Statute and Fundamental Law of this territory were adopted at Geneva on 29 May 1937, and were to come into operation six months later. The preparation of electoral registers for the first session of the Sanjak's Legislative Assembly gave rise to serious friction between the Turkish and the various non-Turkish communities and led ultimately to the replacement of the League's Electoral Commission by a body consisting of three Turks and one Frenchman. The Turkish community secured 22 of the 40 seats on the Assembly; during its first session in September 1938 it elected as head of the new State a Sanjak-born Deputy of the Turkish Great National Assembly, and adopted the Turkish name for the Sanjak, which henceforward was to be known as the Republic of the Hatay. The new Republic, nominally in close relations with Syria but in reality controlled by Turkey, was absorbed by the latter within twelve months of its effective establishment.* (Naval Intelligence Division, 1942, 329-30)

Two months before the start of World War II in Europe, on 23 June 1939, the eastern and southern boundary of Hatay became the boundary between Syria and Turkey.

BOUNDARIES IN THE SOUTHERN REGION

The southern region can be considered in two sections. First there are the boundaries that developed within and between the mandates awarded to Britain and France after World War I. Second there are the boundaries generated between Saudi Arabia and its seven neighbours.

The Conference of San Remo on 24 April 1920 delivered the mandates of Lebanon and Syria to France, and those of Palestine and Trans-Jordan to Britain. The British mandate over Iraq was confirmed nine days later. Britain and France were able to delimit, unilaterally, boundaries between their mandates, and in concert they could delimit boundaries between their adjoining mandates.

Once in control of the Levant, France lost no time in achieving a goal that, General Gourand noted, had been identified in 1862 (Temperley, 1924, 167-8). France issued an *arête* on 31 August 1920, creating a Greater Lebanon State. To the original area of Lebanon were added Beirut, Tripoli and the valley called El Beqa'a. Toynbee (1927, 355-6) drew attention to the large Arab population included in the new territory, and hinted at the problems that developed in the 1970s.

Britain determined the boundary between Jordan and Iraq in 1932, when the latter became independent. It was achieved by an exchange of letters amongst Nuri as-Sa'id, Prime Minister of Iraq, King Abdullah of Saudi Arabia and C.H.F. Cox the British Resident in Amman. This short boundary joined the tri-junction with Syria to the tri-junction with Saudi Arabia.; located at 33° 22' 29" N and 38° 47' 33" E and 32° 13' 51" and 39° 18' 09" N (The Geographer, 1970, 3). In 1984 Iraq and Jordan exchanged small areas of land measuring about 220 sq. km in the most southern 40 km of this boundary, giving it a rectangular configuration.

Britains unilateral boundary separating the mandates of Jordan and Palestine was published on 2 September 1922 (Naval Intelligence Division, 1943, 2). It was based on the north-south drainage pattern of the Jordan River, the Dead Sea, Wadi el Jeib and Wadi Araba. The sector between Wadi al Yabis and a point near the middle of the Dead Sea, is shown by the Times Atlas (2000, map 35) as a disputed boundary between the West Bank and Jordan.

The boundary between the British and French Mandates was defined from the Tigris River to the Mediterranean coast on 23 December 1920. This Convention fixed the principal alignment of the boundary that was only modified slightly in subsequent years.

The boundary between British Palestine and French Lebanon and Syria was settled by the Anglo-French Agreement of 7 March 1923 (The Geographer, 1967, 9). This Agreement contained a report on the demarcation of the boundary from the Mediterranean coast to the lower valley of the Yarmuk River about 1 km above El Hamma. This demarcation was approved by the League of Nations in 1934.

Eight years later the boundary between the Mandates of Syria and Jordan was defined in the Anglo-French Protocol of 31 October 1931 (The Geographer, 1969, 10). Only small changes were made to the line defined in the 1920 Convention. The definition of the boundary includes references to the railway from El Hamma to Dar'a.

> *…the marking of the boundary will be made south of the [railway] track and parallel to it in such a way as to leave to Syria, in addition to the railway itself and its permanent structures, the "emprisea" [undertakings] borrow-pits, stations, outbuildings and ground necessary both for the technical protection of the railway track and its structures as well as for its exploitation.* (The Geographer, 1969, 8)

This railway is shown on Map 35 of the 1967 *The Times Atlas of the World* (1967). It does not appear in subsequent editions.

The boundary description provides evidence that attempts were made to avoid disrupting local territories close to the boundary.

> *It is understood that, if the village of Kirbet Aouad or any part of this village were found to be south of the frontier line marked out as stated above, the frontier would bend to a point situated at sixty metres south and round the last group of houses at present existing: the junction with the general line being made east and west of the village by lines forming an angle of about 90 degrees with the point above indicated (60 metres south of the village) in such a way as to include in Druze territory all the inhabited part of this village as well as the territories situated in this angle reconnecting with the general line.* (The Geographer, 1969, 9)

From a point 3.2 km north of the highest summit of Tell [Hill] Romah, the boundary proceeds '…as a straight line…' in the direction of Abu Kemal on the Euphrates River. The Syria-Jordan boundary terminated about 15 km south of Jabal at Tanf located at 33° 22' 29" North and 38° 47' 33" East.

The boundary between the Mandates of Iraq and Syria was delimited in a Report issued in Geneva on 10 September 1932, twenty-three days before Iraq became independent (The Geographer, 1970a, 7). The northern origin of the boundary was the confluence of the Tigris and Khabur Rivers and the talweg of the Tigris River was followed for 1 km downstream from Fayshkhabur. Leaving the Tigris the boundary followed a southwesterly then southerly course for about 390 km to the Euphrates River. The twenty straight segments, measuring from 6 km to 66 km, were drawn between trigonometrical points. The terminus of this section lay close to the northeast point of Baghuz Island. The boundary followed the talweg of the Euphrates northwards for a short distance to the boundary separating the territories belonging to the villages of Dulaym al Husaybah and Heri, before turning westward to the Leachman Stone about 1 kilometre from the river. The origin of this stone is uncertain. During World War I no Iraqi force

rose to assist the British against the Turks. However, the Beduin assisted the Allied cause. The Anaiza,, the great Beduin Confederation of the Syrian Desert were an exception.

> *They were under the influence of Colonel Leachman, the remarkable Political Officer for the desert, whose power with the beduin throughout the war not only rivalled that of Lawrence in the Hejaz but was built up simply on force of character unaided by the ample subsidies which Lawrence so liberally dispensed. The Anaiza never undertook any major military operations, but they helped to blockade the desert.* (Naval Intelligence Handbook, 1944, 270)

As a result of Iraqi dissatisfaction with progress to independence in the first half of 1920 a revolt started in July and gained pace. Fortunately the insurrection was restricted to two tribal zones extending from Al Miqdadiyah to Ba'qubah and Al Musayyib to As Samawali.

> *But the Tigris tribes from Baghdad to Basra and the tribes of the lower Euphrates around [An] Nasiriya gave no serious trouble, nor did the desert beduin. This localization of the rebellion was due to the outstanding courage and force of character of the divisional Political Officers who, with no support save their Arab policemen or levies, remained firm in their offices or toured their districts under the shadow of assassination. Some were murdered, as Colonel Leachman, who by his personal prestige and courage kept the peace for two months above Falluja, a feat as great as any done during the war by the better known Lawrence.* (Naval Intelligence Division, 1944, 290)

It is unclear whether the Leachman Stone was erected by the Colonel or in his memory.

The next point is located at the intersection of an arc drawn with a radius of 30 km from the minaret of Abu Kemal, and a straight line drawn from the minaret to a point 3.2 km from the highest peak of Tell Romah. This intersection is about 29 km west of the Leachman Stone. From the intersection the boundary continues in a straight line to the trijunction with Jordan.

Richard Schofield (1993) produced an excellent, detailed account of the evolution of the boundary between Iraq and Kuwait (Figure 9). Until 1896, Britain had accepted that Turkish jurisdiction extended along the south coast of the Persian Gulf from Basra to Qatif, just north of modern Bahrain. In the next three years Britain's view was reversed.

> *Chiefly responsible for this transformation was Shaikh Mubarak, who, as unofficial Commander of the Al-Sabah armed forces and with the support of many Kuwaiti townspeople and Bedouin tribes, murdered his brothers, Shaikh Muhammad (the ruler) and Jarrah (effectively the financial secretary), to assume rule in May 1896. Mubarak, effectively carved out a niche for himself and a prominent position for Kuwait by playing off the Ottoman Empire*

> *and Britain against one another. Before his death in 1915, the shaikhdom of Kuwait had been promised independence under British protection and possessed territorial limits, although to the south these were to be considerably foreshortened after the First World War. For this Mubarak owed much to good fortune, particularly his backing of Ibn Saud against Ibn Rashid for the supremacy of Najd [ultimately Saudi Arabia], and the demise of the Ottoman Empire during the First World War.* (Schofield, 1993, 14)

By 1908 Lorimer, on the staff of the Government of India, had produced a gazetteer of the Persian Gulf, Oman and central Arabia. It included a map on which were marked the known limits of Kuwait. The territory was shaped like a diamond and extended 160 km west of the coast and the same distance along the coast south of Kuwait to Manifah. This British definition of Kuwait's territory had been modified by 1912.

> *. . . while the town, harbour and immediate surroundings [of Kuwait] should be completely autonomous the remainder of Koweit territory to the extent attributed to it in Lorimer's Gazetteer should be specifically recognized as being under the administrative influence of the Shaikh of Koweit and the Porte should agree neither to place military posts nor take any action within it without the previous consent both of the Sheikh and ourselves.* (Schofield, 1993, 42)

Schofield notes that this modification was the origin of the inner 'Red Line' and the outer 'Green Line'. By 29 July 1913 the British and Ottoman Empires had agreed on the extent of Kuwait influence within the Red and Green Lines, but, as Schofield observes, the onset of the First World War prevented the agreement from being tested. After the war ended Britain had a mandate in Iraq and controlled Kuwait, and it moved quickly to create boundaries, between these territories and between both territories and Saudi Arabia. The Green Line of the 1913 Anglo-Turkish agreement provided the fulcrum from which these three boundaries were drawn.

In the north the Green Line started about 5 nm above the mouth of the Khor [Arm of the sea] Zobeir, at 30° 1.5' N and proceeded northwest then west south of Safwan to the Wadi [Watercourse] al Batin.

> *From Zubair, 10 miles south-west of Basra, the ground rises gently to the crest of the desert steppe known as Ar Raha, north of Kuwait territory, to the west of which is the mouth of the Wadi Batin, marked by two bluffs, Ar Ratak Ash Shamali and Ar Ratak al Janubi. There is excellent grazing in Ar Raha during March. Where the Wadi Batin forms the boundary between Iraq and Kuwait it has steep sloping banks, with a width from 1 to 4 miles between crests on either side. The banks are cut by numerous small dry tributaries* (shaib). *A clayey loam covers the bottom of the depression and affords a fertile soil for grass and bushes.* (Naval Intelligence Division, 1944, 116)

The eventual tri-junction between the boundaries of Iraq, Kuwait and Saudi Arabia was located about 7 km north of Ar Ruq'i.

Cox, the British High Commissioner in Baghdad was the primary architect of Saudi Arabia's boundaries with Iraq and Kuwait. In May 1922 Cox and Ibn Saud signed the Treaty of Mohammerah [Khorramshahr] and then delimited the boundaries in December 1922.

> *Meanwhile Sir Percy Cox, who had already settled the disputed boundary between Nejd and Kuweit, arranged the Treaty of Mohammerah (1922), which assigned the Muntafiq, Dhafir and Amarat tribes to Iraq and the southern Shammar to Nejd, and also forbade tribal aggression. Ibn Saud met Cox at 'Oqeir [Uqayr] in the winter of 1922-3, when a protocol defined the boundary separating the traditional wells and lands of the tribes concerned, and formed a neutral zone.* (Naval Intelligence Division, 1946, 297)

In fact Cox had indicated to Ibn Saud in early 1921 that Britain was only prepared to guarantee the Red Line of the 1913 Convention as the southern boundary of Kuwait (Schofield, 1993, 57).

On 2 December 1922 the Protocol of Uqayr defined the boundary that was mainly determined by Cox. The line extended for about 690 km from the tri-junction with Kuwait, near Ar Ruq'I to the Jabel [Mountain] Unayzah, the tri-junction with Jordan. Adjacent to the tri-junction with Kuwait a neutral zone was defined. It had an area of about 13,800 sq. km and was available for the peaceful use of both governments. The Protocol contained two other provisions.

> *Whereas many of the wells fall within the Iraq boundaries and the Najd side is deprived of them, the Iraq Government pledges itself not to interfere with those Najd tribes living in the vicinity of the border should it be necessary for them to resort to the neighbouring Iraq wells for water, provided these wells are nearer to them than those within the Najd boundaries.*
>
> *The two governments mutually agree not to use the watering places and wells situated in the vicinity of the border for any military purpose, such as building forts on them, and not to concentrate troops in their vicinity.* (The Geographer, 1971, 9)

Schofield (1994, 27) describes the boundary changes made by Iraq and Saudi Arabia in the period from 1975 to 1981 (Figure 9.4). A line, joining its west and east corners, divided the Neutral Zone, and the boundary westwards to the Jordan tri-junction was smoothed. The new boundary measures about 830 km. Features named Nisab, Al Lifiyah, Judayyayit 'Ar'ar and Maqar an Na'am were on the original boundary and remain on the 1981 line.

Wilkinson commented on Cox's role in deciding the northern boundaries of Saudi Arabia.

> *The result was Cox's famous line-drawing act. He carefully marked out the Iraqi frontier at Ibn Saud's expense, but to make up for this, ruthlessly*

> *deprived Kuwait of nearly two-thirds of its territory under the Anglo-Ottoman Convention, on the grounds that the Shaik's power was much less than it had been at the time that Convention was drawn up. The true explanation was given in private when Ibn Saud, in an emotional outburst over the Iraqi frontier, had declared that Cox might as well have given away all his territory. Cox replied 'My Friend, I know exactly how you feel, and for this reason I gave you two-thirds of Kuwait's territory'.* (Wilkinson, 1993, 145)

Cox delimited both the boundary between Kuwait and Saudi Arabia and again interposed a neutral zone along the coast.

> *The frontier between Najd and Kuwait begins in the west from the junction of the Wadi al Awja with Wadi al Batin, leaving Raq'I to Najd; from this point it continues in a straight line until it joins latitude 29° [N] and the red semi-circle referred to in Article 5 of the Anglo-Turkish Agreement of July 29, 1913. The line then follows the side of the red semi-circle until it reaches a point terminating on the coast south of Ras al Qali'ah and this is the indubitable southern frontier of Kuwait Territory.* (The Geographer, 1970b, 2)

The red semi-circle had a radius of 40 miles centred on Kuwait city. The neutral zone extended for about 60 km southwards and had a width of about 65 km. The two governments agreed to divide the neutral zone by a straight line on 7 July 1965. The line was close to latitude 28° 32 N and it came into effect on 18 January 1970 (The Geographer, 1970b, 3).

Having settled the northern boundary of Saudi Arabia Cox immediately turned his attention to the boundary between Iraq and Kuwait. He recommended to More the Green Line north of the conjunction of the Wadi al Batin and the Wadi al Awja. More the British Political Agent to Kuwait asked Shaikh Ahmad to set out his territorial claim in respect of any boundary with Iraq, and received the following reply.

> *From the intersection of the Wadi-el-Audja with the Batin and thence northwards along the Batin to a point just south of the latitude of Safwan; thence eastwards passing south of Safwan Wells, Jebel Sabam and Um Qasr leaving them to Iraq and so on to the junction of the Khor Zobeir with the Khor Abdullah. The islands of Warbah, Bubiyan, Maskan (or Mashjan), Failakah, Auhah, Kubbar, Qaru and Umm-el-Maradim appertain to Koweit.* (Alexander and Pietrowski, 1998, 2401)

This claim was passed to Cox who responded that it was accepted and that as far as Britain was concerned the matter was decided. However, in April 1932 the British Colonial Office wanted to present this boundary to the Council of the League of Nations.

> *The decision to reaffirm the Kuwait-Iraq frontier, as originally delimited by the 'green' line of the unratified Anglo-Ottoman Convention of July 1913 and apparently reinforced by the April 1923 exchange of notes between More and Cox was taken to an interdepartmental meeting convened at the Colonial Office on 15 April 1932.* (Schofield, 1993, 62)

To make the matter water-tight the British authorities engaged in a diplomatic dance, that involved the Iraqi Prime Minister proposing to Kuwait the boundary defined by Shaikh Ahmad, and the Shaikh graciously accepting it in August 1932.

In August 1990 Iraq forces invaded and captured Kuwait. By the last day of February 1991 an international force had driven all Iraqi troops out of Kuwait and out of the immediate Iraqi borderland with Kuwait. By mid-June 1991 the United Nations Commission to demarcate the boundary between Iraq had been assembled. The Commission's main term of reference was the delimited boundary, first created by Shaikh Ahmad in 1923, and modified in 1932. A year later the delimited land boundary had been demarcated.

Schofield's long final chapter analyses in detail the United Nations demarcation of the boundary between Iraq and Kuwait and he reaches an interesting conclusion.

> *There can be little doubt that UNIKBDC's [United Nations Iraq Kuwait Boundary Demarcation Commission] 1992 land boundary demarcation is what Britain meant to introduce with its announcement of the vaguely-described border in identical, unchanging terms on various occasions in the early part of the century: as the outer limit of Kuwaiti authority when concluding the unratified Anglo-Ottoman settlement of July 1913; the Cox-More exchange of notes of April 1923: and the Kuwaiti-Iraq exchange of notes in the summer of 1932. In the words of someone close to the operations of UNIKBDC during those last two years, UNIKBDS's demarcation decision was effectively 'a refinement' of Britain's earlier demarcation proposal of 1951, which had stood for nearly forty years as the most detailed existing interpretation of the vaguely-defined* de jure *Kuwait-Iraq boundary, even though it was not capable of being mapped in detail.* (Schofield, 1993, 198)

It was this delimitation that the United Nations Commission was instructed to demarcate. Schofield raises a final point that may or may not create difficulties in the future. The Commission demarcated the land boundary with commendable skill. However, Schofield properly raises the question whether, having demarcated the delimited land boundary, they exceeded their mandate in demarcating an undelimited line through the Khawr Shatana and Khawr Abd Allah.

The Chairman of the Demarcation Committee, Mochtar Kusuma-Atmadja, a former Indonesian Foreign Minister, resigned with effect from 20 November

1992. Although the report on the demarcation reports only that he resigned for 'personal reasons' there is no mention of the reservations he expressed about the issue of delimiting the maritime boundary through the Khor Abdulla (Alexander and Pietrowski, 1998, 2401).

> *Though there is no question that the former Indonesian Foreign Minister probably wanted to move on to other things, it was no secret that the UNIKKBDC chairman was troubled by what he regarded as the inadequate mandate possessed by the border demarcation commission to demarcate, or more correctly delimit, the boundary along the Khor Abdulla. The problem as he saw it was that no delimitation for the Khor existed in UNIKBDC's 'delimitation formula' (the boundary so vaguely described by the 1932 exchange of notes) which could then be demarcated, This he made clear in a letter addressed to the Legal Counsel of the United Nations on 6 November 1992.* (Schofield, 1993, 180)

Alexander and Pietrowski (1993) do not refer to this development. Within a month the new Chairman had decided that 'there was sufficient basis to proceed with demarcation of the Khor Abdullah' (Schofield, 1993, 181).

> *By the Khwor Abd Allah section, the Commission refers to the maritime, or offshore boundary from the junction of the Khor Zhobier and the Khowr Abd Allah to the eastern end of the Khowr Abd Allah. The Commission felt that the closing statement of the delimitation formula mentioning the islands of Warbah, Bubiyan, etc. as appertaining to Kuwait, gave an indication that the existing frontier in that section lay in the Khowr Adb Allah.* (Schofield, 1993, 188)

Schofield, rather gently calls the basis for this decision tenuous! In fact, while there is no doubt that eventually a boundary would be drawn within the Khor Abd Allah, no such line had been delimited in the Khor by the 1932 Exchange of Letters, that constituted the Commission's delimitation formula for the demarcation of the Iraq-Kuwait boundary. The Agreed Minutes consisted of two sentences. The first delimited a boundary which UNIKBDC could demarcate. The second sentence simply names the islands that appertain to Kuwait and does not delimit any boundary.

The Secretary-General made a simple and appropriate assertion in his letter covering the report on the boundary demarcation.

> *In accordance with its mandate and terms of reference, the Commission was called to perform a technical and not a political task and as it is stressed in the Final Report, the Commission has made every effort to strictly confine itself to this objective. In the statement of the President of the Security Council dated 17 June 1992, issued on behalf of its members and in the Security Council resolution 773 (1992) of 26 August 1992, related to the work of the Commission, it was pointed out that through the demarcation process*

> *the Commission was not reallocating territory between Kuwait and Iraq, but was simply carrying out the technical task necessary to demarcate for the first time the precise coordinates of the boundary set out in the Agreed Minutes referred to above.* (Alexander and Pietrowski, 1998, 2395)

The Secretary-General's observation does not apply to the offshore section. The Agreed Minutes did not delimit a boundary through the Khor Abd Allah. The reference to Warbah and Bubiyan belonging to Kuwait did not delimit a boundary through the Khor. The Commission did that on the basis of weak arguments. It will be remarkable if Iraq, at some time in the future, does not argue that the definition of the maritime boundary through the Khor Abd Allah needs to be revisited.

In the 1920s Britain tried to negotiate a boundary between its Mandate of Trans-Jordan and Saudi Arabia, that gave Jordan access to the Gulf of Aqaba and the Red Sea. These efforts were unsuccessful, but in 1927, Ibn Saud agreed to respect the British boundary pending a final solution. Jordan became independent in 1946 and 19 years later a boundary was defined with Saudi Arabia (Figure 9.5). The major change provided Jordan with a longer coastline on the Gulf of Aqaba, south of the port of Aqabah. The boundary changes in the interior transferred 6000 sq. km to Jordan and 7,000 sq. km to Saudi Arabia (The Geographer, 1965a, 3).

In 1892, when Turkey allowed Egyptian authorities to administer Sinai, Egypt became effectively a British protectorate, although still technically part of the Ottoman Empire. The British then proposed a northern boundary for Egypt consisting of a straight line drawn from a point just east of El Arish and terminating on the Gulf of Aqaba west of Elat. A few years later the Ottoman Empire proposed two alternative boundaries. The first joined a point east of El Arish to the southern end of the Suez Canal and then on to Elat, The second started from the same northern point and went directly to Ras Muhammad, the southern tip of the Sinai Peninsula. Control of the western shore of the Gulf of Aqaba was a major aim of British policy, and that aim was secured when, in October 1906, the two countries drew a boundary from the vicinity of Rafah on the Mediterranean coast to the head of the Gulf of Aqaba just west of Elat (The Geographer, 1965b).

In the First World War and after the Second World War the tides of battle flowed across this boundary in both directions. Since 1978 the Anglo-Turkish boundary has separated Israel, including Gaza, and the United Arab Republic.

Schofield has drawn attention to the private nature of boundary agreements of the states that fringe Saudi Arabia from Qatar to Yemen.

> *Ever since the early 1920s the Saudi state has shown a marked preference for coming to private territorial arrangements with its neighbours in the Gulf and the southern Arabian Peninsula (precise details of which have often remained elusive) rather than negotiating explicit boundary agreements*

> *and registering their texts with the United Nations or other appropriate international institutions.* (Schofield, 1994, 52-3)

Schofield (1994, 58) provides a clear map showing the boundaries drawn between Oman and the United Arab Emirates in the 1950s and 1960s, the Saudi-Qatar boundary of 1965, the Saudi-United Emirates boundary in 1974, the Saudi-Oman boundary of 1990, and the Oman-Yemeni boundary of 1992.

> *The only border in Arabia not governed by an agreement of any kind is that between Saudi Arabia and the newly constituted Republic of Yemen, that is, except for its westernmost stretch delimited by the Taif line of 1934.* (Schofield, 1994, 60)

Following the defeat of Turkey Ibn Saud began to establish the limits of Saudi Arabia towards the southwest. By 1920 the mountainous Asir region had submitted. Following a civil-war Hussein accepted protection from Ibn Saud on the understanding that the territory would be incorporated into Saudi Arabia on Husein's death (Naval Intelligence Division, 1946, 301-2). Husein raised a rebellion in 1932 and Saudi Arabia was victorious in 1934 when the Treaty of Taif was signed.

> *With remarkable moderation Ibn Saud imposed only the settlement he had offered before the outbreak of war; that is, a strip of disputed territory in the south of Asir was definitely incorporated in the Saudi kingdom, an arrangement which shifted the northern frontier of Yemen some distance to the south of that shown on most maps. The frontier now touches the coast only just north of the Yemeni port of Meidi [Midi], whence it runs steeply northeastward to the watershed, then bends southeast and finally takes a generally easterly direction nearly to the edge of the Great Desert.* (Naval Intelligence Division, 1946, 302)

The terminus lay about 30km from Najran. On 12 June 2000 Saudi Arabia and Yemen affirmed the binding nature and legitimacy of the treaty. The boundary identified in the treaty was re-affirmed and demarcated by 17 columns. The terminus of the 1934 boundary is located at 17° 26' N and 44° 21' 58" E. It was agreed that the continuation of the boundary eastwards would terminate at 19° N and 52° E that is the trijunction with Oman (Al-Enazy, 2005). It was reported, on 31 May 2006, that Saudi Arabia and Yemen had delimited their common boundary from the terminus of the Taif line to the terminus of the Oman-Yemen boundary. In 2006 Saudi authorities published a fine map of the Kingdom at a scale of about 1:2.03 millions. The new boundary with Yemen started from the terminus of the 1934 Line at about 44° 35' East and 17° 21' North. The new boundary follows an easterly course for about 240 km to the Wuday Ah salient. This is about 45 km wide and 40 km deep. The boundary then continues east-northeast by four straight lines for 455 km to the tri-junction with Oman. The map shows Saudi Arabia's boundaries with its neighbours, including Qatar, the

United Arab Emirates and Oman. The southern sector of the boundary between Oman and the United Arab Emirates is also shown as far as Al Ayn. It does not show Oman's territory on the southern shore of the Strait of Hormus, nor the Omani enclave shown in the Times Atlas (2003, 33), a few kilometres west of Khawr Fakkan, on the shore of the Gulf of Oman.

Roberts published a useful analysis of final boundary agreement.

> *Assessing who won and who lost is an almost impossible task, for this was a dispute in which it is still not clear what the Saudis and the Yemenis were claiming in the first place. Neither side ever went public with its assessments of where the border should be, although it appears that the Yemenis were largely relying on putative boundary lines proposed (but not formalised) by the former British colonial authorities ruling Aden, while Saudi Arabia appeared to be pushing for a boundary line much further south, in places along the 17° N parallel. The closest hints that outsiders could ever get came from commercial maps published in the two countries and which, it might reasonably be assumed, reflected at least the aspirations of the respective governments concerning the locations of the borders.*
>
> *In practice, both sides seem to have won – but to have won somewhat different conflicts. For the Yemenis their success was territorial and economic, for the Saudis it was a major diplomatic and security achievement.* (Roberts 2000, 70)

CONCLUSIONS

In terms of boundary evolution the northern and southern regions provide sharp contrasts. Iran and Turkey were sometimes at a disadvantage in negotiating their northern boundaries with Russia, but Iranian claims to the east, where Britain held sway, were not severely compromised. After World War I Turkey was stripped of its Empire, but, in terms of national development, that was a benefit. The resurgence of Turkey preserved its territory in Europe and produced a fair boundary with Syria and Iraq, that was followed, just before the onset of World War II, by the return of Hatay from the French Mandate. Meanwhile, Iran's long-standing boundary with Turkey, had been inherited by its new neighbour Iraq.

The principal powers that dominated boundary development in the southern Region were, in order of importance, Britain, Saudi Arabia and France. By April 1946 both France's Mandates had been discharged within definite boundaries. While Britain was able to achieve the same success with Iraq and Jordan in 1932 and 1946 respectively, events in Palestine in 1947-8 were an inglorious chapter in British history, following closely on the disastrous partition of India in August 1947. Britain did manage to withdraw gracefully from Kuwait, Bahrain, Qatar and the United Arab Emirates by 1971, in contrast with its 1967 abdication in

Aden. In contrast Saudi Arabia, responsibly and occasionally generously, has established a chain of boundaries from Qatar to Yemen.

In the future is seems that the most serious territorial disputes in the Middle East will centre on the internal divisions of Israel and its boundaries with Lebanon and Syria.

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10. AFRICA

Africa, the second largest continent, has nearly twice as many states as Asia. Most of Africa's international boundaries were drawn by European governments before 1914. Since that date only minor changes have occurred. 'The Scramble for Africa' is a familiar phrase generally associated with the conference that produced the General Act of Berlin in the period 15 November 1884 to 27 February 1885.

> *The signing of the General Act of Berlin on 26 February 1885 must have brought a general sigh of relief from the assembled delegates. Bismarck gave the concluding speech. They were in 'complete accord' about 'all points of the programme'. They had secured free access to the interior of Africa for all nations, freedom of trade in the whole basin of the Congo (and in a region beyond the Congo named the 'conventional basin'). They had also shown 'much careful solicitude' for the moral and physical welfare of the native races, and the Chancellor cherished the hope that this principle would 'bear fruit' and help introduce the populations to the advantages of civilization.*
>
> *At least the conference was over – and amicably so. But what exactly had been achieved? There were thirty-eight clauses to the General Act, all as hollow as the pillars in the great saloon. In the years ahead people would come to believe that this Act had a decisive effect. It was Berlin that precipitated the Scramble. It was Berlin that set the rules of the game. It was Berlin that carved up Africa. So the myths would run.*
>
> *It was really the other way round. The Scramble had precipitated Berlin. The race to grab a slice of the African cake had started long before the first day of the conference. And none of the thirty-eight clauses of the General Act had any teeth. It had set no rules for dividing, let alone eating, the cake.* (Pakenham, 1991, 254)

The Scramble was not a sprint. It was the final stages of a marathon.

THE INDIGENOUS STATES

Kasule (1998) has provided a carefully researched and well-illustrated account of the empires and kingdoms that rose and fell in Africa from 3110 BC, when Upper and Lower Egypt were united, to about 1900. During that period large areas of Africa, outside the equatorial forests, had been organised into powerful states. Within the forests, near the coast, small states started to flourish to take advantage of commerce with European traders. The empires and kingdoms were generally bounded by broad or narrow frontiers. Often wide forested zones separated the small states.

An example is provided by the history of the political developments of three overlapping Empires in the upper Niger River (Figure 10.1). Ghana was established in the 4th century AD and its capital of the same name was located between Goumbou and Oualata. Its strength was based on gold but its weakness was an attachment to paganism. The Berbers, who traded with Ghana, launched a Jihad in 1076 and offered the population conversion or death. The Ghanaian Empire went into an irreversible decline as tributary states asserted their independence (Naval Intelligence Division, 1943, 170). The Mali Empire prospered from 1235 until 1545. The Songhai Empire dated from 1010, when the founder converted to Islam. For a decade after 1325 the Empire was dominated by Mali. Independence was secured swiftly ten years later and then Tombouctou was captured in 1468 and seven years later Djenne followed. For nearly a century after 1493 Songhai was governed well from the capital Gao.

> *The Aksia dynasty founded by Mohammed I lasted from 1493 to 1591. This Emperor was an excellent administrator, encouraging religion, letters and the arts in the schools of Tombouctou, Gao, Oualata and Djenne. Picking his men well, he was ably seconded by his principal lieutenants, notably by his brother Omar. Giving up the Sonni system of mass levies, he formed a professional army of slaves and prisoners of war, and thus set free the bulk of his population for agriculture and trade. His wars between 1497 and 1513 included an expedition against the Yatengas, from whom he took numerous captives (1497-8), though he failed to subdue their country, a campaign in the region of Tillabery, which he annexed (1499-1500), and an expedition on the Niger below Say in 1504-5. In 1513-1515 he took Katsina and imposed his suzerainty on Agades. From the decaying Mali Empire he tore the Bagana country in 1498-1499, the Kingdom of Nioro in 1500-1, and by 1512 he had pushed on as far as Bakel on the Senegal, but his permanent dominion probably never extended so far to the west. His reign saw the zenith of the Songhai power, and his enforced abdication, when blind, in favour of one of his sons, was the signal for internal strife and the ultimate disintegration of the Empire.* (Naval Intelligence Handbook, 1943, 173)

In contrast with the Empires, the Kingdom of Benin occupied a comparatively small area including the western distributaries of the Niger delta. Kasule provides a clear description of the Kingdom

> *Benin was a centralized city-state, founded about a thousand years ago, in southern modern-day Nigeria, west of the Niger Delta. Its people were known as the Edo and their rulers as* Obas *(Kings). King Ewedo was the strongest of the Benin Kings and extended their empire around 1300. Under his successor, Ewuare, the City of Benin acquired broad streets, secure walls and a powerful army with which to extend its rule from the Niger Delta to coastal Lagos. By the time the Portuguese arrived on the Benin coast, its empire was advanced in terms of both art and trade. The Edo sold slaves to the Portuguese in exchange for ivory, pepper and cotton, which they in turn then traded with other societies in the interior.* (Kasule, 1998, 48)

In 1960 Nigeria became a federation of three states, Northern Nigeria, Eastern Nigeria and Western Nigeria. By chance Benin, in the form of the Mid-West State, was recreated in 1962, when the federal government decided to weaken the Western Region. Nigeria then found itself on the slippery slope that led to civil war five years later.

THE INVASION AND CONQUEST OF AFRICA

The early invasions of Africa occurred along the Mediterranean coast from Arabia. First the nomadic Hyskos invaded Egypt and held sway from 1730 BC to 1570 BC. Assyrians invaded in 671 BC and were replaced by the Persians from 525 BC to 404 BC. The Romans held sway from 146 BC until 428 AD. The Phoenicians, dislodged from the Syrian coast by the Assyrians established themselves in modern Tunisia in 814 BC. Carthage was founded and the new state was founded on a powerful navy and a fertile hinterland that was farmed by Berbers. Mercenary regiments were employed to defend the state, but the state was exposed if its fleet was defeated or evaded by enemies.

> *This weakness was discovered in the fourth century BC by Agathocles, the Greek ruler of Sicilian Syracuse, who when hard pressed by the Carthaginians in Sicily, evaded their fleet, threw an army into Tunisia, and nearly succeeded in overthrowing the Carthaginian power. After Agathocles the Carthaginians found a new enemy, the Romans, who, after uniting all Italy into a confederation, were extending their power as protectors into Sicily. The Carthaginians fought two great wars in the third century BC, the first to save and the second to restore their position in the central Mediterranean. The first (264-241 BC) was mainly a naval war and ended with the*

> *destruction of their navy and the loss of their bases in Sicily and Sardinia. The second war, like the first, ended with complete defeat, yet Carthage was able to recover again because she never lost the basis of her power, her maritime commerce. The third war, deliberately provoked by the Romans and fought solely in Africa ended in 146 BC with the obliteration of Carthage and the massacre of a great part of its inhabitants, although many fled into the interior.* (Naval Intelligence Handbook, 1945, 128)

Kasule (1998, 36-7) provides an excellent map showing Rome's total control of the coast of North Africa from the Strait of Gibraltar to the Red Sea. In 428 Vandals overran the Roman territories, attacking from Ceuta in the west and stopping only at Tripoli. In turn the Byzantine Empire had cleared the Vandals from North Africa by 534 and held the entire coast except that part between Oran and Ceuta. After 639 the successful Arab invasion of Egypt pressed on to modern Algeria. Finally, having captured Egypt in 1517 the Ottoman Empire extended its reach along the coast to dominate the Mediterranean coast as far as Oran. The Empire's final foothold of Libya was taken by Italy in 1912.

Fernandez-Armesto (1991) edited a fine illustrated account of the history of world exploration on which the following account, of the European discovery of the west and east coasts, is based.

> *West Africa and the Sahara… was an area which had nourished indigenous civilizations and long-range trade for centuries before Europeans arrived. It also played a vital role in the early history of European maritime expansion, since it was precisely the wealth of the area which attracted explorers and the inaccessibility of the desert routes that encouraged seafarers to find a way round it in their ships.* (Fernandez-Armesto, 1991, 59)

Mali was the most remote and largest source of gold in the first half of the 14th century. Attempts to sail down the northwest coast of Africa started at the end of the 13th century but yielded no lasting cartographic results. The prospect of success increased when the Portuguese developed a caravel that could sail close to the wind. By 1450 the mouths of the Rivers Senegal and Gambia had been reached and partially explored. However, by the time Mali was reached the Empire had been in decline for a century. There were two other discoveries before the route to the Indian Ocean was unlocked. First the Arquipelago dos Açores, 1,600 km west of Lisbon, had been discovered, claimed and settled by the 1430s. Second the coast beyond the Gambia was explored southwards to Punta de Campo by 1471. This point, located at 2° 19' N, subsequently became the terminus of the boundary between French Cameroun and Spanish Rio Muni. This remarkable advance was achieved during the six-year lease of exclusive trading rights, granted by Portuguese authorities in 1469 (Fernando-Armesto, 1991, 64).

In 1485 Diego Cao continued beyond the equator, found the mouth of the Congo River, and sailed on to 22° S near Walvis Bay

> *In the summer of 1487, Cao was followed by Bartolomeu Dias. Dias left Lisbon with three ships and a commission to find the ocean route around Africa. At first retracing Cao's route, he subsequently, and with great daring, turned away from the coast, perhaps in around 27° or 28° S, in search of a favourable wind. His success in encountering westerlies, which carried him to a landfall some 300 miles east of the Cape of Good Hope, made a major contribution to knowledge of the wind-system of the South Atlantic. This expedition seems to have been exceptionally well-provisioned, suggesting that the detour into the open sea was planned in advance.* (Fernando-Armesto, 1991, 64)

In 1498 Vasco da Gama rounded the Cape of Good Hope and sailed on, to the coast of Mozambique. Cabral followed two years later. By 1501 the Portuguese had established a presence at the Arquipelago dos Bijagos, the islands of Sao Tome and Principe near the Niger Delta, the Angolan coast south of the mouth of the River Congo and the Mozambique coast, especially at Sofala and Kilwa.

The Slave Trade, made possible by the European discoveries of the west and southeast coasts of Africa and of the Central Americas by 1500, flourished for two centuries after 1650. The numbers transported during that time have been calculated as about 12 millions (Oliver and Crowder, 1981, 145). Kasule (1998, 70) reports a figure of 40 millions, but the numbers on his map showing the routes of vessels carrying slaves across the Atlantic Ocean only total 9.39 millions. Kasule (1998, 68-9) shows the trading forts established by Europeans by 1700, along the African coast from Cape Vert to Whydah on the Dahomey coast. There were 40 forts built and occupied by Europeans from Denmark, England, France, the Netherlands and Portugal. There were no forts along the coast from Sherbro Island in the west to Assini in the east along the coasts of modern Liberia and Côte d'Ivoire.

The triangular pattern of trade carried slaves from the west coast of Africa to work on plantations in the Americas.

> *Of the several explanations for the trans-Atlantic slave trade, the most important concerns resistance to disease. The sparse local American Indian population was decimated, by imported European diseases such as small-pox; European mortality rates were high due to a host of tropical ailments to which they had little immunity; Africans, accustomed to the tropical disease environment and also to the diseases of the Euro-African landmass, had the lowest mortality.* (P.M. Martin in Oliver and Crowder, 1981, 146)

The plantations produced coffee, cotton, indigo, rice and tobacco that were sent to Europe. European manufactured commodities were then taken to Africa to be exchanged for slaves.

> *Buying and selling operations became highly conventionalised at many points along the coast. African currencies such as iron bars in upper Guinea,*

> *ounces of gold-dust on the Gold Coast, cloth and cowries in the Bight of Benin, brass manillas in the Niger delta-Cameroon region, and lengths of cloth on the Loango coast, were adopted as the standard units of value. European goods and African slaves were valued according to such units of account, leaving the selection of European goods to be included in the payment for a slave as the main subject for negotiation. Items most demanded by African businessmen were guns and powder, cloth, spirits and tobacco and hardware. Local rulers often required the payment of fees and customs duties, which might be paid in more exotic prestige goods.* (P.M. Martin in Oliver and Crowder, 1981, 147)

Manillas are rings of metal once worn by Africans on their arms and wrists; Loango lies just north of Pointe-Noire on the coast of Congo.

At the height of the Slave Trade the European enterprises were concentrating on the coast rather than exploration of the interior of the continent. Bovill explained how this situation arose.

> *The slave trade largely accounted for the failure of Europeans to penetrate the interior from the coast of Guinea. Not only did it engender the bitterest hatred of the white man among the suffering tribes of the interior, but it so enriched the coast chiefs that they offered determined opposition to any move which threatened their privileged positions as middlemen. When England eventually proceeded to abolish the trade the hostility of these wealthy coast chiefs was at once excited, greatly to the prejudice of her legitimate commercial interests.*
>
> *Added to the hostility of the natives were the serious natural obstacles to any attempt by Europeans to explore the interior. Almost everywhere along the coast the dense forests of the tropical rain belt pressed hard upon the shore. Not only did the forest present a serious impediment to human movement but conditions of life within it were, before the discovery of the prophylactic use of quinine, highly inimical to the well-being of the European.* (Naval Intelligence Division, 1943, 355)

Opposition to the cruelty of the Slave Trade mounted in Europe at the end of the 18th century. In 1792 Britain established Freetown in Sierra Leone as a refuge for freed slaves. Between 1805 and 1818 Denmark, Britain, Holland and France made the Slave Trade illegal and Portugal and Spain made it illegal south of the equator (Oliver and Atmore, 1967, 34). Slaves freed by the French navy were settled in Libreville, eventual capital of French Gabon. The Slave Trade did not cease abruptly, but the last vessel to evade the Royal Navy's blockade at Ouidah, was the steamer *Ciceron* in 1863 (Naval Intelligence Handbook, 1944, 45). It landed 1,100 slaves at Cuba.

> *There was a profound transformation in the relations between Africa and Europe during the 19th century. Fundamental to the change was the*

> *Industrial Revolution, that combination of technological advances and organizational innovations that gradually altered the bases of Western European economies from rural agrarianism to urban industrial capitalism. Europe became increasingly dependent on the wider world for raw materials for its factories, food for its workers and markets for its cheap mass-produced goods. The value of world trade increased roughly tenfold between 1820 and 1880, and accumulated capital increasingly flowed overseas to finance mining, railway construction, shipping and agricultural production. This period saw massive outpouring of European population to all corners of the world. Compared to the Americas and Australia, Africa was a minor recipient of the emigration: nevertheless, between 1790 and 1875 the European population of Africa increased from about 32,000 to nearly 750,000, and its share was responsible for a dramatic change in existing relationships between Africans and Europeans.* (L.E. Larson in Oliver and Crowder, 1981, 151)

As the emphasis on trade switched from the Slave Trade to trade in cocoa, coffee, cotton, gold, palm-nuts, palm-oil and timber, European states began to seek influence in the coastal states. Some footholds had already been secured. France had bases in Algeria (1830), Senegal (1835), Dahomey (1851), Mauritania (1854) and Guinea (1857). Britain had establishments in Sierra Leone (1787), South Africa (1806), Gambia (1816) and Nigeria (1861). Portugal had significant influence in Sao Tome and Principe (1570), Angola (1575), Portuguese Guinea (1616) and Mozambique (1684). Between these early occupations and the General Act of Berlin in February 1885 a number of other territories were possessed. Britain secured the Gold Coast (1874), Sudan (1874), Walvis Bay (1878), Egypt (1882) and Lesotho (1884). In 1858 Spain occupied Bioco Island and Rio Muni. Remarkably, Prince Bismarck, who had persistently insisted to his Foreign Office that 'So long as I am Chancellor we shan't pursue a colonial policy', sent a secret cable to Nachtigal in Lisbon on 19 May 1884 (Pakenham, 201-17). He was instructed to go to Africa and seize Togoland, Cameroons and Angra Pequena, then the name for Southwest Africa. Nachtigal was successful in all three territories, but he only preceded Britain's Consul Hewett to Cameroon by five days on 14 July 1884 (Naval Intelligence Division, 1942, 242-3). Britain was highly successful in signing commercial and consular treaties in the Niger Delta (Figure 10.2).

After claims had been staked to these various territories, the colonial powers began to justify boundaries that would enlarge the area under control. An example of this technique was displayed by France in Gabon. Commandant Bouet-Willaumez had secured two leagues of the south bank of the mouth of the River Gabon in 1839 (Naval Intelligence Division, 1942, 230-2). This tiny colony was the seed from which the French territories of Gabon and Congo were established. From 1862 to 1879 the French explorers Serval, Griffon de Belay, d'Albigot, Touchardre, Aymès and de Brazza steadily extended the French colony.

> *To quote Mr Roberts' French colonial history, de Brazza's work [and that of others] up to this date had given France a protectorate over a large territory embracing all the north bank of the Congo between Brazzaville and the Ubangi. He had thus transformed a hemmed-in coastal strip into a Colony four times the size of France.* (Naval Intelligence Division, 1942, 232)

Wilkinson (1996) produced an excellent detailed account of the dismemberment of Zanzibar's territories on the African mainland.

> *Using French and British archives, this article shows how and why Zanzibar was excluded from the Berlin Conference through Bismark's and Leopold's intrigues, and consequently had to submit its territorial rights on the mainland of Africa to adjudication by a delimitation commission appointed by Britain, France and Germany. Forced into giving an unfavourable report by Germany blackmailing France over the Comoros, the Commission paved the way for a division of eastern Africa between the three powers in 1886, which was finalised by mutual agreement in 1890.* (Wilkinson, 1996)

By 1900, with three exceptions, the whole of Africa had been allocated to European states, and the boundaries had been settled to a greater or lesser degree. The three indigenous states were Ethiopia, Liberia and Morocco. Liberia has never been conquered. Ethiopia was occupied by Italy from 1936 until 1941. Morocco was made a French protectorate in 1912 and achieved independence only in 1956. There were two major boundary changes before World War I commenced. First, in 1911 Germany sent a gunboat to Agadir to protect German citizens against French domination. Germany then offered to recognise French rights in Morocco providing it was compensated with territory adjacent to German Kamerun in central Africa. Germany drove a very hard bargain. It gained 260,000 sq. km in an equatorial region, in return for 39,000 sq. km of arid land near Lake Chad. Further the configuration of the German gain meant that it had access to the Ubangi River and also to the Congo River, via a corridor on either side of the Sangha River (10.3). Fortunately for France, after Germany had been defeated in 1918, it recovered its losses and a significant part of German Kamerun. The second change was forced by Italy when the Ottoman Empire disgorged Libya in 1912.

During the interval between the adoption of the General Act of Berlin in 1885 and the commencement of World War I in 1914, European states published 147 treaties, exchanges of notes, proclamations, agreements, process-verbal, conventions and declarations dealing with international boundaries. This diplomatic activity was assisted greatly by the work of explorers throughout the continent from 1768 to 1889. *The Times Atlas of World Exploration* provides an excellent delineation, in coloured maps, of the journeys of the explorers involved (Fernando-Armesto, 1991, 186-207).

BOUNDARY CHANGES AFTER 1918

In 1918 the victorious powers were allocated mandates over Germany's African colonies. France secured the eastern parts of Kamerun and Togoland. Britain occupied the western parts of Kamerun and Togoland and Tangayika. Belgium was rewarded with mandates over Burundi and Rwanda adjacent to the Belgian Congo. They had previously been part of German Tanganyika. South Africa obtained a mandate over German Southwest Africa. By the Treaty of London of 26 April 1915, Britain and France had assured Italy that if their territories in Africa were augmented after the war, Italy could receive some equitable compensation. In 1924 of the Italian Somaliland boundary with British Kenya was moved about 125 km westwards of the Juba River that had previously been the international boundary (Figure 10.4).

In 1935 Italian forces successfully invaded Ethiopia. They were driven out in 1941 and Britain governed Eritrea as a mandate until 1952, when Eritrea federated with Ethiopia. Ten years later Ethiopia became a unitary state and the struggle for Eritrean independence started. It succeeded in 1993 within the pre-1939 boundaries.

In 1960 the French mandate over the former German Cameroons ended and the territory became independent. The next year a referendum was held in the British area of the former German colony. It resulted in the southern part joining the independent Cameroons and the northern part joining the independent Nigeria.

In 1969 Spain returned the coastal foothold of Ifni to Morocco. Spain then withdrew from Western Sahara and it was partitioned between Morocco and Mauritania in 1976.Three years later Mauritania renounced its claim to any part of Western Sahara and Morocco claimed the whole area within the former Spanish boundaries.

The final boundary change occurred in 1994 when South Africa generously ceded Walvis Bay to Namibia and the international boundary of 1878 disappeared.

GEOMETRIC BOUNDARIES

Geometric boundaries consist of straight lines, arcs of circles and median lines. Maling (1989, 542) has observed that since a chart or map is based on a projection, the nature of a straight line measured on it depends on the projection's mathematical properties. The shortest distance between two points on the earth's surface is the geodesic that passes through them.

> ***Geodesic line****. The shortest line on a mathematically derived surface, between two points on that surface. A geodesic line on a reference spheroid is called a geodetic line. Also termed a geodesic.* (International Hydrographic Organization, 1990, 90).

The arc of a circle is a curved line, every point of which is equidistance from the centre of the circle. A median line is normally calculated in a water body such as the sea, a bay, a lake or a river. It consists of a series of straight lines. The termini of each line will be equidistant from at least one point on one side and two points on the other side.

The boundary between Malawi and Mozambique involved the use of straight lines, median lines and arcs of circles under the terms of various treaties dated from 1891 to 1954 (The Geographer, 1971, 4).

> *From Pillar 1 at the eastern bend in the Malosa River at 15° 56' 06.77" S and 15° 49' 36.74" E the boundary is carried by 27 straight segments to Pillar 17 on the shore of Lake Nyassa at 13° 28' 57.99" S and 34° 56' 27.01" E* (The Geographer, 1971, 18-21).
>
> 1. *In execution of the preliminary agreement concluded between the Government of the United Kingdom and the Portuguese Government by an Exchange of Notes dated the 21 st January 1953, the frontier on Lake Nyasa shall run due west from the point where the frontier of Mozambique and Tanganyiika [11° 34' S] meets on the shore of the Lake to the median line of the waters of the same Lake and shall then follow the [segments of the] median line to its point of intersection with the geographical parallel of Beacon 17 [13° 28' 57.99" S] as described in the Exchange of Notes of the 6th of May 1920, which shall then constitute the boundary.* (The Geographer, 1971, 4)

The two parallels mentioned total 56 km of the boundary in the lake. These two parallels are then joined by the median line, that consists of a number of segments. Each successive segment will follow a different bearing from its predecessor. When the direction changes, it will do so when the point is equidistant from two points on one side of the lake and one point on the other side of the lake. Figure 10.5 shows an example of the construction of a median line.

> 2. *The Government of the United Kingdom shall retain sovereignty over the islands of Chisamulo and Likoma, together with the exercise of all rights flowing from such sovereignty, including full, unrestricted and unconditional rights of access. The Government of the United Kingdom shall also retain sovereignty over a belt of water two sea miles in width surrounding each of these islands, except that where the distance between Likoma and the mainland is less than 4 miles the waters shall be equally divided between the two Governments.* (Brownlie, 1979, 1194-5)

This provision means that except to the east of Likoma Britain is entitled to surrounding waters to a distance of 2 sea miles. Presumably a sea mile is a nautical mile. It is the length of one minute of longitude that equals 1,852 metres. An English mile measures 1600 metres. This means that around Chisamulo Island the area of water belonging to Malawi will be enclosed by arcs of circles, with

a radius of 2 nm, drawn from the most prominent points of the coastline. The same arcs of circles will surround Likoma, except where the distance between the coast and the Mozambique shore is less than four nautical miles. In that section a median line will replace arcs of circles. Figure 10.6 shows the situation.

The 1926 agreement between Egypt and Italy used straight lines and arcs of circles in the northern sector (Figure 10.7).

> *From the junction of Masrab el Ajram with the northern border of the Melfa Oasis, the boundary shall be marked out as follows.*
>
> *The line shall extend in an exact south-southeasterly direction (157° 30' Greenwich east) to a point on Mount Guegab 10 kilometres north of Manasseb Pass (Naqb al Munassib). Then it shall follow an arc of a circle having as its centre Manasseb Pass and a radius of 10 kilometres. This arc shall pass through Masrab Jalo and continue until its intersection with another arc of a circle that shall have as its centre Williams Pass and a radius of 10 kilometres. The line shall follow this second arc of a circle to a point west-southwest ten kilometres from Williams Pass; then it shall continue in an exact south-southeasterly direction until its intersection with the 25th Greenwich Meridian. It shall then follow that Meridian until its intersection with the 22nd North Parallel.* (The Geographer, 1966, 5-6)

A comparison of the political and climatic maps of Africa indicates that the majority of the continent's geometric boundaries are located in the arid and semi-arid regions. There appear to be two reasons for this correspondence. First, when neighbouring states in arid regions negotiated international boundaries, they were more concerned to secure established settlements. They were not insistent to define precisely possibly convoluted tribal or community limits. This was certainly true of Britain and Germany in the Kalahari Desert and France and Spain in the Western Sahara.

The second explanation concerns the administration by colonial powers of huge areas of desert and semi-desert terrain. When the French Colonial office drew the administrative boundaries of Algeria, Mali, Mauritania, Niger and Chad, there was no thought that they were disrupting the traditional circulation of groups in the neighbourhood of these lines. The lines had not been drawn after extensive research into the ancient political and social structures of the societies being enclosed. From time to time the alignments of boundaries were changed. The boundary between Algeria and Mauritania was revised on 7 June 1905 and during the Niamey Conventions of 20 June and 26 August 1909. By a Memorandum of 18 March 1931, the Chad-Niger boundary through the Tibesti region was shifted westwards to place the entire region in Chad (The Geographer, 1966a, 7).

When straight boundaries are drawn through areas where mixed farming, involving cattle and the production of beans, bananas, cassava, maize and sorghum, has encouraged tribes to create small kingdoms, the use of straight boundaries by European states, almost guarantees that the boundary will not coincide with

tribal limits. That is exactly what happened in the borderland between southern Uganda claimed by Britain and northern Tanganyika claimed by Germany. In 1886 Britain and Germany drew straight lines to carry their common boundary from the Indian Ocean to the east coast of Lake Victoria. In 1890 this boundary was continued dues west across Lake Victoria and on to the boundary with the Congo Free State.

> *…thence from the parallel of 1 degree of south latitude with the eastern shore of Lake Victoria, crossing the Lake on that parallel, it follows the parallel to the frontier of the Congo Free State, where it terminates.* (The Geographer, 1965, 2)

This line was perfectly satisfactory when crossing the lake, but where it crossed land it ignored the frontiers that existed between neighbouring kingdoms. The frontier between the lacustrine kingdoms west of Lake Victoria coincided with the Kagera River. The line of latitude severed two small areas of the southern Kingdom and a large area of the northern Kingdom. In addition the line lay across the northern tip of Ruboba Point that projected from the coastline of the southern Kingdom.

WATER BOUNDARIES

The boundary between the Congo and the Democratic Republic of Congo extends for about 1620 km. In the south about 500 km coincides with the watershed between the Congo and Nairi Rivers, and then links the watershed to the Congo River. The remaining 1120 km of boundary coincides with the Congo and Ubangi Rivers. Only a short section of the river boundary is defined. It is located in Stanley Pool.

The Convention of 5 February 1885 between France and the International Association of the Congo defined the boundary in Stanley Pool (Figure 10.8).

> *The median line of Stanley Pool to the contact point of that line with Bamu, the southern shore of that island to its eastern extremity, and then the median line of Stanley Pool.*
>
> *Bamu Island, and the water and islets from Bamu Island to the northern shore of Stanley pool shall belong to France; the water and islands from Bamu island to the southern shore of Stanley Pool shall belong to Belgium.*
>
> *The territory of Bamu Island shall be permanently under a neutral regime. No military establishment may be set up there, and it is understood that the territory so neutralized shall also be under the regime specified in the final provision of Article XI of the General Act of Berlin.* (The Geographer, 1972, 5)

The Anglo-Portuguese agreement of 11 June 1891 that defined the first boundary between the areas that subsequently became Malawi and Mozambique, followed the eastern coastline of Lake Nyasa.

> *To the west [of Mozambique] by a line which, starting from the above mentioned frontier [German Tanganyika] on Lake Nyasa, follows the eastern shore of the lake southwards as far as the parallel 13° 30' south…* (The Geographer, 1971, 2)

The Anglo-Portuguese agreement of 18 November 1954 moved the boundary from the eastern shoreline to the median line through the Lake.

In two other cases boundaries coincided with the right bank of major rivers. In 1890 the Anglo-German boundary separated South Africa and Southwest Africa.

> *…a line commencing at the mouth of the Orange River, and ascending the north bank of that river to its intersection by the 20th degree of east longitude.* (Brownlie, 1979, 1276)

Because the flow throughout the year varied, before dams were constructed in the upper reaches of the Orange, the boundary moved with the fall and rise of water levels. When South Africa generously decided to cede Walvis Bay and the Guano Islands to Namibia in 1994, it also offered to renegotiate the boundary within the Orange River rather than along the right bank.

The boundary between Mauritania and Senegal commences on the Langue de Barbarie, a narrow sand spit that separates the Senegal River from the Atlantic Ocean, a few kilometres above Saint-Louis. The boundary crosses the spit and then follows two *marigots* [distributaries] before reaching the right bank of the Senegal River, that is followed for 800 km (The Geographer, 1967). The only exception occurs near the mouth where the boundary follows the south coast of Ile au Bois. This island has a length of about 2 km.

Stanley Pool is a natural feature in contrast with Lake Kariba that was created when the Zambezi River was dammed in 1961. The boundary separating Zambia and Zimbabwe, when they were British colonies, was defined in identical terms in 1895 and 1923.

> *…thence by that [Hunter's] Road to the River Zambesi, and by that river to the Portuguese boundary.* (The Geographer, 1964, 4)

In 1963 a British Order in Council defined the present boundary in three sections. Proceeding from the Mozambique tri-junction the boundary followed the *medium filum* [median line] to a brass stud numbered NRT/T153 set into the wall of the Kariba Dam. The second section consists of 14 straight lines from the wall to the vicinity of the Victoria Falls. Each straight line is defined by a true bearing measured from due North and a distance measured in feet. The longest line has a true bearing of 247° 11' and measures 145,300 feet [44,030 metres]. The third

section follows the median line from below the Victoria Falls, to the quadripoint with Botswana and Namibia. The median line is drawn to allocate islands named after Livingstone, six Princesses and King George VI to the appropriate country. The boundary crosses the Falls west of Livingstone Island.

Belgium and Germany defined their territories in central Africa on 11 August 1910. They fixed their common boundary in Lake Tanganyika as a median line measuring 456 km (The Geographer, 1965a, 5). After 1918 Britain secured a mandate over most of German East Africa but the northwest corner of that colony was reserved for a Belgian Mandate. It adjoined the Belgian Congo and the Belgian-German boundary was preserved.

> *From Lake Tanganyika to Lake Kivu:*
>
> *The boundary leaving, the median line of Lake Tanganyika, curves in order to follow the talweg of the main western branch of the Russisi delta as far as the northern tip of the delta.*
>
> *It then takes the talweg of that river to the point where it flows out of Lake Kivu.* (The Geographer, 1965b, 4)

The surface of Lake Kivu stands 697 metres above Lake Tanganyika and the Russisi River connects the two. This boundary definition introduces the concept of the talweg.

> ***Thalweg**. The line of deepest soundings along the course of a river. In international law the term is judicially construed to denote the main navigable channel of a waterway which constitutes a boundary line between two nations or states.*
> *Fr*: Thalweg; *Ger*: Talweg; Stromstrich (Kerchove, 1961, 829)

The talweg is a convenient site for a boundary on a river when both countries seek access to the deepest continuous channel.

The southern section of the boundary between Kenya and Uganda traverses Lake Victoria for 137 km. The selection of the line appears to be related to the fortuitous arrangement of Kenyan islands. Pyramid, Ilemba, Kiringit, Mageta and Sumba are located up to 17 km off the Kenyan mainland. However, with minor variations, they are arranged almost along a meridian. Administrators determining the boundary between the two Colonies in 1926 decided that the boundary would connect each of the Kenyan islands.

> *Commencing in the waters of Lake Victoria on parallel 1° south latitude, at a point due south of the westernmost point of Pyramid Island; thence the boundary follows a straight line due north to that point; thence continuing by a straight line to the most western point of Ilemba Island; thence by a straight line, still northerly, to the most westerly point of Kiringiti Island; thence in a straight line, still northerly, to the most westerly point of Mageta Island; thence by a straight line north-westerly to the most southern point of Sumba Island; thence by the south-western and western shores of that*

> *island to its most northerly point; thence by a straight line north-easterly to the centre of the mouth of the Sio River.* (The Geographer, 1973, 3)

Thus the boundary was tangential to the four southern islands and it followed the western shore of Sumba Island to its northern extremity.

It was noted earlier that if rivers change their course gradually the boundary continues to coincide with the river. If the river changes its course by avulsion then the boundary continues to follow the original course. In the case of lakes the boundary does not change even though the shape or extent of the lake changes. For example, in 1988 the waters of Lake Chad separated Nigeria and Niger, Niger and Chad, Chad and Nigeria, Nigeria and Cameroon and Cameroon and Chad. By 1994 only Chad and Cameroon possessed a boundary through the largest remaining sector of lake (Figure 10.9). Two small lakes lay entirely with Nigeria. The sector of the boundary through the waters of the Aral Sea, separating Khazakstan and Uzbekistan, is steadily being reduced as a major land projection from the southern shore increases in area.

A watershed boundary is the inversion of a river boundary. The watershed marks part of the geographical limit of a drainage basin whilst the river is the central drainage channel. Many pairs of states share a river boundary and gradually detailed provisions have been enacted to ensure that neither state is disadvantaged in its use of the river. Indeed there is a well developed law of international watercourses.

> *The present work is concerned with the law of* international *watercourses. Yet the 'international watercourse system' is a concept whose definition depends upon an understanding of the notion of 'watercourse system'. Historically, and indeed until very recently, state practice in the field of international watercourses was concerned almost exclusively with international rivers and lakes shared by two or more states; that is, states have been preoccupied with the portions of watercourse systems that are plainly visible on the surface. This is understandable, and is no doubt due to a combination of various factors including the historical importance of navigation; the fact that in the humid regions where the modern system of states initially took root, surface water provided most human needs; and the fact that until relatively recently, hydrology was only dimly understood. However, it is clear from the above view of the hydrological cycle that a factually accurate definition of the term 'watercourse' must include not only the main surface water channel and the water contained therein, but also the other components of the watercourse system, in particular tributaries and groundwater.* (McCaffrey, 2003, 34)

Rivers may change their course abruptly or gradually and international law has evolved so that any difficulties caused for the states on either bank can be resolved. In contrast watersheds do not seem to require special legal provisions. Watersheds usually change imperceptibly and very detailed surveys would be needed to detect alterations in the watershed's position. Disputes over the precise

location of a watershed have sometimes occurred when a boundary is being negotiated, but once a watershed boundary is settled further disputes are rare. Now that satellite imagery can give very precise pictures of drainage patterns in highlands, watershed boundaries negotiated in the future are unlikely to cause difficulties.

The boundary between the Democratic Republic of the Congo and Sudan coincides with the watershed separating the drainage basins of the Nile and Congo Rivers. The eastern tri-junction with Uganda was located at 3° 27' 40 N and 30° 50' 30" E by British surveyors in 1914. The tri-junction, with the Central African Republic, was fixed in 1924 at 5° 01' 10" N and 27° 27' 37" E, by British and French surveyors (The Geographer, 1978,5). From the eastern tri-junction, the boundary, between the Democratic Republic of the Congo and Uganda, follows the watershed between the Nile and Congo catchments for 166 km to Okiyo (The Geographer, 1970, 6).

The boundary west of the Shire River, between Malawi and Mozambique, follows the watershed between the Shire and Zambezi basins. This boundary terminates at the tri-junction with Zambia at 14° S and 33° 14' E. The boundary was delimited in 1891 and demarcated in 1899-1900 (The Geographer, 1971, 3).

ADJUDICATED BOUNDARIES

During the colonial period there were five boundary adjudications and Britain was involved in all of them.

In 1616 Portugal established a garrison at Cacheo, in what is now Guinea Bissau, to control The Slave Trade. Britain acquired Boloma Island in 1826 about 110 km east of Cacheo. During the 1860s Portugal disputed Britain's claim to the Island and the two sides agreed to refer the matter to President Ulysses Grant. The President found in favour of Portugal and Britain withdrew (Naval Intelligence Division, 1944, 125).

Portugal was again the beneficiary of a judgement in respect of Delagoa Bay on the coast of Mozambique. Britain had challenged Portugal's sovereignty over Delagoa Bay now called Baia de Laurenço Marques, because of its potential value as an outlet for northern South Africa. The matter was referred to President Marshal MacMahon of France who decided that Portugal had the best claim on 24 July 1875 (Brownlie, 1979, 1239).

Mr Paul Vigliani, formerly Chief President of the Court of Cassation in Florence, Minister of State and Senator of the Kingdom of Italy, was requested by Britain and Portugal to interpret a phrase in the Anglo-Portuguese boundary treaty of 11 June 1891.

> *…thence running eastward direct to the point where the River Mazoe is intersected by the 33rd degree of longitude east of Greenwich; it follows*

> *that degree southward to its intersection by the 18° 30' parallel of south latitude*; thence it follows the upper part of the of the eastern slope of the Manica Plateau southwards to the centre of the main channel of the Sabi, *follows that channel to its confluence with the Lundi*... (The Geographer, 1971a, 3. Emphasis added.)

Vigliani delivered his judgement on 30 January 1897 (Figure 10.10). He delimited a boundary over 310 km between latitude 18° 30' South and the confluence of the Sabi and Lundi Rivers. It consisted of sections coincident with the watershed connected by straight lines.

Britain and Portugal delimited a boundary between their spheres of influence in the areas known today as Angola and Zambia, on 11 June 1891. Article IV of the agreement referred to the Barotse Kingdom.

> *It is agreed that the western line of division separating the British from the Portuguese sphere of influence in Central Africa shall follow the centre of the channel of the Upper Zambezi, starting from the Katima Rapids [Katima Molili Rapids] up to the point where it reaches the territory of the Barotse Kingdom.*
>
> *That territory shall remain within the British sphere; its limits to the westward, which will constitute the boundary between the British and Portuguese spheres of influence, being decided by a Joint Anglo-Portuguese Commission, which shall have power, in case of difference of opinion, to appoint an Umpire.* (The Geographer, 1972a, 1-2)

On 5 June 1893 the governments decided to adopt a *modus vivendi* until an agreed boundary could be demarcated.

> *Pending the delimitation of the boundary line as laid down in Article IV of the treaty of 11 June 1891, the line formed by the course of the Zambezi from the cataracts at Katima up to the confluence of the Kabompo River, and then by the course of the Kabompo, shall be the provisional boundary between the respective spheres of influence in that region and the provisions of Article VIII of the treaty above referred to shall be applicable to the territories separated by the said provisional boundary until a definitive boundary shall have been substituted in its stead.* (The Geographer, 1972a, 2)

No progress was made in determining the extent of the Barotse Kingdom and Victor Emmanuel III, King of Italy, was invited to define the boundary of the area, over which the Barotse King was Paramount Ruler on 11 June 1891.

Brownlie (1979, 1064-70) has reproduced the King's Award in the original French and in an English translation. The King's starting point was to ascertain the tribes that were in a position of real dependence on King Lewanika on 11 June 1891. In such circumstances the King would appoint subordinate Chiefs, resolve disputes between them and depose those that misbehave (Brownlie, 1979, 1068).

> *Whereas, such powers had beyond doubt already been exercised by the King of the Barotse in the Province of Nalolo, to the west of the Zambezi; and they had also been exercised over the tribes of the Mabuenyi and the Mamboe, so that their territory formed an integral part of the Barotse Kingdom.*
>
> *Whereas, as regards the Balovale, although they have paid tribute, they were on 11 June 1890, in a state of independence, having in fact their Paramount Ruler, who appointed subordinate Chiefs, and the King of Barotse had up till then performed no act of jurisdiction or government over the Balovale.…*
>
> *Whereas, however, King Lewanika exercised some rights of lordship over the zone which, bordering his real dominions, lies between the Zambezi and the Lungubungu, and is inhabited by Balovale, so that, in view of such rights of lordship, it may be admitted that this zone formed an integral part of the Barotse Kingdom.*
>
> *Whereas, as far as the region of the Balunda is concerned, a part was inhabited by Balekwakwa, who are ethnologically Barotse, and whereas the southern zone had been more directly under the influence of the King of the Barotse until its actual subjection, so that the territory comprised between the lower course of the Kapombo [sic. Kabompo], the Zambezi and the 13th parallel must be considered part of the Barotse Kingdom.*
>
> *Whereas the Bampukush, the Bamarshi, the Mambunda, and the Bamakoma were absolutely independent tribes, and consequently, could not be considered as an integral part of the Barotse Kingdom.* (Brownlie, 1979, 1068)

The King then delimited the boundary he had been asked to define.

> *The straight line between the Katima Rapids on the Zambezi, and the village of Andara, on the Okavango, as far as the point where it meets the River Kwando; The eastern side of the bed of the upper waters of the Kwando, as far as the point of intersection with 22nd meridian east of Greenwich; The 22nd meridian east of Greenwich as far as the point of intersection with the 13th parallel; The 13th parallel as far as the point of intersection with the 24th meridian east of Greenwich; The 24th meridian east of Greenwich as far as the frontier of the Independent State of the Congo.* (Brownlie, 1979, 1068, 1070)

This admirable definition had only one weakness and predictably it caused further delay in settling this boundary. The phrase ‘The eastern side of the bed of the upper waters of the Kwando’ is capable of more than one interpretation. The matter was finally settled on 18 November 1954.

> *And whereas difficulties were still encountered in the delimitation of the boundary owing to a difference of opinion as regards the interpretation of the expression* “le bord oriental du lit des hautes eaux du Kwando” *in the*

> *above-mentioned award, the Portuguese Government contending that this expression meant the line of the east bank of the River Kwando reached by the waters of the river in the times of normal flood, and in adducing in support of their view its entire agreement with the definition of* "hautes eaux" *adopted by writers who are authorities on river hydraulics and the Government of the United Kingdom considering that the expression meant the upper waters of the River Kwando at their normal level and adducing in support of their view the necessity of certain tribes of the Barotse Kingdom to make use of the waters of the River Kwando in the dry season.* (The Geographer, 1972a, 3)

When the boundary was demarcated in 1964 the boundary along the Kwando River was clarified.

> *The portion of the boundary described in the Award[1905] as* "le bord oriental du lit des hautes eaux du Kwando, jusqu'au point d'intersection avec le 22nd meridian Est de Greenwich" *shall follow the normal limit of the waters of the River Kwando on its eastern side when the river is in flood, a line which in general can be considered as following the edge of the woods or the so-called tree-line.*
>
> *For the purpose of this Article and since the true tree-line is too winding and raises problems of continuity, it shall be replaced by an agreed line which shall, so far as possible, follow the real edge of the woods eliminating only the more pronounced salients and re-entrants. None of the segments of this line should, however, cut the principal valley of the River Kwando at times of normal flood.* (The Geographer, 1972a, 10)

The Kwando boundary was demarcated by a series of straight lines linking 32 boundary pillars.

In the post-colonial period four boundary disputes have been the subject of judicial decision. The dispute, between Burkina Faso and Mali, was settled by the International Court of Justice in 1968. Soon after the two countries became independent in August and September 1960 respectively, they realised they had different interpretations of the French boundary they had inherited. Discussions centred on a strip about 440 km long with an area of about 3,200 sq. km. This zone is valued for its pastoral and agricultural potential. It is occupied by the River Béli, that in winter is reduced to a line of stagnant pools. Allcock and others (1992) provided a useful account of the efforts of the two countries, assisted by the Organization of African Unity and some African leaders, to solve the problem. The matter came before the Court in April 1985, but heavy fighting occurred in December of that year. The Court, with the assistance of President Houphouet-Boigny of Côte d'Ivoire, persuaded the parties to restart the settlement process.

In December 1986 the Court delimited a line that the two parties agreed to demarcate. The new boundary divided the disputed zone almost equally between the two countries between Mahou and Douna, settlements in Mali. The Judges' decision emphasized the principle of *uti possidetis juris*, a principle frequently evident in South America, during the period of boundary construction in the 19 th century. The difficulty in this case was that the countries relied on different French boundaries! The parties provided the Court with texts of French administrative acts that created Upper Volta, now Burkina Faso, in 1919, abolished it in 1932 and recreated it, within the same boundaries in 1947. Other texts and many maps were also provided as evidence. The Court was unable to establish any single description of the boundary or any map that could be relied on for the whole sector in dispute. Accordingly the Court engaged in an exercise of detection that involved, for example, whether the word 'village' included all the farming hamlets used at certain seasons by cultivators, who normally lived in the principal village. This was an important question because some boundary definitions allocated villages to one side or the other.

The Court determined 13 points along the boundary and the description used phrases such as '…in a northerly direction', '…approximately 7.5 km' and '…a generally east-west direction'. The Court offered the assistance of three experts to assist in the demarcation. The judgement was received well by both sides. Mali National Radio reported that the result was '…a joint brilliant victory for the two peoples in history'. The Burkina Faso official newspaper Sidwaya was also supportive, noting that a sombre chapter in the history of relations between Mali and Burkina Faso has thus come to an end and must not be re-opened. The success of this judgement owed much to the low level of inter-territorial movements of people, the lack of major refugee movements across the boundary, and the policies of *laissez-faire* adopted by French administrators who adjusted boundaries when difficulties arose, without consulting Paris.

In June 1973 Libya annexed the Aozou Strip that lay along its entire southern boundary with Chad. The Strip had an area of about 11,000 sq. km. It is desert with more variation in topography than in climate, vegetation or economic use. The Tibesti Highlands are a volcanic mass in the shape of a heart, part of which extends into the Aozou Strip. This zone called the Tarso Emissi rises to 3,376 metres and its grim, unvegetated peaks are surrounded by rock-strewn platforms, deep gorges and precipices. Intermittent rivers called the Bardage, Yebigé, Sanaka, Tidedi, Borou and Korossom radiate from the massif after unreliable rains in July and August. They nourish small deltas and oases in level areas, where dates, millet and vegetables are grown. These include Yebbi-Souma, Guezenti, Tirenno, Aozou and Ouri. Eastwards from Rason Emissi, lies the Jef-Jef Plateau. This is a barren, waterless desert with a varied appearance as blackened sandstone yardangs rise above a sea of dunes that are interspersed with gravel plains. Sometimes, this area was used by nomadic pastoralists raising goats and sheep. Eastwards the land rises to the Erdi Plateau with elevations about 1,000

metres. This undulating surface covered with dunes and rocks offers the poorest prospects for pastoral activity in the entire Strip.

When Libya annexed the Strip, Chad was beset by a civil war that lasted for 14 years. Libya played favourites with whichever party in Chad suited its political interests. After President Habre had consolidated control over most of Chad in 1987 negotiations with Libya were opened and the dispute was referred to the International Court of Justice in 1989. Although the preparatory stages were protracted and the judgement was not delivered until 1994 the issue before the Court was not difficult (Figure 10.11). Chad relied on the boundary that was defined in the Franco-Italian treaty of Friendship and Good Neighbourliness of 10 August 1955. That agreement defined the boundary between Libya and French territories according to various international treaties and agreements listed in an annexe. They were the Anglo-French Convention of 14 June 1898 and the Additional Declaration of 21 March 1899, the Franco-Italian Accords of 1 November 1902, the Franco-Turkish Convention of 12 May 1910, the Anglo-French Convention of 8 September 1919 and the Franco-Italian Arrangement of 12 September 1919 (Brownlie, 1979, 121-3). In contrast Libya relied on the Franco-Italian Agreement signed on 7 January 1935 by Pierre Laval and Benito Mussolini. The agreement was not ratified by Italy, and both countries repudiated it in 1938. It derived from the Treaty of London, devised by Britain, France, Italy and Russia and signed on 26 April 1915. The treaty was designed to persuade Italy to enter the First World War on the side of the Allies and included a provision that if Britain and France increased their territories in Africa, at the expense of Germany, then Italy could claim some equitable compensation. The 1935 Agreement secured the Aozou Strip for Italy. The benefit for France was that Italy abandoned its claims against eastern Tunisia.

The Court found the boundary claimed by Chad was the correct line and cited the fact that Libya had recognized this by helping to define the eastern terminus of the boundary after 10 August 1955. The Court also made the important finding that although the Treaty of Friendship and Neighbourliness only lasted for 20 years, which had elapsed, the boundary remained valid and would only be superseded by a new agreement.

On 13 December 1999 the International Court of Justice announced its decision in the territorial dispute between Botswana and Namibia. Both countries claimed sovereignty over an island in the Chobe River that forms the boundary between them. The island is called Kasili by Namibia and Sedudu by Botswana. It has an area of about 3.5 sq. km and is submerged during the wet season. During the dry season the island re-appears and it is used to graze cattle and as a tourist destination. The Chobe River is famous for its subsistence and recreational fishing.

The case turned on discovering whether the main channel of the Chobe lay north or south of the Island.

> *In its Judgement, the Court finds, by eleven votes to four, that 'the boundary between the Republic of Botswana and the Republic of Namibia follows the*

> *line of the deepest soundings in the northern channel of the Chobe River around Kasili/Sedudu Island and, by eleven votes to four again, that Kasili/Sedudu Island forms part of the Republic of Botswana'.*
>
> *The Court adds unanimously that 'in the two channels around Kasili/Sedudu Island, the nationals of, and vessels flying the flags of, the Republic of Botswana and the Republic of Namibia shall enjoy equal national treatment'.* (Anonymous, 1999-2000, 26)

On 10 October 2002 the International Court of Justice announced its decision in the boundary dispute between Cameroon and Nigeria. The boundary between the two countries consists of three sections. Starting in Lake Chad the Anglo-French boundary, delimited by Thomson and Marchand, respective Governors of Nigeria and Cameroon, extends south to Mount Kombon. That boundary was defined in 1929-30 (Brownlie, 1979, 569-78). The second section consists of the internal British boundary between Northern and Southern Cameroon delimited in the Second Schedule of an Order in Council dated 2 August 1946 (Brownlie, 1979, 584). It connects Pillar 64 and Mount Kombon. The third section, leading to the sea, is the Anglo-German boundary. The northern sector from Pillar 64 to the Cross River was demarcated by Nugent (1914) and Detzner, who started their survey at Yola. Their report was dated 12 April 1913 (Brownlie, 1979, 561-4). The southern sector between the Cross River and the Sea was delimited and demarcated by Grey and Lichnowsky, with the results recorded on 11 March 1913 (Brownlie, 1979, 557-60). One major part of the judgement confirmed that the Bakassi Peninsula belonged to Cameroon. Many Nigerians had settled on the Peninsula.

In a contribution to a discussion group, organized by the International Boundaries Research Unit, Odutan has raised questions about the final determination of the boundary and drawn attention to the difficulties that might be experienced.

> *Furthermore, there are still many hydra-headed and challenging demarcation issues left in relation to the 1800 km boundary covered by the ICJ judgement. These of course include the familiar issues of straddling villages, inaccurate maps, ambiguous portions of court judgements, dried-up rivers, incorrectly identified features (e.g. watershed that allegedly contain streams), and perhaps more usual features as allegedly disappeared villages or villages that allegedly exist in two separate places at the same time. Interesting stuff.* (Personal communication, 23 August 2006)

CONCLUSION

It has been noted that the Scramble for Africa started as early as 1600, and Britain, France, Portugal, Spain and Turkey had established coastal footholds by 1830,

55 years before the General Act of Berlin was signed. However, it is the case, that the delimitation and demarcation of boundaries between colonies proceeded apace after 1885. Brownlie's monumental table of 273 documents contains only 12 dated before 26 February1885.

Ethiopia, Liberia and Morocco were the only African states that engaged with European governments in delimiting all or some of their boundaries. Throughout the remainder of the continent the boundaries were delimited by European powers. Several sections of the boundaries consisted of straight lines and many coincided with rivers or watersheds. The Ethiopian lake T'ana Hayk, with an area of 3,600 sq. km, is the only major lake not intersected by at least one international boundary. Only occasionally were boundaries deliberately designed to avoid the partition of tribal areas. In northeast Africa, for example, boundaries divided the extensive Somali and Masai homelands.

The colonial powers were diligent in delimiting and often demarcating agreed boundaries and, as colonies became independent states, most had a clear understanding of their territorial extent. There have been some boundary disputes, but only a few, considering that there are 102 bilateral boundaries. This situation has been greatly assisted by all members of the Organization of African Unity, making a pledge to respect the boundaries existing on the achievement of national independence.

In 1983 President Chadly of Algeria described Africa's boundary problems as '…delayed action bombs left by colonialism'. That has not turned out to be an accurate prediction except in the vicinity of Eritrea. Indeed it can be argued, that the colonial powers acted much more responsibly in delimiting the territories of colonies than they did in managing their progress to independence. The scramble of European powers to divest themselves of expensive and troublesome colonies was not well managed in the period after 1956. In 1975 the dereliction of duty by the Portuguese authorities, in the decolonisation process in Africa and Timor, can be judged disgraceful.

Post-colonial African history has been marked and marred by civil wars, tribal massacres, political dictatorships and financial corruption on a grand scale. The most recent example involves Zimbabwe. This is a country that had a strong economy based on mineral and agricultural production when it became independent in 1980. In March 2007 the World Bank predicted that by the end of the year inflation would reach 4000 per cent, assisted by the Reserve Bank of Zimbabwe printing billions of banknotes to keep the economy afloat. Fortunately there are a few countries, such as Namibia, that have avoided the excesses that have plagued the majority of states. On 21 March 1990, when Namibia became independent, European territory on the continent of Africa was reduced to five tiny coastal features. Spain, that had not managed to secure any significant part of the continent, and that had abandoned Western Sahara in 1975, clings to five outposts on the north coast of Morocco. They are Melilla acquired in 1497, Ceuta in 1538, Penon de Velez de la Gomera in 1564, Islas Chaferinas in 1848 and Alhucemas in 1928 (Naval Intelligence Division, 1942a, 111-19).

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11. ASIA

This chapter is concerned with that part of mainland Asia that lies east of meridian 60° east. This line lies close to the boundary separating Iran from Afghanistan and Pakistan. The evolution of political boundaries throughout this extensive region finds a unity in the relationships between China and the colonial powers of Russia, Britain, France and Japan.

China was the hub about which other states manoeuvred. Russia occupied the sector from Vladivostok to Afghanistan; the British theatre extended from Afghanistan to Thailand and included the Malay Peninsula.; France dominated Indo-China and Japan held sway in the Korean Peninsula. Britain, France, Germany and Portugal secured small, temporarily important footholds on China's mainland coast. Even the duration of Britain's occupation of Hong Kong was but a moment in the perspective of Chinese history.

Asia's political boundaries evolved in three phases. Before 1914 the colonial powers carved out their Asian Empires and set the limits of those Asian states such as Afghanistan, Bhutan, China, Nepal and Thailand that were not directly controlled. Apart from the Sino-Russian treaties of 1689 and 1727, these Asian states invariably negotiated from a position of weakness. Indeed, with the exception of China, it seems likely the other states were not totally annexed because of Britain's pre-occupation to avoid boundaries with other colonial powers and China. That British policy of self-denial did not stop Russia from acquiring large areas of northern Afghanistan or preventing France from compelling Thailand to disgorge extensive tracts in the Mekong Valley. Britain's ineffective attempt to create a buffer state of Tibet from a Chinese Province was successfully duplicated by Russia, that detached Outer Mongolia in 1910 and subsequently prevented any resumption of that area by China.

The second phase lasted until the end of World War II, and it was characterised by the preservation of the *status quo*. There were minor boundary alterations involving Afghanistan and Thailand, but Japan's major efforts to redraw boundaries in Indo-China and Manchuria failed entirely. During this period the internal boundaries of the British and French Empires were maintained. These unilateral domestic limits provided the lines of cleavage along which the Empires split in the third phase. The third stage was characterised by a desire for independence on the part of the indigenous population, and an anxiety on the part of Britain and later France to escape from colonial responsibility. The

new states began to negotiate boundaries. China reached amicable settlements with Afghanistan, Burma, Mongolia, Nepal and Pakistan. In each of these cases a traditional existing boundary was maintained or was amicably altered. Some disputes flared between China and the Soviet Union, China and India, India and Pakistan and Thailand, Laos and Cambodia. Conflicts within the region yielded three cease-fire lines in Kashmir, Korea and Vietnam, that became international boundaries. The international boundary dividing Vietnam disappeared in 1975 when the country was unified.

The political boundaries of Asia did not evolve in an orderly fashion through the stages of allocation, delimitation, demarcation and administration. For example, the boundary along the northern watershed of the Amur River, that allocated territory between China and Russia in 1689, was never demarcated. The boundary started at Manzbouli north of Hulun Nur [Lake] and followed the Argun River to Ust Strelka. It then proceeded by a small river called Gorbitsa to the watershed between the Amur's northern tributaries and the Russian rivers flowing to the Arctic and the northeast coast of Asia. The terminus was near Mys Aleksandra the mainland cape of the Sakhalinskiy Zaliv [Gulf]. Fortunately the undeveloped nature of the area north of the Amur reduced the risk of serious border conflicts and disputes. In 1858, when boundary negotiations were resumed Russia had achieved a position of greater relative strength with China, and it was able to secure large territorial concessions. The only part of the 1689 boundary that survived was the River Argun north of Hulun Nur. Sections of the boundary between Afghanistan and Iran were precisely delimited by arbitrators and they were demarcated quickly. The delimitations before 1914 were not always free from ambiguities, and the monuments erected at that time were not always carefully maintained.

This meant that that in the most recent period some of the independent Asian States have had three types of boundary problems. First it has been necessary to agree on the meaning of imprecise descriptions inherited from colonial administrations. Such a problem led Cambodia and Thailand to the International Court of Justice in 1961. Second, where new states were formed, by elevating internal boundaries to international status, there were sometimes problems in deciding which internal limits should be used. India and Pakistan faced problems with domestic boundaries in the Rann of Kutch. Finally, states had to negotiate to close the gaps east and west of Nepal, that Britain had been unable to seal through agreements with China.

THE SINO-RUSSIAN SECTOR FROM VLADIVOSTOK TO AFGHANISTAN

With one exception, the international boundaries in this region were either established before 1917, or were foreshadowed by arrangements reached before that

date (Figure 11.1). The solitary exception is provided by the sector of boundary between Russia and Mongolia from Tengis Gol to Huyten Orgil. Russia obtained a salient, along a front of 440 km for a depth of 120 km, between Uvs Nuur [Lake] and Hovsgul Nuur. Today this region is Respublica Tyva in the Russian Federation.

The Sino Russian line was defined in three sectors. In each sector the negotiations were prompted by contact or the threat of contact between the Russian frontier advancing eastwards and southeastwards, coming into contact with Chinese and associated peoples subject to the Emperor. Unbeknown to the Chinese authorities the negotiations resulting in the Treaty of Nerchinsk in 1689 was the highwater mark of Chinese ambitions. The Russian exchequer was depleted, it was desperate for trade with China and it wanted a quick settlement. The subsequent treaties of 1727-68, 1858-1860 and 1864-1915 chronicled a succession of Chinese retreats.

The Russian principal interest was trade, while the Chinese wanted a treaty that would prevent Russian interference in border communities with a propensity for rebellion. The boundary was fixed along the watershed between the rivers flowing south to the Amur and rivers flowing north to the Arctic and the northeast coast of Asia. The eastern terminus was between the Rivers Uda and Amur that reached the coast 450 km apart west of the north entrance to Tatarskiy Proliv [Strait], that separates Sakhalin from the mainland. Most seriously China unwisely agreed that the territory between the watershed and the River Amur would remain neutral pending the final delimitation.

In the period 1727-1768 China and Russia negotiated a boundary 2719 km long between Shabina Dabaga [Pass], that overlooked the Abakan River, to Abagaytu the origin of the 1689 boundary on the Argun River. The boundary consisted of two sections east and west of Kayakhta, lying south of Ozero [Lake] Baykal. Once again the same national motives prevailed. China was prepared to offer trading opportunities providing Russian forces and traders avoided contact with China's nomadic tribes. The boundary was surveyed and partially demarcated.

The 1673 km of boundary westwards from Khyakhta to the Shabina Dabaga was defined by twenty-three named features, mainly passes and peaks. The instructions were simple.

> *They will adhere to the tops of those mountain chains which will be divided by the middle and be considered as the frontier. If any mountain chains cross between them and rivers adjoin, the mountain chains and the rivers will be cut in two and divided equally.* (Prescott 1975, 20)

In this sector there was no attempt to draw a boundary between existing areas of authority over indigenous peoples, probably because the people were nomadic and because neither China nor Russia had exercised any significant degree of authority. Mancall, reports the view of the Russian delegation.

> *…much land was delimited which had never before been in Russian possession, namely; from the Khan Tengeri River a distance of approximately eight days horseback ride in length and in width three days to the Akaban River, and these places have never been under the domination of the Russian Empire.* (Mancall 1971, 301)

The ability of the commissioners demarcating the eastern sector to finish their work two weeks before the western team, is explained by the facts that the boundary was 600 km shorter, the topography was easier to negotiate and a well-marked Chinese boundary existed.

In 1855 The Chinese authorities became aware of Russia's expectations in respect of the Amur River in the contents of a memorandum provided by Governor-General Muraviev, who governed Eastern Siberia.

> *In 1689 the two Empires entered into the Treaty of Nerchinsk which stipulated that the maritime region by the Eastern Sea should be neutral territory. The Eastern Sea is within the domains of Russia. The Hielungkiang and the Sungari, which are known as the Amur in Russian, have their sources from within Russian territorial limits. Up to the present, the Region from the Hielungkiang to the Eastern Sea has remained as yet undelimited. The Amur constitutes an important area of defence against foreign aggression. Moreover, since the summer of this year [1855] Russian troops have been stationed at the mouth of the Sungari and have erected fortresses and established stations on both banks of the river. Throughout the summer ships have plied on its water. In the winter they will continue to traverse the ice on horseback.*
>
> *Since the Heilungkiang has its source from within Russian territory, it would be conducive to peace to recognize Russia's title to the left bank of that river. Up to the present, however, the region covered by the Heilungkiang, the Udi and both banks of the mouth of the Sungari has remained to be delimited. Once the left banks to the Heilungkiang and Sungari should be ceded to Russia, it would be up to China to decide whether or not to remove the Orochon, Heche, Fiyakha, and other tribesmen inhabiting thereon. As to the Zeya, the Silimji and the Niman, although they are within China's domains, these rivers should also be ceded to Russia, since the country by the mouth of the Sungari is muddy and difficult to journey by land, in summer as well as winter.* (Yi Wu Shih Mo, 1930, 12, 18b-19b)

The weaknesses of the Russian case are evident. The Sungari River [Songhua Jiang] is a south bank tributary of the River Amur and is within China. It was well known that some tribes living on the north bank of the Amur owed tribute to China. When noting that the Amur constitutes an important area of defence against foreign aggression it is implicit that this includes defence of China against Russian threats. One of the confusions in this region is that the Russians called the Amur Heilungkiang above the confluence with the Sungari, and the Sungari

below the confluence! In the 1689 negotiations China had made it clear that the Russians could ascend the Sungari [Songhua Jiang] as far as the important city of Tsitsikar [Qiqihar].

Alas. The Russian arguments might have been weak, but the state of the Chinese government was weaker. Copies of the Treaty were made and signed on 6 May 1858. The treaty was ratified in March 1859. Then the Chinese immediately received a request to delimit the boundary with Russia west of Shabin Dabaga.

The second Article of the additional Treaty of Peking dated 2 November 1860 defined the Sino-Russian boundary from Shabina Dabaga to the territory of Kokand, a straight-line distance of about 2000 km. The boundary commission met in 1864 and quickly produced the Protocol of Chuguchak. Two considerations encouraged the speedy agreement. First a Moslem revolt developed at Kucha in June 1864. While there had been twelve previous uprisings in China's administration of Singkiang none had spread so rapidly (Hsu, 1965, 22). By the end of July, Kucha, Manass, Yarkand, Yangihissar and Kashgar were controlled by rebels, and Urumqi and Kuldja were besieged. Second in May 1864 Russian forces had launched a pincer attack against Kokand, from Kzyl-Orda and Alma Ata. By 22 September, these forces had linked up after capturing Dzambul, Turkestan and Chimkent. China had a vested interest in securing a firm claim to territory over which it had previously exercised authority, before an independent Moslem state emerged to sign treaties with Russia.

The second Article of the Treaty of Peking was sparing in its description of the boundary from Shabina Dabaga to Kokand.

> *Article 2*
>
> *The border line to the west which has previously been undefined, must henceforth be brought into being following the direction of mountains, the flow of significant rivers and the line of recently established pickets, from the last beacon called Shabindabaga, set up in 1728 at the conclusion of the Treaty of Kiakhta, southeast to Lake Tsaysan and thence to the mountains overlooking the more southerly Lake Isskul and the so-called Tegeni-Shan or Khirgez Alatai, otherwise known as the Tien' Shan'-nan-la and along these mountains to the Kokand territories.* (Prescott, 1975, 55)

Despite the rather brief description the Commissioners were instructed in the principles that should be observed in selecting a particular line. The boundary must be related to the direction of mountains, the flow of large rivers and the line of recently established Chinese pickets. The boundary had to follow a north-northeast alignment across a landscape where the majority of mountains ranges and rivers lay nearly due east-west. The resulting boundary zig-zagged with east-west segments coincident with ranges such as the Altai, Tarbagatay, Alatau and Tien Shan, connected by north-south segments across plains following Chinese markers. Rivers were rarely used. However, the boundary did follow the Black Irtysh, near lake Zaysan and short sections of the Daratu and Naryn Nalga tributaries of the Tekes River.

The Protocol of Novyi Margelan dated 22 May 1884 carried the Sino-Russian boundary as far as the pass called Uz Bel. That might have been the terminus in 1884 but in fact the boundary continues south for another 307 km to the trijunction with Afghanistan. This sector does not seem to have been defined in any treaty.

China and Russia began negotiations to define their boundary, measuring 4,300 km, more precisely in the 1950s, and in 1991 and 1994 the eastern and western sections were delimited. The remaining undelimited section involved the territory in the vicinity of the Amur and Ussuri confluence. The treaty of the 2 November 1860 was imprecise about ownership of the islands at this junction. On 14 October 2004 the two countries signed a supplementary agreement dealing with this section that divided the islands at the confluence.

It is convenient to examine the China-Mongolia boundary at this point. This is the most meticulously defined boundary in Asia. Stretching for 4,698 km, it is marked by 678 cement pillars at 639 turning points. The location of each marker and the course of the boundary between adjacent pillars are described in a text of 68,000 words and illustrated by at atlas of 105 maps at a scale of 1:100,000. This lengthy definition is necessary because of the arid nature of much of the borderland. Remote from the southerly or eastern monsoons most of Mongolia has an annual rainfall of below 254 mm. Dornod, in the extreme east has had rainfall as high as 508 mm. It is here that the few perennial rivers and lakes are located and cultivation occurs in some fertile areas. There is drainage from the higher lands in the north towards Ozero [Lake] Baykal and the Yenisey River. Much of the borderland consists of level plains and plateaus varying in height from 460 m to 1525 m. Only in the extreme west does the Mongolian Altai Range rise to 3050 m. Apart from the western highlands and the eastern plains with some water features the boundary had to be traced through featureless deserts with few roads and settlements. In the African deserts meridians and parallels were often used but the Chinese and Mongolian surveyors eschewed such simple solutions.

When the evolution of an independent Mongolia is considered there are both comparisons and contrasts with the history of Tibet. They were both areas where Chinese influence of long duration was incomplete. Both areas were mainly arid with pastoralism the dominant activity. Each was located between China and the imperial advancing powers of Russia and Britain and each had a long tradition of spiritual rulers.

In November 1911 the increasing tempo of the Chinese revolution allowed both to break political ties with China and assert a greater measure of autonomy that included the conduct of foreign affairs with neighbouring major powers. However, Outer Mongolia was able to achieve independence, with Russian assistance. In contrast Tibet stood aloof from worldly affairs and alliances and was recaptured by China in 1950. China established its suzerainty over Inner and Outer Mongolia

in the 17 th century, but its authority was nominal until the end of 19 th century. Friters (1951, 156) notes that apart from quelling occasional rebellions China seemed content to divide the area into regions within which Chinese officials carried out very limited functions. Colonization of the region by Chinese was forbidden, officers were compelled to leave their families in China, and no intermarriage was allowed. There were only a few trade routes into Outer Mongolia and Chinese traders were forbidden to give credit to Mongolians.

These policies were reversed at the beginning of the 20 th century as Japan and Russia exerted pressure against China in Korea and Outer Mongolia. In November 1911 Outer Mongolia was declared independent as disorder spread throughout China. China re-occupied Outer Mongolia in 1919, but independence, with Russian assistance, was proclaimed on 13 March 1921. Three years later, with the assistance of Soviet troops, Mongolia became the Mongolian People's Republic. Japanese incursions into eastern Inner and Outer Mongolia in the 1930s, were reversed by the Soviet army in 1940-42. On 14 August 1945 an exchange of notes between China and the Soviet Union agreed that Outer Mongolia should be independent if that was confirmed by a plebiscite of the population. It was held on 20 October 1945 and China recognized Outer Mongolia's independence on 5 January 1946 (Friters, 1951, 210-15).

On 26 December 1962 the boundary treaty was signed and the line delimited in twenty-six sections. The treaty noted that this boundary had never been delimited previously, and denied any recognition of earlier Japanese-Mongolian agreements. The boundary was demarcated in 18 months and the final boundary protocol was signed on 30 June 1964. The longest segment is 496 km and the shortest is 43 km. The distances between pillars vary widely. In the Altai Range two pillars are 129 km apart. In other sections pillars are only a few metres apart. Each point is described by its immediate locality, distance and bearing from the previous pillar and bearings from prominent features nearby. Cultural features are rarely used, the only exceptions include roads, the Sino-Mongolian railway and two animal enclosures. This boundary is now clearly established and various provisions in the protocol ensure that markers are maintained and guidelines are provided if there are any questions of interpretation.

THE BRITISH SECTOR FROM RUSSIA TO THAILAND

Britain was very successful in securing most of southern Asia occupied by a numerous population and endowed with a variety of agricultural and mineral resources. However, Britain was less successful in surrounding these areas with unilateral or negotiated boundaries.

Starting in the west the boundary between Afghanistan and Russia was created by Britain and Russia in the period 1872-1895. Most of the boundary was

delimited from the Hari Rud in the west to Lake Zorkul in the east by 1893. The short eastern segment from the Lake to the Chinese tri-junction was settled in March 1895.

In the final analysis British authorities were able to persuade the Emir of Afghanistan that the boundary was appropriate. In fact it was plain that Russia had succeeded in driving the boundary southwards and eastwards securing important extensions along the valleys of the Hari Rud, Murghab and Amudar'ya Rivers that provided the main lines of communication.

Despite the early fear of Yates (1888, 179) that the arbitrarily defined boundary '…cannot be expected to be permanent…', this boundary has lasted without creating serious problems between Afghanistan and the Russian Republic. This happy result may follow from the supposition that each side secured its main aims in the final line. Britain secured a practical boundary for the Emir that linked the Zulfikar Pass, Maruchak on the Murghab River and Adkhavoy, and that excluded the Turkoman tribes that might have given trouble on their own account or provided a cause for Russian interference in the future. For their part the Russians had secured well-watered territory south of the desert that gave a forward line of defence. The Russians also acquired dominion over the Turkoman tribes and were able to plan comprehensive policies to end the tribal fighting that had made this an unstable area.

Although the final position of the line was argued in great detail Yate put the matter into its proper context.

> *The fact that by this last settlement [St Petersburg, 1887] the Russian frontier has been advanced 10 or 15 miles [16-24 km] nearer Herat, as I have seen mentioned in the newspapers, does not appear to me to be worth discussion. Once the old frontier from Sher Tepe to Sari Yazi proposed by Sir Peter Lumsden, was given up and Pul-i-Khatun and Pandjeh, the only two points of any strategical importance, were surrendered to Russia, the question of 10 miles [16 km] here or there on the sterile down of Badghis became of little moment.* (Yates, 1888, 382)

The boundary between Afghanistan and Pakistan extends for 2430 km from the peaks of the Hindu Kush to the baked deserts of Balochistan 450 km from the coast. When the boundary was drawn the borderland had two pronounced qualities. First there were limited opportunities for economic development by the indigenous communities who lacked capital and technical skills. Soils are thin and the narrow valleys restricted opportunities for irrigation. Second the distribution of indigenous social and political communities produced a complex pattern. This borderland straddled the main historical invasion routes from the arid west towards the more fertile lowlands of the Indus and the Vale of Peshawar. Davies (1932, chapter 4) provided a graphic account of the ethnic divisions in the borderland that were underlain by the nomadic movements, while the boundary was being demarcated.

By the middle of the 19th century British authority, searching for a western boundary, had reached beyond the Indus River. Fraser-Tytler expressed the British dilemma neatly.

> *In both cases the fundamental, underlying cause was the juxtaposition of stability and instability, of ordered government and misrule: the Empire pushing on in search of a frontier and finding no halting place, no physical or man-made barrier on which its outposts could be aligned and behind which its nationals could move in freedom and safety.* (Fraser-Tytler, 1967, 122)

The British sought friendly relations with Afghanistan, without military entanglements, and a stable boundary behind which British subjects would be secure. But there was no such line and from time to time British forces felt obliged to take action against hill tribes beyond the self-imposed boundary. Then when the British forces retired, sooner or later cross-border raids would follow.

There were difficulties about the alignment of any boundary between Afghanistan and British India. There was no single dominant physical feature that might have been followed for better or worse. In the serried crests of the Toba and Kakar ranges there was no reason to choose one watershed rather than another. A few convenient rivers flowed north-south, but these rivers made poor boundaries since they offered no barrier during the dry season, and were settled by homogeneous groups on both banks when they were in flood. In any case the tribes did not recognize fixed boundaries. At any time the political boundaries were simply a reflection of the strength and determination of the group and its ability to defend a particular area.

British policy was not consistent for long periods, a characteristic blamed by Davies on domestic party-politics.

> *The truth is that the baneful effect of party politics in this country [Britain] has prevented the adoption of any consistent or settled frontier policy. With shame be it confessed India has been the sport of English political factions. In a country where more than anything else, continuity and firmness are essential, on an Asiatic frontier where vacillation spells loss of prestige, our administration has been marked by sudden advances and ill-timed retreats.* (Davies, 1932, 182)

At various times strong arguments were advanced for different boundaries. The proponents of the scientific frontier wanted a line from Kandahar to Kabul. Enthusiasts for a physical boundary sought a retreat to the Indus River. Sandeman, who did excellent work in Baluchistan, urged a boundary through the Zhob valley. Still others preferred the line of administered districts, under a policy of masterly inactivity!

The limit of the administered districts lay west of the Indus River and followed its alignment. Commencing at the mouth of the Hab River, west of Karachi, the

boundary was never more than 105 km from the Indus as it passed just west of the towns of Mehar, Jacobabad, Taunsa, Bannu. Kohat and Peshawar.

The opportunity to settle a definite boundary occurred in 1893 when Sir Mortimer Durand led a British delegation to Kabul. Its aim was to persuade the Emir of Afghanistan to give up his claims to the trans-Oxus area of Roshan and Shignan, claimed by Russia under the 1872-3 Anglo-Russian agreement. In return the Emir would receive the Wakhan Strip that would separate Russian and British territory. The Emir agreed and then, on 12 November 1893, Durand persuaded the Emir to accept a boundary between Afghanistan and British India. The agreement consisted of seven short articles and a small-scale map and was far from a model boundary agreement! The line was demarcated by British and Afghan surveyors, between April 1894 and May 1896. That might seem a reasonable rate of progress in view of the nature of the country and its climate, but all the members of the demarcation teams, who published comments, refer to the fact that the work would have been completed much sooner had it not been for the nature of the terrain and adverse weather, and the map attached to the treaty.

The map on which the line was marked, and to which they had '…to adhere with the utmost exactness', was on such a small scale and contained so many topographical errors that the surveyors were continually forced to make interpretations on important points. They might reasonably have expected that their responsibility was to transfer the line on the map onto the ground.

The map was deficient because no surveyor had been sent with Durand. This omission had been made to allay any fears that the Emir might have that such an officer was spying out the land between the boundary and Kabul. The lack of a competent officer meant that a map was hastily patched together to illustrate the alignment of the boundary. Seven sections of boundary were precisely demarcated by the surveyors, who had a facility for reaching reasonable compromises (Figure 11.3).

King, who surveyed from Kwaja Khidr to Domandi did not mince words.

> *It may be noted that as regards this part of the boundary the map is hopelessly wrong. The line as shown on the map takes a turn to the west at a distance of about three miles from the Khand Kotal (about 32° 14' north) and crosses over to another range to the west of the Spera, which is represented to contain the Nazan Kotal. As a matter of fact, however, the Spera is continued without a break to the Nazan Kotal and the boundary has been drawn accordingly in a straight line along the crest of this range to within four miles of the Nazan.* (King, 1895, 3)

The boundary in the vicinity of the Khyber Pass between Nawa Pass and Sikaram Peak remained unmarked until 1919. The section north of Charkhao Pass to the Chinese trijunction, along the Hindu Kush was considered to need no demarcation.

Hayat Khan (2000) provides some useful information about the Durand Line put into the context of the period between the delimitation of the Afghan-Russian

boundary, and the Pushtunistan Question when the sub-continent achieved independence. The volume would have benefited from the inclusion of more and better-drawn maps. The best, entitled 'Demarcation of a buffer state' appears to be based on a figure by Lamb (1968, 87).

At the end of these labours two sections of the line remained undemarcated. The boundary in the neighbourhood of of the Khyber Pass, between Nawa Pass and Sikaram Peak remained unmarked until 1919. The section north of the Charkao Pass to the Chinese tri-junction, along the Hindu Kush is satisfactorily defined by nature.

Anglo-Nepalese contact was first established in the 1790s after China had rebuffed Nepalese northward advances, and the Nepalese turned their attention east, west and south. British interests were mainly commercial and a treaty was signed in 1792. At that time the Nepalese Kingdom extended from Kangra in the west to the River Tista in the east, a distance of about 1415 km. In 1801 a further treaty was agreed to control bandits along the frontier (Aitchison, 1909, volume 2, 92). Aggressive southward advances by Nepalese in 1812 led to a British ultimatum in 1814 and a brief war ended with the Peace Treaty of Segowlee on 2 December 1815. The rivers Kali and Mechi marked the west and east boundaries and reduced the east-west extent of Nepal to 880 km. Britain also secured a forested tract called the Terai, an unhealthy zone where malaria was endemic. In the following year Nepalese officials questioned the interpretation of the phrase the lowlands of the Terai. Did it mean all the Terai or only the marshy grassland section? Britain reconsidered the situation and realised that the area had little commercial value, and that by restoring it to Nepal Britain would be saved paying pensions of 200,000 rupees to displaced chiefs!

As a result of Nepalese forces assisting the British army during the Indian Mutiny Britain returned the Terai located between the Kali and Rapti Rivers and a small triangular area between the Rapti River and the British territory of Gorakhpur. The new boundary was surveyed according to the boundary treaty of 1 November 1860. An undelimited section of boundary, 80 km long, was completed in January 1875, when the eastern terminus of the 1860 line was connected to the western terminus of the 1816 line.

Shrestha (2003, 209-15) noted that although the final demarcation of the boundary between India and Nepal started in 1980 about 3 per cent is incomplete. Most of this area involves the area of 372 sq. km. called Kalapani-Limpiyadhura where the territories of China, India and Nepal meet.

Throughout the period from 1864 to 1894 the British authorities in India were greatly assisted by Pundits.

> *Within the last thirty or thirty-five years the term has acquired in India a peculiar application to the natives trained in the use of instruments, who have been employed across the British India frontier in surveying regions inaccessible to Europeans. This application originated in the fact that two of*

> *the earliest men to be so employed, the explorations by one whom acquired great celebrity, were master of village schools in our Himlayan provinces. And the title of* Pundit *is popularly employed there much as* Dominie *used to be in Scotland.* (Yule and Burnell, 1886, 740)

Stewart (2006) has written an interesting account of British surveys conducted in the Himalayas, Tibet, Kashmir and China during the period 1864-94 by Pundits. The trignometrical survey of India commenced in 1800. Excellent progress was made through the plain country of the sub-continent, but the British diplomats and surveyors needed information about the mountains and high plateaus that lay beyond the northern limits of the Indus and Ganges. Some brave and lucky British officers travelled north of the mountains and brought back useful information but some brave and foolish officers lost their lives without contributing to geographical and historical knowledge.

In 1862 Captain Montgomerie realised that it would be more productive to use the local population to discover the nature of the terrain of Tibet, China and Kashmir.

> *In carrying out my plan for exploring beyond the frontiers of British India by means of Asiatics, I have always endeavoured to secure the services of men who were either actually natives of the countries to be explored, or who had, at any rate the same religion as the people, who had been in the habit of travelling or trading in such countries.* (Montgomerie, 1871, 152)

The Pundits were trained over a period of two years to use sextants to find latitudes, to be able to travel at night using astronomy, to take bearings with a pocket-compass and to determine heights with thermometers. Pundits also learned to have a step of a constant distance and to be able to count those steps while counting prayer-beads. On the first sortie in 1866 Nain Singh and Mani Singh had marched 1200 miles, fixed the course of the Brahmaputra River from its source to Lhasa and the roads from Kathmandu to Tandum and Gartok to Lhasa. In addition they had identified the location and elevation of 33 peaks and passes (Stewart, 2006, 63).

Nain Singh Was brought back into service in 1874-5 to accompany a mission to Yarkand [So-ch'e]. The President of the Royal Geographical Society praised his contribution.

> *The journey performed between July 1874 and March 1875 by the Pundit Nain Singh, of the Great Trigonometrical Department, is the most important, as regards geographical discovery, that has been made by a native explorer. For the first time the great lacustrine plateau of Tibet has been traversed by an educated traveller, who was able to take observations and describe what he saw. Thus a great increase has been made in our scanty knowledge of Tibet.* (Stewart, 2006, 70)

Stewart's otherwise excellent book has only one elementary defect. The three maps do not have a scale, nor indications of latitude and longitude and the names used are those current in the nineteenth-century. This makes it difficult to match the 19th century names to modern names. As noted above, today Yarkand is called So-ch'e. The lake Lob Nur [Lop Nur] is shown as lying within Mongolia when it lies 500 km south of the Mongolian boundary. Each map does have a totally unnecessary elaborately decorated north point!

Nain Singh was awarded a pension, granted a village, made a Companion of the Indian Empire and received the Patron's medal of the Royal geographical Society.

The boundary between Sikkim and China is the oldest of the Himalayan international boundaries. Britain and China agreed on the alignment of this line in 1890 and it has survived to the present. It follows the watershed of the Tista River from Bhutan in the east to Nepal in the west. The general elevation of the watershed varies from 5185 m to 7625 m, and it is intersected by 14 passes. Lamb (1960) has provided a detailed account of British contacts with Tibet after Sikkim became a Protectorate. The Anglo-Chinese Convention on 17 March 1890 defined the boundary.

> *…the crest of the mountain range separating the waters flowing into the Sikkim Teetsta and its affluents from the waters flowing into the Tibetan Mochu and northwards into other Rivers of Tibet. The line commences at Mount Gipmochi on the Bhutan frontier, and follows the above-mentioned water-parting to the point where it meets Nipal territory.* (Prescott, 1975, 263-4)

This line has existed for 117 years and it continues the general alignment of the 1961 Sino-Nepalese boundary alignment.

Shrestha (2006) has provided a useful account of the delimitation and demarcation of the boundary between China and Nepal. It measures about 1111 km, between the Zanskar Range in the west to Janak Himal Range in the east. Contacts began in the 7th century and although relations were not always friendly a series of treaties from the Khasa Treaty of September 1775 to the Treaty of Thapathali in March 1856 established a customary line that was eventually translated into a clear boundary. By a treaty of 5 October 1961 it was agreed that the traditional boundary would be demarcated.

> *In connection to execute the treaty, boundary delimitation was made on the basis of existing traditional customary line with the technical principles of determining the water-parting line to connect snow-capped high altitude mountain peaks, passing and crossing through mountain passes and spurs, saddles and cols, rivers and rivulets, pastureland and river basin or valleys. The most important aspect adopted was to maintain certain adjustments in accordance with the principles of mutual accommodation on trans-frontier*

> *cultivation of lands and trans-frontier pasturing by the inhabitants of certain border areas. After the transference of the areas to the other party, any inhabitants of those areas, who do not wish to become citizens of the country, may retain their nationality by making a declaration to that effect within one year of the enforcement of the agreement. Concrete rules were laid down regarding choice of nationality, the legitimate rights of those who decide to retain their previous nationality and protection and disposal of their property.* (Shrestha, 2006, 2)

By January 1963, the boundary was marked by 79 pillars, but the tri-junctions with India have not been settled. The total length of the boundary when the tri-junctions are fixed will be about 1161 km. Because of the harsh environment pillars can become damaged or displaced and at regular intervals joint inspections of the pillars ensure that the boundary is maintained in its correct position.

The Sino-Indian boundary between Nepal and Bhutan is the oldest of the Himalayan international boundaries. Britain and China agreed on the alignment of the boundary in March 1890; it was confirmed by the Anglo-Chinese Convention of 1906 and inherited by India in 1947 (Aitchison, 1929, vol. 13, 23-6). The watershed of the Tista River marks the 225 km boundary from Nepal to Bhutan.

The boundary between Bhutan and India extends for about 605 km from the western and eastern tri-junctions with China. Bhutan became independent from India on 8 August 1949 and since then there has been no suggestion that the boundary is not established beyond dispute. The boundary was surveyed and demarcated in the period 1963 to 1970. Strip maps were prepared and about half were signed by the two governments (International Boundaries Research Unit, 2007, 1). There was some encroachment by Bhutanese in 2001 and the boundary was resurveyed and finally confirmed on 12 December 2006.

A number of excellent atlases show an international boundary between Bhutan and China. In fact there is no agreed boundary. The line shown follows the topography as perceived by the British and produced on modern Bhutanese maps. It is understood that the Chinese view is that the continental watershed lies further south and the area in contention measures about 1400 sq. km. In 1998 Bhutan and China signed *An Agreement to Maintain Peace and Tranquillity on the Bhutan-China Border*. The Agreement does not provide any detail about the establishment of a final boundary and there appear to be no significant problems along the border. Milefsky (Personal communication, January 2007) describes this boundary as ‘an uncontested dispute’.

The Anglo-Burmese boundary, that today separates Burma from Bangladesh and India, was fashioned over a long period. The eastern limits of Chittagong and Manipur were settled before the British advance eastwards started. In 1837 the Burma-Assam boundary was fixed along the Paktai Range that separates rivers draining east and west. The lowest elevation of this range is 2440 m and it becomes increasingly prominent and sharply defined towards the north. Between

Manipur and Chittagong there was an uncontrolled, undefined area occupied by the Lushai who had been a persistent source of trouble and insecurity for the surrounding groups. Aitchison (1909, vol. 2, 271-8) provides a detailed account of the various raids against British territory and punitive responses. By 1895 the area was pacified by attacks from both the east and west. The boundary through the Lushai country was fixed along the Tyao and Boinu Rivers flowing south and north into the Kaladan River.

After Burma achieved independence in 1948, following India and Pakistan in 1947, the colonial boundaries were adopted by all parties. The chief uncertainty is the location of the tri-junction with China. After Britain acquired Burma efforts were made to delimit a boundary with China. Some success was achieved in the Convention of 1 March 1894, the Agreement to modify that Convention of 4 February 1897 and the Exchange of Notes dated 18 June 1941. Burma was one of the states that recognised the Chinese Communist Government and talks began in 1959 and progressed quickly. A boundary treaty was signed on 4 October 1960. Some areas were exchanged. China secured 153 sq. km in the vicinity of Hpimaw and 189 sq. km of the Wa States while Burma obtained 220 sq. km of the Namwan Assigned Tract. In addition there were minor alterations in the boundary's alignment to simplify it and avoid dividing villages. The previously undemarcated boundary was delimited by 300 pillars, and flowering trees were planted to make the boundary obvious. It is not known whether the flowering trees have produced a woodland within which the boundary is located. The demarcation is described in a Protocol dated 13 October 1961.

The boundary between Malaysia and Thailand traverses the peninsula between points 217 km apart. However, the boundary follows water-divides for 515 km. Originally British interests focussed on the Strait of Malacca and they were secured by the acquisition of Penang Island in 1786 and the annexation of Singapore in 1819. Inevitably the actions of Chinese merchants and traders and the discovery of tin encouraged British interests northwards. Before Britain opened negotiations with Thailand an agreement was reached with France by which both secured spheres of influence and established areas of Thailand into which troops would not be moved. Britain then negotiated a watershed boundary with Thailand by an agreement dated 29 November 1899. A decade later, the definitive boundary was settled by a treaty, dated 10 March 1909, to which a boundary protocol was attached.

THE FRANCO-CHINESE-JAPANESE SECTOR

Thailand's boundary with Laos and Cambodia was constructed through negotiations with the French from 1867-1925. Apart from a short section crossing the valley west of Boeng Tonle Sab the boundary is coincident with watershed and

rivers. The Cardamones and Dangrek Ranges carry the boundary from the sea to the confluence of the Mun and Mekong Rivers. France secured its foothold at the mouth of the Mekong when Annam ceded the Provinces of Bein Hoa, Gia Dinh and My Tho in 1862. France considered it had inherited Annam's rights respecting Cambodia. By July 1867 France and Thailand had resolved the situation by Thailand recognizing France's protection of Cambodia and France recognizing the provinces of Batdambang and Siemreab as part of Thailand.

In 1884 France's ambitions shifted northwards and by 1893 France had advanced to the Mekong River. A quarrel was forced upon Thailand and France secured a boundary along the Mekong, north of 13° 14' north, by a treaty dated 3 October 1893. A French ultimatum was issued in April 1893 and the British Ambassador in Paris described the French diplomatic technique.

> *The Siamese Government were now in possession of an ultimatum, a penultimatum and an ante-penultimatum. In fact the word 'ultimatum' had completely lost its meaning, for each new one seemed to procreate a successor.* (Prescott, 1975, 432)

By treaties dated 13 February and 20 June France secured land west of the Mekong dominated by Louangphrabang and the area south of the Dangrek Ranges opposite Stoeng Treng on the Mekong River. Small areas were also secured at the northern end of the boundary, called Western Kop and Dan Sai, and at the southern terminus on the Gulf of Thailand in the vicinity of Trat. By a treaty dated 23 March 1907 Thailand ceded large areas south of the Dangrek Ranges and west of the Cardamone uplands. In return Thailand regained the two small areas of Trat and Dan Sai.

China and France settled the northern boundaries of Vietnam and Laos in the decade 1885-95. The Sino-Vietnam boundary measures 1287 km while the boundary of Laos and China is 418 km long. The boundaries traverse a borderland that consists of a number of ranges that are prolongations of the Yunnan Plateau. China negotiated from a position of strength and these boundaries were never regarded as unequal by China. China and France concluded a preliminary Convention of Peace on 11 May 1884 and 13 months later settled a Treaty of Peace, Friendship and Commerce on 9 June 1885. This Treaty dealt with the maintenance of order, identification of the boundary, cross-boundary trade and the construction of railways. On 26 June 1887 the two countries signed a Convention that dealt with the boundary as far as the Black River. The Gulf of Tonkin was divided by the meridian 105° 43' East of Paris [108° 3' East of Greenwich], that passed through the eastern point of the Vietnamese island Tra-co. This provision was involved in the maritime boundary delimitation through the Gulf agreed on 25 December 2000.

When France secured the Mekong River as the boundary with Thailand it became necessary to extend the boundary with China west of the Black River. A Supplementary Convention dated 20 June 1895 overlapped the previous bound-

ary between the Red and Black Rivers and extended the line to the confluence of the Mekong and Nam-la Rivers.

The boundary between China and North Korea extends for 1416 km and apart from 32 km it coincides with the Yalu and Tumen Rivers. These rivers flow respectively west and east from the watershed formed by Pai-t'ou Shan and Namp'ot'aesan, and form an obvious divide between the continent and the peninsula. Hulbert (1962, chapters 3 and 4) reports that some of the earliest political boundaries of Korea coincided with these rivers. Apart from their estuaries the rivers are bounded by steep cliffs that lead to sharp crests or plateaus at about 915-1525 m, with some summits reaching 2135 m. The tributaries have also carved deep valleys into the crystalline granites and gneisses, so that the landscape from the air resembles gale-swept seas. Coniferous forests of larch, spruce and pine cover much of the terrain; there are only limited opportunities for agriculture on the narrow valley floors and the wider estuaries.

All the treaties governing this boundary were concluded by China and Japan. In July 1894 Japan forced a war on China seeking to gain ascendancy in the affairs of Korea. The events leading to the war and the conduct of subsequent campaigns, have been carefully described by Hulbert (1962), Conroy (1960) and Kim and Kim (1967). Japan was victorious and by the Treaty of Shimonoseki China recognized Korea's independence and ceded to Japan the southern area of the Liaotung Peninsula occupied by the Japanese army. The southern boundary of the ceded area was the northern boundary of Korea defined as the Yalu River to its tributary the An-ping, south of Fenguang. This occupied region was retroceded to China in November 1895 when Japan had been given a clear indication of disapproval by the major powers. On 4 September 1909 China and Japan reached an agreement dealing with the Yen-Chi [Chien Tao] District and the Tumen River.

> *The Governments of Japan and China declare that the river Tumen is recognized as forming the boundary between China and Korea and that in the region of the source of that river the boundary line shall start from the boundary monument and thence follow the course of the stream. Shihyishwei* (Prescott, 1975, 505-6)

THE SUB-DIVISION OF THE BRITISH AND FRENCH COLONIES AFTER WORLD WAR II

While France fought to maintain its Empire the Atlee Government of Britain decided to divest itself of the former Jewel in the British Crown. Unfortunately it turned out to be government by panic. It was announced Britain would grant independence to India by June 1948. Threats of communal violence between Hindus and Muslims resulted in Lord Mountbatten persuading the Prime Minister

that independence should be granted on 15 August 1947. The announcement of this date on 3 June 1947 left only 10 weeks to divide the continent between India and Pakistan. Two Commissions were formed, each comprising one member nominated by the Congress Party and the other by the Muslim League. One Commission would operate in the Punjab and the other in Bengal. Both Commissions were chaired by Lord Cyril Radcliffe, an English jurist.

> *Radcliffe had no experience of India, and with the chairmanship of both Commissions at opposite ends of the country and the accelerated date of independence, he was unable to attend the sessions of either Commission, Bengal's starting on 16 July in Calcutta. Radcliffe was forced into being based in New Delhi and limited to reading the session minutes of each Commission. His inability to visit the areas he was to partition was not a decision he made, as time constraints prevented him.* (Whyte, 2004, 63)

The Commissions completed their work by 12 August but the results were not announced until the 17 August, two days after the independence celebrations. Some Hindus and Moslems had migrated to secure areas before the boundaries were published. The later flight of Hindus and Moslems in opposite directions, when they realised they were on the wrong side of the boundary, resulted in some terrible massacres.

The southern part of the boundary between India and Pakistan lay through the Great Rann of Kutch. The Great Rann was once an embayment but it was filled by a combination of alluvial and aeolian deposits (Figure 11.4). In 1819 an earthquake raised the central part of the Great Rann and formed Pacham and Khadir Islands connected by an escarpment that diverted the lower course of the River Indus westwards. In 1914 the boundary between Kutch and Sind was limited by two termini. In the west the point was located at 23° 58' North and 68° 41' East and the eastern terminus was coincident with the Gujarat, Rajasthan, Hyderabad tri-junction. India sought a boundary lying north of a line joining these termini while Pakistan preferred a line to the south.

There was some fighting between regular units along this undelimited boundary in April-June 1965. A ceasefire was arranged and provisions were made for a tribunal to adjudicate the line. Each side appointed one member and both parties agreed on a Swedish chairman. The evidence occupied 10,000 pages including maps, official letters, edicts, travellers' descriptions and acts of jurisdiction by both governments. The award was announced on 19 February 1968 and it was predictable that neither side would secure its total claim. First the evidence on both sides was too weighty to be ignored. Second it seemed evident that it was politically desirable that there should be concessions to the strong arguments of both sides. The new boundary did lie north of a direct line joining the two termini. However Pakistan secured two southward projections called Dhara Banni Chhad Bet and Nagar Parkar. It also secured two small linear areas that would otherwise have reduced the easy access to Nagar Parkar (Lagergren, 1968).

The boundary through the Punjab was delimited in 24 days by the Commission and Lord Radcliffe, in accordance with the following instructions.

> *…demarcate the boundary of the two parts on the basis of ascertaining the contiguous areas of Muslim and non-Muslim. In doing so it will take account of other factors.* (Whyte, 2004, 64)

The Indian case rested on allocating large administrative units according to the majority of Muslims or non-Muslims. The Pakistan case was based on a line separating the smallest administrative units, called *tahsils*, according to the ethnic majority. The difficulty arose in drawing the boundary in the vicinity of the Bari Doab lying between the Sutlej and Ravi Rivers. Finally four *tahsils* called Ferozepore, Zira, Nakodar and Jullundur, with significant Muslim populations, that lay east of the Sutlej River were awarded to India. This was justified by the view, that if they had they been awarded to Pakistan, the Indian rail system would have been seriously disrupted.

The boundary north of the Punjab separates Kashmir between India and Pakistan. Perhaps unwisely the British allowed the rulers of Princely States to join with either India or Pakistan. The Hindu Maharajah of Jammu and Kashmir opted for union with India even though nearly 80 per cent of his population was Muslim. Gupta (1966) and Lamb (1966) have provided full accounts of the historical and political backgrounds to the dispute.

On 16 December 1971 Bangladesh became independent and inherited Pakistan's boundary with India. This boundary was defined by the Radcliffe Commission for Bengal. The Indian and Pakistan members of the Commission had reversed the arguments used by their counterparts in the Punjab. The Indian view was that the division should be based on the smallest administrative units called *thanas*. The Pakistan position was that the religious majorities should be calculated in the largest administrative areas called districts. In the end Radcliffe had to make a judgement. The final boundary coincided with 1302 km of the Indian proposal and 116 km of the Pakistan proposal. There were only three sections of boundary that did not coincide with existing boundaries of *thanas* or districts. The northern extension of Bangladesh was curtailed to ensure that India had a corridor to a *cul-de-sac* formed by the Provinces of Assam, Arunchal Pradesh, Nagaland, Tripura, Manipur and Mizoram adjacent to Burma and China.

Whyte has established that the most complex pattern of enclaves exists in the Bangladesh-India borderland.

> *The enclaves themselves number 198 in total. 106 enclaves of India in Bangladesh and 92 of Bangladesh in India. These totals include 3 Indian and 21 Bangladeshi counter enclaves inside the enclaves of the other country, and one Indian counter-counter-enclave inside a Bangladeshi counter-enclave. West Bengal and Assam possess a further four enclaves between them, the final survivors of 61 enclaves of Cooch Behar and British India that became internal Indian enclaves after 1949. Indian enclaves total nearly 70 sq. km,*

> *all but the 17 hectares of counter enclaves to be eventually exchanged. Bangladeshi enclaves total almost 50 sq. km., but Dahagram-Angarpota and 21 counter-enclaves will remain Bangladeshi, leaving only 29 sq. km of enclaves to exchange. With no census conducted in the enclaves since 1951, the population of the enclaves has been the subject of increasingly exaggerated estimates, but this study has shown that figures for Indian and Bangladeshi enclaves of about 12,000 and 10,000 respectively in 1951, are likely to have risen to no more than 30,000 and 25,000 by 1991, and are still less than 100,000 today.* (Whyte, 2004, 194)

The boundaries separating Cambodia, Laos and Vietnam were inherited from the French colonial period. The shortest boundary measuring 547 km separates Laos and Cambodia. Originally Laos extended southwards to include Siempang and Stoeng Treng, but these areas were returned to Cambodia in 1904 when the present boundary east of the Mekong was delimited. At the same time France acquired territory on the west bank of the Mekong when Thailand ceded Tonle Ropou, Phumi Miu Prey and Bassac to France. French officers selected the main branch of the Tonle Ropou to the Col de Preah Chambot located on a prominent southern projection of the Dangrek Range.

The boundary between Laos and Vietnam extends for 2130 km from the boundary with China to the Cambodian tri-junction. Apart from three straight sections totalling 84 km and four sections coincident with rivers totalling 238 km the boundary is located on or near the main watershed separating the drainage basins to the Gulf of Tonkin and the Mekong River. This must have been a fairly simple surveying task. The French surveyors were faced with a clear linear zone of little commercial interest and with low population densities and of course this was an internal not an international boundary. Apparently the surveyors did their work carefully because the boundary has survived the difficult transition from colonial rule to independence.

The French boundary between Cambodia and Vietnam measures 1228 km and it was constructed in four sections. The first section lay west of and close to Saigon. In the valleys of the Song Vam Co Tay, Song Sai Gon and Song Vam Co Dong, the presence of Cambodian and Vietnamese communities created territorial disputes. France had forced Cambodia to accept Protectorate status and in the period 1869-72 the boundary was drawn from the PrekTrabek to the Cham River. Before the onset of World War I France had extended the boundary with Cambodia northwards to the source of the Dak Hoyt.

The section of boundary adjacent to the Gulf of Thailand was defined on 15 July 1873 by agreement of the Cambodian King and the French Governor (Chhak, 1966). After following a course roughly parallel with the Kinh Vinh Te as far as Giang Thanh. It changed direction to the south and followed the telegraph line close to the Giang Thanh (Figure 11.5). On reaching the fortifications of Ha Tian the boundary followed them to north and west to the coast at Hon Ta.

In 1891 the Governor of Cochin China published a map showing the boundary south of Giang Than following the Mandarin's Way, a more direct line to Hon Ta. This boundary transferred 21 sq. km of marshland to Cochin China. The area between the former boundary and new boundary was used by about fifty people to produce 111 hectares of rice. These farmers were mainly wealthy Annamites, living in Cochin China who had to pay taxes to Cambodia. The Governor justified this cartographic aggression by asserting that the boundary had been mistakenly placed along the river road. In fact the telegraph line had been along Mandarin's Way, but it had been moved to the Giang Thanh to allow easier defence against interference. The Governor-General instituted a commission of enquiry and it was found that the telegraph line had always been along the river bank since 1870-1. To have the last word the Governor, in 1914, used the loss of the land between the Mandarin's Way and the telegraph line to claim extension of the boundary around the outer fortifications of Ha Tian. However, this extension to Cochin China was offset by transferring the Kompong Tasang Pedicle to Cambodia (Prescott, Collier and Prescott, 1977, 66-7).

The northern section of this boundary was fixed in the period 1893-1929. This final section extended from the headwaters of the Dam River to the Cambodian, Laos tri-junction. At first part of this borderland was placed within Laos but plainly access from Vietnam was much easier. There was no obvious physical feature to carry the boundary northwards and finally the line followed an arbitrary course across the dissected, forested landscape.

THE BOUNDARY BETWEEN NORTH AND SOUTH KOREA

The boundary between North and South Korea is a military demarcation line. It stretches for 241 km across the Peninsula trending northeast-southwest across parallel 38º North, that is intersected close to the west coast. Except in the west the boundary traverses rough mountain country of the Taihaku Sammyaku, with isolated peaks to 1700 m. A severe winter lasts four months and the natural vegetation is coniferous forest of larch and spruce with some deciduous oaks and maples. Cleared slopes often become eroded and remain barren and cultivation is usually confined to the floors of the valleys. The western borderland possesses low foothills and alluvial plains, that together with the shorter winter and hot to warm summer, provide better opportunities for cultivation. Population densities are higher in the west than in the east.

The boundary resulted from the arrangements made at the end of World War II and then from the armistice at the end of the Korean War. The Soviet Union declared war on Japan on 8 August 1945 a week before the end of World War II. Russian troops invaded Korea at Unggi and Najin, close to Vladivostok on 12 August. Then there was a landing at Wonsan. near parallel 39º North and it

was clear that the Russians must play some role in accepting the Japanese surrender. It was agreed that the Russians and Americans would accept the Japanese surrender north and south of parallel 38º North respectively.

McCune (1949) and Grey (1951) have described the selection of this line and both agreed that it was chosen in haste and was not considered to be a permanent division. However, as relations between the two super-powers deteriorated the parallel became an inflexible international boundary.

McCune observes that parallel 38º North had an earlier significance in Korean history. In 1896 Marshal Yamagata, the Japanese representative in Moscow, proposed that the Peninsula should be divided between Russia and Japan by parallel 38º North. In 1903 the Russian Government suggested that parallel 39º North should mark the southern limit of a neutral zone drawn across the Peninsula. In 1904, just before the onset of the Russo-Japanese War, Russian commanders were instructed to meet with force any Japanese advance north of parallel 38º North.

At the end of the Korean War an Armistice Agreement, dated 27 July 1953, selected parallel 38º North as the boundary. The boundary lay through a demilitarised zone 4 km wide and it was marked by 1292 concrete pillars. The waters of the Han Estuary, that extend for 61 km west of the final pillar, are open to the vessels of both countries. Offshore islands were allocated and South Korea secured the Paengnyong-do close to Chansang Gol, a North Korean headland just north of parallel 38º North.

THE NEW STATES OF CENTRAL ASIA

> *The Union of Soviet Socialist republics legally terminated when the Union Republics of Belarus, the Russian Federation and the Ukraine signed an agreement in Minsk on December 8 1991, which not only set up a new regional organization, namely the Commonwealth of Independent States (CIS), but which also declared the end of the USSR. A separate declaration issued by the heads of the three Republics on the same day revealed '…that the talks on the drafting of the new Soviet treaty have become deadlocked and the de facto process of withdrawal of Republics from the Union of Soviet Socialist Republics and the formation of independent states has become a reality.' The Preamble of the Agreement Establishing the Commonwealth of Independent States pronounced correspondingly "that the Union of Soviet Socialist Republics as a subject of international law and a geopolitical reality no longer exists".* Polat (2002, ix)

In central Asia, lying north of Iran and Afghanistan and between the Caspian Sea and China, there are five Muslim Republics that achieved independence in the period August to October 1991. They became members of the United Nations

on 2 March 1992. The five Republics occupy 3.99 million square kilometres and support a population of 57.13 millions. Turkmenistan inherited Russia's boundary with Iran that had been settled in 1881 and 1893. It also shares the northern boundary of Afghanistan, delimited in 1872 and 1895 with Uzbekistan and Tajikistan. The former Sino-Russian boundary now marks the eastern limits of Tajikistan, Kyrgyzstan and Kazakhstan with China.

Polat (2002) published an excellent review of the boundary issues in central Asia that has informed the following discussion. After independence had been achieved the five new Republics and China and Russia discussed and negotiated arrangements to improve boundary stability and accord. The so-called Shanghai-Five, China, Russia, Kazakhstan, Kyrgyzstan and Tajikistan signed an Agreement on Confidence Building in the Border Areas on 26 April 1996. In June 2000 Uzbekistan joined the Agreement that became the Shanghai Cooperation Organization.

China's boundary with its three new neighbours extends for 2,805 km. China's boundary with Kazakhstan measures 1,533 km. Two areas totalling 944 sq. km were in dispute in the Chagan-Obo valley and the Bay-Murza Passes. By an agreement dated 4 July 1998 China secured 57 per cent of the disputed zones. The boundary was demarcated by November 1999.

Kyrgyzstan's boundary with China extends for 858 km. By 4 July 1996 most of the boundary had been agreed and it was demarcated by 28 October 1998. The outstanding section was settled on 26 August 1999.

Although Tajikstan's boundary with China measures only 414 km there is a dispute over 28,000 sq. km. Progress in solving this dispute was delayed because of a civil war in Tajikistan that ended in 1997. Working southwards the two countries defined a part of the boundary by an agreement dated 13 August 1999. The remaining sector between the Uch'bel Pass and the trijunction of Afghanistan, China and Tajikistan, on the northern edge of the Wakhan Strip, measures about 300 km. This sector has never been defined by any treaty.

A survey of *The Times Atlas of the World* from 1966 to 2005 shows only two small changes in the boundaries of the five Muslim sub-divisions that eventually became independent states. Between 1967 and 1988 a narrow lake 200 km long, from east to west, formed south of Toshkent. The lake is called Ozero Aydarkul. The boundary crosses the lake from north to south leaving the larger area of the lake to Uzbekistan. However, a rectangular Kazakhstan salient lies on the south bank of the lake attached to Kazakhstan. This salient has an area of about 1500 sq. km. in which there are settlements called Yenbekshi, Atakent, Zhetysay and Step. Before the lake was formed and the salient created, the boundary followed the Syr Dar'ya along the northern shore of the salient.

The other change involves a new boundary. In 1966 *The Times Atlas of the World* showed two short pecked lines, in the Aral Sea, to indicate Ostrov [Island] Vozrozhdenya and Ostrov Kendyrh were part of Uzbekistan and Ostrov Uyayly was part of Kazhakstan. By 1994 Ostov Vozrozhdenya had been enlarged.

A straight boundary was drawn across the island on the alignment of the termini of the land boundaries on the northwest and southeast shores of the Aral Sea. Eleven years later the *Times Atlas* revealed that Ostrov Vozroz had become a peninsula projecting from the south shore of the Aral Sea, that is part of Uzbekistan. A solid straight line is shown crossing the island and the Aral Sea from the southeast to the northwest termini of the existing mainland boundaries.

> *The boundaries of the former federated republics (Soviet Socialist Republics, SSR) in Soviet Central Asia were drawn, as often indicated, according to the security and economic objectives of the center of the Union. Consequently, the ethnic linguistic and historical factors were largely ignored in delineating the territories of the republics. Despite the greatly arbitrary character of the boundaries for the people who populated the region, however, the fact remains that the boundaries therefore established were treated throughout the life of the Union as "particularly inviolable".* (Polat, 2002, 46)

Turkmenistan and Uzbekistan were created as Socialist Soviet Republics in 1927; Tajikistan followed in 1929 and Kakakhstan and Kyrgyzstan having previously been united were separated as Republics in 1936. When the central Republics became independent the inviolability of the existing boundaries was confirmed in the Minsk Agreement of 8 December 1991, the Almaty Declaration of 21 December 1991 and the Commonwealth of Independent States on 22 June 1993.

During the period after 1936 the Republics were permitted to lease territory and facilities from adjoining Republics (International Crisis Group, 2002). Uzbekistan leased gas fields and a reservoir within Kyrgyzstan in exchange for pasture within Uzbekistan. Further complications developed when some enclaves were created. The two largest are both in Kyrgyzstan. Vorukh is a small area occupies by a mainly Tajik population while Sokh is occupied by Uzbeks. Both enclaves lie about 10 km from the nearest international boundary.

The boundaries that the new states inherited appear to have been maintained, but modifications have been proposed in some cases. Kazakhstan and Russia settled their boundary, measuring 6,846 km in the period October 1998 to 2003. Kazakhstan's boundary with Kyrgyzstan, that extends for 1051 km was delimited between July 1998 and 15 December 2001. This is an uncomplicated line following the northern edge of the Khirgiz Range and the Kungei Alatau. Kazakhstan's boundary with Uzbekistan measures 2,203 km. Negotiations began in November 1999. The short boundary between Kazakhstan and Turkmenistan was the subject of talks held from March to June 2000 and the delimitation was completed by August 2006. The boundary, measuring 426 km, followed exactly the line laid down by Russia in 1924. The eastern shore of the Caspian Sea contains very large gas and oil reserves. Kazakhstan completed a pipeline to China in December 2005. Turkmentistan is planning to connect with China by January 2009.

Uzbekistan and Kyrgyzstan commenced negotiations in 2000 to delimit the boundary that extends for 1,099 km. This boundary is complicated by historical

and geographical factors. The historical difficulties are concerned with the leasing to Uzbekistan of up to 140 areas within the Kyrgyzstan border in the 1950s. In 1955 a draft settlement was prepared but the Supreme Council of the Two Republics refused to approve the arrangements (Polat, 2002, 51). The geographical problem relates mainly to the Ferg-ona Basin, a salient of Uzbekistan lying between the Alai and Chatkal Ranges. Some progress had been made. About 250 km of the boundary had been defined by April 2001, and the trijunction with Kazakhstan was defined on 15 June 2001. In August 2003 it was reported that about 900 km of boundary had been delimited. Berghanel (2004) reported that although the Basin is fertile the collapse of state-owned farms and industrial establishments has contributed to widespread unemployment.

Relations between Uzbekistan and Tajikistan are bedevilled by two situations. First Tajikistan is accused by Uzbekistan of failing to curb the activities of terrorists raiding across the boundary. Second Tajikistan complains that Uzbekistan has illegally occupied areas across the boundary in Tajikistan.

There had been some concerns over the Turkmenistan-Uzbekistan boundary that extends for 1,621 km, because of Uzbek settlements south of the Amudar'ya. However, an understanding was reached in January 1996 and the boundary was fixed by a treaty signed at Ashbagat on 21 September 2000.

OFFSHORE TERRITORIAL DISPUTES

The land boundaries of mainland Asia seem to be fixed definitely, or, in the Himalayas, located in ways that do not promote discord. Along the coast of eastern Asia there are seven territorial disputes involving islands. The islands are not large but their existence allows the country that controls them to claim extended areas of sea and seabed.

Malaysia and Singapore are engaged in a case before the International Court of Justice dealing with sovereignty over three features called Pulau Batu Puteh, Middle Rocks and South Ledge.

The Spratly Islands are located in the South China Sea. They include small islands and reefs that stand above high tide, low-tide elevations that are covered at high tide and banks and shoals that are covered permanently. Hancox and Prescott (1995) have listed 48 features and 40 of them are occupied by military posts belonging to China. Malaysia, the Philippines, Taiwan and Vietnam. From these features can be claimed areas of seas and seabed totalling about 617,000 sq. km. Accurate charts of this area, known as The Dangerous Ground, were finally completed by American, British, French and Japanese hydrographers in the late 1930s, just in time for the Pacific War (Hancox and Prescott, 1997).

The largest island in the Spratly Islands is Itu Aba on Tizard Bank and Reefs. It measures 1400 metres in length and its maximum width is 370 m. The highest point on the islands is 2.4 metres above high-tide. Spratly Island that gives the

archipelago its name has the shape of an iscoceles triangle. The base aligned northeast-southwest measures 750 metres and its apex is 350 metres distant. Most of the features that stand above low-water are perched on columns rising 1800-2000 m from the seabed. This means that they are not surrounded by shallow continental shelves, such as those that border the mainland coasts of China, Malaysia and Vietnam.

In 1947 the Chinese government issued a map showing a line composed of eleven segments starting in the Gulf of Tonkin and proceeding around the Luconia Shoals, between the Spratly Islands and Borneo and The Philippines and continuing east of Taiwan. The defeated Chinese government retreated to Taiwan and maintained troops on Itu Aba until 1950. The troops returned in 1956 and continue to occupy the feature. In 1956 South Vietnam claimed the Spratly Islands and this claim was maintained when Vietnam was unified. Vietnam occupies 19 islands and reefs. In 1979 The Philippines claimed and occupied nine reefs. In the same year Malaysia claimed five features in the extreme southeast of the Spratly Islands. China started to make claims and occupied six features in 1988. These reefs seem to have been selected throughout the archipelago to provide a basis for China's claim to the entire archipelago.

Since 1988, when China secured its footholds in the Spratly Islands peace has reigned. Schofield and Storey (2006) have described confidence-building measures supported by ASEAN and China in a Declaration on the Conduct of Parties in the South China Sea.

Samuels (1982) has provided an excellent account of the contest between China and Vietnam over the Paracel Islands located about 120 nm southeast of Hainan Island. There are two groups of islands called the Amphitrite and Crescent Groups. France considered that these islands belonged to the Colony of Vietnam and Vietnam maintained this view after independence. However, in the first quarter of 1974 Chinese forces occupied the Paracel Islands that are now part of Kwangtung Province. The Chinese name for the group is Hsi-sha Chun-Tao. Its resources include phosphates, guano and fish. Vietnam maintains its claim to the Paracel Islands, but this territorial dispute did not prevent China and Vietnam drawing a maritime boundary through the Gulf of Tonkin on 25 December 2000 (Colson and Smith, 2005, 3754-58). The maritime boundary was drawn to discount Vietnam's entitlement from the small isolated island of Dao Bach Long Vi located near the middle of the Gulf.

Between the Hsi-sha Chun-tao and The Philippines is located Scarborough Reef. It lies about 120 nm from the coast of Luzon and it is claimed by both countries. There is no island on Scarborough Reef but there are rocks above high water and the large South Rock stands about 3 m above high water. Comparison of modern charts with the chart produced by Edward Miles, Master of HMS Swallow in 1866, at a scale of 1:48,900 indicates that the topography of the reef has not changed in 141 years. The reef has attracted fishermen from both countries and it can be assumed that the Reef can sustain an economic life of its own in

accordance with Article 121 (3) of the Convention on the Law of the Sea. This would allow either of the countries to claim the feature as a basepoint for determining any maritime boundary between them. The area of seas and seabed that is closer to Scarborough Reef than any other land is about 54,000 sq. nm.

There is a dispute between China and Japan over the ownership of the Diaoyu/Senkaku Islands that lie north of Taiwan. The Group consists of five islands and three rocks in three shoal areas. The Islands Diaoyu Dao [Uotsuri Shima], Bei Xiaodao [Kitako Shima] and Nan Xiaodao [Minamiko Shima] and the rocks Feilai [Tobi Se], Peihsiao [Okinikita Iwa] and Nanhsiao Okinominami Iwa] are situated on a triangular shoal measuring about 10 sq. nm, with depths less than 100 m. Huangwei Yu lies 11 nm northeast of Pseihsiao and is the summit of an extinct volcano standing 116 m above high water. It has an area of 79 hectares and is covered with palm trees and undergrowth. Chiwei Yu, the most isolated of the Diaoyu Islands lies 48 nm east of Huangwei Yu. It is steep-to and rises to a peak at 83 m.

This brief description indicates that the features have little value as territory that might be mined or cultivated. However, their value lies in the claim that can be made from them to the seas and seabed measuring 20,400 sq. nm. About three-quarters of this area is located on the continental shelf adjacent to the Chinese mainland and the remainder covers the continental slope, that leads to the deep seabed. There is a chain of treaties from April 1895 to 1951 that stretch from China's loss of Formosa to Japan in 1895 to its return in 1952. In 1895 Japan defeated China and imposed the Treaty of Shimonoseki, that delivered to Japan the island of Formosa together with all islands 'appertaining to or belonging to the said Island of Formosa' (Prescott, 1997, 49). In September 1951 the Multilateral Peace Treaty included the following statement in Article 2 of Chapter II dealing with territory.

> *(b) Japan renounces all right, title and claim to Formosa and the Pescadores.* (Bureau of Public Affairs, 1977, 1120)

It would be reasonable to conclude that Formosa included islands that appertain to Formosa.

It is possible that this dispute is more important to Japan than to China. China has extensive areas of continental shelf that can be explored for oil, gas and minerals. In contrast Japan's principal islands are surrounded by narrow continental shelves that will offer fewer opportunities for mining.

Japan and South Korea face each other in the East China Sea, the Korea Strait and the Sea of Japan. In the Sea of Japan there is a group of Islands called Liancourt Rocks consisting of two islets and some rocks. The Korean name is Tok Do and the Japanese name is Takeshima. If lines of equidistance are drawn on the basis that first Japan and then South Korea owns the Liancourt Rocks, they enclose an area of sea and seabed of 15,000 sq. nm. At present the islands are occupied by Korea.

The Kuril Islands are aligned like stepping-stones between Hokkaido and the Kamchatka Peninsula. They extend about 630 nm and the southern tip of Kunashir, that is the southernmost island in the chain, is only 6 nm from Hokkaido. Lying 30 nm from the south coast of Kunashir is group of islands called Habomai and an island called Shikotan.

Russia occupies the Kuril Islands, Shikotan and the Habomai Group. Japan claims that it should possess Shikotan Island and the Habomai Group, as well as the two most southerly Kuril Islands called Iturup and Kunashir.

In any *précis* of the origin of this dispute, the following facts are important. Working from the north and south respectively, Russian and Japanese explorers and hunters charted the islands and began to wrest a living from them. By the Treaty of Shimoda of 7 February 1855, the two countries divided the Kuril Islands at the Strait passing between Iturup and Urup Islands. Today this Strait is called Proliv Friza in Russian and Etorofu Kaikyo in Japanese. This treaty thus gave Japan the islands known today as the Northern Territories. Stephan (1974) who has written a full account of the history and politics of the Kuril Islands, records that Russia claimed all the Kuril Islands in 1855 but agreed to withdraw its claim to the two most southern islands when its strategies were focussed on the Crimean Peninsula.

By the Treaty of St. Petersburg signed on 7 May 1895, Japan and Russia agreed to an exchange of territory. Japan ceded its territories in southern Sakhalin to Russia and received the Kuril Islands lying between Kamchatka and Proliv Priza (Stephan, 1974, 237-8). However, by the Treaty of Portsmouth of 5 September 1905, Japan regained southern Sakhalin [Karafuto] and some adjacent islands. At the end of World War II Japan forfeited all the Kuril Islands and Shikotan and Habomai Shoto. According to Article 2 of the San Francisco Treaty of 8 September 1951, Japan renounced all rights, titles and claims to the Kuril Islands and to southern Sakhalin and some adjacent islands gained in 1905.

Successive Japanese governments have maintained their claim that Russia should cede all islands lying west of Etorofu Kaikyo. Such a claim, if successful, would deliver 57,000 sq. nm of sea and seabed. Although John Foster Dulles, at the San Fransisco Conference charged the Soviet Union with illegal occupation of Shikotan and Habomai Shoto, there was never any suggestion that Kunashir and Iturup should be Japanese territory (Stephan, 1974, 200).

CONCLUSIONS

The main lines of political cleavage in Asia were established by European powers in two stages. First before World War I they carved out Asian empires by negotiating boundaries with China and with those Asian states such as Afghanistan, Nepal and Thailand that were not annexed. Second, before World War II

Britain, France and Russia established or confirmed colonial boundaries that subdivided their empires.

After World War II the British authorities moved quickly to make India, Pakistan and Burma independent states by 1948. Unfortunately Britain's unseemly haste to give independence to India and Pakistan was accompanied by the deaths of many civilians. Independence for Burma in 1948 was also accompanied by civil conflict. Independence was achieved by Malaysia in 1957 and Brunei in 1984 and in 1997 Hong Kong was transferred back to China. French and Portuguese footholds along the Indian coast were acquired by India between 1954 and 1961.

After 1945 France fought in vain to retain Laos, Cambodia and Vietnam but by 1954 the first two states were independent and Vietnam was divided by the 17º parallel with the north supported by Russia and the south by the United States. Vietnam was re-unified in 1975. Singapore and Bangladesh separated from Malaysia and Pakistan respectively in 1965 and 1971.

Wars occurred between India and Pakistan over Kashmir in 1948 and 1965, over the secession of Bangladesh in 1971 and between China and India in 1962. Fortunately the secession of Bangladesh was achieved quickly and the new State was separated from the rest of Pakistan by the widest part of India. It was also fortunate that the fighting in the Himalayas was confined to mountainous areas in Kashmir and the Himalayas. Although precise boundaries have not been drawn to separate these three states in these mountainous regions, it seems that the governments understand the extent of their territory for the time being and do not seek to extend it.

It seems that there are no critical boundary disputes on the Asian mainland that will cause a major breach in the present peaceful period. It also appears to be the case that the offshore disputes over islands do not threaten peaceful relations, although they seem to be delaying the settlement of maritime boundaries.

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12. EUROPE

> *Alsace-Lorraine was acquired by the French through the methods which have led to the consolidation of most modern States, namely conquest, trickery and cession.* (Temperley, 1920, 159)

The brutal honesty of this statement would be preserved if names such as Arica, Burundi and Sikkim were substituted for Alsace-Lorraine and the charge was made against Chile, Belgium and Britain. However, it would be an error to assume that because European states had similar territorial ambitions in Europe and other continents, and used similar policies to achieve them, that there are close similarities between the evolution of international boundaries in Europe and other continents. There are more important differences in respect of boundaries between Europe and the rest of the world than there are between any other two continents.

THE DISTINCTIVE NATURE OF BOUNDARY EVOLUTION IN EUROPE

Boundary evolution in Europe was entirely an indigenous process. The changing patterns of large and small political divisions, over considerable areas of the continent, have been recorded, without a break, certainly since the Roman period. Useful perspectives are found in general atlases produced by Shepherd (1922), Engel (1957) and Treharne and Fullard (1965). More detailed representations of classical Europe have been provided by Menke (1865) and Smith and Grove (1874). There are also regional atlases, including the remarkably detailed *Geschiedkundige Atlas von Nederland* (1913-32) and the monumental atlas of southeastern France by Baratier *et alia* (1969).

In the other continents, apart from Antarctica, the indigenous process of boundary evolution was overlain and generally halted by the colonial activities of the imperial powers such as Spain and Portugal in South America, Britain, France and Russia in North America, Germany and France in Africa, Britain in Australia and Britain, China and Russia in Asia. The advent of imperial powers in those lands may be likened to a political unconformity. The processes by which the

Incas, Sioux, Amandabeles, Turkoman and Aborigines determined boundaries effectively ended when the imperial powers acquired authority in their regions. In some cases approximations of the indigenous boundaries that existed at that time, were preserved in comparatively short sections to define internal divisions. Thus the British drew the boundary between Northern and Southern Nigeria in the vicinity of the most southerly advance of the Fulani and Hausa against the Yoruba Kingdom.

Even a superficial acquaintance with the evolution of international boundaries in continents outside Europe makes it clear than many problems resulted from genuine uncertainties about the distribution of geographical features and the indigenous patterns of authority. Similar problems might have existed in very early times in Europe, but for the past 2000 years there is no evidence that such uncertainties caused significant problems. The high densities of population, the considerable inter-regional trade, conquests, migrations, the clearing of forests, the draining of swamps and the absence of entirely inhospitable terrain ensured that the physical geography of Europe was generally known to the political authorities at an early time.

Regional geographical knowledge necessary for boundary construction was certainly completed during the feudal age in Europe. Strayer (1965, 17) pointed out that effective feudal government is local because it requires the performance of political functions based on personal agreements between small numbers of people. He and other writers show that in any particular parcel of land different lords might exercise different authorities related to justice, taxes, the various uses of forests and forced labour. Genicot (1970) provided a most illuminating account of this type of situation. Thus it follows that the areas within which these important rights were available were closely defined. Genicot (1970, 32) is of the view that by 1100 the growth of population and the extension of authority had resulted in the remaining frontiers of Europe being refined to fairly precise lines. There were still disputed zones but their limits were clearly understood.

Careful study of the treaties contained in the collection of boundary treaties by Hertslet (1875-91) shows that boundary construction was simplified because the continent was divided into a hierarchy of local administrative units with precisely defined limits. The reader is constantly aware that the international boundaries established by the various treaties coincide with the limits of *cantons*, principalities, bailiwicks, *cercles*, counties, Commanderies of the Teutonic Order, circuits, *arrondissements*, bishoprics, duchies, *landgraviates*, *communes* and parishes. Thus boundary negotiations were not bedevilled by problems such as trying to determine the extent of the territory subject to the Paramount Chief of Barotseland or the limit of territory occupied by the Saryks in the borderland between Afghanistan and Russia.

The situation in Europe also gave a positive advantage that was denied to many negotiators in other continents. In most regions of Europe the land was divided

into small parcels, that were sometimes aggregated into larger administrative blocks. These local divisions provided a series of building blocks from which national territories could be fashioned. Thus the international bargaining centred on pieces of territory, and once their disposition had been decided there was a ready-made boundary, that might, in different sections, coincide with known boundaries between parishes, bailiwicks or bishoprics.

This advantage was not available to the same extent in the Balkans where feudalism as known and practised in Western Europe did not exist (Pounds, 1947, 129). Nor did it apply after World War I, when strategic considerations were a powerful factor in determining the alignment of boundaries.

Just as the physical and political geography of Europe was known clearly to negotiators, so the economic geography of disputed regions was understood. Examples of states pursuing clear economic objectives are the determination of German representatives to secure as many of the iron-ore fields of Alsace-Lorraine as possible in 1871; the competition for coal-fields in Silesia by Czechoslovakia, Germany and Poland in 1919; Yugoslavia's enthusiasm for securing the port of Rijeka by the Treaty of Rapallo; and Rumania's insistence on control over the railway from Timisoara to Arad. Although these are comparatively recent examples, there is no reason to suppose that nobles, in earlier periods, were not completely aware of the economic advantages of securing the transfer of specific feudal rights from a defeated or ruined neighbour.

In the broad swathe of central Europe, stretching from the coasts of Germany and Poland to the shores of the Adriatic, Aegean and Black Seas, present national boundaries were fashioned in a series of major wars. To a much greater extent than on any other continent, boundaries in this region were created during the peace conferences that followed widespread conflict. Judged by the speed with which agreement was reached at the Congress of Vienna in 1815, the Congress of Berlin in 1878, the London Conference in 1913 and the Peace Conferences that ended World Wars I and II, it is possible to conclude that wars simplify the drawing of boundaries. The successful powers usually have clear ideas about the territorial arrangements they will demand before victory is achieved, and the defeated states are rarely able to resist most of the territorial adjustments. In the majority of cases there is probably an overwhelming desire by all parties involved to secure an agreement that will allow the abnormality of war to be ended. Successful governments want to demonstrate to the tired populace the gains bought by military sacrifices. They also wish to avoid the need to maintain large armies and navies, and to reduce to a minimum the funds that have to be expended on administering the territory of defeated states. Defeated countries generally seek to regain a level of independence necessary for the reconstruction of national morale and wealth.

THE CONGRESS OF VIENNA 1815

Zamoyski (2007) has written an encyclopaedic account of events leading to the Final Act reached at the Congress of Vienna. It was signed on 9 June 1815 and it is a convenient event to start a survey of the main events in the evolution of Europe's present international boundaries.

> *The Final Act was ready on 8 June [1815] It was to be signed by the eight signatories of the [first] Treaty of Paris and subsequently acceded to by all the other parties concerned. The plenipotentiaries of the Eight gathered for the purpose on the evening of 9 June in the great reception hall of the Hofburg, in the presence of all the contracting parties. It was the first and only time the congress had assembled in full, and its only corporate action was to listen as the text of the Final Act was read out.*
>
> *Cardinal Consalvi would not sign it, and instead delivered himself of a denunciation of the congress for having failed to return to the pope his French fiefs of Avignon and the Comtat Venaissin and the city of Ferrara. Labrador [the Spanish delegate] also refused to endorse the proceedings, in protest at the arrangements reached in Italy. Nesselrode [the Russian Minister] professed his eagerness to sign, but warned his colleagues that he could not do so until Alexander had read the document himself. He therefore took off post-haste to headquarters while the others appended their signatures and their seals and the document was not finally signed by all until 26 June.* (Zamoyski, 2007, 485-6)

Eight days earlier Napoleon had been defeated on 18 June at Waterloo. The aim of the victorious powers in these negotiations was to restore the political situations that existed before the Napoleonic Wars (Albrecht-Carrié, 1958, 9, 15). France was confined again within the boundaries of 1792 and King Louis XVIII was enthroned. Denmark and Saxony, that had unwisely persisted with support for Napoleon, were punished by territorial losses. Denmark lost Norway, that joined Sweden and significant parts of Saxony were attached to Prussia. There were some other small alterations to boundaries. The Austrian Netherlands went to Holland and Austria was recompensed with parts of Italy.

Zamoyski describes the foundation on which negotiations for territories was based.

> *In all the negotiations at the Congress the political value of land was calculated not in acres or hectares, but in numbers of inhabitants, commonly referred to as 'souls'. And while some were guided more by quality of land or strategic considerations, Prussia, which had an almost obsessive pre-occupation with the military recruitment value of population, admitted only 'souls' in her calculations. One of the problems bedevilling the discussions over how she could be restored to her 1806 status was that various*

> *parties produced conflicting population figures and disputed each other's.* (Zamoyski, 2007, 386)

Prussia argued that she needed territories that would provide a population of 3,411,715. That figure would provide a surplus of 681,914 over its population in 1804, that was less than the population increases of the other major parties.

> *Austria pointed out the fallacy of this argument, and stressed what Talleyrand had mentioned before: that an educated shopkeeper, artisan or farmer with his own land in a rich part of Saxony or the Rhineland was worth five times as much as a Polish peasant with no education, no land no skills and not even his own tools, eking out an existence in the wastes of Mazuria.* (Zamoyski, 2007, 396-7)

Thus in 1815 there existed a clear tripartite division of Europe. In the west were the established nations of Portugal, Spain, France, England, Denmark and Sweden. Mitteis (1975, 4) notes that it was in Western Europe, including the Iberian and Scandinavian peninsulas, that the earliest and most vigorous growth of rudimentary political units occurred. In the period after 1815, these countries experienced only minor changes in their limits. Eastern Europe was dominated by the Russian, Austrian and Ottoman Empires. Between these two flanking areas lay the unconsolidated zone of Europe comprising the German and Italian states. These congeries of states were separated from each other by Switzerland, that was guaranteed perpetual neutrality by the victorious powers.

Strayer (1965, 24-5) explained the fragmented nature of Germany and Italy at this time. The German kings never used feudalism as the chief support of their government. This meant that the kings continually interfered in the attempts of local lords to make political decisions and thus blocked the growth of powerful feudal principalities. However, the kings were never strong enough to exert a unified authority over the region and power fell to regional princes outside the feudal system. In the case of Italy, the German emperors intervened in the affairs of Italian states without being able to exercise effective control. In addition the principal cities were too strong to be dominated by feudal lords but too weak to be able to construct kingdoms by annexing adjacent rural areas.

> *Even before the defeat of Napoleon and the Congress of Vienna (1815), demands for national unity were stirring in Germany and Italy, but they were largely confined to literary and academic circles and had no widespread appeal. Only Stein in Prussia aspired to translate them into a political programme, but he was swept aside in 1808 and after 1815 Metternich, the Australian Chancellor, had no difficulty in restoring the traditional rulers. Although, during the period of the Restoration (1815-48) there was some unrest, fomented chiefly by ex-military personnel and officials formerly employed in the Napoleonic administration, the revolts of 1820 and 1821 in Naples and Piedmont, and those of 1830-31 in Parma, Modena and Romagna,*

> *had no national aims, while the liberals in Hanover, Brunswick, Hesse-Kassel and Saxony were satisfied with moderate constitutional changes. Not until 1848 did the national question both in Germany and Italy come to the fore, and then only to reveal cross-purposes with nationalist ranks. In Italy, uprisings in Venice, Rome, Messina, Palermo, Reggio and Milan ended in failure, and, in July 1848, Charles Albert of Piedmont was beaten decisively by the Austrians at Custozza. In Germany, a national assembly of liberals met in Frankfurt in May 1848 and embarked on the self-appointed task of drawing up a constitution for Germany which they hoped to unite by consent, but they soon became divided between the* Grossdeutsche, *those who wanted a federal Germany, including Austria and extending from the Baltic to the Adriatic, and* Kleindeutsche, *those who wanted a smaller Germany excluding Austria under Prussian leadership.* (Barraclough, 1978, 216-17)

The Kingdom of Sardinia, consisting of the Island of Sardinia, Piedmont and Genoa formed the core of the future Italian state (Figure 12.1). With the assistance of France, Sardinia was able to secure Lombardy from Austria in 1859. Parma, Modena, Tuscany, Romagna, Marches, Umbria and the Two Sicilies were added in 1860. In 1866 Italy joined with Prussia to attack Austria and Italy expected to secure Venetia, the Tyrol and Trentino.

Alas, Bismark signed a peace treaty with Austria without consulting Italy and neither Napoleon nor Bismark would support Italy's claim to the Tyrol and Trentino.

> *Although Italy had at last gained Venetia, she could not but feel humiliated over her part in the war and the manner in which the spoils were won. She had been beaten both by land and sea, and also diplomatically. She had to bend to the will of Bismark and Napoleon, and accept Venetia at second hand from France.* (Naval Intelligence Division, 1944, 152)

Finally on 20 September 1870 units of the Italian army marched into Rome. In October a plebiscite was held and a huge majority favoured union with Italy. The status of the Papacy was safeguarded by The Law of Guarantees. The Papacy retained the Vatican, the Church of St. John Lateran and the summer residence of Castel Gandolfo.

The dispute between Italy and the Holy See was settled after 59 years.

> *By the terms of the treaty a new and independent sovereign state was set up covering a small part of Rome, henceforward called the Vatican City. The Vatican City proper consists of the Basilica of St Peter's, the adjacent Vatican buildings and Gardens, and St Peter's Square. Over this territory, which is in no sense part of the Kingdom of Italy, the Holy See exercises 'full ownership, exclusive and absolute power and sovereign jurisdiction.* (Naval Intelligence Division, 1944, 257)

The area of The Vatican territory is 0.438 sq. km.

In 1828 and 1834 Prussia created customs unions, called *Zollvereine*, with neighbours.

These unions prospered as railways were built and manufacturing industries were developed. Bismark became Chancellor of Prussia in 1862.

> *The political unification of Germany involved wars against Denmark in 1864, against Austria in 1866 and against France in 1870. Austria was excluded from the North German Confederation in 1867 that comprised the German states north of the River Main. Any influence that remained to Austria in Germany, as a relic of the dualism that had obtained before 1866, was finally destroyed in 1871, when the German southern states joined the German Empire.* (Barraclough, 1978, 216)

The unification of Germany and Italy in central Europe was matched by the disintegration of the Austrian, Russian and Ottoman Empires. It is this latter process that was important for the evolution of European boundaries and it began in southeastern Europe on 21 July 1832 and spread southwestwards.

In 1832 a treaty signed in Constantinople by Britain, Russia, Turkey and France established the limits of continental Greece (Hertslet, 1975, 903-8). The successful Greek war of independence occurred two years after Belgium seceded from the Netherlands.

THE CONGRESS OF BERLIN 1878

The division of Ottoman territories in Eastern Europe occurred in 1878. Turkey had been defeated in war by Russia, that sought to impose its own terms in the Treaty of San Stephano, dated 3 March 1878 (Hertslet, 1891, 2672-6). The centrepiece of this Treaty was the creation of a large state called Bulgaria, that would be subject to Russian domination for two years.

In his biography of Lord Salisbury, Roberts (1999) has written an elegant account of the Congress of Berlin. Salisbury became Foreign Minister 24 days after the Treaty of Stefano was signed.

> *Salisbury knew that his stewardship at the Foreign Office would be judged by the alterations he was able to make in the Treaty of Stefano, and the extent to which he could arrest the perceived drift in British foreign policy. Accordingly at 11 pm on Friday 29 March 1878, he went into his study and, without data, advice or help from anyone else, he wrote what became known as 'The Salisbury Circular', a despatch to all the Great Powers setting out Britain's objections to the Treaty of San Stefano and his determination to alter it. By the time he rose from his desk at 3 am the next morning, he had written what is generally regarded as one of the greatest State Papers in British history.* (Roberts, 1999, 187)

Salisbury proceeded to negotiate secretly agreements with Turkey, Austria and Russia between16-30 May. Britain would guarantee Turkey's Asian boundaries, Austria would be supported in the annexation of Bosnia and Herzegovina, and would support Britain in maintaining the Sultan's supremacy in the southwest Balkans, and Russia would agree to a Bulgaria reduced in size, but would keep Kars and Batoum.

> *These three almost simultaneous bilateral agreements with Turkey, Austria and Russia were secret, interlocking, advantageous to Britain and in the interests of Peace. They made the great issues of the Berlin Congress foregone conclusions even before it was officially summoned.* (Roberts, 1999, 193)

On the 31 May, the day after the Anglo-Russian Convention was signed, a London evening newspaper published an accurate *précis* of the agreement. When France and other countries asked whether this leak was accurate they were told that it was not correct. Questioned in the House of Lords, Salisbury assured the members that the statement was not authentic and was not deserving of any confidence. Roberts (1999, 194) notes that in 1862 Salisbury had published an article, that included the following statement, 'No-one is fit to be trusted with a secret who is not prepared, if necessary, to tell an untruth to defend it'.

On 6 June Britain and Turkey signed the Cyprus Convention. By this device, Britain was committed to defending Turkey's Asia Minor territories and its reward was Cyprus and Turkish measures to safeguard Turkey's Asiatic Christians.

All parties signed the treaties on 13 July 1878. The previous nominal independence of Romania, Serbia and Montenegro was made effective with enlarged territories (Figure 12.3). Russia regained Bessarabia, which it had held from 1812 to the Crimean War, and the Austro-Hungarian Empire was rewarded with Bosnia-Herzogovina and Sandjak. Bulgaria was created and Eastern Roumelia was established as a distinct part of the Ottoman Empire in which special provisions would protect the particular interests of its inhabitants. For example, the Governor-General had to be a Christian. The remaining Ottoman corridor, from the Black Sea to the Adriatic Sea, was narrowed by the transfer of Thessaly to Greece in 1881, and the transfer of Eastern Roumelia to Bulgaria in 1885.

The boundaries described in the Treaty of Berlin were described in varying degrees of detail and it was left to European commissions to determine the precise delimitations. They consisted of representatives of Austro-Hungary, Britain, France, Germany, Italy and Russia, together with delegates from the countries separated by the various lines.

Hertslet (1891) recorded much useful information about the work of these commissions and it is evident that no efforts were spared to produce boundaries that would reduce international discord by negotiating variations in the lines defined in the Treaty of Berlin. The commissions did not simply enforce boundaries on Turkey without regard to any potential problems. Instead, negotiations continued to moderate the adverse effects of particular lines. This process is revealed in the delimitation of the boundary between Turkey and Montenegro.

The generous additions to Montenegro, by the Treaty of San Stefano, were reduced by the Treaty of Berlin (Hertslet, 1891, 2674-5). The new boundary meant that the main new areas gained by Montenegro were in the upper valley of the Lim River, around the settlements of Gusinje and Plava (Figure 12.3). In the Treaty of Berlin the boundary between Montenegro and Turkey was defined as follows.

> *From there [Secular] the new frontier passes along the crests of the Mokra Planina, the village of Mokra remaining to Montenegro; it then reaches Point 2166 on the Austrian Staff Map, following the principal chain and the line of the watershed, between the Lim on one side and the Drin, as well as the Cievna (Zem) on the other.*
>
> *It then coincides with the existing boundaries between the tribe of the Kuci-Drekalovici on one side and the Kucka-Krajna, as well as the tribes of the Klementi and the Grudi on the other, to the plain of Podgorica [Podgoriza], from whence it proceeds towards Plavnica, leaving the Klementi, Grudi and Hoti tribes to Albania.*
>
> *Thence the boundary crosses the lake [Scutari] near the Islet of Gorica-Topal, and, from Gorica-Topal, takes a straight line to the top of the crest, whence it follows the watershed between Megured and Kalimed, leaving Mrkovic to Montenegro and reaching the Adriatic at V.[Vieux] Ktuci.* (Hertslet, 1891, 2782)

There is plenty of scope for disagreement about some phrases in this description to employ a boundary commission for decades. Does the crest coincide with the watershed separating the basins of the Lim and Drin Rivers? How will the ethnic boundary that leaves the Klementi, Grudi and Hoti tribes to Turkey be fixed? To which country does Gorica-Topal Islet belong? Which of the infinite number of straight lines will be used to reach the crest of the watershed south of Lake Scutari?

In fact the meetings of the European Commissions and the various agreements concerning this boundary make it clear there were scarcely any problems of interpretation. The real problem that delayed settlement of this line until 21 December 1884 was the realization, by Montenegro, that insistence on possession of the salient provided by the upper valley of the Lim River was not in its best interests! Turkey was willing to retain the areas around Gusinje and Plava, but it became necessary to decide which additional areas should be ceded to compensate Montenegro for the loss of this region.

Before this issue came to a head, the European Commission met from 30 April 1879 to 8 September 1879 and settled the boundary from Vieux Kruci to Lake Scutari (Hertslet, 1891, 2890-6). In April 1880, Montenegro and Turkey agreed to an exchange of territory. In return for the areas around Gusimje and Plava, Turkey would cede to Montenegro Kucka-Krajna and a strip of territory occupied by the Grudi, Hoti and Klementi tribes (Hertslet, 1891, 2952-4). This variation, from the line defined in the Treaty of Berlin, was approved quickly

by the major powers and arrangements were made to transfer the two zones. By accident or design the Turkish withdrawal from some areas occurred before the Montenegro forces were ready to move, and the military vacuum was filled by Albanian irregulars. They proceeded to establish themselves in force in fortified positions astride the road between Podgoritza and Scutari.

Earl Granville described the situation in this region in the following terms.

> *Your Excellency [G.J. Goschen] is aware from the reports, which have been received, that the state of the country in North-East Albania is little short of anarchy. The Turkish officials are powerless to execute justice; murder and violence and forced exactions are prevalent, and the peaceable population is at the mercy of armed Committees, who, under the state of the Albanian League, have been allowed to assume absolute authority.* (Hertslet, 1891, 3000)

Turkey was either unwilling or unable to dislodge the Albanians from the eastern part of the area ceded to Montenegro. Negotiations then began to discover if there was additional territory that could be ceded to Montenegro in exchange for the area around Dinosi and Metagbush occupied by the Albanians.

The British and Austrian consuls in Scutari, Messrs Green and Lippich, proposed that Turkey should cede the coast between Vieux Kruci and the Bojana River, including the town of Dulcigno. Turkey eventually accepted this arrangement providing Dinosi was excluded from the area occupied by Montenegro. This was the last serious difficulty and the way was now open to delimit and demarcate the boundary.

The line from the coast at the mouth of the Bojana River to Lake Scutari was fixed by the European Commission meeting in January and February 1881. There was some debate about whether the boundary should follow the west bank of the Bojana River, preferred by Turkey, or its talweg preferred by Montenegro. The matter was resolved in favour of Montenegro (Hertslet, 1891, 3029).

The remainder of the boundary from the northern shore of Lake Scutari to Secular was delimited in three sections by a joint Turkish-Montenegran Commission between January 1883 and December 1884. The reports of this Commission indicate that in the vicinity of the Lim River the Commissioners were able to use old village boundaries to define the international limit (Hertslet, 1891, 3193). In June 1887 a decision was made by both countries to eliminate the Turkish pedicle about Kjanitza, and this area was transferred to Montenegro.

The Turkish corridor from the Black and Aegean seas to the Adriatic Sea was eliminated west of the Maritsa River during the Balkan Wars of 1912-13. Albania emerged as a separate country and Bulgaria, Greece and Serbia annexed the remaining areas (Carrié-Albrecht, 1958, 281). The scene was now set for the impact of disintegration to be experienced by the Austro-Hungarian Empire.

THE TREATY OF VERSAILLES 1919

At the conclusion of World War I the victorious powers signed separate peace treaties with their five opponents. The Treaty of Versailles was signed with Germany on 28 June 1919, and this was quickly followed by treaties with Austria and Bulgaria, signed respectively at St Germain-en-Laye on 10 September 1919 and at Neuilly on 27 November 1919. The treaty with Hungary was signed on 4 June 1920 at Trianon, and finally, on 10 August 1920 the Treaty of Sevres was signed by Turkey. The Carnegie Endowment for International Peace (1924) published a very useful collection of these treaties, together with a commentary and maps prepared by Martin.

Toynbee (1935) distinguished two main aims of the territorial provisions of these treaties.

> *In the territorial chapter of the peace treaties, as in the Disarmament chapter, one of the things which the winners of the war were aiming at was to strengthen themselves and weaken their late enemies comparatively, as much as possible. The second and more ideal purpose in the territorial resettlement of Europe was to redraw the political map is such a way that as many Europeans as possible would be living under national governments of their own choosing. This was called the principle of self-determination.* (Toynbee, 1935, 72)

Germany was weakened by the loss of Alsace-Lorraine to France, of northern Schleswig to Denmark and of western Prussia and part of Silesia to Poland. The loss of Western Prussia weakened Germany in two ways. First it forfeited the population and resources of the region; second East Prussia was detached from the rest of the country. Germany also forfeited to Belgium four small territories called Eupen, Malmedy, Prussian Moresnet and Neutral Moresnet. Bulgaria was weakened by the loss of its Aegean coastline to Greece and the loss of three salients on its western boundary that had been used to attack Serbian communications (Temperley, 1921, 455).

A chain of new or modified existing states was created from the Arctic Ocean to the Adriatic Sea. The chain consisted of Finland, Estonia, Latvia, Lithuania, Poland, Czechoslovakia, Austria, Hungary and Yugoslavia (Figure 12.4). Hupchick and Cox describe the complexities of the reconstruction of Eastern Europe

> *At Versailles, the old anational political structures were dismantled, but, unfortunately, the new states were constructed more to ensure both the prolonged punishment of the defeated Central Powers and the political and economic interests of the Western Great Powers in Eastern Europe than to uphold Wilsonian ideals of national self-determination. Most of the new states artificially encompassed disparate nationalities: Czechoslovakia (Czechs, Slovaks, Germans, Hungarians and Ruthenians); Yugoslavia (Serbs, Croats,*

> *Bosniaks [Bosnian Muslims], Bulago-Macedonians, Albanians, Hungarians and a smattering of others); Romania (Romanians, Hungarians, Germans, Bulgarians and Turks); and Poland (Poles, Germans, Lithuanians, Belorussians and Ukrainians).* (Hupchick and Cox, 2001a, 42)

The following account of the emergence of Yugoslavia is based on volumes produced by the Naval Intelligence Division (1944) and Hupchick and Cox (2001a and 2001b).

At the beginning of the war the Serbian army rebuffed three Austrian invasions, before retreating in the face of the Austrian, German and Bulgarian alliance.

> *Without this heavy sacrifice of life (and Serbia and Montenegro probably lost not less than one million out of five million souls), all political efforts would have been in vain.* (Naval Intelligence Division, 1944, 141)

During the war leaders of the Croat, Serbians and Slovenes planned for independence and rejection of the Hapsburgs. In 1915 Britain France and Russia offered Italy the opportunity to expand its territory northeastwards if it joined the Allies. The Treaty of London was signed on 26 April 1915 and the territories offered to Italy were Gorizia, Carniola, Istria and part of the Dalmation coast. The population of these areas was principally Croat and Slovene. A special clause reserved the port of Fiume for Croatia.

On 20 July 1917, the Declaration of Corfu was signed by Croat, Serb and Slovene representatives, and announced support for the union of the three nationalities under a democratic system. The new territory was to be called the Kingdom of the Serbs, Croats and Slovenes. In 1918 the Italian and Yugoslav representatives resolved the territorial questions through The Pact of Rome, which so impressed President Wilson that he modified one of his Fourteen Points to insist on unity for both Yugoslavia and Czechoslovakia.

Events at the end of the war were confused and on 9 November 1918 a Declaration was signed creating the new state, to be called the Kingdom of the Serbs, Croats and Slovenes as from 4 December 1918. The name was changed to Yugoslavia in 1929.

The new country had boundaries with Italy, Austria, Hungary, Roumania, Bulgaria, Greece and Albania (Figure 12.5). Only with Greece were there no boundary problems to be solved.

The boundary dispute with Italy lasted for five years and President Wilson played a major role during 1919.

> *The French and British were in the awkward position of having promised Italy territory which it was not theirs to give, and of finding their obligation openly repudiated and condemned by America, as one of those secret treaties which her President wished to make impossible in the future. On 11 February 1919 the Jugoslavs offered to submit to Wilson's arbitration, but this was rejected by Italy; and on 24 April the Italian statesmen withdrew*

> *temporarily from the Conference. On 16 April Italy had refused a plebiscite in the disputed zone, and the so-called 'Wilson Line' (assigning Goriziam Trieste and Istra west of the River Arsa, but not Fiume to Italy) was also rejected. Tardieu's scheme for a buffer state of Fiume was wrecked by d'Annunzio's seizure of the town, to which the Allies meekly submitted. For a whole year there was deadlock, with proposals and counter-proposals to the Supreme Council, one more sterile than the other. The Italians awaited the expiry of Wilson's term of office and the Jugoslavs, seeing no-one would help them ended by entering direct negotiations with the more moderate Giolitti-Sforza Cabinet. The Treaty of Rapallo on 12 November 1920 gave to Italy nearly the whole of Istria, the watershed of the Julian Alps, together with Zara and the Island of Lagosta in Dalmatia.* (Naval Intelligence Division, 1944, 149-500)

The Jugoslav government granted special rights to the small number of Italians in Dalmatia, but Italy only provided corresponding rights to Jugoslavs in Zarda and Fiume. The other 470,000 Jugoslavs had no special rights.

The boundary with Austria falls into two parts. West of the Drava River the boundary follows the crest of the Karawanken Range. The Yugoslav authorities claimed the Klagenfurt Basin and a plebiscite was held by the Allied Commission (Figure 12.6). The Basin was divided into two unequal areas. The larger southern area did not include Klagenfurt that was contained in the smaller northern zone. The first vote was held in the southern area totalled 22,025 in favour of remaining with Austria while 15,279 voted for the new Kingdom. Apparently about 10,000 Slovenes must have voted in favour of Austria. In view of this result it was decided not to hold a vote in the northern area. East of the Drava River the linguistic boundary was drawn to separate Austrians and Slovenes.

By the Treaty of Trianon, on 4 June 1920, Hungary was encased within boundaries that made it ethnically homogeneous. However, the Hungarian government had a strong sense of having been badly treated.

> *Thus, although Trianon Hungary ideally was as ethnically homogeneous as any nationalist could have desired, it was flawed as a true Magyar nation-state because it failed to include territories, also inhabited by Magyars, that had played continuous and important roles in the thousand years of Hungarian history in Europe. Territories that formed parts of Hungary for centuries had been cut away by force and incorporated into neighbouring, mostly newly created nation states that were anything but friendly to the Magyars. The Magyar nationalists' vocal and persistent reaction against the terms of Trianon caused fear among their neighbours, who had all received large slices of former Hungarian territory by that Treaty. In a series of agreements signed among themselves in 1920 and 1921, Czechoslovakia, Yugoslavia and Romania, counting on French support, banded together in a political-military alliance bloc, termed the Little Entente, aimed at common protection against Hungary.* (Hupchick and Cox, 2001a, 44)

Roumania claimed the entire Banat. This was a condition contained in a secret treaty of 17 August 1916 when it entered the war on the side of the Allies. But neither the western limit of the Banat, nor the line to which the Serbians could advance became the boundary. A commission of the Peace Conference drew up proposals to allocate territory according to ethnic majorities. When these plans were almost complete France intervened and insisted that Yugoslavia should receive two salients into the Banat that contained the towns of Vrsac and Bela Crkva (Naval Intelligence Division, 1944, 152). When the Peace Commission announced the final allocation of territory, on 13 June 1919, it was evident that Yugoslavia had received a wide belt of territory to the north and east of Belgrade. It also received most of the Vojvodina that contained a remarkable intermingling of Serbs, Croats, Slovaks, Czechs, Krassovans, Roumanians Germans and Magyars. The Naval Intelligence Division (1944, 74, 75) produces three maps drawn by British, Hungarian and Serb cartographers using the 1910 ethnographic statistics. The maps show little correspondence.

Bulgaria's boundary with Yugoslavia was modified in favour of Yugoslavia on 27 November 1919 (Figure 12.7). For strategic reasons the Strumica salient was transferred to avoid any threat to the Vardar railway. Yugoslavia also gained two adjacent districts called Bosiljgrad and Caribrod. A very small area, at the head of the Timok valley was also detached from Serbia.

It was noted earlier that Yugoslavia's boundary with Greece needed no further delimitation. The boundary with Albania was also settled without difficulty. The Council of Ambassadors had drawn the boundary between Albania and Austria in 1913 (Figure 12.8). Albanians had been migrating across the 1913 line and by 1921 there were about 500,000 Albanians in the centres of the Yugoslav areas Pec, Mitrovica, Prizren and Tetoyo. The 1913 boundary, with a few small adjustments was confirmed as the boundary between Albania and Yugoslavia.

In an effort to find boundaries that accorded with national settlements, plebiscites were held in the following areas: northern Schleswig, Eupen and Malmedy, upper Silesia, the Klagenfurt Basin on the borders of Austria and Yugoslavia, Oldenburg in the borderland of Austria and Hungary, and the southern and western parts of East Prussia.

Russia started the war on the side of the Allies, but after its transformation into the Soviet Union it was defeated by Germany and forced to sign the Treaty of Brest-Litovsk in 1918. This treaty detached from the Soviet Union a strip of territory occupied mainly by minorities who sought national self-determination. The German plan to dominate this region was thwarted by the Allies' victory. The Allies then presided over the emergence of Finland, Estonia, Latvia, Lithuania and Poland. The Ukraine that had been a German target was left with the Soviet Union. However, it could not retain Bessarabia, that once again changed hands and became part of Romania. Toynbee (1935, 75-7) perceptively noted that the principle of national self-determination would not have been carried out to such a marked extent in Europe, if the Soviet Union had remained attached to the Allies during the war.

The Supreme Council established by the Allies to oversee the postwar territorial arrangements played a major role in allocating territory to the various new countries. The work of this Council has been described by Baker (1923), Hankey (1963) and Mantoux (1955).

Ogilvie (1922) provided an excellent survey of the processes by which boundaries were established after World War I. He identified four main stages that began when the Supreme Council instructed one of its several Territorial Commissions to start work. These Commissions dealt with the boundaries of Albania, Czechoslovakia, Greece, Romania and Yugoslavia. They consisted of persons skilled in solving demographic, economic and strategic problems within the borderlands under consideration. Through consultations the Commissions produced a report recommending, in general terms, the description of a boundary on a map at a scale of 1:1 million. The second stage involved a Sub-Commission that worked on maps at a scale of 1:200,000 to produce a precise line suitable for demarcation.

> *In the Sub-Commission stage such questions as the military value of hill ranges and the military and economic importance of railway junctions were considered, as were the possibilities of maintaining, intact, geographical units, such as intermontane basins and valleys.* (Ogilvie, 1922, 6)

This refined boundary was then submitted to the Central Geographical Committee that produced the final description of the boundary and defined the latitude that should be granted to the Demarcation Commissioners. The Committee worked on cadastral maps and sought to ensure that the new international boundaries did not partition individual properties. The use of survey points to simplify the process of demarcation and specific details about the boundary applying to rivers were also the responsibility of the Central Geographical Committee. When the boundary had passed through these stages it was incorporated into the relevant treaty. After the treaty was ratified demarcation could proceed.

Although Hinks (1919a, b, c and 1920a, b) published helpful notes and articles on the new European boundaries, members of the delimitation and demarcation Commissions did not publish articles with the frequency of surveyors in Africa and Asia. Cree (1925) provided an article dealing with the work of the Yugoslav-Hungarian Boundary Commission. He described how the Commission had a covering letter and detailed instructions, provided by the Central Geographical Committee, as well as the description of the treaty. Before the fieldwork commenced the delegates representing Hungary and Yugoslavia were required to present their interpretation of the treaty's description, and identify any section where an appeal to the League of Nations might be considered. Then after a preliminary reconnaissance, meetings were held on the same day to hear the views of interested communities in the borderland. Mayors, Presidents of Chambers of Commerce, large landowners, factory owners and farmers would attend these meetings and present their case for a particular line and answer any questions the Commissioners might raise. The President of the Commission then consulted the

Hungarian and Yugoslav delegates to secure total agreement. Once agreement had been reached one member of the team would be asked to define the boundary. Then in turn other members would be invited to propose any modification to the line, and each proposed change would be debated until there was agreement. If no agreement was possible a vote would be taken. The boundary was then marked on a map at a scale of 1:75,000 and this was signed by the members. The Hungarian and Yugoslav Assistant Commissioners then had the responsibility of demarcating the boundary. In a few cases, involving the railway station at Gola and the water supply for the railway station at Gyekenyes, the Commissioners prepared protocols to govern particular transboundary functions.

BOUNDARY CHANGES BEFORE AND AFTER WORLD WAR II

During the 1930s Germany, Italy, Hungary and Poland secured additional territories from their neighbours. The Rhineland and the Saar were reoccupied by Germany in 1935-6. Germany also received three blocks of territory along Czechoslovakia's western boundary in 1938. In the same year Germany annexed Poland's Memel March from Lithuania. In 1939 Hungary annexed parts of southeast Czechoslovakia and the province of Ruthenia. In 1938 Poland seized a small area of Czechoslovakia in the upper valley of the Odra River. On Good Friday that fell on the 7 April 1939, Italy invaded Albania. The territory not only possessed useful quantities of oil and bauxite but would provide also a platform for the invasion of Greece.

After World War II the main boundary changes were in northern and eastern Europe (Figure 12.9). The Soviet Union regained most of the territory lost by the Treaty of Brest-Litovsk. Although Finland remained independent, the boundary was adjusted in three regions in favour of the Soviet Union and Finland lost its coastline on the Arctic Ocean. Poland continued its eastern march across the Baltic plains and secured those areas of Germany east of the Oder and Neisse Rivers in exchange for eastern areas of Poland that were lost to the Soviet Union. The Soviet Union also acquired sub-Carpathian Ruthenia, that formerly had been part of Czechoslovakia, and for the fifth time since 1812, Bessarabia was transferred from one country to another! There were two other minor territorial alterations. Romania, having lost Bessarabia to the Soviet Union, also forfeited southern Dobrogea to Bulgaria. Most of Italy's gains along the Adriatic coast in 1920 were lost to Yugoslavia. The Soviet Union encouraged the establishment of communist governments in the band of countries from the Baltic Sea to the Adriatic Sea, consisting of Poland, Czechoslovakia, Hungary, Romania, Yugoslavia, Bulgaria and Albania.

Albrecht-Carré pointed to the marked difference between the construction of boundaries in 1919 and 1945.

> *…at all events the peacemakers of 1919 had adhered to the humane principle that the land belongs to the people and that frontiers therefore must be adapted to their existing distribution. Things were now [1945] otherwise and the ethnic map of Europe was brought into much closer agreement with its political divisions through the simple, if crude and inhumane, device of making the people fit the frontiers.* (Albrecht-Carré, 1958, 605)

Starting in the north 200,000 refugees fled from Estonia, Latvia and Lithuania. About 2.3 million Russians swarmed into the new western territories annexed by the Soviet Union. Polish refugees totalling about 4.5 millions moved into western Poland. The largest flight involved 12.35 million Germans heading towards those parts of Germany controlled by the Western Allies. The International Refugee Organization settled about one million refugees overseas.

Judged by the published studies, it was the boundary between Italy and Yugoslavia that provoked the most interest amongst political geographers. Moodie (1945), Kiss (1947) and Le Lannou (1947) provided perceptive and detailed studies of the area that Moodie called the Julian March. Alexander (1953) published a useful account of the small boundary adjustments made in 1949 along the boundary of Germany with the Netherlands, Belgium and Luxembourg.

FRAGMENTATION OF EUROPEAN STATES IN THE 1990S

Fragmentation of Czechoslovakia, Yugoslavia and Russia produced 15 new independent states during the period 1991-3. In each case existing internal boundaries were converted to international boundaries.

On the first day of 1993 Czechoslovakia separated into the Czech Republic and Slovakia. The former internal boundary along the Morava River and the Karpaty Javorniky Ridge became the international boundary.

The disintegration of Yugoslavia in the period 1991-3 provided political geographers with the opportunity to make a major contribution to the description and evolution of the five independent states. Englefield (1991, 1992a and 1992b). Klemencic (1994, 2000 and 2001), Klemencic and Schofield (2001) and Milenkowski and Talevshi (2001) provided excellent accounts of the history of the various boundaries, supported by many maps, in making a major contribution to political geography. Most of the following comments are based on these papers.

Englefield (1992) constructed a map showing the dates when the boundaries of Yugoslavia were constructed and it provided the basis on which Figure 12.5 was constructed. The boundaries of Bosnia Herzegovina were established before 1900 and most of the boundary between Slovenia and Croatia fell into the same period. The western extension of that boundary was established in 1945, when

Italy forfeited the Peninsula of Istria, that was divided between the two Republics. Italy retained a narrow section of coast containing Trieste.

Bosnia and Herzegovina possesses only a narrow corridor 10 km wide giving access to a narrow gulf called Zaliv [Gulf] Klek Neum formed by the Klek Peninsula. Zaliv Klek Neum is an excellent harbour for vessels of deep draught. Blake and Topalovic (1996) described the history of the corridors to the sea that Austria and later Bosnia sought. This narrow Bosnian corridor was created in 1700 according to the Treaty of Karlowitz and the treaty of Passarowitz of 1718, however, the seas adjoining Zaliv Klek Neum were controlled by Venice. Austria gained outlets at Klek Neum and at Sutorina that led to the Bay of Kotor. After World War II Bosnia-Herzegovina retained the Klek Neum outlet but Sutorina was delivered to Montenegro.

Bosnia Herzegovina looked for an outlet to the Adriatic on the Croatian coast. The building of Ploce started in 1940 but did not make significant progress until after 1949. Ploce is now the most important port for Bosnia.

Macedonia is the only former member of Yugoslavia that is landlocked. Its boundaries with Albania, Greece and Serbia were the international boundaries of Yugoslavia from the end of World War I until the dissolution of the federation in 1991. These international boundaries were settled at the Bucharest Peace Agreement of 28 July 1913. The boundary with Bulgaria was demarcated in 1920-22, the Albanian demarcation followed in 1922-25, and finally the boundary with Greece was completed in 1930. The boundary with Greece was resurveyed in 1981-3.

> *In total there were 2,577 border markers along the border between Greece and Macedonia. On land there are 177 major and about 2,366 subordinate border markers, three light signals and 30 buoys. The deviation at the railroad Bitola-Lerin (Florina) is marked with border signs. Two light signals are positioned on Lake Dojran where the border proceeds from land to water. One signal light is positioned on Lake Prespa. There are four types of border markers: border stones 110-180 cm high; stones 50 cm high; and border markers in the form of cylinders made of asbestos, 70-80 cm high. There are 18 buoys in the shape of a double cone (1.5 m high) on Lake Dojran and 12 on Lake Prespa, spaced 600 m part.* (Milenkowski and Talevski, 2001, 82)

Macedonia's boundary with Serbia is based on the northern limits of the smallest administrative limits of Macedonia that coincide with topographic features.

> *The boundary with Yugoslavia can be considered to be mainly 'natural' because it extends along the high parts of the mountains. It consists of different relief features: mountains, canyons and plains. The mountain part of the border extends across the mountains: German, Kozjak, Skopska Crna Gora and Sar Planina. The border passes along the Pcinja and Kacanik*

> *Canyons and across a plain to the Kumanovo-Presevo saddle.* (Milenkowski and Tolevski, 2001, 84)

Croatia and Serbia are separated in part by the River Danube. Croatia takes the view that the boundary delimited by the Danube in 1945 is the correct line. However, the river has changed its course from time to time and Serbia insists that the boundary lies in the river and changes position as the river changes its course (Klemencic and Schofield, 2001). Two islands, knows as *adas*, are in dispute because they are occupied by Serbia and claimed by Croatia. The islands are Vukovarska Ada and Sarengradska Ada. The Serbian position is that the islands are closer to the Serbian bank.

In 1991 the Soviet Union was converted to the Russian Federation. This involved creating 14 independent states. Between the Baltic and Black Seas, Estonia, Latvia, Lithuania, Belarus, Ukraine and Moldova became independent. Between the Black and Caspian Seas the territories of Georgia, Armenia and Azerbaijan were established. East of the Caspian Sea the five republics in central Asia were created and they are considered in the Chapter dealing with Asia. Belarus, Moldova, Armenia and Azerbaijan are landlocked, although Azerbaijan is entitled to a share of the Caspian Sea with the Russian Federation, Kazakhstan, Turkmenistan and Iran. In each case the boundaries of the new states are pre-existing boundaries. In some cases they are the former international boundary of the Soviet Union with Poland, Slovakia, Hungary and Romania, and in other cases they are the former internal boundary of the Soviet Union.

In Europe the new arrangements created a small outlier of Russian territory on the Baltic coast. Kalingrad has been called an enclave and an exclave. A country that surrounds a detached fragment of another state calls the fragment an enclave. The country owning the detached fragment refers to it as an exclave. In fact Kaliningrad is neither because it has a coastline. Kaliningrad, like Timor's Oekussi, has a coastline with access to the high seas. The coastline measures about 140 km. The coast is symmetrical with Kaliningrad on the south coast of a central peninsula, that is flanked by two spits attached to the coast of Poland and the north coast of the Russian peninsula. Galeoti (1993) has described the history of Kaliningrad.

> *As a part of the region known as East Prussia, Koningsberg was under the administration of the Teutonic Knights, who founded the city as one of their main fortresses in 1255. It became the seat of the Grand Master of the Order in 1457, which it remained until the region was ceded to the Kingdom of Poland in 1525, when Prussia became a Polish Duchy. Tensions between the Protestant Lutheran Prussians and the Catholic Poles mounted and in 1600 Poland ceded the region back to Brandenburg-Prussia following defeat at the Battle of Warsaw, although the Poles still controlled West Prussia. Thus the region has a tradition of being an isolated enclave* [sic], *The Great*

> *(Second) Northern War of 1700-1721 saw ascendancy in the Baltic region shift to Russia, but despite a period of Russian occupation, 1758-62, during the Seven Years War, Koningsberg remained a Prussian territory. It duly became part of the (Prussian dominated) German State when it was formed in 1870.* (Galeotti, 1993, 56)

Germany retained Koninsberg after World War I, but it was claimed by the Soviet Union after World War II. Most of the German population was replaced by nearly one million Soviet citizens. The boundary with Lithuania, dating from 1919, measures about 225 km while the boundary with Poland, dating from 1945, extends for 195 km. Fairlie (1996) reviewed the future of Kaliningrad and suggests that Russia will retain sovereignty over the territory.

Georgia, Armenia and Azerbaijan occupy the territory that lies between the Black and Caspian Seas. Georgia occupies the Black Sea coast and Azerbaijan occupies the Caspian coast between Russia and Iran. Armenia, surrounded by Georgia, Russia, Turkey, Azerbaijan and Iran, is landlocked. Not only is Armenia landlocked it also claims to consist of two parts. One part is Nagorno-Karabakh, measuring 1,530 sq. km that is embedded in Azerbaijan and has a population, mainly Armenian of about 130,000. This territory lies within 5 km of the Armenian boundary with Azerbaijan. Armenian forces control Lacin that lies between Armenia and Nagorno-Karabakh and provides a corridor between the two territories.

> *The frontline between the armies of Azerbaijan and of Nagorno-Karabakh has an air of permanence. The Armenian trenches, bunkers and earthworks are well-dug and reinforced with concrete posts, wooden palings and empty ammunition boxes. A network of wire fences and minefields separate the two armies who watch each other through binoculars across a kilometre of No Man's Land. There are regular exchanges of sniper fire and large quantities of men and material have been committed to holding this line. Behind the lines of infantry trenches, a deep tank ditch has been excavated.* (www .travel-images.com.az-karabakh.html)

When the territories became independent in 1991 there were Armenian and Azerbaijani enclaves embedded in the other countries. With the exception of the extensive Nagorno-Karabakh enclave the other enclaves were overrun by 1992 (Personal communication from Aletheia Kallos, April 2007). Azerbaijan also consists of two parts. The larger area adjacent to the Caspian Sea has an area, including Nagorno-Karabakh of 84,700 sq. km. The smaller area between Armenia and Iran has an area of 1,900 sq. km. The boundaries of both parts of Azerbaijan and Iran and Armenia and Iran were settled by the Treaty of Peace between Russia and Persia, signed at Turkmanchai on 10 February 1828 (The Geographer, 1978).

Georgia has an area of about 69,700 sq. km narrowing eastwards from a coastline of 310 km on the Black Sea. The boundary with Armenia, measuring

164 km was demarcated in 1996. Georgia's boundary with Russia, measuring 723 km was demarcated by March 1995. Georgia inherited the Russo-Turkish boundary established in 1878 at the Congress of Berlin. Following Georgia's independence three secessionist movements developed. At the northern part of the coastline, territory called Abkhazia, measuring about 3040 sq. km, centred on Sokhumi, has claimed independence. At the southern terminus of the coastline the territory called Ajaria centred on Bat'umi also claimed independence. It has an area of about 1,050 sq. km. Near the middle of the northern boundary with Russia the territory of South Ossetia claims the right to secede. It controls an area of about 1,400 sq. km. The principal settlement is Ts'khinvali.

The secessionist movement in Ajaria subsided in May 2004 when Asian Abashidze, the leader of the independence movement fled to Russia. There are Georgian forces in Ajaria but the local population seems to possess a high level of autonomy.

CONCLUSIONS

> *The boundary readjustments of the past have been worked out through a series of gruesome wars; those of the future contain elements of still greater difficulty. Altogether the problems of just and proper boundaries is hopeless and growing worse on the basis of old statecraft.* (GilFilan, 1924, 484)

In his very interesting but gloomy paper GilFilan rightly stressed the roles of wars in producing new boundaries in Europe and of territorial disputes in promoting wars. This characteristic and the fact that there was no colonial discontinuity distinguishes boundary evolution in Europe from the formation of boundaries in other continents.

Political geographers of the 1920s and 1930s should not have been surprised by the onset of World War II. The boundary adjustments of 1920 had sown the seeds of conflict that were harvested in 1939. But the developments after World War II eventually produced three trends that have contributed to the avoidance of World War III. First all the major powers appear to be content with the territory they possess and do not seek to expand into neighbouring areas. Second in the early 1990s Russia liberated nine former territories throughout its southern borderland from the Baltic Sea to the Caspian Sea. At the same time Czechoslovakia peacefully bifurcated and the threat of major wars in Yugoslavia was apparently avoided by each of the Republics finding independence alone or in association with a neighbour. Third the European Economic Community reduced the divisive nature of international boundaries making it easier for people, goods and ideas to circulate throughout the continent. For the present the previous cycle of territorial dispute, war, boundary adjustment and new territorial dispute seems to have been broken.

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13. LAND BOUNDARIES ON ISLANDS OFF SOUTHEAST ASIA

Geography and the colonial policies of various maritime powers combined to give the history of international land boundaries on islands off Southeast Asia two distinct qualities. First there are only five land boundaries throughout this extensive zone and Indonesia is concerned with four of them. Second the procedures that resulted in the present divisions were appropriate to the ocean that Magellan called Pacific.

Four of the boundaries were associated with the Netherlands East Indies that was established before the colonisation of Australia and the islands of the southwest Pacific Ocean and involved negotiations with Portugal or Britain. The fifth boundary separated Brunei from Sarawak and was created by a unilateral British decision. The lack of any significant challenge to Britain's annexation of Australia and New Zealand, that were the main prizes, meant that competition was for groups of islands. While the Solomon and Samoan islands were divided the other groups were successfully claimed intact by the colonial powers.

Although the Samoan and Solomon Islands are 1440 nm apart their division between Germany and the United States and Britain and Germany respectively were related. In 1886 the United Kingdom and Germany agreed to divide the Solomon Islands. The boundary was located to deliver to Germany Bougainville, Buka, Choiseul and Ysabel Islands. In the 1870s American and British consuls were active in pursuing their countries interests and in 1879 Germany began to compete for trade.

> *In August [1888], when the mail steamer had left for Sydney and the islands were virtually isolated, the Germans declared war on [King] Laupepa, who surrendered to avoid bloodshed and was deported. They then set up a government under Tamasese with Brandeis [a Bavarian] as his adviser and had virtually complete control of Samoa. Native unrest broke out led by Mataafa, member of the Malietoa family. Two British vessels and one American arrived in the islands and the rebellion progressed, while Germany sent a warship to Apia. A combined operation by German marines and Tamasese's forces was unsuccessful and there were further concentrations of German and American ships in Apia harbour. Feeling in both Germany and America was running high. Both countries were talking of war when in*

> *March 1889 a violent storm struck Apia harbour. There were seven ships there at the time, three American, three German and one British. The only one not driven ashore was HMS Calliope, a new ship with more powerful engines than the others. By dint of good seamanship, she was able to put to sea.* (Naval Intelligence Division, 1943, 597)

Britain, Germany and the United States held talks in Berlin in June and created a cumbersome administration that lasted until 1899. The parties then agreed that the United States would secure Tutuila leaving Upolu and Savai'I to Britain and Germany. Britain agreed to withdraw from Samoa in favour of Germany and was rewarded with Choiseul, Ysabel, Ontong Java and some other small islands in Bougainville Strait from Germany. In 1914 Australian troops occupied the German Solomon Islands.

BOUNDARIES ON TIMOR

The Portuguese established settlements on Timor in 1520. Some years later Dutch colonists began to arrive and by 1613 they had occupied the larger, western part of the island. Both groups signed treaties with the indigenous population in the first half of the 19 th century and the governments signed a treaty on 20 April 1859 to end uncertainty about the territory over which each held jurisdiction (Deeley, 2001, 37-9). According to the first Article of this agreement, the Netherlands received the territories of Djenilo, Naitimu, Fiarlarang, Mandeo and Lakecune; Portugal secured Cova, Balibo, Lamakitu Tahakay and Suai. Although the island was divided into an eastern Portuguese region and a western Dutch sector, each country possessed small areas of territory in the other half of the island. The Dutch retained Maucatar in the Portuguese region and Portugal retained Ocussi, Tahakay, Tamiru Ailala and Noe Muti in Dutch territory. This agreement also resolved disputes over the ownership of islands lying north of Timor. Portugal obtained Poulo Kambing, now called Atauro, lying north of Dili, while the Netherlands secured Flores, Adenara and Solor Islands.

In 1893 the two countries agreed to define the boundary and to eliminate the enclaves in the other state's territory. During the period 1898 to 1899 a joint commission surveyed the boundary across the island and a strip on either side, and this enabled both sides to make specific proposals for the exchange of territory. Attempts to complete the delimitation of the Ocussi boundary were thwarted by hostile tribesmen. Negotiations in 1902 tried to reconcile the various conflicting proposals and they lasted two years. Portugal sought to eliminate the Dutch salient of Fialarang, but the Dutch stood firm and threatened to raise the question of whether Ocussi was an enclave that should be eliminated. Because it has a coastline Ocussi cannot be considered to be an enclave, but the Portuguese decided to avoid any threat to Ocussi and Fialarang remained Dutch. The large

Dutch enclave of Maucatar was exchanged for the small Portuguese enclave of Noe Muti. As a concession to the disparity in the size of these two territories the Portuguese also ceded Tahakay and Tamiru Ailala.

When a joint commission began to demarcate these boundaries in 1909 a positional dispute developed along the eastern limit of Ocussi. The two countries referred the matter for decision by the Permanent Court of Arbitration. The Netherlands sought a segment of boundary extending from a point on the Noel Bilomi to the source of the Noel Meto, a distance of 17 km. Portugal claimed that the boundary should start from a point 7 km east of the Dutch origin and proceed parallel to the Dutch claim to the coast about 7 km east of the mouth of the Noel Meto. On 25 June 1914 the Court found in favour of the Netherlands and two straight lines meeting at Kilali, traversed the gap between the Noel Bllomi and the source of the Noel Meto.

In 1975 Indonesia invaded Portuguese Timor and occupied it until 1999 when the United Nations supervised a plebiscite in the territory that resulted in a decision in favour of independence. East Timor became independent in 2002.

The following account of subsequent boundary negotiations is based on information provided by Arif Havas Oegroseno of Indonesia's Foreign Affairs Department (Figures 13.1 and 2). On April 8, 2005 in Dili, Timor Leste, the Minister for Foreign Affairs of the Republic of Indonesia and The Minister for Foreign Affairs of the Democratic Republic of Timor Leste, on behalf of their respective governments, signed a Provisional Agreement on the land boundary between the two Republics.

The Provisional Agreement contains items that were agreed by both countries through negotiations namely, 907 border point coordinates that will serve as the permanent border between the two countries. The provisional character of the Agreement takes into account the facts that more border coordinate points are still needed; and three segments namely Dilumil-Memo, Bijael-Sunan Oben and Noel Besi-Citrana remain unresolved. However, the Agreement is final in the sense that there will be no modifications of the 907 agreed border coordinates.

The signing of the Agreement signifies the importance of a definite boundary between the two countries and ensures the supremacy of law over their respective territory that will result in improving the security condition in the border regions. The interactions among the people living in the border area should result in increased economic activity, especially with the opening of markets around border area. It is hoped this will decrease the level of smuggling activities in the area. Both countries have agreed to start the delimitation of maritime boundaries after the completion of the unresolved territorial segments.

Land boundary negotiations between Indonesia and Timor-Leste were initiated in 2001. They produced a Memorandum of Understanding between Indonesia and Timor-Leste by Coordinating Minister For Political and Security Affairs, Susilo Bambang Yudhoyono, acting as Minister of Foreign Affairs and Sergio Vieira De Mello, Administrator of UNTAET on 14 September 2000.

Institutions called Joint Border and Border Liaison Committees were established under the Memorandum to discuss the management of border cooperation between the two countries. The Joint Border Committee is led by Director General for Public Governance, Department of Home Affairs and the Border Liaison Committee is led by the Government of Nusa Tenggara Timur Province. The leading role for boundary negotiation is taken by the Director for Political, Security and Territorial Affairs of the Department of Foreign Affairs, assisted by the Head of the Technical Delineation and Demarcation Team Indonesia-Timor-Leste, Mr. Sobar Sutisna from National Coordinating Agency for Survey and Mapping.

Both Governments took this opportunity to sign a Memorandum of Understanding between the Government of the Republic of Indonesia and the Government of the Democratic Republic of Timor-Leste concerning access to Pulau Batek or Gala Bata Island. With the signing of the Memorandum, Indonesia provides access for the people of Timor-Leste living in the border area of Ocussi, to pay traditional and social-cultural visit to Pulau Batek or Gala Bata Island. In turn Timor-Leste recognizes Indonesia's sovereignty over the island. Technical arrangement for this matter will be further discussed by the two countries.

The map that is Annex B to the Provisional Agreement is drawn at a scale of 1:125.000. The boundary is marked to show where the boundary follows rivers and terrain features. Along some rivers, such as Motta (River) Massin and Motta Taloe in the east and Noel (River) Bilomi in the west the boundary follows the median line. The three unresolved boundary segments can now be considered in descending order of extent. The largest area in dispute is bounded by two distributaries of the Noel Besi. It was created by the following definition of the land boundary's coastal terminus.

> *Proceeding from the mouth of the Noel [River] Besi, from where the summit of Pulu [Island] Batek can be sighted on a 30° 47' NW astronomical azimuth…* (Deeley, 2000, 70)

Defining a point in two ways is usually fatal to the satisfactory delimitation of a boundary. In this case there are two channels discharging into the sea but only one has the bearing to the Indonesian island recorded in the Agreement. The two channels differ markedly in width and discharge and it is the smallest sometimes intermittent channel that reaches the coast at a bearing close to that nominated in the 1904 Treaty. Timor Leste regards the western, minor channel as the proper boundary while Indonesia regards the eastern major channel as the boundary. The area bounded by the two channels and the sea is about 9.5 sq. km.

The disputed area on the Oecussi boundary at Bijael-Sunan Oben measures about 2 sq. km. It is understood that during the 1960s there was some border conflict in this region. The unresolved area on the eastern boundary near Memo is the smallest of the three territories. The disputed area seems to involve the headwaters of the Motta Malaibaka; it has a length of about 1.9 km and a maximum width of 250 metres.

THE BOUNDARY ON NEW GUINEA

The boundary separating Indonesia and Papua New Guinea lies close to the limit of Dutch annexations in the first half of the 19th century. Van der Veur (1966) published a useful account of the early history of this line. In 1828 the Dutch having made vague claims to New Guinea, on the strength of the jurisdiction of the Sultan of the Moluccas, decided to take direct action. An expedition was sent to the island and a small settlement was established at Triton Bay after the coast had been explored from Tandjung Jamursba to the Digul River. These actions were followed by the proclamation of Dutch territory on 24 August 1828.

> *That part of New Guinea and its interior, beginning at the 141st meridian east of Greenwich on the south coast, and from there west-northwest and northward to the Cape of Good Hope [Tandjung Jamursba], situated on the north coast.* (Van der Veur, 1966, 10)

After Britain requested a clear statement of the extent of territory occupied by tribes subject to Dutch authority, a secret definition was made in 1848.

> *From Cape Saprop Maneh [Tanjung Djar] 140° 47' meridian east of Greenwich on the north coast, along that coast, the Bay of Wanammen [Teluk Sarera] to Cape Kain Kain Beba [Tanjung Jamursba] and further west, south and southeast to the, by Proclamation of 24 August 1828, provisionally adopted boundary at 141° E.L. on the south coast; including the interior, so far as this…will appear to belong to Netherlands territory.* (Van der Veur, 1966, 12)

The secret declaration was made public in 1865 and then in 1875 the eastern boundary was described as a straight line from Tanjung Djar on the north coast to the intersection of meridian 141° east on the south coast. Thus the alignment of the present boundary was fixed fairly closely by a unilateral Dutch declaration before Britain and Germany acquired their respective colonies in the east of New Guinea. They both claimed colonies in 1884 and they were separated in April 1885 by a boundary consisting of straight lines from Mitre Rock on the east coast of New Guinea, 0.6 nm north of Cape Ward Hunt, that is at 8° 03' south latitude, to the intersection of meridian 141° east and parallel 5° south.

The Anglo-Dutch negotiations commenced in 1893 after Britain had complained about raids of headhunters from Dutch territory east of Longitude 141° east. Officials visited the coast and selected the mouth of the Bensbach River as the starting point. The mouth was located at 141° 01' 47.9' east, that meant Britain was conceding a strip of territory about 3 km wide to the Anglo-Dutch-German tri-junction. To offset this concession Britain suggested that the meridian should be intersected by a section of the Fly River that lay west of the meridian. This was recommended on the grounds that explorers and gold-seekers would use the Fly River as a route inland and it would be inconvenient if part of the route

fell entirely within Dutch territory. This justification was accepted by the Dutch negotiators and the boundary was settled on 20 July 1895.

Germany was in no hurry to settle the boundary with the Dutch north of parallel 5° south and it was 1910 before negotiations began. German surveyors believed that since the coastal terminus had been decided and the boundary was the meridian through that point there was no need to mark the boundary inland because white settlement was improbable. It is likely that German surveyors were working hard around the perimeters of Cameroun, Tanganyika and Southwest Africa in the first decade of the 20th century. When work did start the Dutch wanted a detailed survey of a wide strip to allow the selection of a natural boundary. The Germans argued successfully for the survey of a narrow strip within which a meridian could be selected. The surveys produced useful results but war intervened and by 1918 Australia was governing the former German colony.

Cook, Macartney and Stott (1968) have produced an excellent account of the evolution of this boundary after 1919. In 1928 A.G. Harrison, an Australian surveyor placed a marker on the north coast near Wutong on meridian 141° 0’ 13.5” east, and recorded that the Dutch boundary lay 400 m to the west. In 1933 surveyors from both countries discovered there was a gap of 398 m between the Dutch and Australian determinations of the terminus. It was decided to split the difference but the selected point was unsuitable for the placement of a marker. Accordingly the marker was placed 168 m from the Dutch determination and 230 m from the Australian determination. In 1936 the two governments agreed the boundary should be the meridian through that marker.

In 1960 the Australian and Dutch governments agreed that the boundary should be the great circle course passing through the obelisk on the north coast and the most northerly point where the great circle course intersected the Fly River. South of the river the boundary would be the meridian that passed through the mouth of the Bensbach River. A new determination of that mouth had been made in 1958 and produced a meridian 141° 01’ 07” east. The two intersections of meridians on the Fly River were completed in 1962.

In 1964, after Indonesia succeeded the Netherlands in Papua, Australia and Indonesia had to agree on the boundary. It was decided that north of the Fly River the boundary would be 141° east and south of the river it would be meridian 141° 01’ 10” east, that intersected the mouth of the Bensbach River. The boundary was demarcated in two years starting in 1966. Ten beacons were placed north of the Fly River and four marked the line south of the Fly River. The final agreement was signed on 26 January 1973.

It is evident from large-scale maps of the area, where the straight boundaries intersect the Fly River, that the river contains many meanders that have sometimes have been cut off to form ox-bow lakes. It is possible that the Fly River will move and intersect the straight boundaries north or south of the two limiting monuments erected in the 1960s. However, there have not been any reports of such events creating serious problems.

THE BOUNDARIES OF BORNEO

Borneo is the world's third largest island with an area of 484,330 sq. km and it is shared by three states. Indonesia, with an area of 281,019 sq. km, occupies the largest area in the south and east. The Malaysian territories of Sabah and Sarawak occupy 203,311 sq. km of the northernwestern and northeastern shores. Brunei has an area of 2,226 sq. km on Sarawak's north coast. It is the only state located entirely on Borneo and the only one divided into two parts. The island straddles the equator and the borderland between the Indonesian and Malaysian territory coincides with folded mountains of sandstone and granite with the highest peaks of 5,125 m.

Irwin (1955) opened his brilliant account of diplomatic rivalry in 19th century Borneo with a quotation from the Englishman John Hunt.

> *The island of Borneo extends from 7° 7' north to 4° 12' south latitude and from 108° 45' to 119° 25' east longitude; measuring its extreme length 900 miles, at its greatest breadth seven hundred and in circumference three thousand.…Situated in the track of the most extensive and valuable commerce, intersected on all sides with deep and navigable rivers, indented with safe and capacious harbours, possessing one of the richest soils of the globe, abounding with all the necessaries of human life, and boasting commercial products that have in all ages excited the avarice and stimulated the desires of mankind – with the exception of New Holland, it is the largest island known.* (Hunt, 1812)

Irwin then proceeds to show that in the next eighty years Hunt's predictions were totally unjustified. The rivers had only shallow mouths; only in the north were there good harbours; the local population was savage and the soil becomes leached when the forest is cleared. After the Napoleonic wars ended Britain and the Netherlands looked at Borneo from different perspectives. Britain's strategic view was that northern Borneo protected the eastern flank of maritime trade routes to China. The Netherlands thought of Borneo in relation to the Dutch Empire based on Java.

Dutch colonies had been established on the south coast of Borneo at the beginning of the 17th century. Britain's interest developed in the 1840s when James Brook arrived in Sarawak, and in return for assistance to the Sultan of Brunei he was given a grant of land. At that time the Sultan of Brunei was nominally sovereign over the whole territory that now comprises Brunei, Sarawak and Sabah. However, he had great difficulty in collecting taxes from his subjects beyond the immediate neighbourhood of Brunei, and his kingdom had been decaying since the middle of the 17th century. This process accelerated after the arrival of Brooke and became a headlong decline after 1881, when the British North Borneo Company was given a Royal Charter and began to extend its influence throughout Sabah. Brunei's territory was whittled away as Sarawak

and the Company competed with each other and advanced towards a common boundary as they secured the cession of valley after valley. Sarawak enjoyed greater territorial success and its purchase of the Terusan valley in 1884 and the Limbang valley in 1890 ensured that Brunei was divided into two parts. Tarling (1971) and Wright (1970) provided detailed accounts, of the British occupation of northern Borneo.

Britain's authority in north Borneo was confirmed when protectorates were established over Sarawak, Brunei and North Borneo in 1888. Britain then turned to the Netherlands, that claimed the rest of Borneo, to delimit boundaries between the British and Dutch territories. The first Anglo-Dutch boundary was settled on 20 June 1891 (Figure 13.3). The original cession, secured by Overbeck and Dent from the Sultan of Brunei in 1878, named the River Sebuku as the southern limit on the east coast. However, the British officials heading south towards the River were frustrated by pirates in Darvel Bay, and this allowed the Dutch to wait for them at 4° 10' North on the island called Sebatik. The island was divided by the parallel and on the mainland the boundary proceeded northwest, so that the Simengaris River was left to Dutch Borneo. At the intersection of parallel 4° 20' North and Meridian 117° East the boundary swung westwards towards the main range separating rivers flowing to the coasts of Sabah and Sarawak from those flowing to the south and west coasts of Borneo. The definition of the section of the boundary leading to the main watershed along parallel 4° 20' North was confusing.

> *. . . in the event of the Simengaris River or any other river flowing into the sea below 4° 10' North, being found on survey to cross the proposed boundary within a radius of 5 geographical miles [8 km], the line shall be diverted so as to include such small portions or bends of rivers within Dutch territory: a similar concession being made by the Netherland Government* . . . (British and Foreign State Papers, 1891-2, 42)

It is unclear whether this condition refers to rivers flowing across the boundary that have their source within 8 km of the crossing, or to rivers that cross the boundary more than once where those crossings are less than 8 km apart. The western terminus of the Anglo-Dutch boundary was located at Point Datu, a well-known coastal landmark. The boundary along the watershed was based on geographical faith, because the courses of the rivers originating in the mountains had not been established by survey.

In 1905 there was a disagreement between the Dutch and North Borneo officials about the course of the boundary close to the east coast. The Company officers believed the the boundary followed parallel 4° 10' North due west before swinging northwestwards towards the intersection of parallel 4° 20' North and meridian 117° east. The Dutch objected that such a boundary would intersect the Simengaris River close to the coast, and insisted that this difficulty had been foreseen and avoided by the negotiations in 1891. The British Government agreed with the Dutch view and the Company was advised accordingly.

The section of the boundary from the east coast to Moeloek Mountain was demarcated in 1912-13 and the description was embodied in an agreement signed on 28 September 1915. The boundary was shown on an attached map at a scale of 1:500,000. The map also records two lines 5 km north and south of the boundary noted in the 1891 treaty. This indicated that the surveyors were concerned with the sources of rivers that crossed the boundary. Their interpretation of the boundary, where major rivers crossed parallel 4° 20' North, but had a source more than 8 km from the parallel, was not consistent. It must be presumed that negotiators made mutual concessions. Pillars were erected on parallel 4° 20' North on the banks of the Pensiangan, Agisan and Sebuda Rivers.

The third and final Anglo-Dutch boundary treaty was signed on 26 March 1928. It concerned a short section of boundary measuring about 30 km between the Api and Raya peaks. This section of boundary was trending northwards towards its western terminus, and was cutting across the grain of the low ranges, that still have a northeast-southwest axis. The watersheds between some rivers flowing to the coast east and west of Point Datu are low and it is probable that settlement extending westwards along the valleys had spilled over them, This appears to be the explanation for the cession, by the Dutch, of about 100 sq. km in the upper Separan and Berunas valleys. This boundary segment was marked by fifteen wooden pillars and four cement pillars. Their positions were marked on a map at a scale of 1:50,000.

The largest section of Brunei is bounded by watershed boundaries. On the west the watershed is formed by Malaysia's Balang Baram and Brunei's Sungai Belait. The smaller eastern portion of Brunei is bounded on the west by the Sungai Pendaruan and on the east by the watershed between the Sungai Tamburong, that belongs to Brunei, and the Batang Trusan that flows through Sabah.

In 1958 the United Kingdom was responsible for Sarawak and North Borneo and had a special relationship with Brunei. On 11 September 1958 Britain issued *The Sarawak (Definition of Boundaries) Order in Council* (Charney and Alexander, 1993, 924-7). The Order in Council defined maritime boundaries between Brunei and Sarawak that divided the continental margin out to the 100 fathom isobath between Brunei and Sarawak. Three maritime boundaries were necessary because Brunei consists of two parts separated by the Limbang Valley that belongs to Sarawak. The central and eastern boundaries were lines of equidistance. Sarawak's coastline along the Limbang Valley is shelf-locked. The western boundary followed a line of equidistance close to the coast but then diverged along a line perpendicular to the general direction of the coast. This was done to diminish the influence of the protruding Tanjong [Point] Baram. This adjustment was to Brunei's advantage. A Malaysian map entitled '*Map showing territorial waters and continental shelf boundaries of Malaysia*', was published by the Director of National Mapping in 1979. It appears that Malaysia has accepted the boundaries drawn by Britain, However, Malaysia is likely to insist that any projection of the western boundary cannot ignore the existence of Tanjong Baram.

CONCLUSIONS

The boundaries on Timor do not appear to be a major cause of discord between Indonesia and East Timor. It appears that the government of Timor, since mid 2006, has been struggling to control the country. The completion of Presidential elections may allow negotiations with Indonesia to complete the boundaries of Ocussi.

The desire of some Papuans to secede from Indonesia is well-known. However, there does not seem to be a powerful underlying movement within Irian Jaya or significant assistance from Papua New Guinea to encourage secession.

Indonesia tried to obtain the Malaysian islands of Sipadan and Litigan in the Celebes Sea on the grounds that they lay south of the parallel 4° 10' North that bisected Pulau Sebatik, but the judgement went in favour of Malaysia.

Britains 1958 western maritime boundary in respect of Brunei and Sarawak, that favoured Brunei, appears to have encouraged Brunei to make unreasonable claims against Malaysia. There is no evidence that Malaysia will make the concessions sought.

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14. ANTARCTICA

Antarctica's international boundaries may be distinguished from the international boundaries of other continents in five ways. First, all the claimed boundaries coincide with meridians that meet at the South Pole (Figure 14.1). Second, there are no bilateral agreements dealing with national claims to the continent. However, Australia, Britain, France, New Zealand and Norway have ensured that their adjoining claims are conterminous. Third none of the boundaries in Antarctica have been demarcated. Fourth, none of the countries that claim territory enforce any restrictions on the movements of people or goods at the limits of their territory. The issue of sovereignty was placed in abeyance by Article 4 of the Antarctic Treaty.

1. Nothing contained in the present Treaty shall be interpreted as:
   (a) a renunciation by any Contracting Party of previously asserted rights or claims to territorial sovereignty in Antarctica;
   (b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise;
   (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other State's rights of or claim or basis of claim to territorial sovereignty in Antarctica.
2. No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim to territorial sovereignty in Antarctica shall be asserted while the present treaty is in force. (Lovering and Prescott, 1979, 203)

Finally, the political boundaries of Antarctica are distinct because they were all proclaimed in the 20th century.

BRITISH CLAIMS

On 23 June 1843 British authorities issued details of the arrangements for the government of the Falkland Islands and their Dependencies (International Court of Justice, 1956, 41). This proclamation did not define the extent of the Dependencies, nor did subsequent proclamations, governors' commissions or laws clarify this question in the period before 1907. However, from 1887 the Colonial Office Yearbook referred to South Georgia as part of the Dependencies.

In the last decade of the 19th century there was a marked increase in voyages to Antarctic seas for purposes of scientific research and the capture of whales and seals. This activity encouraged the British authorities to set out the limits of the Dependencies in Letters Patent dated 21 July 1908.

> *Whereas the group of islands known as South Georgia, the South Orkneys, the South Shetlands. The Sandwich Islands and the territory known as Graham's Land, situated in the South Atlantic Ocean to the south of the 50th parallel of south latitude, and lying between the 20th and 80th degrees of west longitude, are part of our Dominions, and it is expedient that provision should be made for their government as Dependencies of our said Colony of the Falkland Islands…* (Polar Record, 1948, 241)

According to British sources, South Georgia was discovered, or rediscovered by Captain James Cook on 17 January 1775. Having named them in honour of the King and claimed them for Britain, he sailed eastwards and two weeks later discovered the South Sandwich islands that were named for the First Lord of the Admiralty and also claimed for Britain. The South Shetland Islands were discovered by Captain William Smith on 18 February 1819. He claimed them for Britain in October of that year when he called them New South Britain. Graham Land was discovered by Captain Edward Bransfield, in company with Smith, on 30 January 1820. Some American scholars, including Hobbs (1939, 1941) and Martin (1938, 1940), assert that Captain Nathaniel Palmer first sighted the mainland of Antarctica, but their evidence is shown to be dubious by Gould (1941) and Hinks (1939, 1940, 1941). According to British sources Captain George Powell discovered the South Orkney Islands on 6 December 1821, and he claimed them the following day when he landed on the island to which he gave the name Coronation.

The British authorities must have been embarrassed to discover that the limits set out in the 1908 Proclamation included the southern tip of South America. There had been no intention to claim that area. To remove uncertainty the boundaries of the British claim were amended on 28 March 1917.

> *The Dependencies of Our said Colony shall be deemed to include and to have included all islands and territories whatsoever between the 20th degree of west longitude and the 50th degree of west longitude which are*

> *situated south of the 50th parallel of south latitude; and all the islands and territories whatsoever between the 50th degree of west longitude and the 80th degree of west longitude which are situated south of the 58th parallel of south latitude.* (Polar Record, 1948, 242)

This definition of the Dependencies was confirmed in The Falkland Islands (Legislative Council) Order in Council dated 26 November 1948 (Great Britain, 1948, 59). On 26 February 1962 Britain detached part of the Dependencies to create the colony called British Antarctic Territory.

> *…the British Antarctic Territory means all islands and territories whatsoever between the 20th degree of west longitude and the 80th degree of west longitude which are situated south of the 60th parallel of south latitude…* (Great Britain, 1962, 356)

The Dependencies were defined as the remaining area of the 1917 definition.

NEW ZEALAND'S CLAIM

The boundaries of the Ross Dependency were proclaimed on 30 July 1923 (*New Zealand Gazette*, 1923, 1). For some years British authorities had been searching for a way to extend control over additional areas of Antarctica without displaying excessive greed. The Ross Sea was a region of particular concern because Norwegians were seeking rights to catch whales there (O'Connell and Riordan, 1971, 312, 314). Eventually it was decided to issue an Order in Council under the British Settlements Act of 1887.

> *From and after the publication of this Order in the Government Gazette of the Dominion of New Zealand that part of his Majesty's Dominions in the Antarctic Seas, which comprises all the islands and territories between the 160th degree of east longitude and the 150th degree of west longitude, which are situated south of the 60th parallel of south latitude shall be named the Ross Dependency.* (New Zealand Gazette, 1923, 1)

The boundaries of the Ross Dependency have not been altered since that date.

AUSTRALIAN AND FRENCH CLAIMS

The limits of Australia's Antarctic Territory were fixed by an Order in Council on 7 February 1933.

> *That part of His Majesty's Dominions in the Antarctic Seas which comprise all the islands and territories other than Adélie Land which are situated south of the 60th degree of south latitude and lying between the 160th degree of east longitude and the 45th degree of east longitude is hereby placed under the authority of the Commonwealth of Australia.* (Bush, 1982, Vol. 2, 143)

This announcement fulfilled a plan that had been set out in the report of the Imperial Conference of 1926 (Bush, 1982, Vol. 2, 100-4). That report identified six areas of coast suitable for Australian control. The six areas were Enderby Land (45° to 52° 30' east), Kemp Land (58° 30' to 60° east), Queen Mary Land (86° 30' to 101° east), an unnamed section (131° to 135° 30' east), King George V Land (142° to 153° east) and Oates Land (157° to 159° east). Discounting Adélie Land, that Britain assumed was reserved for France, and which separated the unnamed section and King George V Land, there were four other wedges of territory separating the nominated areas. The largest extended for 30° east of Queen Mary Land. These four wedges were claimed for Australia by Douglas Mawson in 1930 and 1931 (Ayres, 1999, 192-206). When the limiting meridians were announced the western boundary coincided with the eastern limit of New Zealand's Ross Dependency.

In 1933 the exact extent of Terre Adélie had not been declared by France. Bush (1982, Vol. 2, 481 *et seq*.) has prepared an indispensable collection of documents connected with national claims to Antarctica and the international arrangements made for the continent. On 20 December 1911 Britain enquired whether France claimed any part of Antarctica and was told firmly that a claim to Terre Adélie was maintained. The French reply of 16 April explained that Captain Dumont d'Urville's voyage and claims on behalf of France were reported in various newspapers, including the Sydney Morning Herald of 13 March 1840.

D'Urville and members of his crews landed on an island off the coast of Antarctica at about 9.0 pm on 21 January 1840.

> *Following the ancient and lovingly preserved English custom, we took possession of it in the name of France, as well as the adjacent coast where thrice had prevented a landing.… The ceremony ended, as is mandatory, with a libation. To the glory of France, of which we were very mindful at that moment, we emptied a bottle of the most generous of her wines that one of our companions had had the good sense to bring along with him. Never was Bordeaux wine called to play a nobler role; never was a bottle emptied more appropriately. Surrounded as we were on all sides by eternal ice and snow, the cold was intense. The generous liquor reacted to our advantage against the harshness of this temperature. All that took less time than it takes to write about it. Then we all set to work to collect everything of interest for natural history that this inhospitable land had to offer.* (Rosenman, 1987, Vol. II, 474)

On 29 March 1913 Britain advised France that it intended naming part of the coast of Antarctica King George V Land. The coordinates of the sector were provided and it was noted that, as Britain understood Terre Adélie extended from 136° east to 147° east. The British claim would not impinge on French territory. No answer was the stern reply!

By 1933 there were three Anglo-Australian versions of the limits of Terre Adélie. The 1913 letter specified meridians 136° east and 147° east. The report to the Imperial Conference in 1926 left an area between 135° 30' east and 142° east. The gap left by Mawson's claims on 5 January 1931 and 13 February 1931 was bounded by meridians 138° east and 142° east.

When France declared the limits of Terre Adélie in a letter dated 24 October 1933, the British authorities were dismayed to discover the the French had nominated 136° east and 147° east (Bush, 1982, Vol. 2, 498). This claim was rejected by the British Government and it was suggested that 136° 30' east and 142 east were the proper limits of Terre Adélie because they were shown on a chart based on d'Urville's work published in 1840. In a reply dated 5 October 1936 France trumped the French chart with the British letter of 1913. It was also remarked that the 1840 chart had been available for more than 60 years when Sir Francis Bertie wrote to M. Pinchon, and that it was impossible to understand why the charts were now being interpreted in a different way. Although France held stronger diplomatic cards it offered a compromise that would leave the western boundary at 136° east, while the eastern limit would be settled somewhere between 142° east and 147° east.

It took the British Foreign Office a year to reply, an unsurprising delay at that period in European history. On 13 October 1937 Britain rejected the French claim for a boundary east of 142° east and suggested that the maximum extent of Terre Adélie was 136° east to 142° east. This letter also pointed out that in 1913 Lord Bertie had relied on the *Sydney Morning Herald* of 13 March 1840 for a definition of Terre Adélie, and that the paper had printed 147° east in mistake for 142° east. The correct coordinates 136° east and 142° east were contained in the French report, published originally in a Hobart journal of 3 March 1840. Remarkably the French accepted this laughable explanation, and agreed to the British definition of Terre Adélie on 5 March 1938. Appropriately the decree giving effect to this agreement was published quickly by both parties on 1 April.

> *The islands and territories situated south of parallel 60° south latitude and between meridians 136° and 142° east of Greenwich are within the jurisdiction of French sovereignty.* (Bush, 1982, Vol. 2, 505)

These limits have persisted since that proclamation.

The British authorities explanation of the change in their opinion between 1913 and 1933 was not soundly based. The account in the *Sydney Morning Herald* appeared on 20 March 1840; it was based on a newspaper published in Hobart and it did cite 147° east. The Hobart newspaper was the *Austral-Asiatic Review:*

Tasmanian and Australian Advertiser of 3 March 1840. When this journal was consulted it was found to include a reference to 147° east, and so no misprint was involved.

NORWAY'S CLAIM

Norway's first claim to Antarctic territory was made on 23 January 1928, when a Royal decree asserted sovereignty over Bouvet Island, located at 54° 26' south and 3° 24' east. It lies about 1600 km north of Antarctica. Britain objected on the grounds that the Island had been discovered by the Frenchman Pierre Bouvet in 1739 and re-discovered by Captain Norris, a British captain in December 1825. Eventually British withdrew its objection and Norway's claim was reiterated in a law on 27 February 1930.

> *The Bouvet Island is placed under Norwegian sovereignty.* (United States Naval War College, 1950, 238)

A year later on 1 May 1931, a Royal Proclamation announced that Peter I Island had been claimed by Norway.

> *We, Haakon, King of Norway, make known: Peter I Island is placed under Norwegian Sovereignty.* (United States Naval War College, 1950, 239)

Peter I Island off Ellsworth Land in latitude 68° 55' south and longitude 90° 50' west was discovered by a 1929 Norwegian expedition.

Although Norwegian explorers, such as Christensen and Mikkleson, discovered about 2080 nautical miles of the Antarctic coast and mapped from the air about 80,000 sq. km of the continent, in the period from 1926 to 1937, no formal claim was made by Norway to the sector between the British and Australian claims.

In 1938 and 1939 German authorities sent the Schwabenland, commanded by Alfred Richster, to stake a claim to the continent in the vicinity of the Greenwich meridian. Planes were used to photograph 350,000 sq. km of territory during flights totalling 12,000 km. The German flag was dropped every 25 km to support the claim that was planned. When the Norwegian authorities learned of this activity a formal claim was quickly drafted. After receiving a recommendation from the Ministry of Foreign Affairs on 14 January 1939, the King issued a proclamation on the same day.

> *That part of the mainland coast in the Antarctic extending from the limits of the Falkland Islands Dependency in the west [the boundary of Coats Land] to the limits of the Australian Antarctic Dependency in the east [45° east on Enderby Land] with the land lying within this coast and the environing sea, shall be brought under Norwegian sovereignty.* (United States Naval War College, 1950, 239)

Norway is the only claimant state in Antarctica that has not claimed an entire sector bounded by converging meridians that meet at the South Pole. Norway eschewed such a claim because sector claims by its neighbours in the Arctic Ocean would put it at a marked disadvantage.

A decade earlier it had seemed possible that Norway would claim a larger area than was defined in the 1939 Proclamation. In 1929, when Commander Byrd was making the first of three expeditions to Antarctica, the Norwegian authorities informed the United States of those parts of the continent that were excluded from possible American claims because of Norway's prior discoveries.

> *…the territory immediately circumjacent to the South Pole, which, as will be known, was taken possession of in the name of the King of Norway by Captain Roald Amundsen in December 1911, under the name of Haakon VII's Plateau, nor to compromise the territories on both sides of Captain Amundsen's route to the South Pole, south of Edward VII's Land and including Queen Maud's Range.* (United States Department of State, 1929, 717)

The Norwegian note to the American representatives observed that though it was not intended to claim sovereignty at that time, Norwegian authorities were convinced that all requirements to justify such a claim had been satisfied.

Finally the overlapping claims by Argentina, Britain and Chile to the Antarctic Peninsula can be considered together. These claims centre on the Antarctic Peninisula, It is a narrow sinuous, mountain range with peaks to 3,050 m that reaches closer to another continent, South America, than any other part of Antarctica. The northern tip of the Peninsula lies 430 nm from Cape Horn, the northern edge of Drake Passage, and is shielded by the South Shetland Islands.

On 21 July 1908 Britain issued Letters patent appointing the Governor of the Colony of the Falkland Islands to be Governor of South Georgia, the South Orkneys, the South Shetlands, the Sandwich Island and Graham's Land (Christie, 1951, 301-2). Graham's Land is now known as the Antarctica Peninsula. The claim was defined by parallel 50° S and meridians 20° W and 80° W. Unfortunately when these lines were drawn on a map they included the southern tip of South America! A new set of Letters Patent were issued on 28 March 1917 defining the territories as lying south of parallel 50° S between meridians 20° W and 50° W, and south of parallel 58° S between 50° W and 80° W (Polar Record, 1948, 242). This definition of the British Dependencies was confirmed by the Falklands Islands Order in Council of 26 November 1948 (Great Britain, 1948). Finally on 26 February 1962 Britain detached part of the Dependencies to create the Colony called British Antarctic Territory.

> *…The British Antarctic Territory means all islands and territories between the 20th degree of West longitude and the 80th degree of west longitude which are situated south of the 60th parallel of south latitude…* (Great Britain, 1962, 356)

Although Chile claims that its title to Antarctica stems from the award of Hoz in 1539, it seems the next piece of evidence relates to the concession awarded to the Chilean Company Fabry-de Toro Herrerra on 27 February 1906 (Christie, 1951, 279-80). The company was authorised to exploit the animal and mineral wealth of the area including Shetland and lands situated further south. Importance was also attached to the activities of the whaling company Sociedad Ballenera de Mallaganes formed five months later. However this Company operated under a licence granted by the Governor of the Falkland Islands (Polar Record, 1956, 148). In 1916, Shackleton made a succession of unsuccessful attempts to rescue his stranded crew on Elephant Island, Eventually, the daring rescue was achieved by Lieutenant Pardo of the Chilean Navy, commanding the tug Yelcho on 30 August (Shackleton, 1991, chapter XV).

In 1906 Chile launched a preliminary investigation into the reasonable Antarctic claims it might pursue. In 1939 Professor Julio Escudero, who played an important role in developing the philosophy of the Antarctic Treaty, completed the Chilean investigation. The Chilean claim was announced on 9 November 1940.

> *All lands, islets, reefs of rock, glaciers (pack-ice), already known or to be discovered, and their respective territorial waters, in the sector between longitudes 53° and 90° west, constitute the Chilean Antarctic or Chilean Antarctic territory.* (Bush, 1982, Vol. 2, 311)

The western limit of 90° west corresponds to no Chilean territory. The island called Juan Fernandez lies about 80° west and Easter Island is in the vicinity of 110° west. Possibly 90° west was selected because it was as close as Chile could claim to Peter I Island, that had already been claimed by Norway. The island lies 10 nm west of meridian 90° west. The eastern limit of Chile's claim does not correspond to any Chilean possession outside Antarctica, but it lies 25 nm east of Clarence Island, the easternmost feature of the British South Shetland Islands. This group has been claimed by Chile.

Argentina responded to Chile's claim in three days! Among the points made was the belief that Argentina could have justly issued a declaration of the same class '…did it not think that because such a declaration would be unilateral it would not have improved such rights and titles in any way' (Bush, 1982, Vol. 1, 609). This lofty position was soon abandoned and Argentina's claim in Antarctica was made clear in a map produced by the Instituto Geographico Militar (Bush, 1982, Vol. 1, 610). This map showed the limits of Argentina's claim to be meridians 25° and 75° west and parallel 60° south. The Chilean authorities must have been surprised by the western boundary, since in 1906 Argentina had asserted that Chile was not entitled to claim any territory east of meridian 67° west which passes 'through Cape Horn'.

In a note to the British authorities dated 15 February 1943 Argentina announced a new western boundary along meridian 68° 34' west. This meridian was first defined as a boundary dividing Tierra del Fuego in the agreement between

Argentina and Chile on 23 July 1881. This claim was reiterated in a further note to the British representatives on 3 June 1946.

> *To this is added its [Argentina's] indisputable rights to the lands situated south of the 60th parallel between the meridians 25° and 68° 34' west longitude.* (United States Naval War College, 1950, 222)

Five months later a new western boundary was published on a map produced by the Instituto Geographico Militar. It showed the boundary along meridian 74° west, that lies just west of the Mountain Cerro Bertrand, the most westerly point of Argentina. On 28 February 1957 Argentina re-established the national territory of Tierra del Fuego, Antarctica, the Islands of the South Atlantic, and defined the Antarctic sector as follows.

> . . . *The Argentine Antarctic Sector contained within the meridians 25° west and 74° west and the parallel 60° south.* (Bush, 1982, Vol. 2, 26)

That claim has not been changed.

Chile did not set a northern limit to its territorial claim in its original declaration in 1940. There have been subsequent clarifications. On 11 June 1961 Chile defined he boundaries of its *departmentos, comunas subdelegaciones* and districts. In the Departmento de Terra Magallanes the Comuna Subdelegaciones de la Antarctica lay south of the Bellingshausen Sea and Drakes passage. It was divided into districts. Piloto Pardo is bounded by Drake's Passage to the north, Bransfield Strait to the south, and meridians 53° and 64° west. Tierra de O'Higgins occupies the remainder of the sector. On some Chilean maps the location of the northern boundary of districts through Drake's Passage and the Bellingshausen Sea coincides with parallel 60°.

INTERNATIONAL BOUNDARIES AND THE ANTARCTIC TREATY

The Antarctic Treaty was drafted in December 1959 following the successful period of international cooperation during the International Geophysical Year. By the middle of 1961 the 12 countries named in the preamble to the treaty had ratified it.

These states pledged themselves to preserve Antarctica for peaceful purposes, to foster unhindered scientific activity in the continent, and to preserve and conserve the living resources of the continent. The provisions of this succinct Treaty apply to the area south of 60° south, including all ice shelves, but the rights of states in respect of high seas south of 60° south were not affected.

In effect these twelve states appointed themselves trustees of Antarctica for the international community, and they specifically stated in the Treaty their conviction that it furthered the purposes and principles embodied in the Charter of

the United Nations. Articles 9 and 13 made arrangements for other countries to accede to the Treaty and this has been done by a number of countries.

The seven sector claims to territorial sovereignty in Antarctica have been described in chapter 5. This part of the chapter considers the legal questions prompted by the boundaries delineated under these claims at public international law:

- What is the legal validity of the territorial and, hence, the boundary claims in Antarctica?
- What is the impact of the Antarctic Treaty 1958 and its interlinked conventions on the current and future validity of these boundaries?
- Does the concept of the 'common heritage of mankind' have any contemporary legal effect on the claimed boundaries in Antarctica?
- What is the legal impact on Antarctic boundaries of the work of the UNCLOS Commission on the Limits of the Continental Shelf (CLCS)?

LEGAL VALIDITY OF THE TERRITORIAL AND BOUNDARY CLAIMS IN ANTARCTICA

The legal validity of Antarctica has not been tested by an international tribunal; the attempt by the UK to resolve its overlapping claims with Argentina and Chile before the ICJ failing when the matter was struck out of the Court's docket for lack of jurisdiction (*Antarctica UK v Argentina*, ICJ Reports 1956). In the unlikely event that the validity of these sovereignty claims was to be amenable to international judicial determination, a tribunal would need to examine each of the roots and evidences of title that have been discussed in Chapter 5.

The seven claims to Antarctic sovereignty rest primarily in evidence of effective occupation, cession, recognition and acquiescence. The legal strength of each of these claims has been examined and conclusions proffered as to their credibility. (Auburn, 1981; Richardson, 1957; Castles, 1966; Triggs, 1986; Hayton, 1956) Detailed consideration of these claims might, however, seem largely pointless in light of the success of the Antarctic Treaty, and its interlinked conventions and recommendations, that have created a recognized and effective regime for management of the area south of the 60th degree latitude. Maintenance of the Antarctic Treaty system appears to be in the best interests of the claimant states, the Consultative Parties to the Antarctic Treaty and, plausibly, to the international community as a whole. It is likely that the Antarctic regime will continue to develop to meet contemporary legal and policy needs. Termination of the Treaty therefore seems improbable, for it has been one of the success stories of international law and management of resources. The hypothetical question as to the validity of the current territorial and boundary claims remains, nonetheless,

intriguing as claimant states do not appear to have relinquished their asserted rights to maintain their claims in the event that the Antarctic Treaty should come to an end.

A feature of Antarctica that distinguishes it from the North Pole is that it is a continental land mass, albeit depressed by the ice sheet that covers it. The legal significance of this is that, as territory, Antarctica is potentially amendable to claims of national sovereignty in accordance with the usual principles of international law. As has been discussed in Chapter 5, international tribunals have 'been satisfied with very little in the way of the actual exercise of sovereign rights… this is particularly true in the case of claims to sovereignty over areas in thinly populated or unsettled countries.' (*Eastern Greenland* (1933) PCJ Rep. Ser. A/B No. 53, 46). Dicta to similar effect justify the observation that:

> *The doctrine of effective occupation has been reduced to a highly flexible and relative concept in remote and uninhabited areas by the decisions of international tribunals.* (Triggs 2006 at 82)

Antarctic claims to sovereignty rest on the traditional modes of acquisition, viz: discovery consolidated by acts of effective occupation, cession, recognition and acquiescence. In many respects, however, these principles of territorial acquisition have been contrived to support state claims in Antarctica in ways that are arguably no longer tenable for today's international body politic. Variously termed assertions have been made that Antarctica is now the 'common heritage of mankind', a 'common space' or an international 'park', in relation to which no state may make a unilateral claim to sovereignty. The following discussion considers the legal validity of national claims to Antarctic territory and their sector-based boundaries and the viability of these claims in light of the effectiveness of the Antarctic Treaty system and calls for some form of internationalization of the continent.

DISCOVERY

The claims to sovereignty in Antarctica are founded in original acts of discovery. As discussed above at Chapter 5, discovery creates, at best, an inchoate title that must be perfected by subsequent acts of effective occupation, coupled with the intent and will to act as sovereign. (*Island of Palmas* (1928) 2 RIAA 829). Certainly, discovery places the sovereign, on whose behalf the discovery of territory has been made, in a preferred position to consolidate a claim. The legal strength of any title will, nonetheless, depend on subsequently satisfying the requirement of effective occupation.

ACTS OF EFFECTIVE OCCUPATION

Evidence of sovereign activity manifested in possession and administration of the territory are the hallmarks of the legal criterion of effective occupation. International tribunals have been influenced by the views of Judge Huber in his much cited observation that:

> *Manifestations of territorial sovereignty assume, it is true, different forms, according to conditions of time and place. Although continuous in principle, sovereignty cannot be exercised in fact at every moment on every point of a territory. The intermittence and discontinuity compatible with the maintenance of the right necessarily differ according as inhabited or uninhabited regions are involved.* (2 RIAA 840)

It is also true that international tribunals have evolved jurisprudence on the modes of acquisition in respect of typically isolated and sparsely populated territories. The authorities thus appear to provide some support for extensive claims to Antarctica on the basis of acts of scientific research, the building and maintenance of bases, exploration, mapping and the extension of national legislation to the area. The seven Antarctic claimants point to a wide range of activities that might meet the lenient test of effective occupation including the issue of postage stamps, conducting coronial enquiries, visits by politicians, weddings and childbirth.

CESSION

The Antarctic claims of Australia and New Zealand rest in the first analysis upon cession of title by the United Kingdom. The UK passed title to Australia by Imperial Order in Council of 7 February 1933 and to New Zealand in 1923 It is axiomatic, as Judge Huber pointed out in the *Island of Palmas* case, that a state cannot 'transfer more rights than she herself possessed' (RIAA 842). The validity of the titles received by New Zealand and Australia in 1933 is thus dependent upon whether the United Kingdom had a valid title to the Antarctic territories at the time of the transfers. A definitive answer to this question is not necessary, however, as both New Zealand and Australia found their claims today on acts of effective occupation.

SECTOR PRINCIPLE AND TERRITORIAL BOUNDARIES

As has been described above, each of the claimant states, with the exception of Norway, has delimited its boundary by reference to lateral boundaries that converge at the South Pole; a technique described as the 'sector principle'. This

phrase is misleading, however, as it suggests that the sector principle is a root of title. While the phrase is a convenient means of ascertaining the extent of a claim that rests on the traditional modes of acquisition, the notion that the sector is itself a root of title is not sustainable at international law. The idea that the sector principle is a root of title, nonetheless, has some legal substance as it draws upon the 19th century concepts of hinterland, regions of attraction and contiguity. (Triggs, 1986, 89) These concepts were adopted during the period of colonial expansion and were contrived to delineate the areas of influence and control of the major powers. The physical proximity between territory that is effectively occupied and territory that is contiguous, or in respect of which there is evidence of socio-economic dependency, might reasonably warrant treatment as a whole for reasons of security and efficiency. The notion that hinterlands, regions of attraction and contiguous territory might of themselves become a root of title, however, was impliedly rejected as early as 1885 by the Declaration of the African Conference, and more recently by Judge Huber in the *Island of Palmas* case in 1928 and by the ICJ in the *Western Sahara* Advisory Opinion in 1975. It remains true, despite reluctance to recognize title based on these concepts, that international tribunals have awarded sovereignty over surrounding territory that has not yet been effectively occupied; the *Eastern Greenland* case in 1932 and the *British Guiana Boundary* arbitration of 1897 being notable examples. Tribunals have thus not insisted that a state should exercise sovereign rights in every corner of the claimed territory, so long as the claimant has genuinely occupied some of the territory and has manifested the intent to exercise sovereignty over the rest. (Triggs, 1986 p. 91)

Use of the sector principle as a technique of delineation was recognized in the *Behring Sea* arbitration in 1893 when the tribunal accepted that the:

> *…line drawn through the Bering Sea between Russian and United States possessions was thus intended and regarding (sic) merely as a ready and definite mode of indicating which of the numerous islands in a partially explored sea should belong to either power.*

In light of the 1982 UN Convention on the Law of the Sea (UNCLOS), a consistent approach to the extension of a sector though the high seas is thus that the lines simply describe the sovereignty of the islands within them.

Russia has adopted the sector principle as a root of title in the Arctic, stating its legal position in the Sturman Declaration of 20 September 1916 in which it annexed certain islands to the north of Siberia on the ground that they formed ‘a northern extension of the Siberian continental upland’ (Triggs, 92). In April 1926, the Soviet Union consolidated its position by declaring that ‘all lands, either known or unknown, within a triangle formed by two meridians of longitude starting from the eastern and western boundaries of the territory already held and continuing until they met at the North Pole, was now Soviet territory’. (Triggs,

1986, 92) Recent and dramatic acts asserting sovereignty over the North Pole appear to be based on the extension of Russia's continental shelf to the pole, as contained within the described sector. (The Times, 28 July 2007, at 39; Financial Times, Monday 20 August 2007, at Analysis 9)

USE OF THE SECTOR PRINCIPLE AS A ROOT OF TITLE IN ANTARCTICA

The concepts of hinterland, regions of attraction and contiguity lend some credence to the sector principle as a root of title in the Arctic as Russia, Canada, Denmark and Norway are geographically proximate to their Arctic island territories. By contrast, the sector principle as a root of title has only the most tenuous role in the Antarctic where the seven claimant states lie significant distances from the South Pole. Australia is for example 2,000 miles from the nearest point on the Antarctic mainland. Moreover, the current Antarctic sector lines to the South Pole do not reflect the current territory of Australia, United Kingdom, France, Chile or Argentina in the Southern Hemisphere. Norway has sovereignty over Bouvet Island in the South Atlantic and Peter I Island in the South Pacific, just off Antartica's continental margin. Neither island is sufficiently substantial to support a sector claim founded upon contiguity. Any argument founded in socio-economic needs of a contiguous territory or peoples, along the lines of the *Anglo-Norwegian Fisheries* case must fail. (Triggs, 1986, 93)

The sector principle as a root of title, as distinct from a means of identification of the limits of sovereignty, appears to have been first applied to Antarctica in a Dispatch of 23 December 1929 by the British Minister for Foreign Affairs to the Norwegian Minister of Foreign Affairs in which he stated that Great Britain had:

> …*unimpeachable rights to the whole of these sectors, including all land down to the South Pole, an extension of which was looked upon as the inseparable hinterland of the coastal territory in each sector.* (Triggs, DATE 89)

No response to this extensive claim is recorded.

Most Antarctic claimants have rejected the sector principle as a root of title. The United Kingdom employed sectors to define the Falkland Islands sector in 1917 and the Ross Dependency in 1923 but subsequently appears not to have supported Argentina's attempts to support its claim on the basis of geographical considerations. Similarly, France and Australia delimit their claims by sectors but do so as a means of delimitation only. While the Soviet Union, and now presumably Russia, Norway and Germany have rejected the sector principle as a root of title, the United States, Denmark, Argentina, Chile and France are either equivocal or support their claims in part on the grounds of geographical unity.

Australia, while originally willing to employ the sector principle as a basis of title, now rests its claim on cession and effective occupation, particularly as, at the time, Norway was strongly opposed both to the use of sectors as a root of title and as a means of delimitation.

In summary, the sector principle as a root of title to territory has no validity at international law and the sector lines drawn in Antarctica are better viewed as a convenient means of identifying the boundaries that are claimed and which define the purported limits of national jurisdiction. Watts observes that while a sector claim without other evidence of effective occupation is of doubtful value, a bare sector claim is at least evidence of the public manifestation of a state's intentions and cannot be denied some significance in a dispute which also employs a sector to define its claim. (Watts, 1993, 113-4) It might be added that considerations of geographical proximity and contiguity are likely to be taken into account by an international tribunal with a mandate to consider the validity of Antarctic claims. It is probable, for example, that title to the areas around the scientific bases established in Antarctica will be recognized where the evidence demonstrates research, mapping and exploration as is appropriate to the area.

RECOGNITION

Five of the claimant states mutually recognize their territorial claims, Australia, Britain, France, New Zealand, and Norway. (Bush, 1982) However, the claims of Argentina, Britain and Chile overlap in the Antarctic Peninsula and the boundaries of their claims are disputed amongst them. Of greater legal significance are the positions adopted by USA and Russia, which have strong potential claims to sovereignty in Antarctica, but have chosen not to assert any territorial rights and reject those claims that have been made. Article 4 (2) exists to protect their right to make a claim if they chose to do so in the future. Other members of the ATS also do not recognize the validity of claims. Argentina, for example, does not recognize any claim other than its own.

Moreover, most states outside the Antarctic Treaty regime do not recognize any Antarctic claims to sovereignty, the legal consequence being that they treat the maritime zones in the Antarctic as part of the high seas and the seabed as within the area as defined by UNCLOS. (Prescott and Schofield, 2005, 536) While recognition by international organizations such as the specialized agencies of the UN can also be of evidentiary value in supporting title, the General Assembly and the Security Council have taken no position on the question of Antarctic sovereignty. Antarctica was, moreover, excluded from the ambit of the Law of the Sea negotiations as a potential impediment to reaching a consensus.

PROTESTS

The context in which claims to sovereignty in Antarctica have been challenged has been in respect of baselines and maritime claims made in reliance upon the 1982 UN Convention on the Law of the Sea (UNCLOS). For example, the US objected when Australia proclaimed an EEZ around its Antarctic territory in 1994. While Australia is the only claimant to make a formal claim to an EEZ in the Antarctic, Argentina and Chile treat their Antarctic claims as integral to their national territory, including the full extent of the maritime zones to which, in the ordinary course, they would be entitled. (Prescott and Schofield, 2005, 536)

Not only has there been an almost complete failure by the international community to recognize the seven claims to Antarctic sovereignty but also few states have formally protested against them. Germany was quick to reject Norway's claim in 1939 and there have been other protests at different times from France (Bush, 1982, Vol. 111, 151-2).

It is arguable that the general failure by the international community to protest against the Antarctic claims amounts to acquiescence. As few states could demonstrate superior acts of effective occupation, other than the US and Russia among one or two others, it is not surprising that protests have not been made. A protest is also usually made by one state with a competing interest against another. No such competing interests exist on the part of the international community as a whole, other than those asserted in the political arena that the continent is the common heritage of mankind. For these reasons, it is doubtful that any imputation of acquiescence can be made against the international community.

ANTARCTIC TREATY REGIME 1959

Third States

There are 44 ratified parties to the Antarctic Treaty which represent over 80 per cent of the world's population. The inescapable fact remains that the overwhelming majority of the nations in the world, 148 to be precise, are not parties to the Antarctic Treaty and its interlinked conventions and recommendations. The risks posed to the stability of the Antarctic Treaty regime is potentially that it could be ignored by the rest of the international community.

The legal effect of Article IV

The effectiveness of the Antarctic Treaty system rests on the creative, though deliberately obscure Article IV (1). This provision was intended to preserve the

otherwise irreconcilable interests of the seven claimants, while also protecting the interests of potential claimants and non-claimants. It provides, among other things, that the Treaty does not prejudice the juridical positions of the Parties with respect to their recognition or non-recognition of 'rights of or claim or basis of claim to territorial sovereignty'. Ratification of the treaty is, in this sense, intended to be 'sovereignty neutral' so that differing perspectives on sovereignty could be set aside in the interests of achieving wider objectives in Antarctica, most especially, non-military use and free access for scientific research. Clause 1 (b) protects 'any basis of claim' that includes the prior interests of non-claimants such as the USA and Russia which might chose to make a claim in the future, including the activities of their nationals where these acts have not previously been ratified by them. The rights of potential claimants in respect of pre-Antarctic Treaty activities are preserved for the purpose of making a claim in the future.

Non-claimants are protected by Article IV 1 (c) so that their position is not prejudiced 'as regards its recognition or non-recognition' of the rights or claims of other states. This provision similarly protects the claimants who have already recognized the sovereignty of other states with claims in Antarctic claimants are also protected by Article IV 1 (a) under which the Treaty is not to be interpreted as a renunciation of 'previously asserted rights or claims to territorial sovereignty'. Article IV 1 (b) also provides that 'any basis of claim' which a state may have is not to be reduced or diminished by the treaty.

While Article IV (1) was necessary to ensure that the Antarctic Treaty would not prejudice the interests of the various stakeholders, it was also important to address the legal effect of activities that would take place during the life of the Treaty. Article IV (2) provides that any such activities may not constitute a basis for asserting, supporting or denying a claim to create a right in the future. Further, no new claim or enlargement of an existing claim may be made during the life of the Treaty.

In essence, Article IV attempts to ensure that, if the Treaty were to come to an end, the legal position of the states Parties will return to the *status quo ante*. In these ways, Article IV allows the parties to avoid the tensions over their respective juridical positions on sovereignty and to work cooperatively to manage the Antarctic and its resources and environment in a peaceful and sustainable way for the future. In this respect the Antarctic Treaty system has proved to have been effective in successfully evolving regulations and procedures to respond to the challenges posed by tourism, minerals exploitation, environmental management and protection of fisheries and seals.

In these circumstances it seems pedantic to tease out the legal implications of Article IV and to test its ability to protect the interests of all stake holders against hypothetical improbabilities. The following discussion is none the less justified as pressures on the Antarctic Treaty system continue to expose its weaknesses. Notably, illegal fishing of declining stocks by non-parties continues to threaten rational management, global consumption of non-renewable petroleum and mineral resources escalates and issues, including the regulation of tourism,

and the need for nuclear waste disposal sites, become more pressing. While it is unlikely in current circumstances that there will be any serious challenge to the Antarctic Treaty system, it remains valuable to explore the future implications of termination of the Treaty for claimant and non-claimant states alike.

EFFECT OF ARTICLE IV (2) ON TERMINATION OF THE ANTARCTIC TREATY

Despite the intentions of the negotiators of Article 2 (4) it is not possible, as a practical matter, to reinstate the original juridical positions of the states parties that existed prior to the Treaty, in the event that it should terminate. The reason for this is that bases established during the Treaty will doubtless continue to exist on termination, thus providing a foundation for renewed acts of effective occupation and research. In short, states with established bases in Antarctica on termination of the Treaty will have a preferred position.

The legal rights of parties on termination of a treaty are set out by Article 70 (b) the Vienna Convention on the Law of Treaties which provides that when a treaty terminates it:

> *…does not affect any right, obligation or legal situation of the parties created through the execution of the Treaty prior to its termination.*

Execution of the provisions of a treaty arises where certain provisions have acquired an existence independent of the treaty itself. McNair suggests, for example, that where something has been done such as the cession of territory or new rights have been acquired, these cannot be touched by a subsequent termination of the agreement that created them (McNair, 1961). It is probable that Article IV will continue to be legally effective in respect of the obligation of parties on termination not to adduce actions done while the Treaty was in force to assert, support or deny a claim to territorial sovereignty in Antarctica. This obligation does not depend upon the continued operation of the Treaty as it was created on execution of the agreement. It is arguable that the establishment of scientific and exploratory bases in Antarctica is an example of a right created by a treaty that cannot later be undone (Bernhardt, Triggs, 1986, 139). It might be expected that, on termination of the Antarctic Treaty, states with settled bases in Antarctica will have the status of an acquired right independent of the Treaty. These states may then declare the bases to have been established as an act of sovereignty, and new scientific teams will be established there to consolidate the claims, *de novo* if necessary.

By contrast, Article IV (2) prohibits the use of other activities, such as the numbers of scientists working on Antarctic bases, the quality and scope of research or the extent of mapping and exploration, taking place during the Treaty to assert,

support or deny claims to sovereignty. The obligation not to do so was created by execution of the Treaty and this will continue on termination.

In summary, while states may not use the bases established during the life of the Treaty to support their claims, they could validly build upon the established bases as a foundation to create new claims from the moment the Treaty comes to an end. It is at least arguable, therefore, that Article IV cannot entirely have the effect of restoring the juridical positions of states parties that existed prior to 1959.

EFFECT OF ARTICLE IV (2) ON NON-PARTY STATES

International law recognizes that a treaty cannot create rights or obligations for non-party states without their consent (VCLT, Art. 34). On this basis, it is legally possible that a Party to the Antarctic Treaty could use their activities during the life of the Treaty to consolidate a claim to title against third states, albeit that to do so would be in breach of its obligations to other Parties.

It is also possible, that the Antarctic Treaty has created a form of 'objective' regime that is capable of creating rights and obligations for third parties *erga omnes*, including the benefit of protection by Article IV. Examples of treaties that have successfully created rights for all states include the Berlin Act of 1885, which created a right to free navigation through the Congo and Niger rivers, the Suez Canal Convention of 1888, establishing a right of free passage for non-signatories and the Treaty of Versailles that asserted the Kiel Canal was 'free and open' to all vessels. Similarly, treaties of neutralization or de-militarization appear to have created regimes for all, the international status of the Aaland Islands under the Convention of 1856 being a prime example. International status has been recognized by the ICJ in the mandate established by the League of Nations in the *Southwest Africa Case.* The UN Charter was also considered by the ICJ in the *Reparations Case* to have created an international legal personality that can affect the rights of third states.

The ILC was, nonetheless, doubtful about the concept of an objective regime and no provision to this effect was included in the VCLT. Waldock, in a minority on this issue, proclaimed that it was clear to him that the Antarctic Treaty was intended to create an objective regime. Certainly, there are several provisions of the Treaty that can be adduced to support Waldock's view. The better position remains, however, that the Antarctic Treaty was not intended to create legal rights or obligations for third states. Article IV provides potent support for this view and the subsequent practice of states parties confirms it (Triggs, 1986, 146).

CUSTOMARY LAW

More probable than the creation of an objective regime by the Antarctic Treaty system itself, is the possibility that it might have, over time, come to reflect customary law. Indeed, it is well recognized that a treaty can have a law-making effect. While the ILC rejected the idea that a treaty can create an objective regime in the sense of creating rights and obligations for non-parties, they preferred to consider that a treaty can stimulate a wider consensus of states, thereby creating a customary norm. It is thus arguable that the practices of the Antarctic Treaty Parties and of the international community have created a 'habit of cooperation' that has crystallized into a binding norm. Several practices including non-military activity, free access for scientific activities and regulation of tourism, suggest that they have become accepted customary norms. Article IV remains, nonetheless, a powerful impediment to any assertion that territorial claims have been prejudiced in any way by the Treaty. Rather, Article IV has been steadfastly retained by the parties throughout all their interlinked agreements and recommendations, in order to protect their respective juridical perspectives.

COMMON HERITAGE OF MANKIND

The idea that normative rules have evolved through the Antarctic Treaty regime has been subsumed to some extent by the wider concept of the common heritage of mankind, described by some as a common space, world park or internationalized territory, or an area beyond the limits of national jurisdiction and thus within the mandate of UNCLOS. In essence, the notion of a common heritage imports the principle that resources cannot be exploited unilaterally, but are subject to joint management, communal ownership and sharing of any product on an equitable basis. A core aspect of common heritage as it might apply to Antarctica is that the continent is not *terra nullius* and cannot be subject to exclusive claims to territorial sovereignty by any one state. Common heritage thus strikes at the heart of national claims and denies legal validity to the boundaries that have been delineated along sector lines.

Article 136 of the Law of the Sea Convention declares the deep seabed to be the 'common heritage of mankind' and the outer-space is similarly not subject to national appropriation… The notion of common heritage does not have any clear legal meaning beyond the intention of the parties to those special treaties that have employed it.

In a speech to the UN General Assembly by Dr Mahithir, Malaysia's Prime Minister, on 29 September 1982, it was suggested that the concept of common heritage should also apply to Antarctica. That Antarctica and its mineral resources should be subject to a similar regime as had been negotiated for the deep sea-bed, was an idea whose time appeared to have arrived. Many developing states,

particularly the Group of 77, were concerned that Antarctica was controlled by a few self-interested states with Consultative Party status under the Antarctic Treaty (Rothwell, 1996, 106). Such fears were compounded by the negotiation of the Minerals Convention in 1989. The UN General Assembly requested the Secretary-General to conduct a study of the Antarctic Treaty System between 1983-5 and the Question of Antarctica remained on the UN agenda for many years. The intensity of the argument that Antarctica was rightfully the common heritage of mankind has, however, diminished as negotiation of the Madrid Protocol has ensured that minerals exploitation is prohibited, at least for 50 years, and that a comprehensive environmental regime is now in place. The continued relative success of the management regime in Antarctica provides the best guard against adoption of the common heritage a concept.

As a matter of legal analysis, it is doubtful that Antarctica has the legal status of common heritage. Unlike the Treaty on Principles Governing the Activities in Outer Space 1967 and the Moon Treaty 1979, the Antarctic Treaty and its related conventions do not explicitly adopt this concept. It is also unlikely that the continent has acquired the status of common heritage through custom as the international community has not, in fact, applied the concept to Antarctica.

SUMMARY

The better view is that international law does not yet recognize the right of treaty parties directly to create legal obligations for third states, but that treaties can in time be recognized by the international community as articulating a new rule of customary law that is binding on all states.

BOUNDARIES AND CONTINENTAL SHELF DELIMITATION: UN COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF

While this work does not include analysis of maritime boundaries, as the findings of international courts and tribunals on maritime delimitation are fully considered elsewhere, some attention might usefully be given to the work of the United Nations Commission on the Limits of the Continental Shelf established under Art. 76 (8) of UNCLOS. In effect, the work of the Commission provides a procedure through which a coastal state can achieve legal recognition for its claims to an extended continental shelf beyond 200 nautical miles, thereby establishing the outer boundary of its shelf.

It is well recognized, both by UNCLOS and customary law, that a coastal state ‘exercises over the continental shelf sovereign rights for the purpose of

exploring it and exploiting its natural resources'. (Art. 77) The right exclusively to exercise sovereign rights over the continental shelf is not a territorial right in the usual sense and does not depend upon effective or notional occupation or any express proclamation. Nonetheless, the sovereign rights of a coastal state over the continental shelf arise as a consequence of the 'natural prolongation of its land territory to the outer edge of the continental margin.' (Art. 76 (1)) The outer limits of the continental shelf may not exceed 350 nautical miles, measured from the baselines from which the breadth of the territorial sea is measured or, alternatively, 100 nautical miles from the 2,500 meter isobath. Those negotiating UNCLOS were alert to the fact that many states claim extensive continental shelves beyond 200 nautical miles; claims that are by no means accepted by their neighbours and that often overlap with competing claims. Some mechanism was therefore necessary to provide certainty to inconsistent or unacceptably extensive claims.

The functions of the Commission are set out in Annex 11 (3) to the Convention and they include:

- receiving submissions from coastal states, within 10 years of the coming into force of the Convention for that state, concerning the outer limits of the continental shelf in areas beyond 200 nautical miles
- making recommendations in accordance with Article 76 and the Statement of Understanding adopted on 29 August 1980 by the Third UN Conference on the Law of the Sea.

Where the limits of a state's continental shelf have been established by a coastal state on the basis of recommendations by the Commission, they will be final and binding (Art. 76 (8)). As most members of the international community have ratified UNCLOS, the boundary will be binding on a significant number of states, though it may be doubted that it will be binding on non-party states in the absence of custom to this effect. Through this procedure of coastal state submission and adoption of the Commission's recommendations, UNCLOS provides the possibility of finality of the limits to continental shelf rights.

In practice, however, such finality may be hard to achieve. It is notable that the Commission has the power to make recommendations only, reflecting the jurisprudence of the ICJ in the *North Sea Continental Shelf* case, adopted by UNCLOS, that the continental shelf is the natural prolongation of the land territory. As the coastal state has sovereign rights over the continental shelf, defined by Article 76 according to its geomorphological features and distance criterion, no treaty-based body could affect those rights without the consent of the state concerned. The special interests of coastal states are particularly recognized by UNCLOS as they have the right to establish the outer edge of the continental margin, so long as it does not exceed 350 nautical miles from the baseline from which the breadth of the territorial sea is measured or 100 nautical miles from the 2,500 meter isobath. Subject to these limitations, the coastal state has the

right to determine for itself the outer edge of its continental shelf. In these ways, UNCLOS acknowledges the profound sensitivities of coastal states with respect to their sovereign rights over their continental shelves and their determination to protect them.

If a coastal state rejects, or fails to implement, the recommendations of the Commission in response to a submission, the claimed outer limits will not attract binding legal status. The possibility that there might be a disagreement by a coastal state with the recommendation of the Commission is recognized by Article 8, of Annex 11 by allowing the coastal state to submit a revised or new submission that might commend itself to the Commission. The coastal state is, nonetheless, not required to comply with the Commission's recommendations. Rather, while failing to secure legal certainty from the Commission, the coastal state remains free to maintain its claim to extended continental shelf limits and to seek diplomatic recognition from its neighbours.

It is also notable that the actions of the Commission are not to prejudice the delimitation of boundaries between states with opposite or adjacent coasts. (Art. 9, Annex 11). It is not easy to imagine how a recommendation will do otherwise than prejudice the claim of one or another of such states where their claims overlap and are disputed. Hypothetically, were the Commission to make a recommendation on the acceptability of Russia's claim to the full extent of its continental shelf to the North Pole, a claim that is disputed by others, the recommendation would have a critical effect on the political and legal viability of Russia's claim. The prejudicial effect of any such recommendation is moderated by the requirement that all meetings of the Commission and its sub-commission and subsidiary bodies are to be held in private (Rule 23 of the Rules of Procedure of the Commission). Additionally, all recommendations in response to submissions are to be confidential. Finally, and most importantly, the Commission has adopted the rule that it will not consider a submission in respect of an area of extended continental shelf where more than one state claims sovereign rights, unless the consent of all parties to the dispute has been obtained. The United Kingdom, Ireland, France and Spain have for example, lodged a joint submission with the Commission on 2 June 2006 and agreed to include within it certain unresolved claims to an extended continental shelf.

Submissions have been made thus far by Russia (2001), Brazil (2004), Australia (2004), Ireland (2005), New Zealand (2006), France, Ireland, Spain, and the United Kingdom (jointly, 2006), Norway (2007) and France (2007). It will be recalled that the deadline for submissions is 10 years from the date on which the Law of the Sea Convention came into force for each state. Accordingly the deadlines vary, so that, for example, Canada, has until 2013, and Denmark until 2014, to make their respective submissions. Vitally, no claims to extended continental shelf limits will be recognized under this procedure once the deadlines have passed. Each of the submissions is being considered by sub-commissions that then report to the Commission for final recommendations. The process has proved

to be lengthy, involving significant review of the quality of the scientific data presented by states and it may be many years before the process is complete.

Continental shelf limits in the Antarctic

In light of the earlier discussion of the boundaries claimed in respect of Antarctica, it is interesting that Australia has submitted its claim to the outer limits of the continental shelf in the region of the Australian Antarctic Territory. It is probable that a claim to an extended continental shelf is not prohibited by Article IV (2) as it is neither a 'new claim' nor an 'enlargement of an existing claim to territorial sovereignty'. As has been noted, sovereign rights over the continental shelf arise as a consequence of the prolongation of the territory and do not depend upon a formal claim or enlargement of an existing claim. As sovereign rights over the continental shelf exist *ipso facto*, the better juridical view is that delimitation of the outer limits of the continental shelf in Antarctica will not breach the obligations in Article IV. The highly controversial nature of Australia's submission in respect of Antarctica and the risk that the Commission might make a recommendation prejudicial to Australia's interests appear to have prompted its Note to the Secretary-General of the UN. This Note accompanied the lodgment of Australia's submission and requests the Commission not to take any action on the Antarctic aspects of the claim 'for the time being' (November, 89/2004).

Continental shelf limits in the Arctic

In addition to uncertainties about the boundaries in Antarctica, legal controversy also surrounds the claimed continental shelf boundaries in the Arctic. While sovereign rights over a continental shelf in the Antarctic arise from claims to territorial sovereignty over the continent itself, claims to a continental shelf in the Arctic depend upon the extent of the prolongation from the surrounding land territory of Russia, Canada, Norway, Denmark, and the United States. In August 2007, the Russian parliamentary deputy and Arctic explorer Artur Chilingarov is reported to have planted a Russian flag on the seabed about 4 kilometers beneath the North Pole. Attracting the approval of President Putin, Chilingarov stated the 'Arctic is ours and we should manifest our presence.' ('Scramble for the Arctic', Analysis, Financial Times, 20/08/07) This act then prompted Canada's Prime Minister, Stephen Harper, to announce a new deepwater docking facility at the northern tip of the Baffin Islands as a demonstration of Canada's 'real, growing and long-term presence in the Arctic'. He is also reported to have observed that the first principle of Arctic sovereignty is 'use it or lose it'. Apparently acting on the same principle, Denmark has similarly announced that it intends to gather further evidence for an extended claim to sovereignty in the area. Such renewed

activity in support of sovereignty claims in the Arctic reflects the projected oil wealth and strategic importance of the region and, as is so often the case in international law, provide the impetus for clarification and development of legal rules. It can be expected that the recommendations of the UN Commission, particularly in respect to ownership of the Lomonosov Ridge at the North Pole, will have a galvanizing effect on efforts to secure the most extensive state rights possible in the region.

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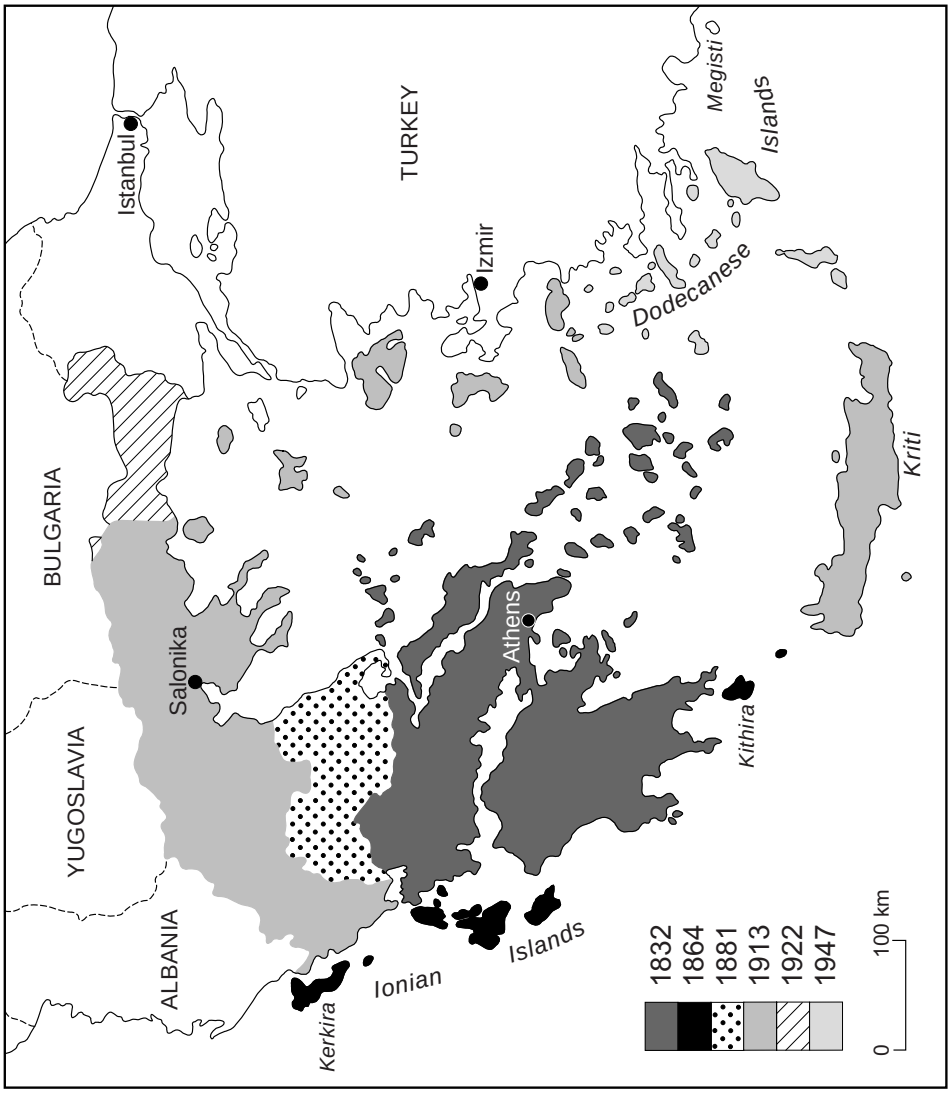
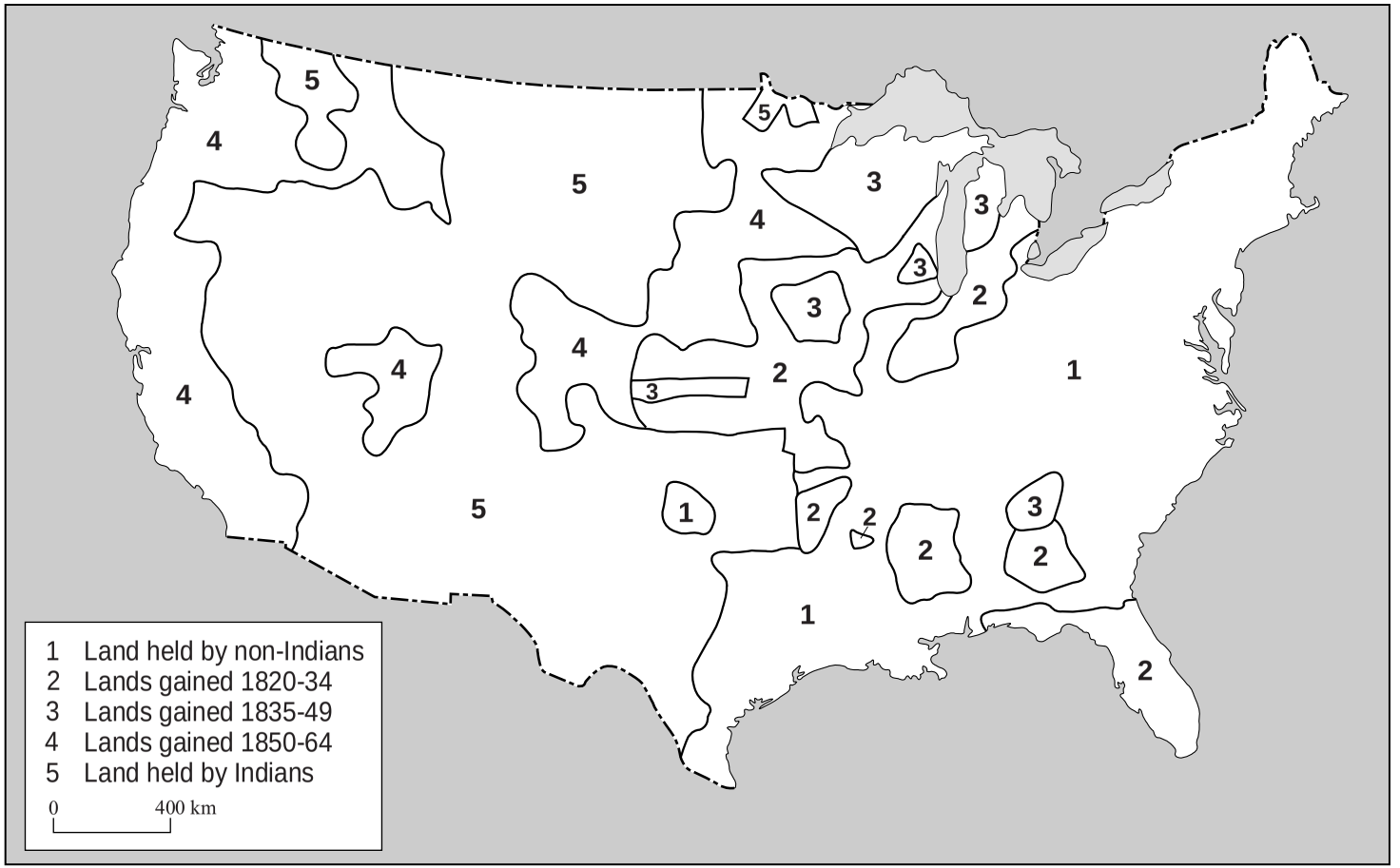
ANNEXES

ILLUSTRATIONS

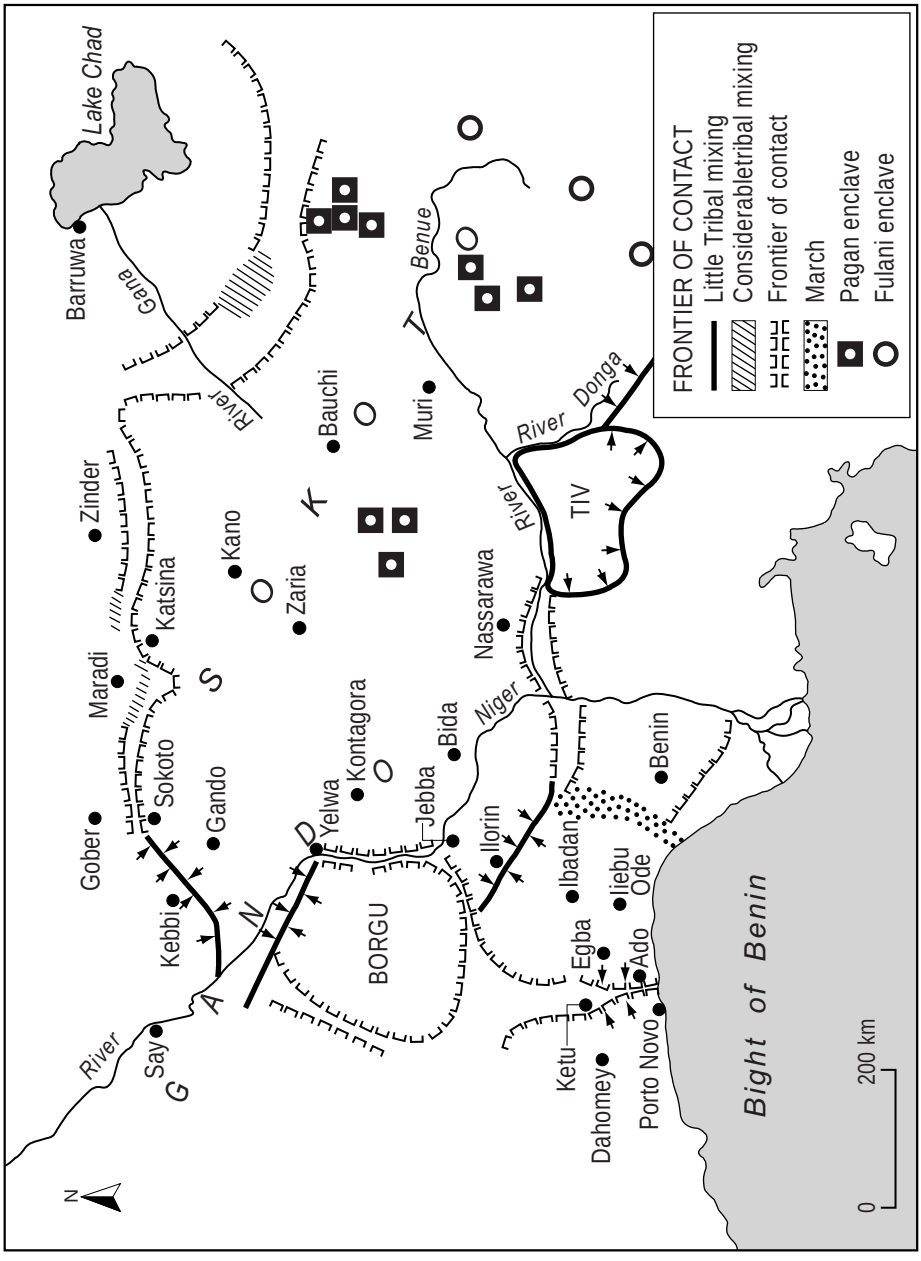


1.1 The territorial evolution of Greece

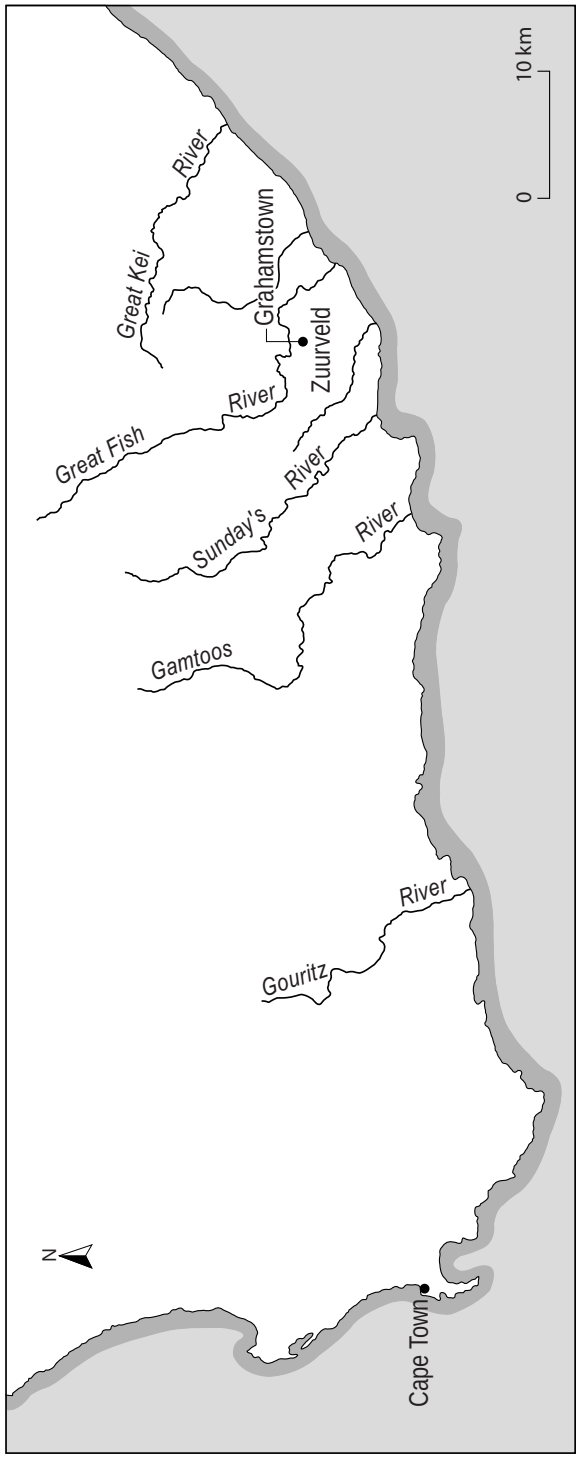


2.1 Advance of the American frontier. Based on the *Historical atlas of the United States,* National Geographic Society, 1988

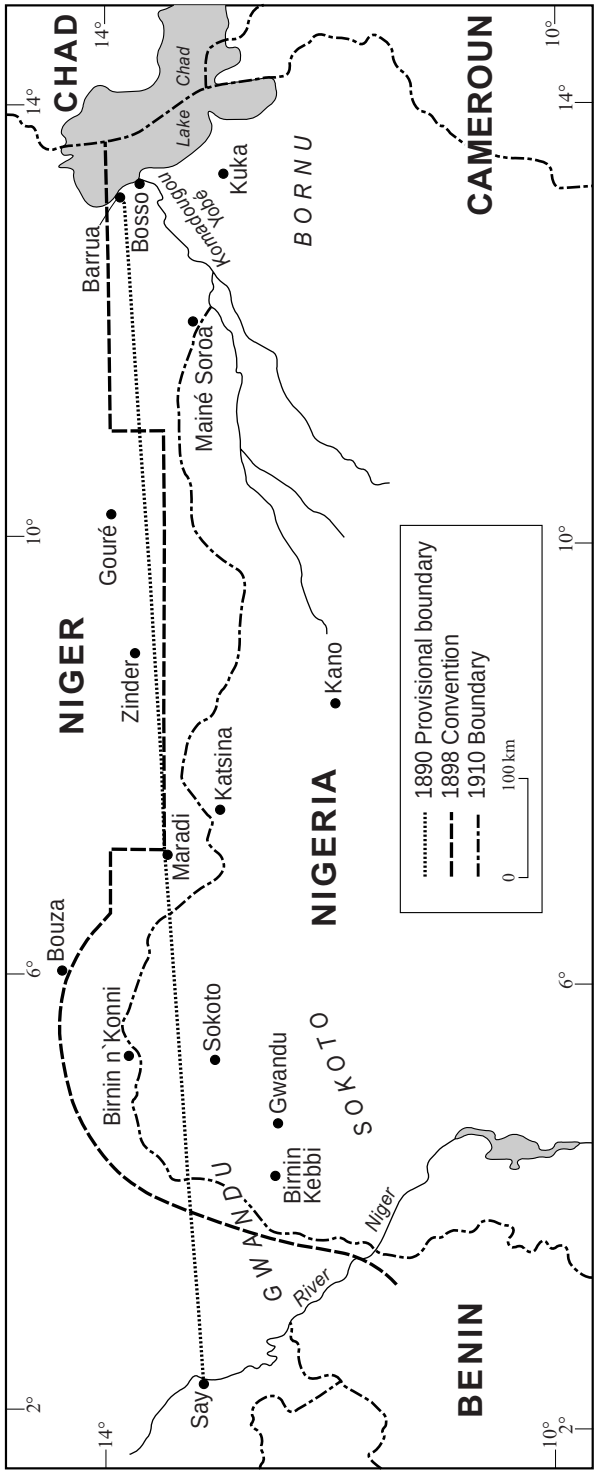
2.2 European marches



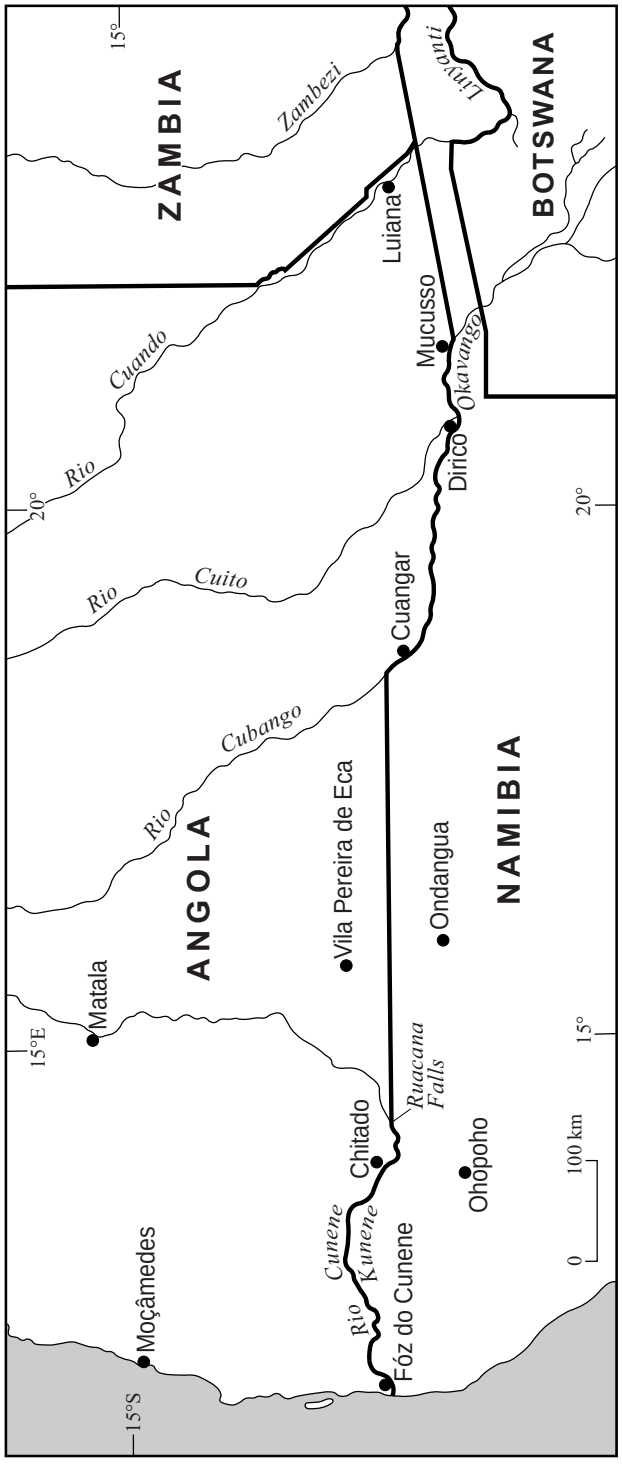
2.3 Nigerian frontiers



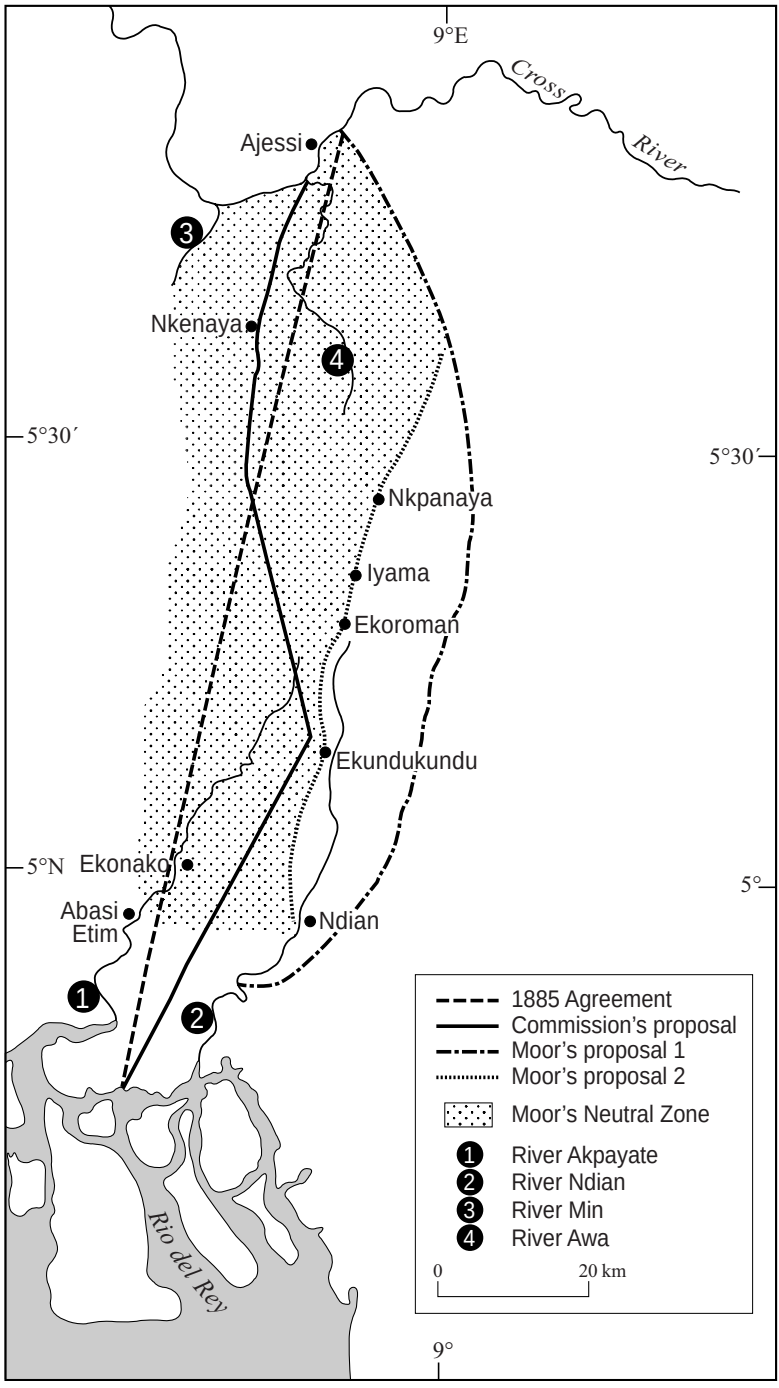
2.4 Successive South African frontiers related to rivers



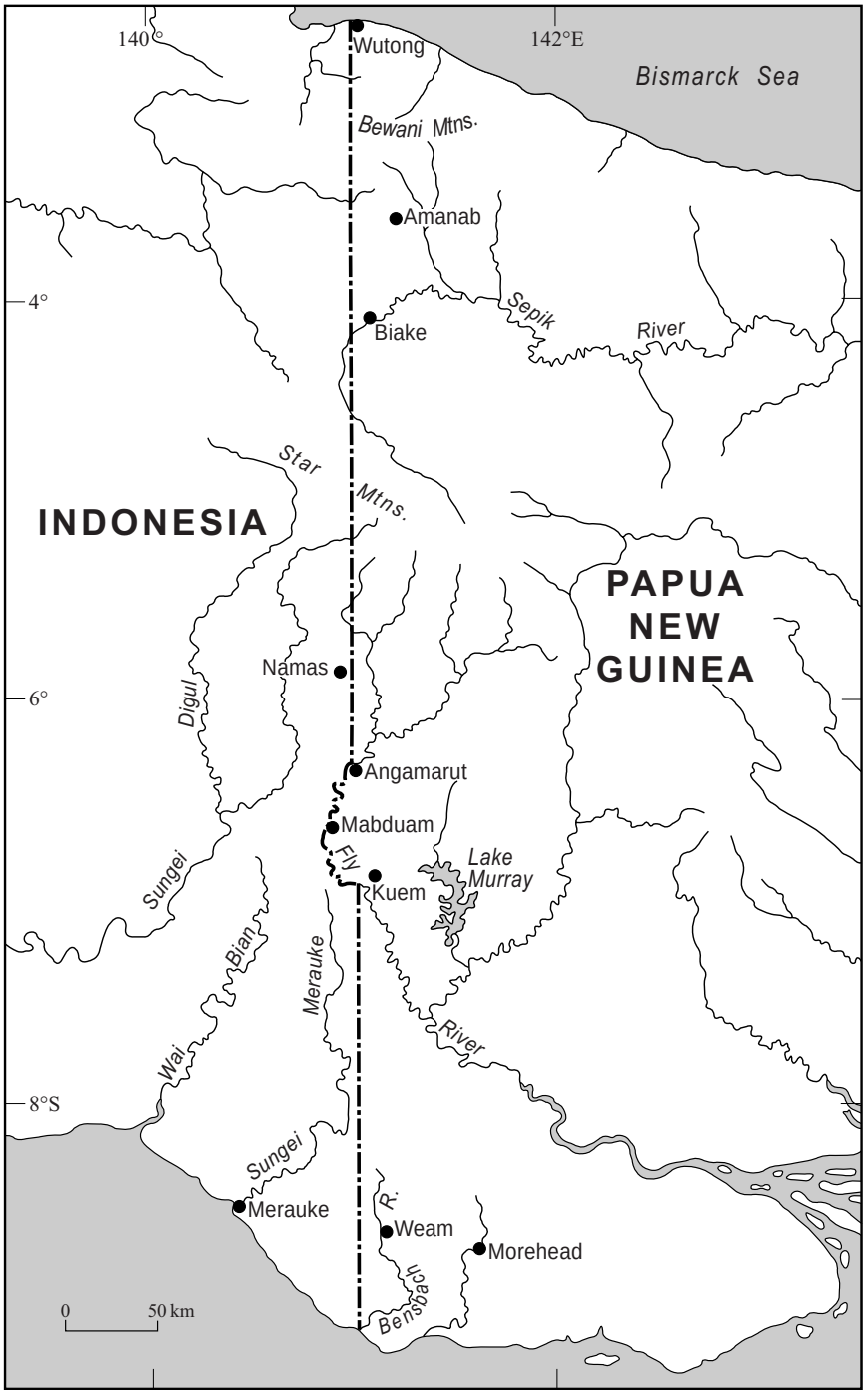
3.1 Anglo-French boundaries 1890-1910



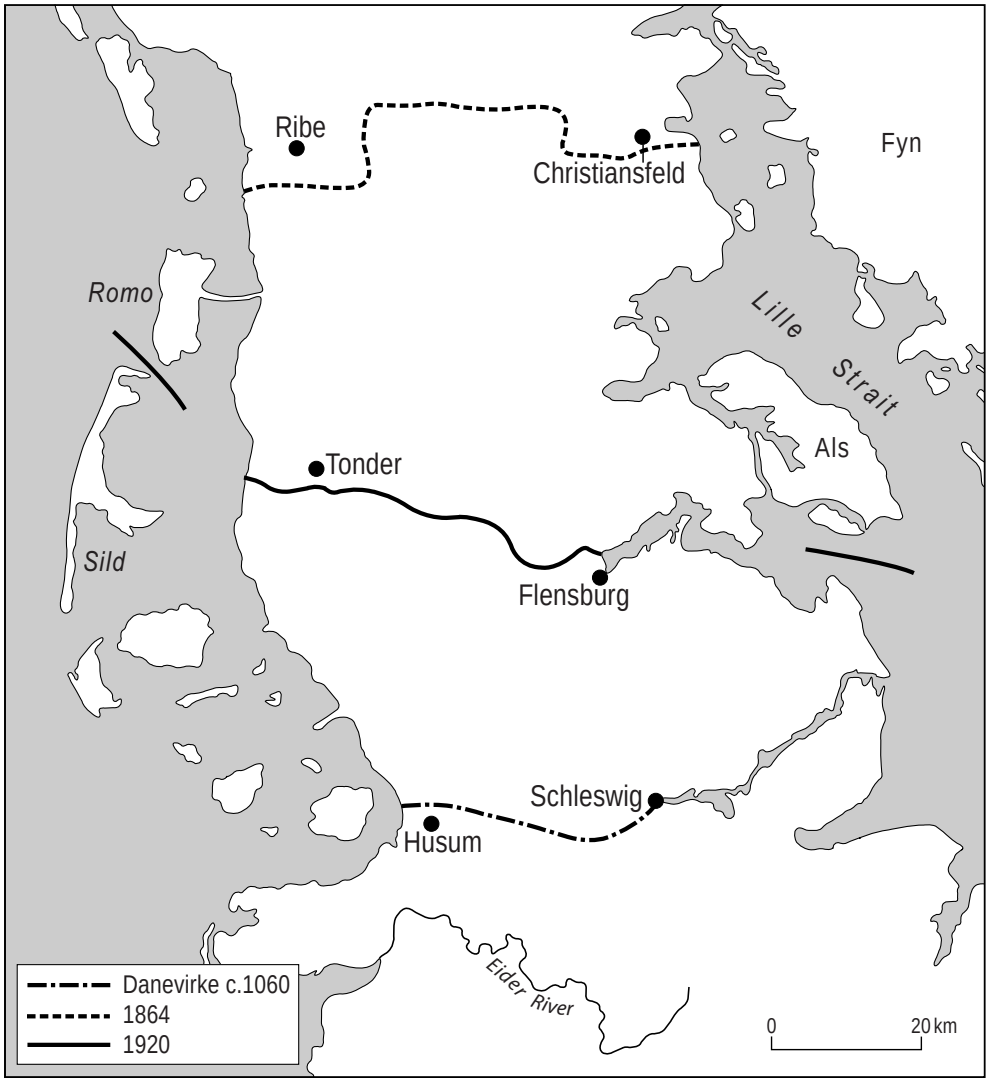
3.2 The Portuguese-German boundary of 1886



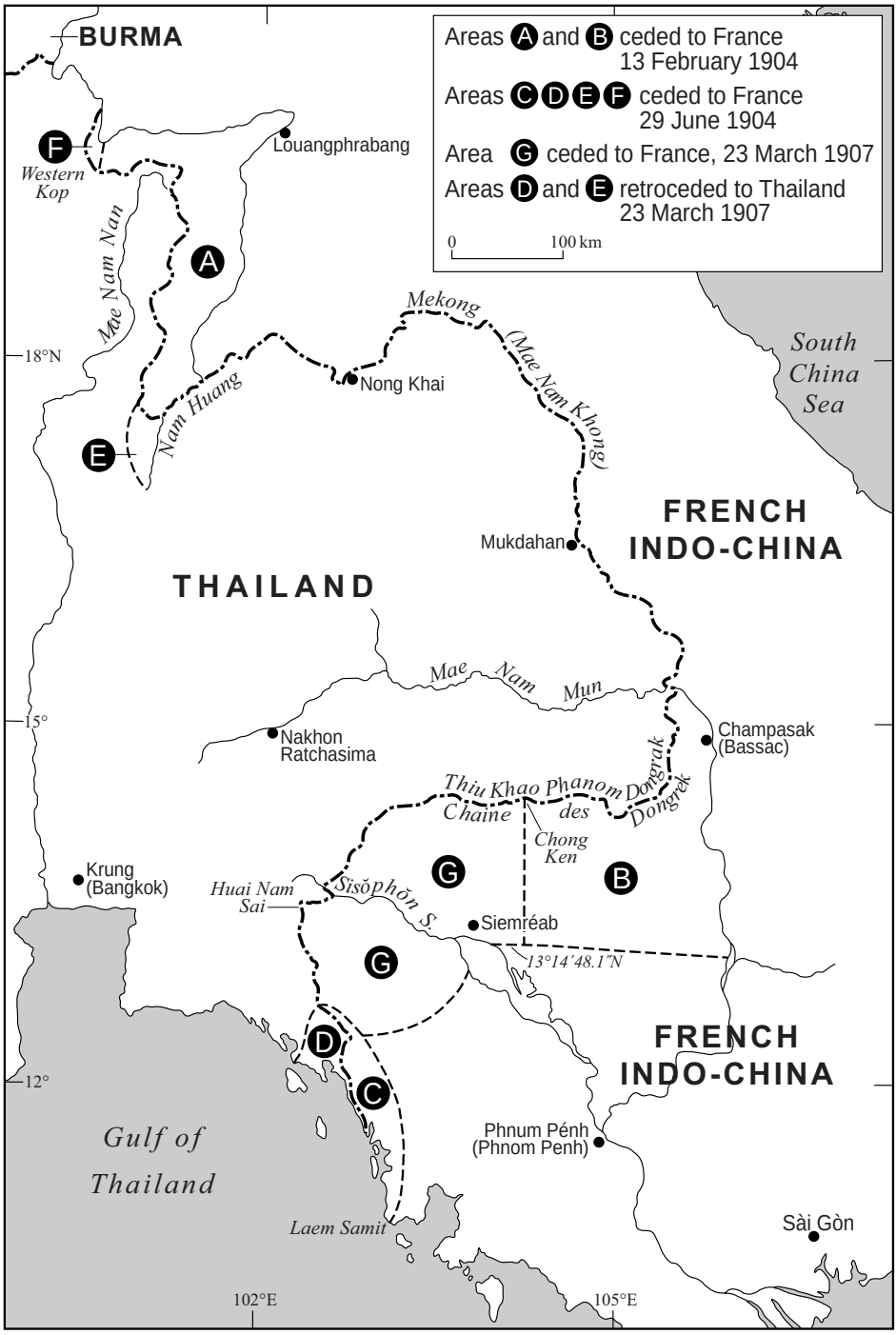
3.3 The Anglo-French boundary in the vicinity of the Rio del Rey and the Cross River rapids



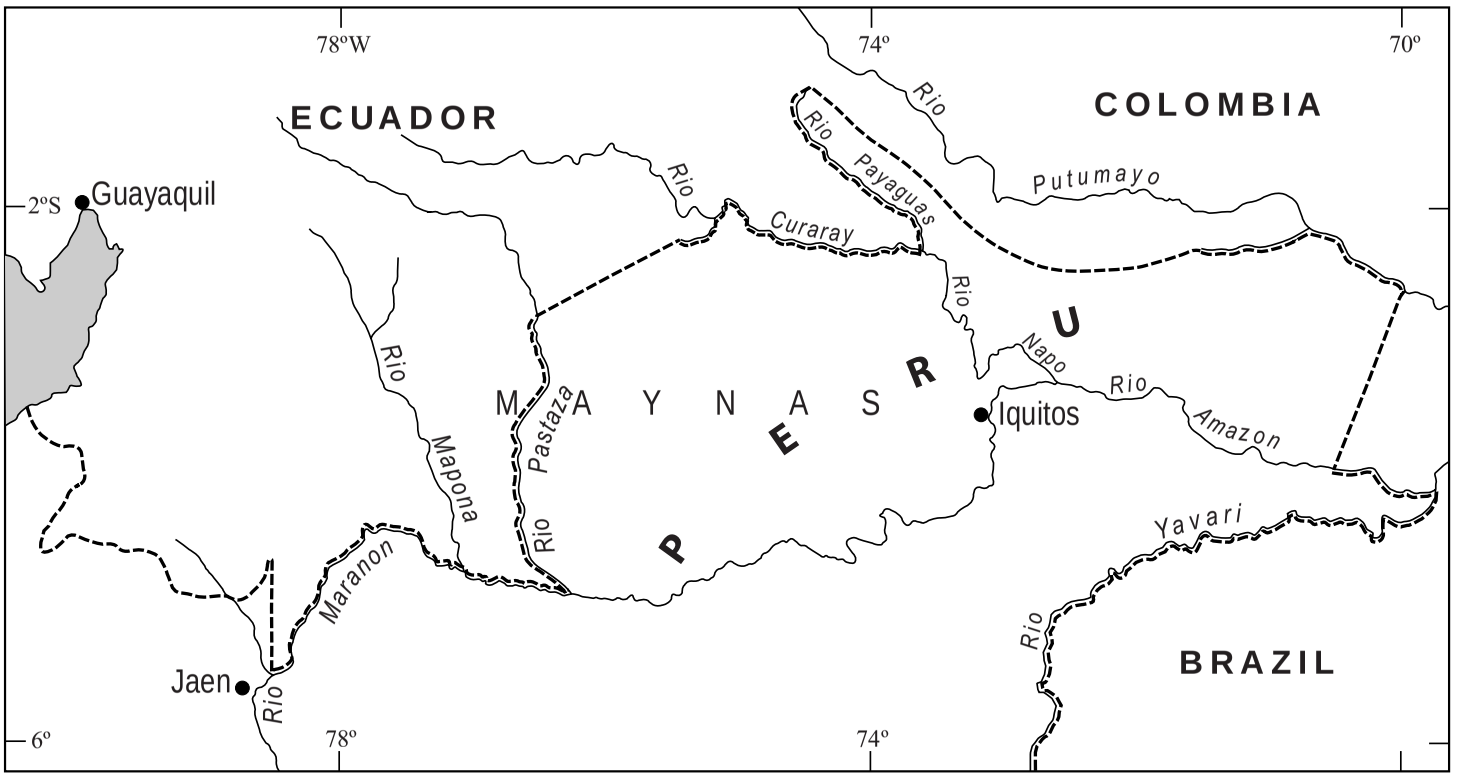
3.4 The Australian-Dutch boundary in New Guinea



3.5 Boundaries between Denmark and Germany

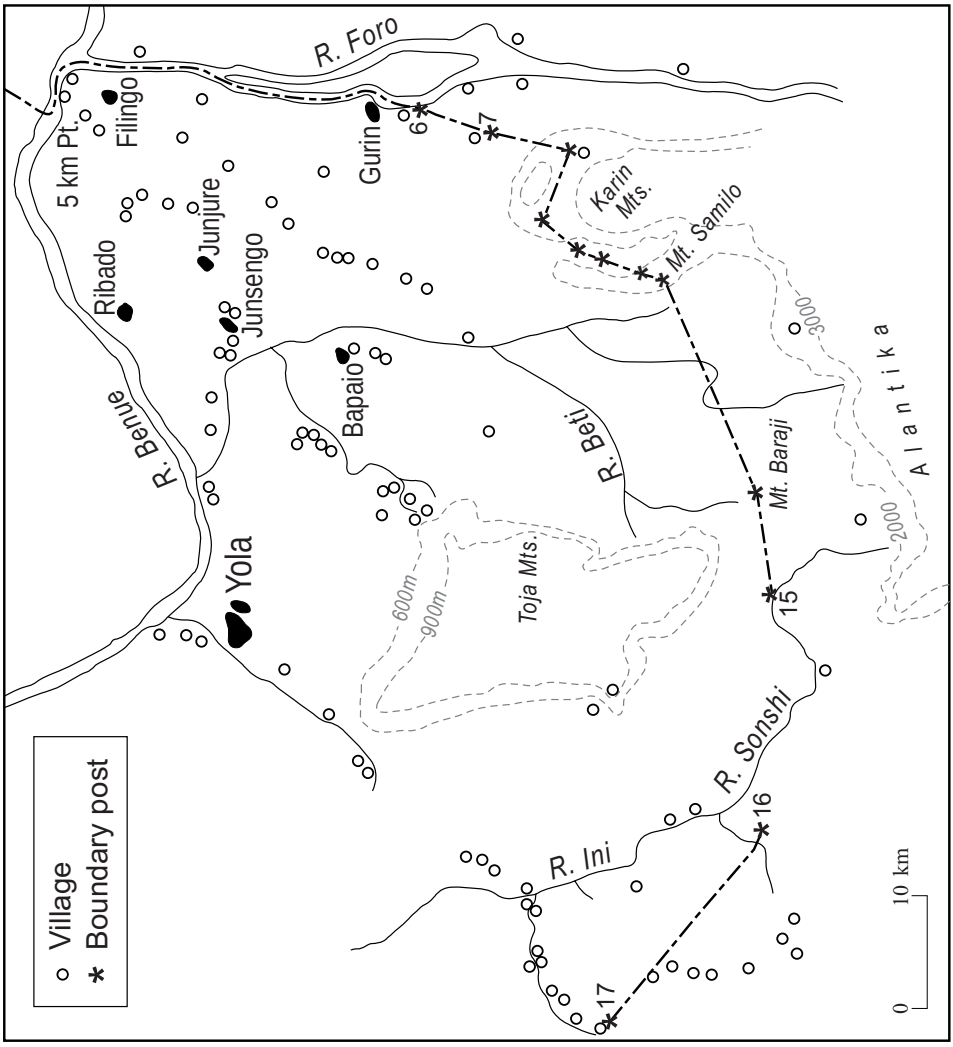


3.6 Thailand's boundaries with French colonies

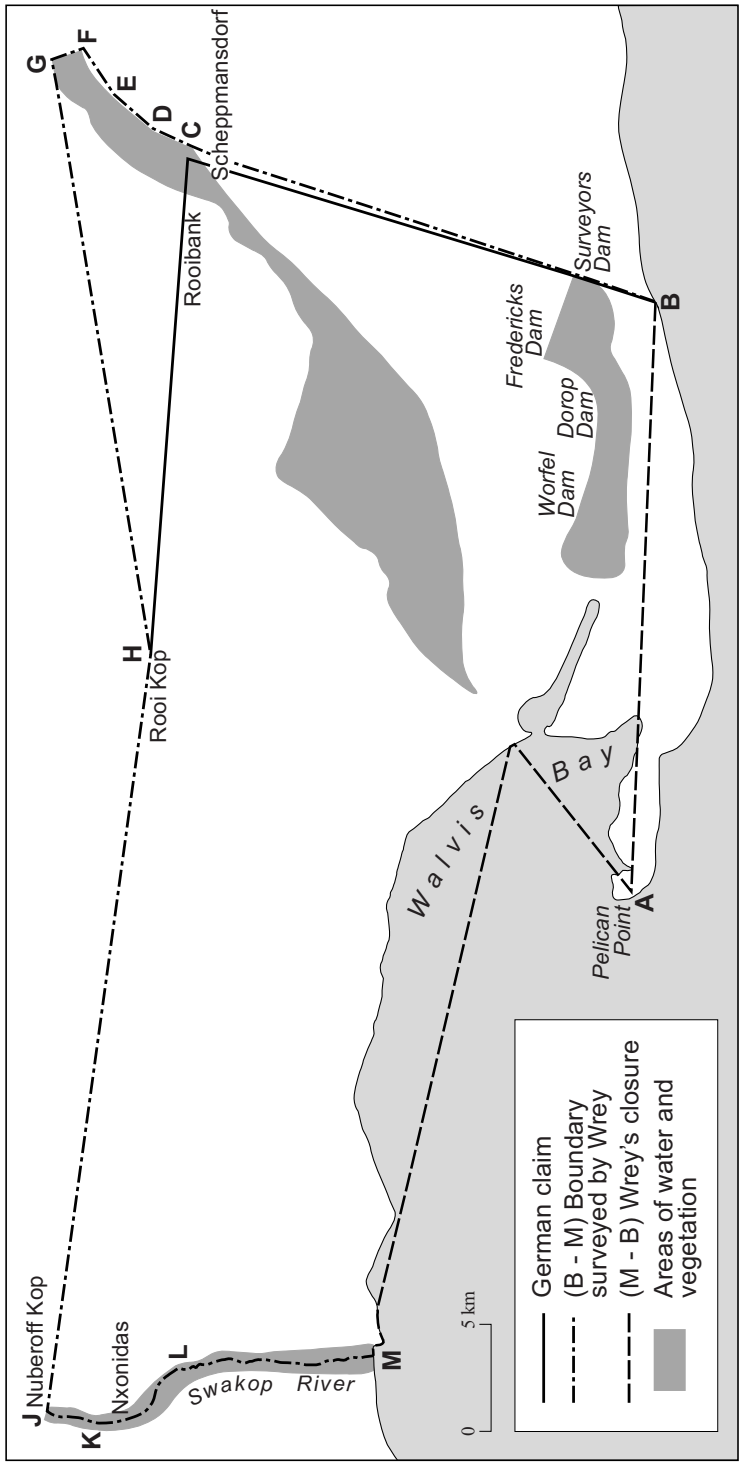


4.1 The Garcia-Herrera boundary of 2 May 1890

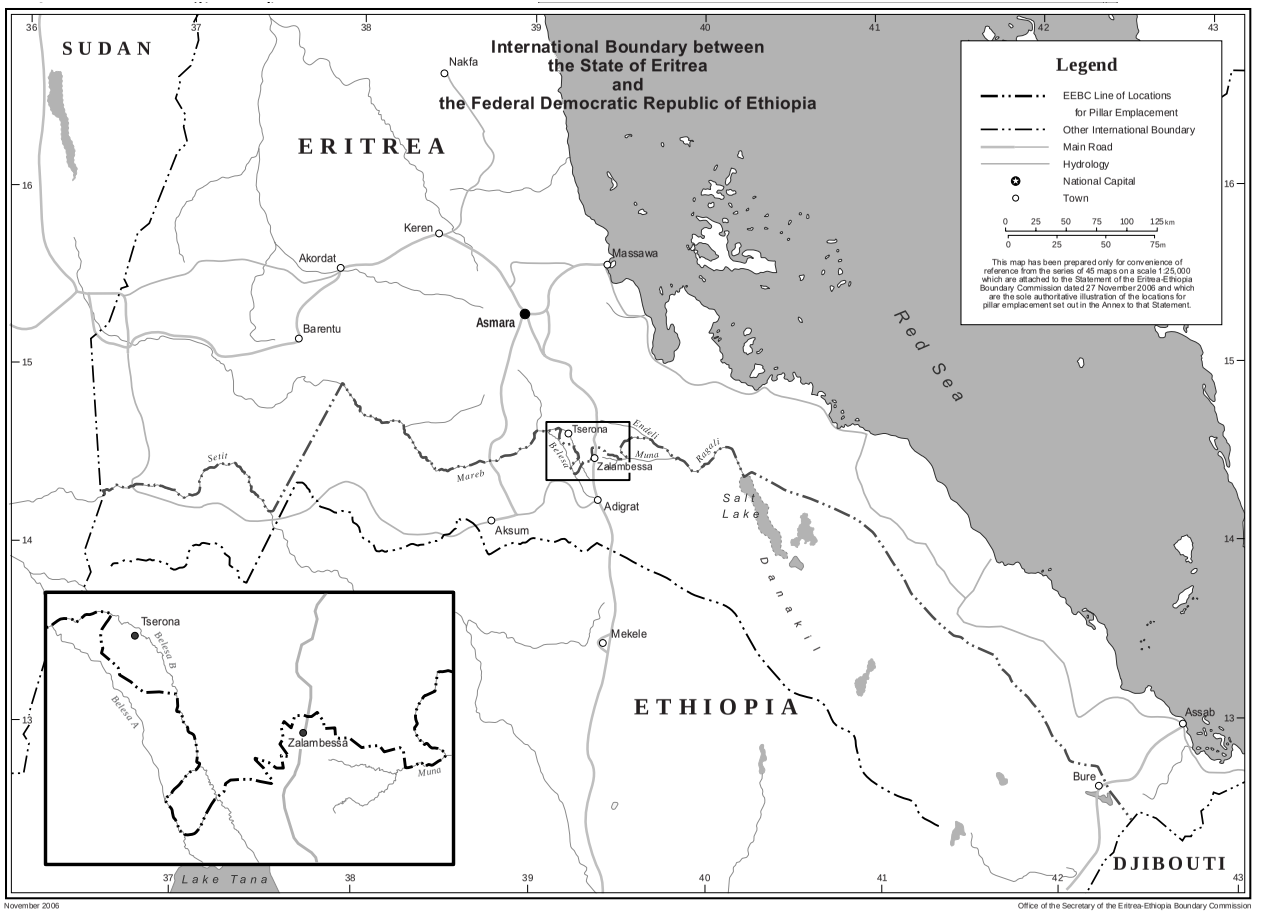
4.2 The 1910 Spanish Award and the Rio Protocol Line 1942



4.3 The Yola Arc April 1903

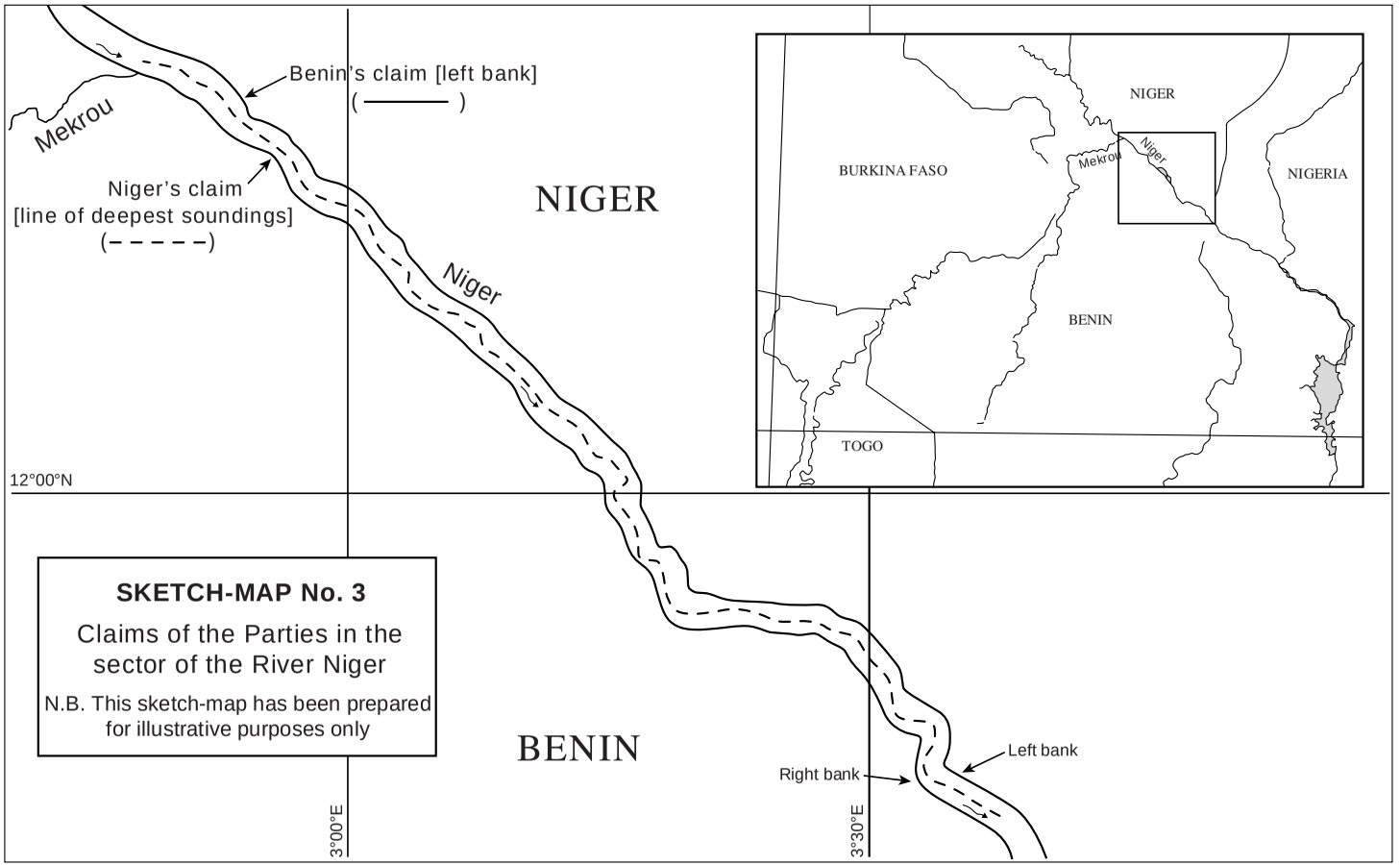


4.4 Boundaries of Walvis Bay

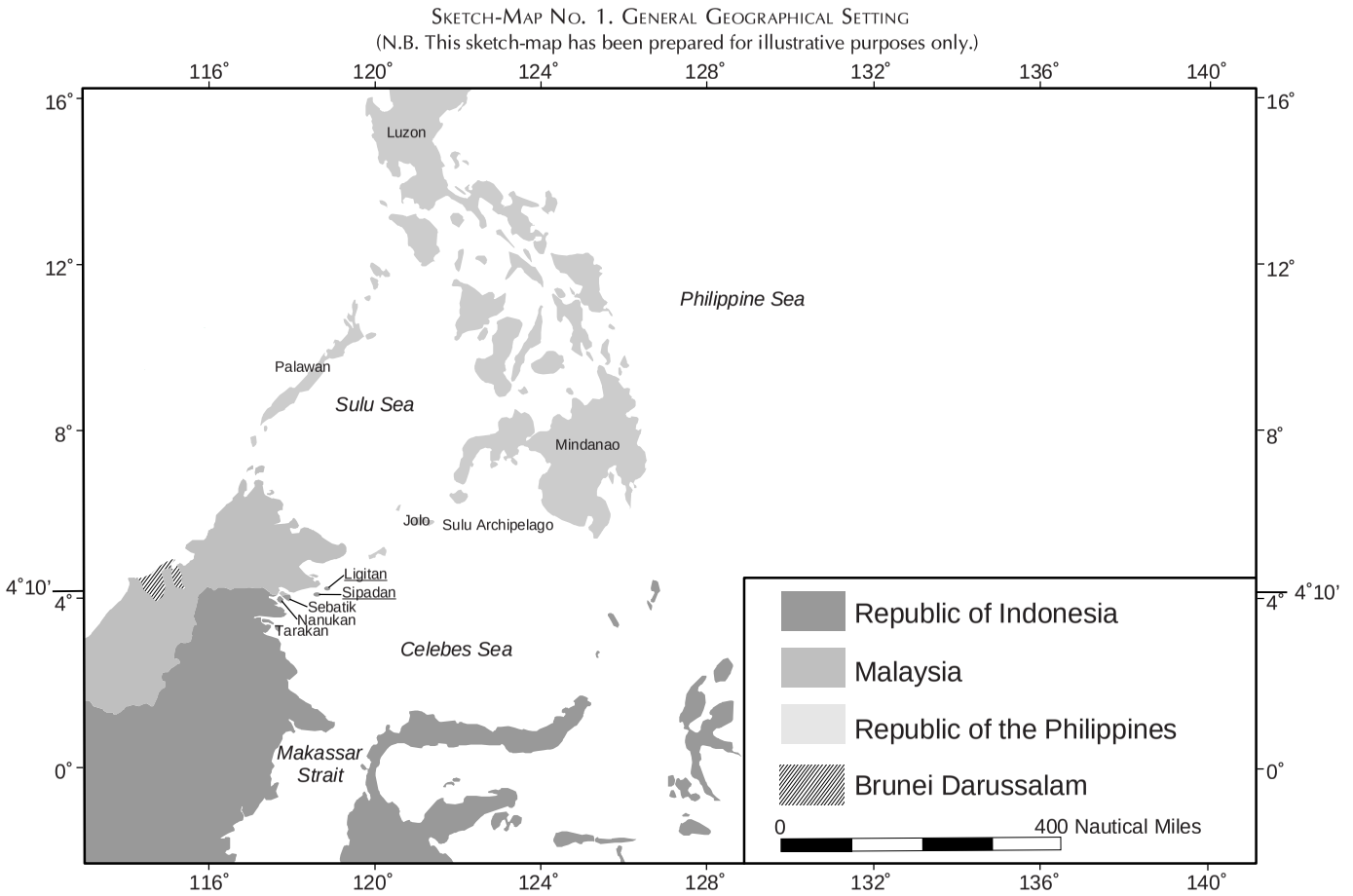


5.1 Overview map of the international boundary between Eritrea and Ethiopia (source: Permanent Court of Arbitration website, www.pca-cpa.org)

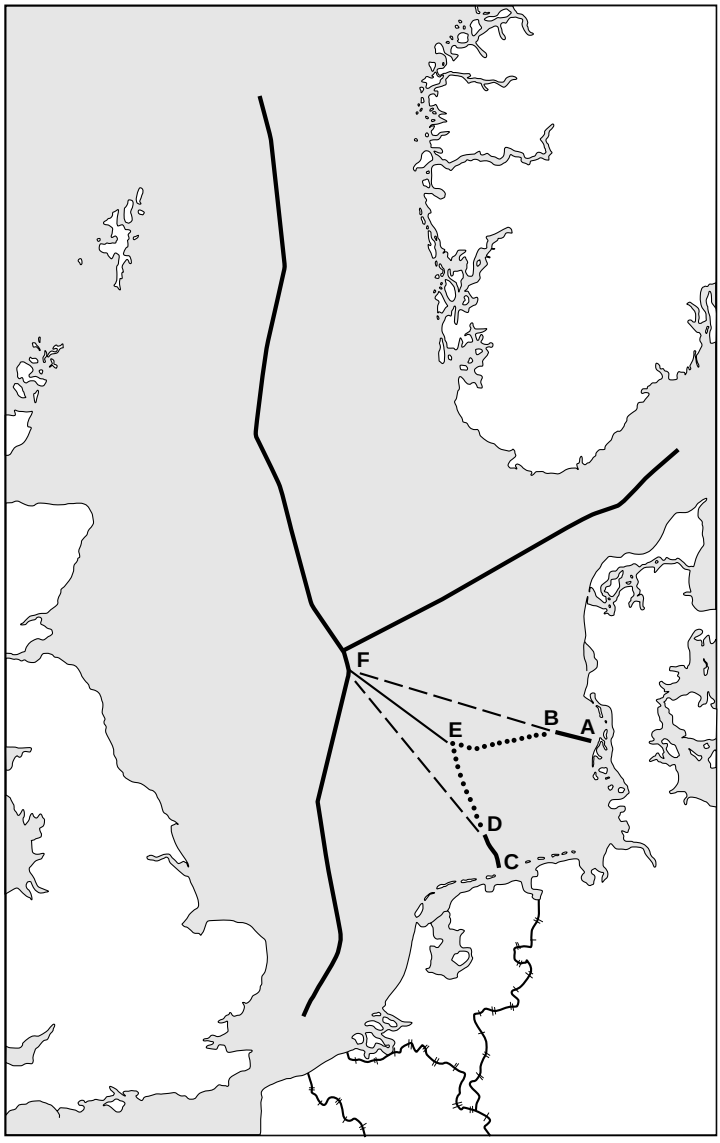
5.2 Map of the Central Sector of the international boundary between Eritrea and Ethiopia (source: Shaw 2007)



5.3 Claims of the Parties in the sector of the Niger River, in the *Benin/Niger* case (source: [2005] ICJ Rep 123)



5.4 Map of the general geographical setting in the *Pulau Ligitan/Pulau Sipadan* case (source: [2002] ICJ Rep 635)



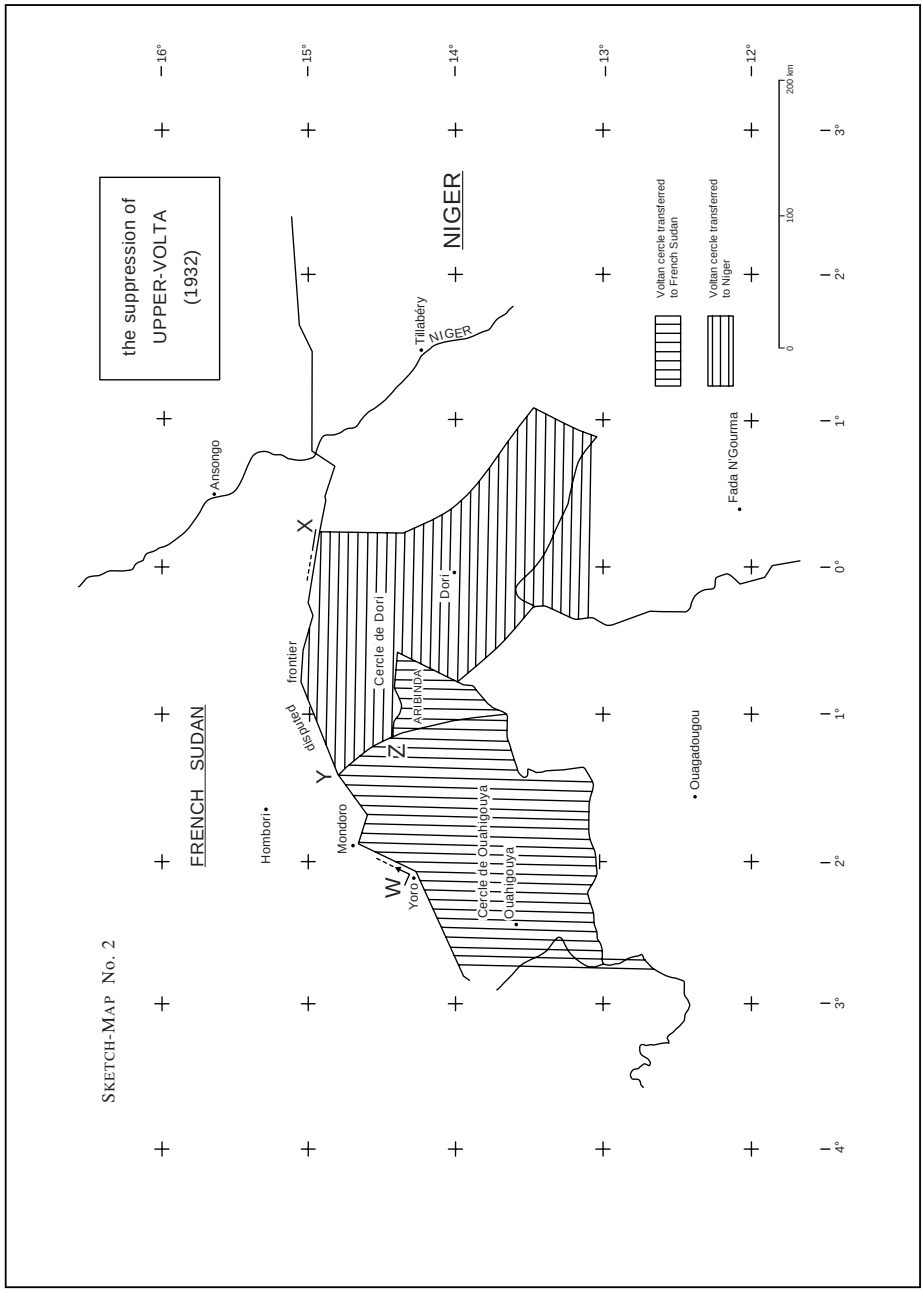
Map 3
(See paragraphs 5-9)

Carte 3
(Voir paragraphes 5-9)

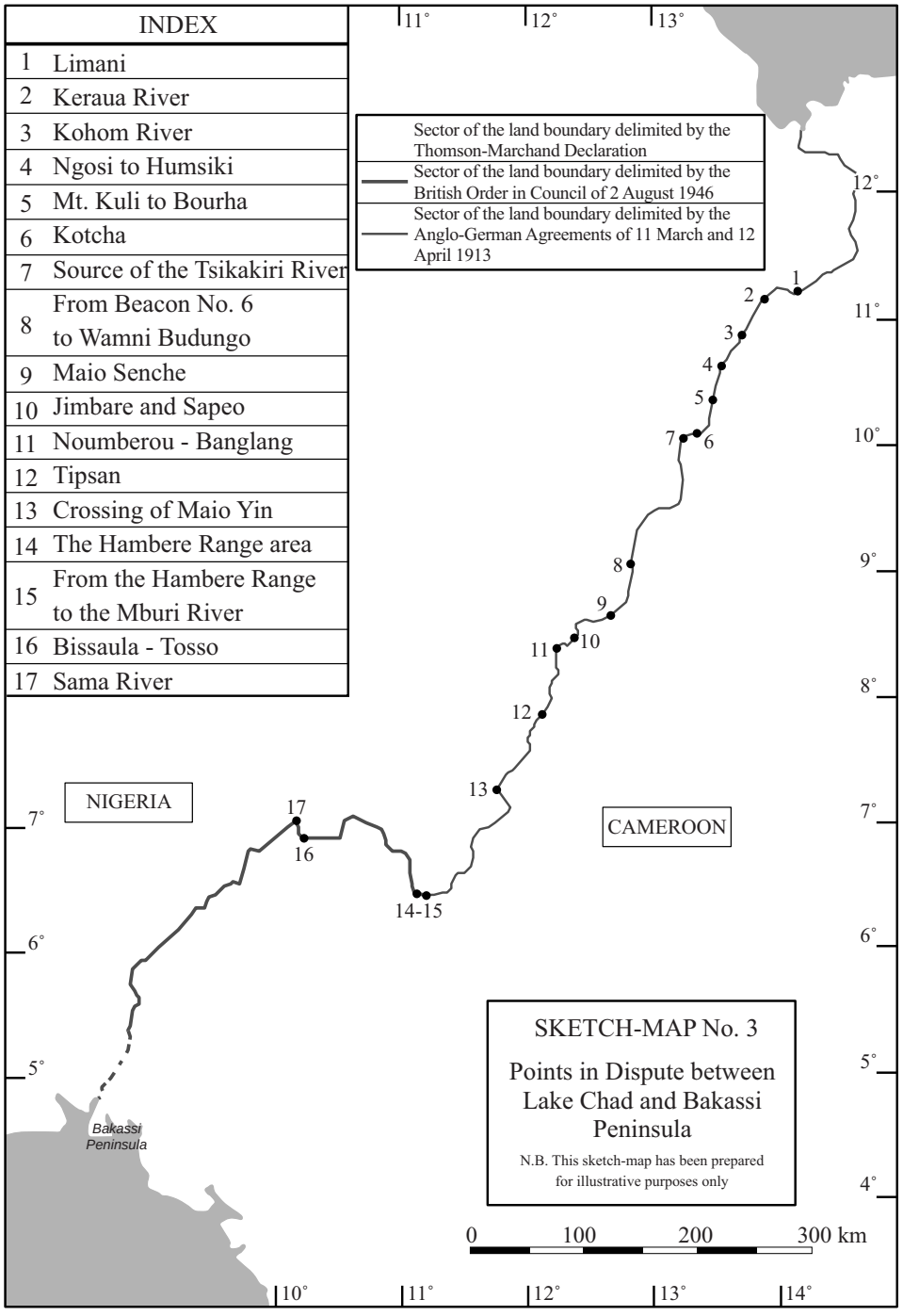
The maps in the present Judgment were prepared on the basis of documents submitted to the Court by the Parties, and their sole purpose is to provide a visual illustration of the paragraphs of the Judgment which refer to them.

Les cartes jointes au présent arrêt ont été établies d'après les documents soumis à la Cour par les Parties et ont pour seul objet d'illustrer graphiquement les paragraphes de l'arrêt qui s'y réfèrent.

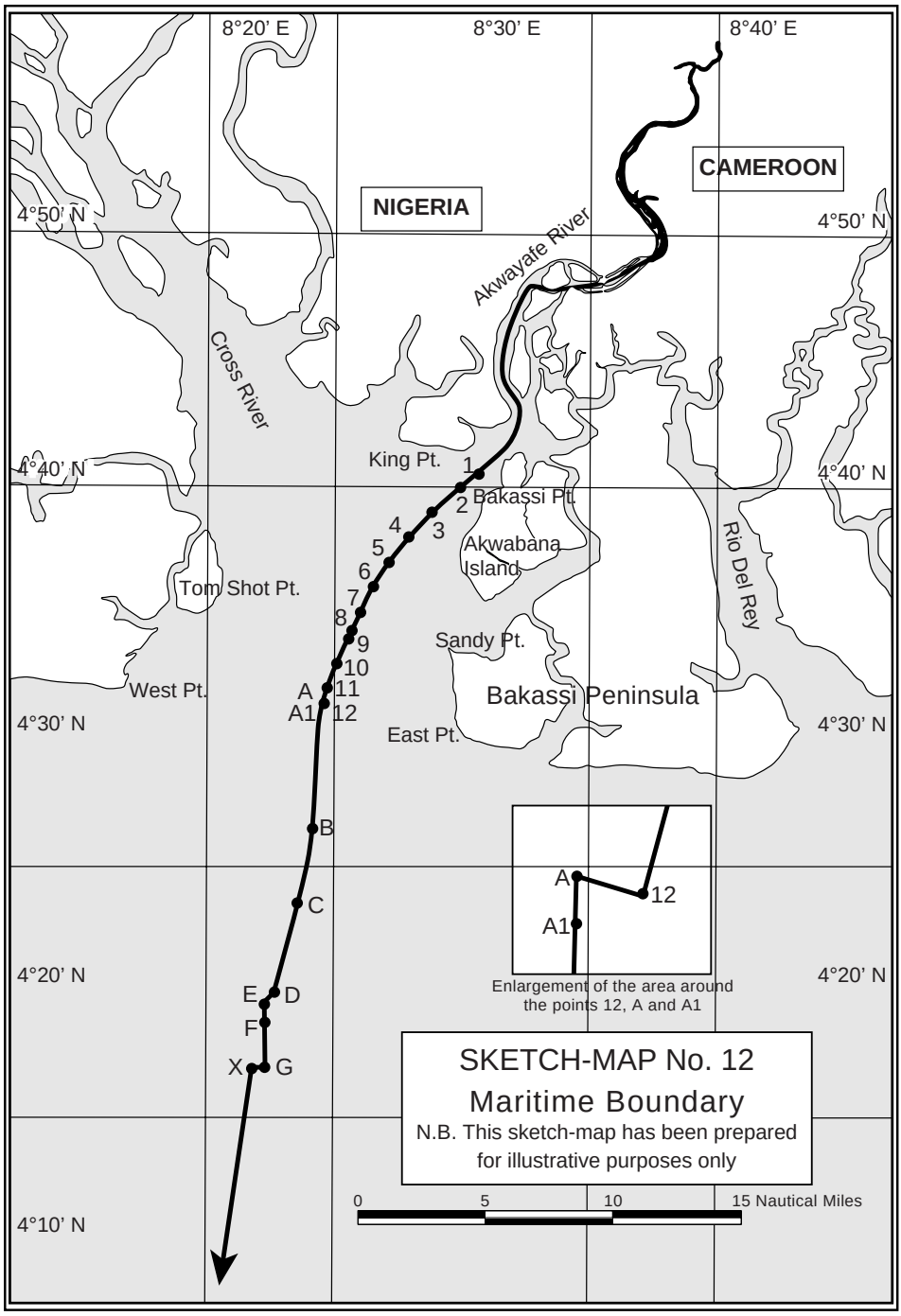
5.5 Map from ICJ proceedings in the *North Sea Continental Shelf* cases (source: [1969] ICJ Rep 15)



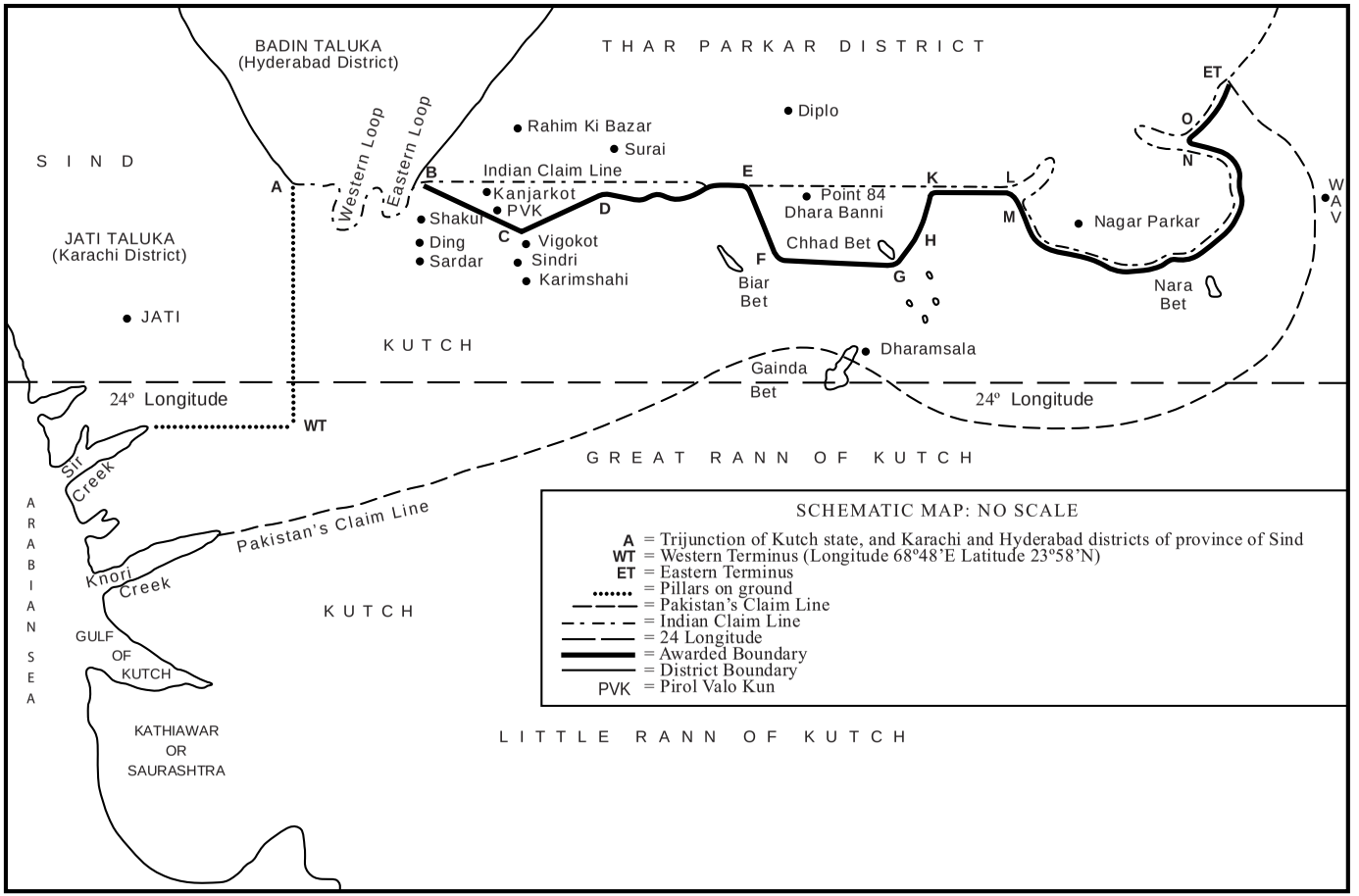
5.6 Map from ICJ proceedings in the *Frontier Dispute* case between Burkina Faso and Mali (source: [1986] ICJ Rep)



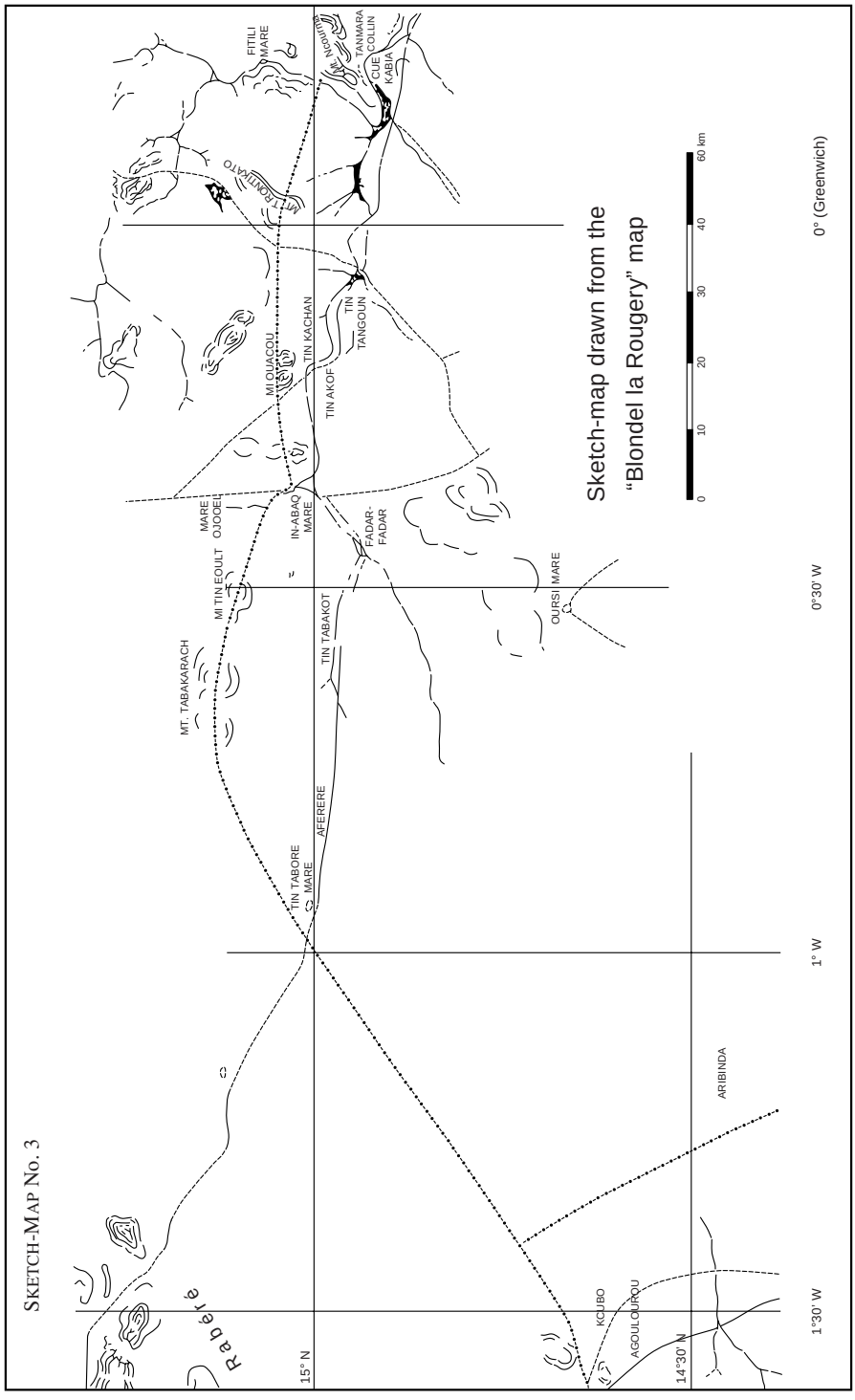
6.1 Sketch map depicting the points in dispute between Lake Chad and the Bakassi Peninsula, in *Cameroon v Nigeria* (source: [2002] ICJ Rep 361)



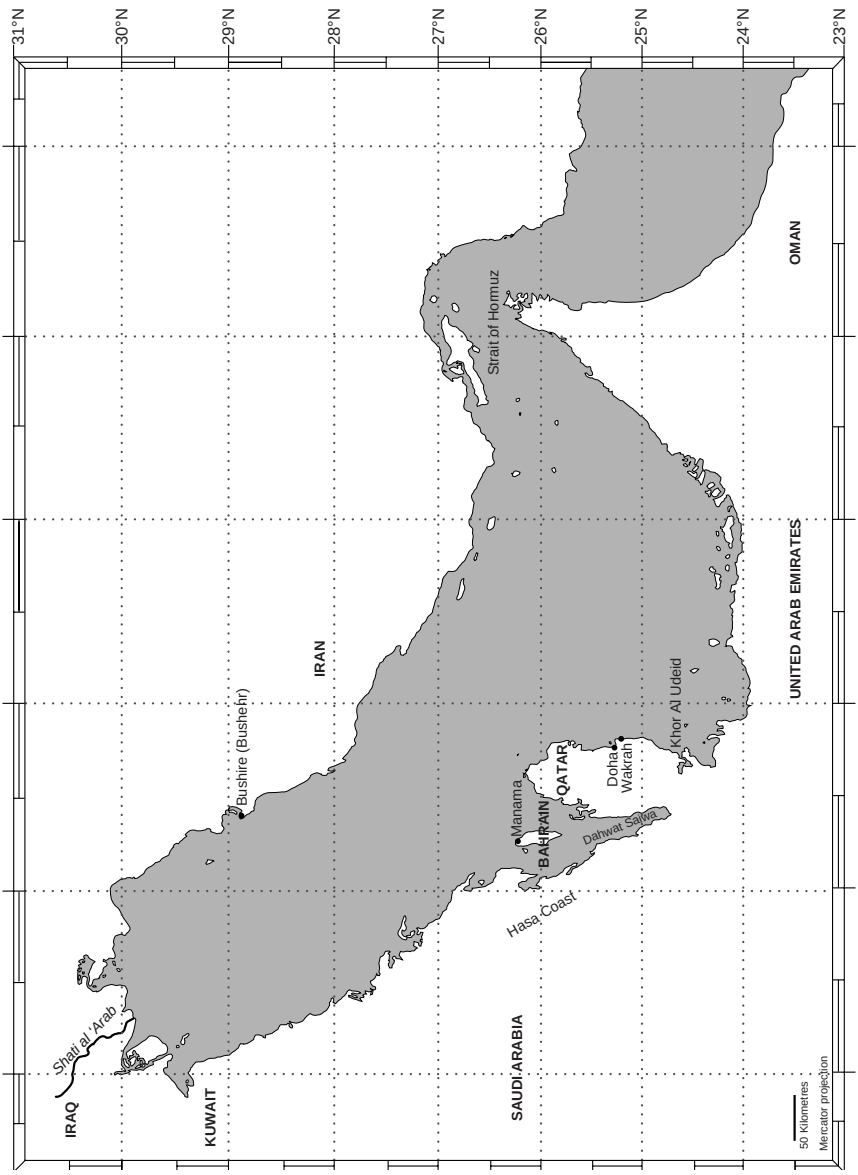
6.2 Sketch map depicting the maritime boundary in *Cameroon v Nigeria* (source: [2002] ICJ Rep 449)



6.3 Overview map in the Rann of Kutch dispute (source: Untawale, 'The Kutch-Sind Dispute: A Case Study in International Arbitration' (1974) 23(4) *International and Comparative Law Quarterly* 818-839)

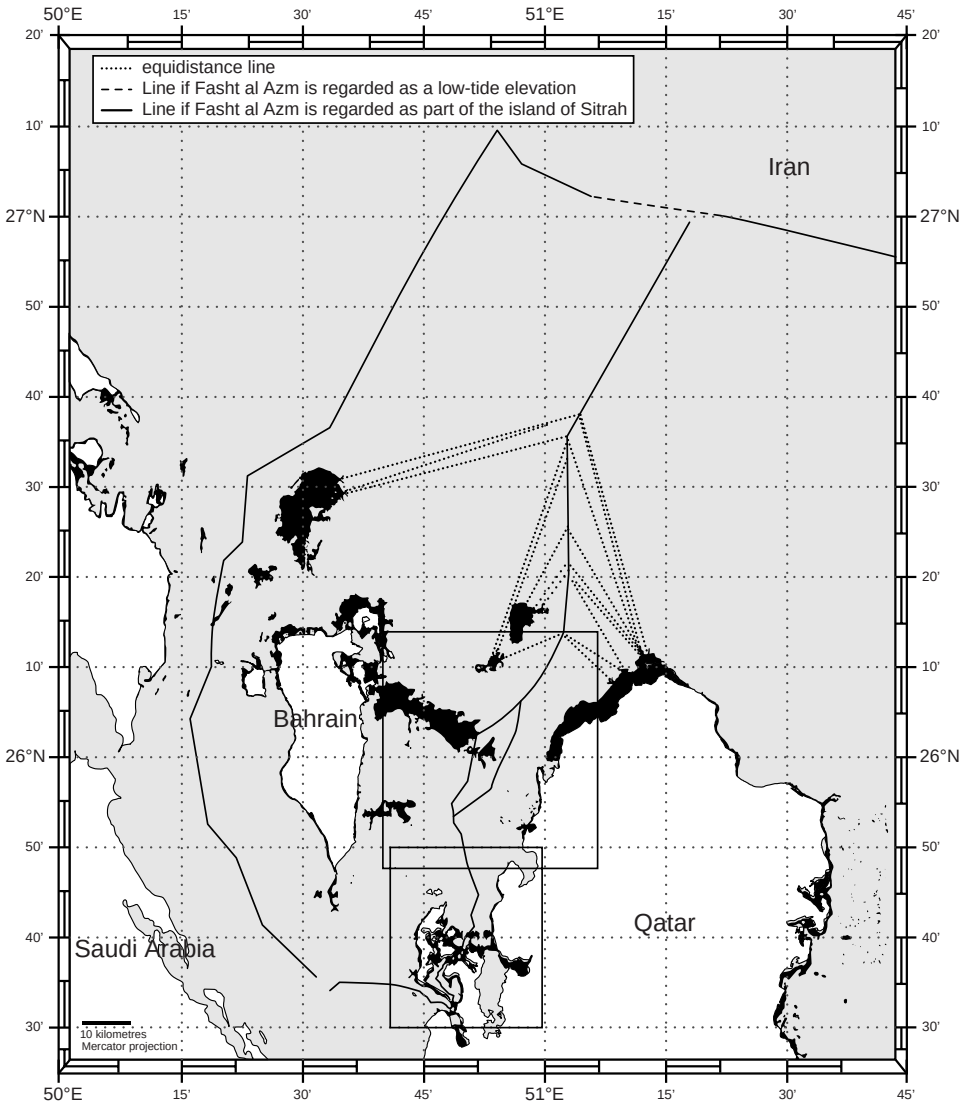


6.4 Sketch map drawn from the 'Blondel la Rougery' map in the *Frontier Dispute* case between Burkina Faso and Mali (source: [1986] ICJ Rep 554)



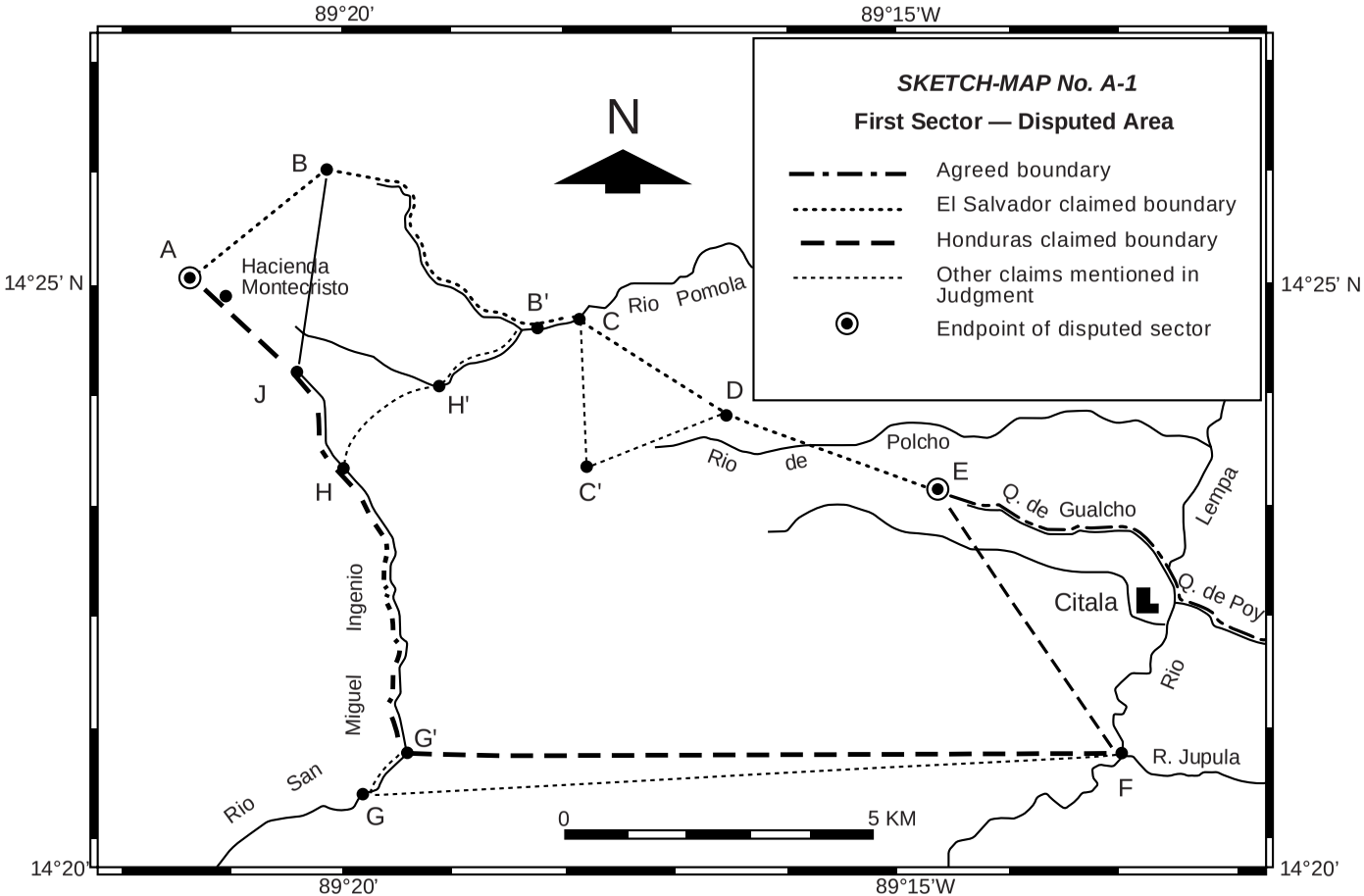
6.5 Map depicting general geographic context in the *Qatar v Bahrain* case (source: [2001] ICJ Rep 53)

Sketch-map No. 3. Equidistance Line Taking into Consideration All the Islands and Those Low-tide Elevations Located in the Territorial Sea of One State only

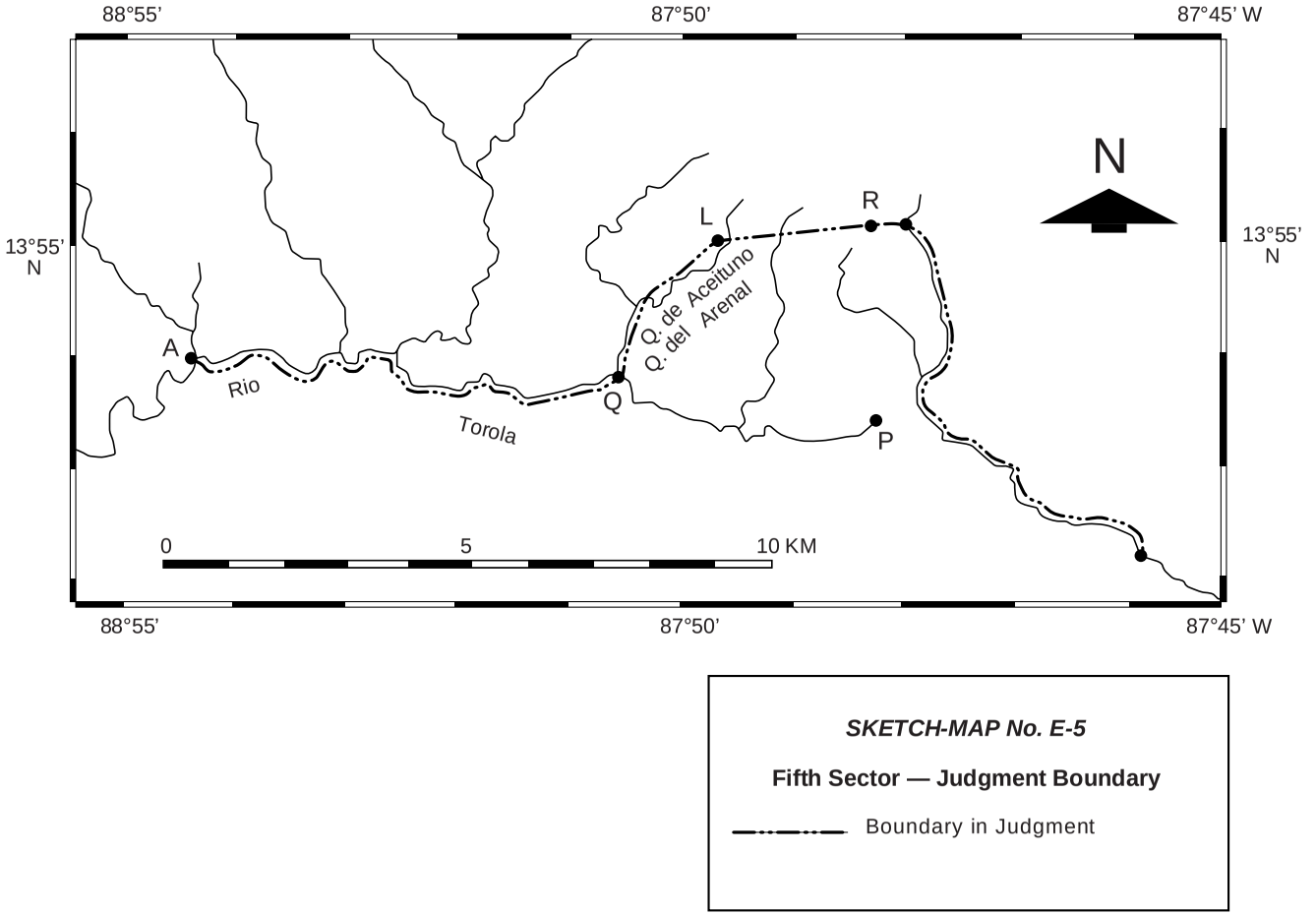


This sketch-map, on which maritime features are shown in simplified form, has been prepared for illustrative purposes only.
It is without prejudice to the nature of certain of these features.
The framed zones are enlarged in SKETCH–MAP Nos. 4, 5 and 6

6.6 Map showing the equidistance line taking into consideration all islands and those low-tide elevations located in the territorial sea of one state only, in the *Qatar v Bahrain* case (source: [2001] ICJ Rep 105)

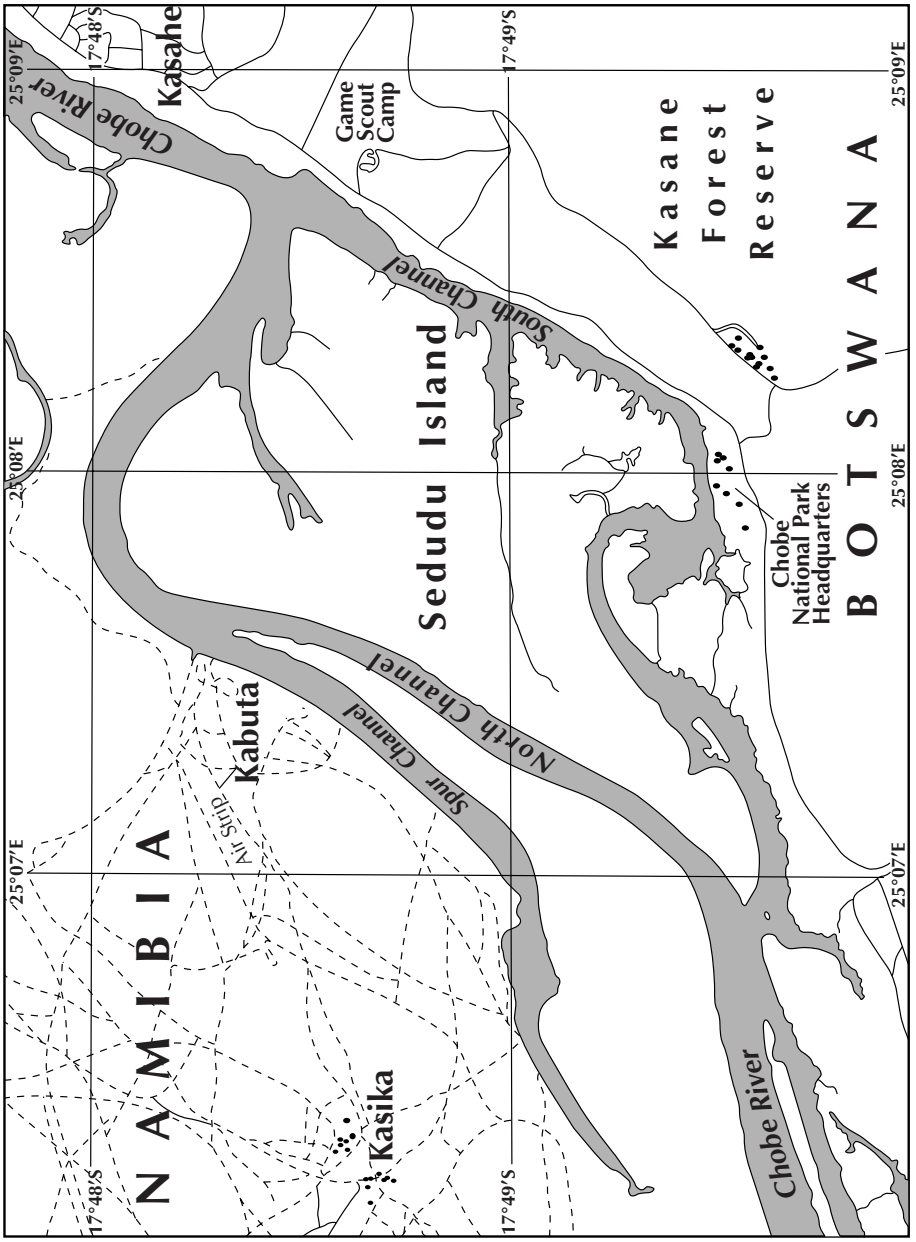


6.7 Map depicting the disputed area in the first sector in the *Land, Island and Maritime Dispute* case between El Salvador and Honduras (source: [1992] ICJ Rep)

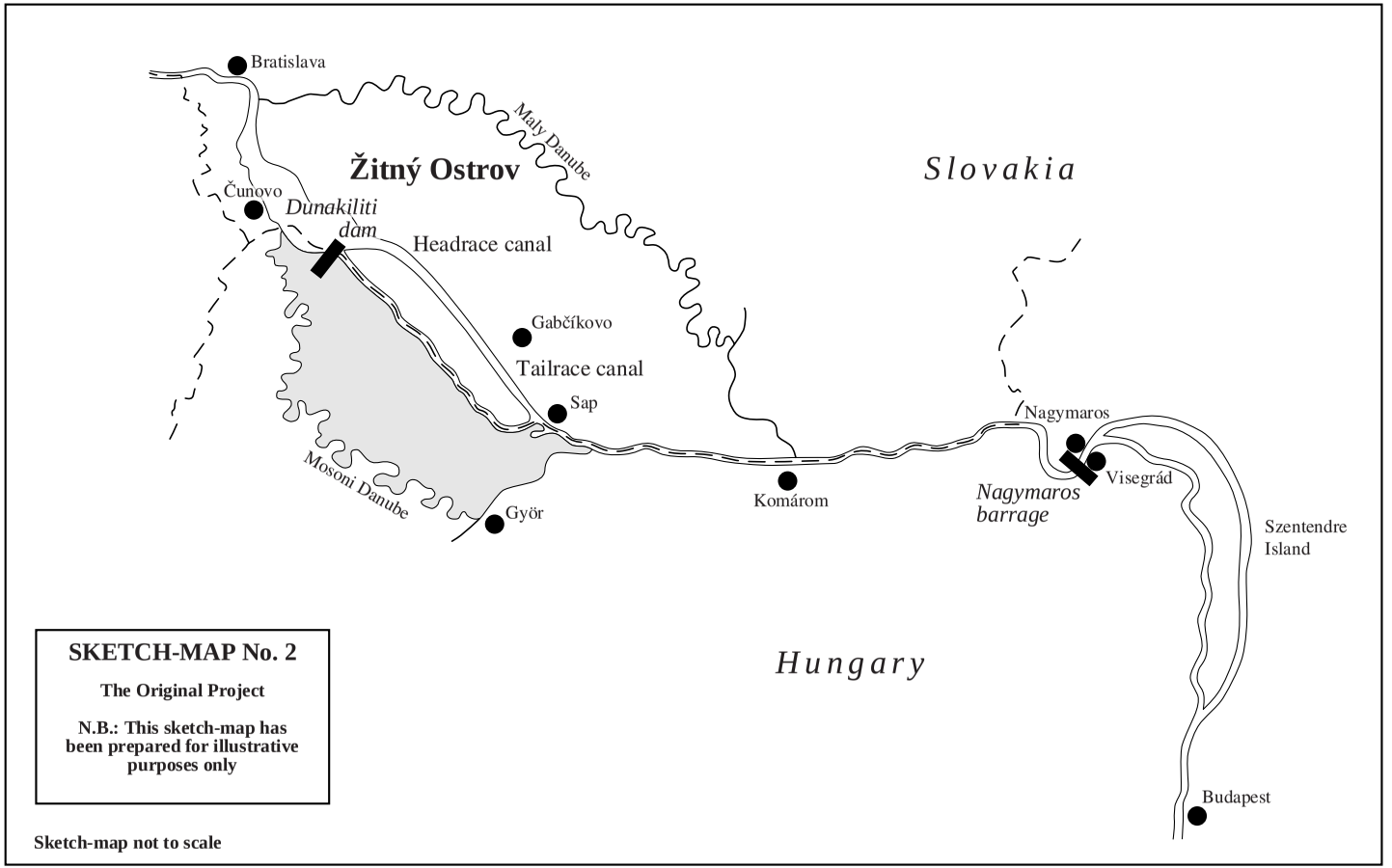


6.8 Map depicting the judgment boundary in the *Land, Island and Maritime Dispute* case between El Salvador and Honduras (source: [1992] ICJ Rep)

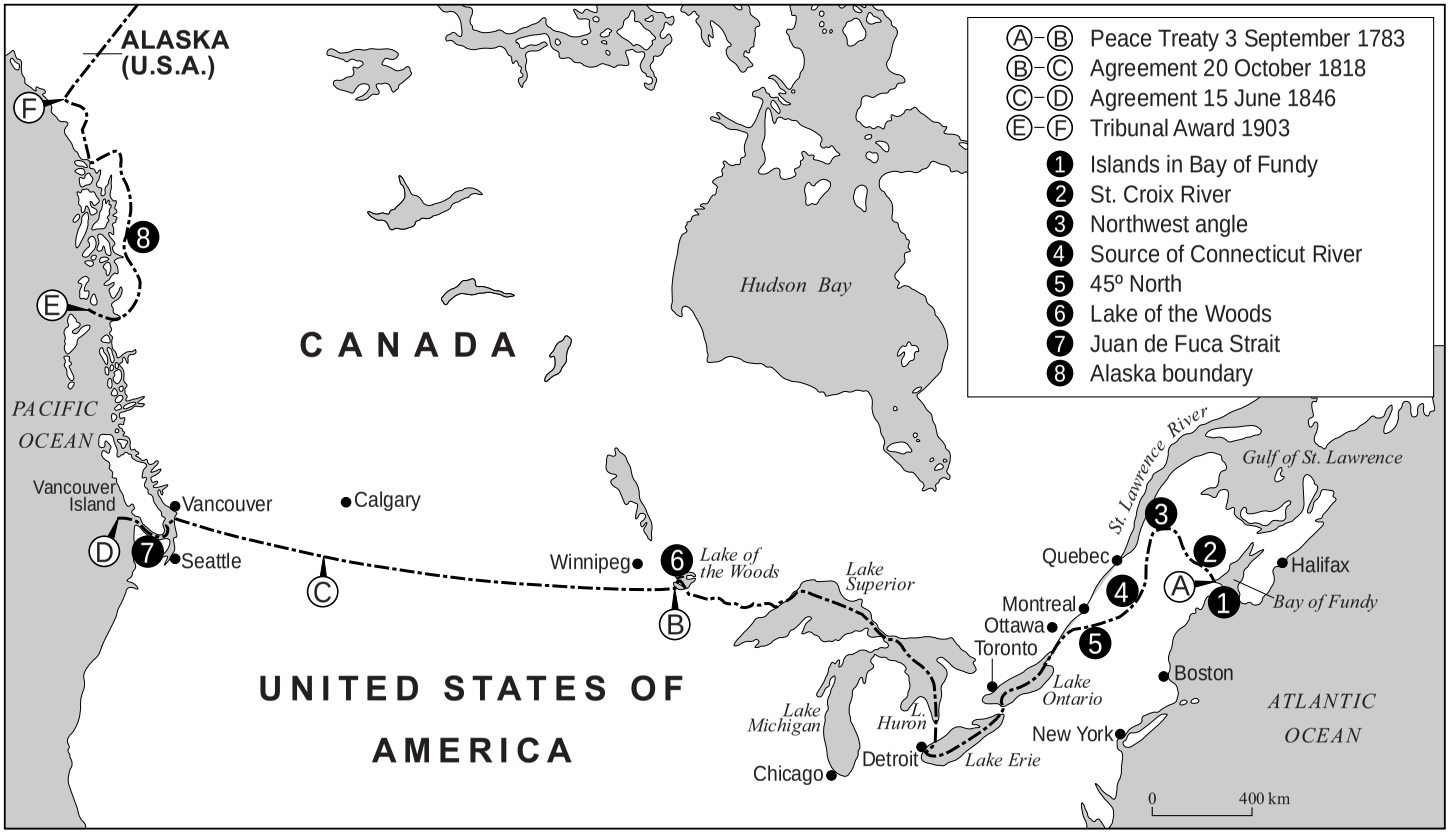
MAP SHOWING THE TWO CHANNELS AROUND KASIKILI/SEDUDU ISLAND
ACCORDING TO BOTSWANA
(*Source:* Botswana Judges' Folder — Section 4)



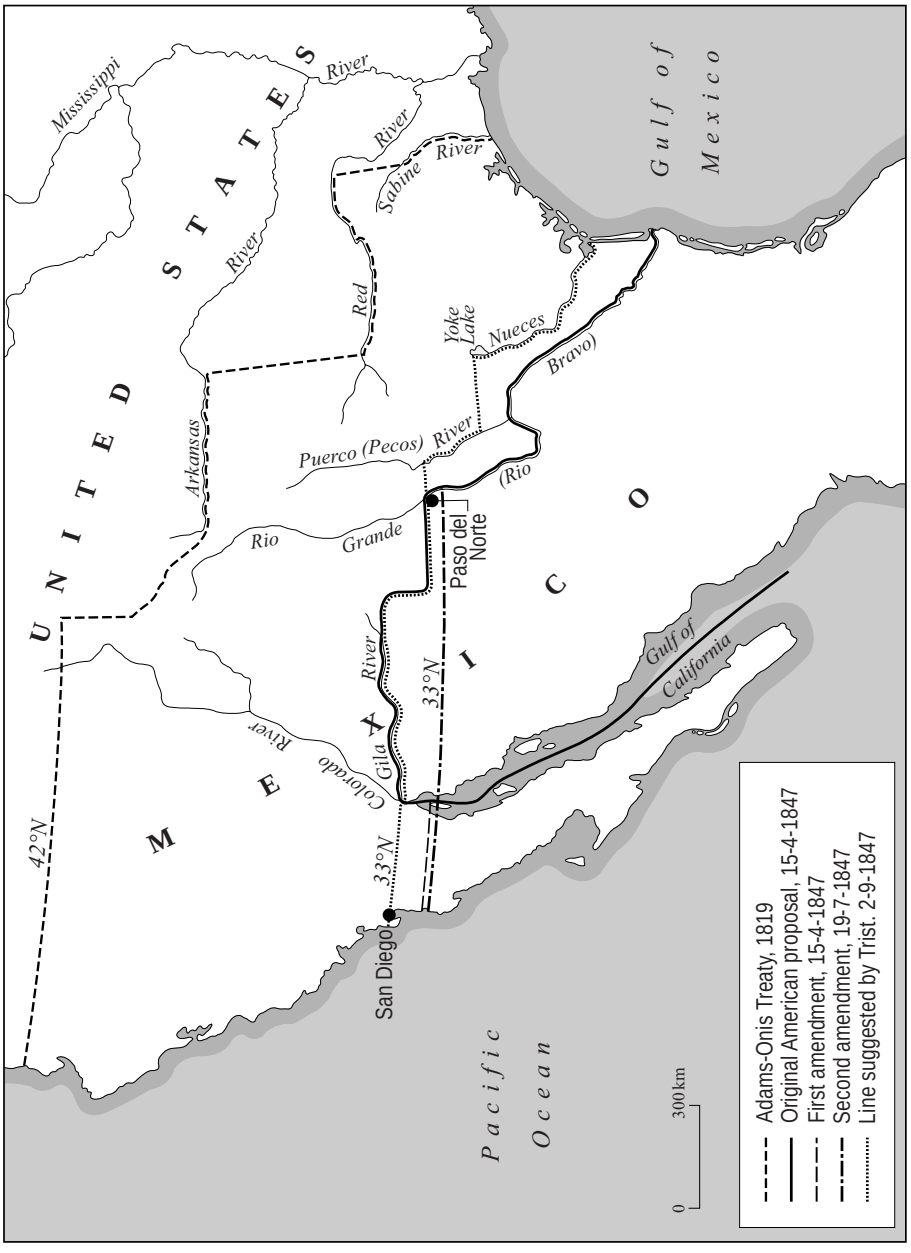
7.1 Map depicting the two channels around Kasikili/Sedudu Island according to Botswana, in the *Kasikili/Sedudu Island* case (source: [1999] ICJ Rep 1068)



7.2 Map depicting the original project in the *Gabčíkovo-Nagymaros* case (source: [1997] ICJ Rep 21)



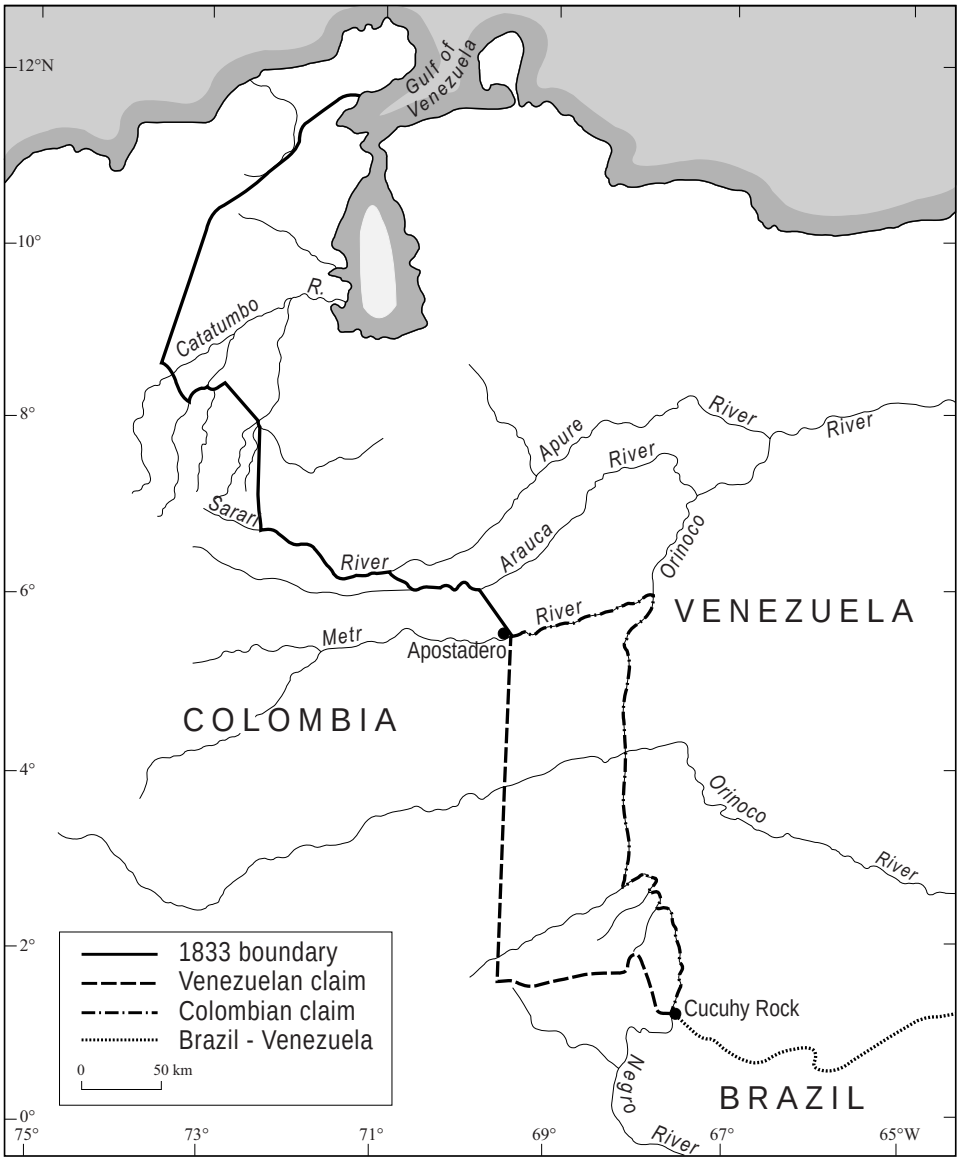
8.1 Boundaries of Canada and the United States



8.2 The Mexican-United States boundaries

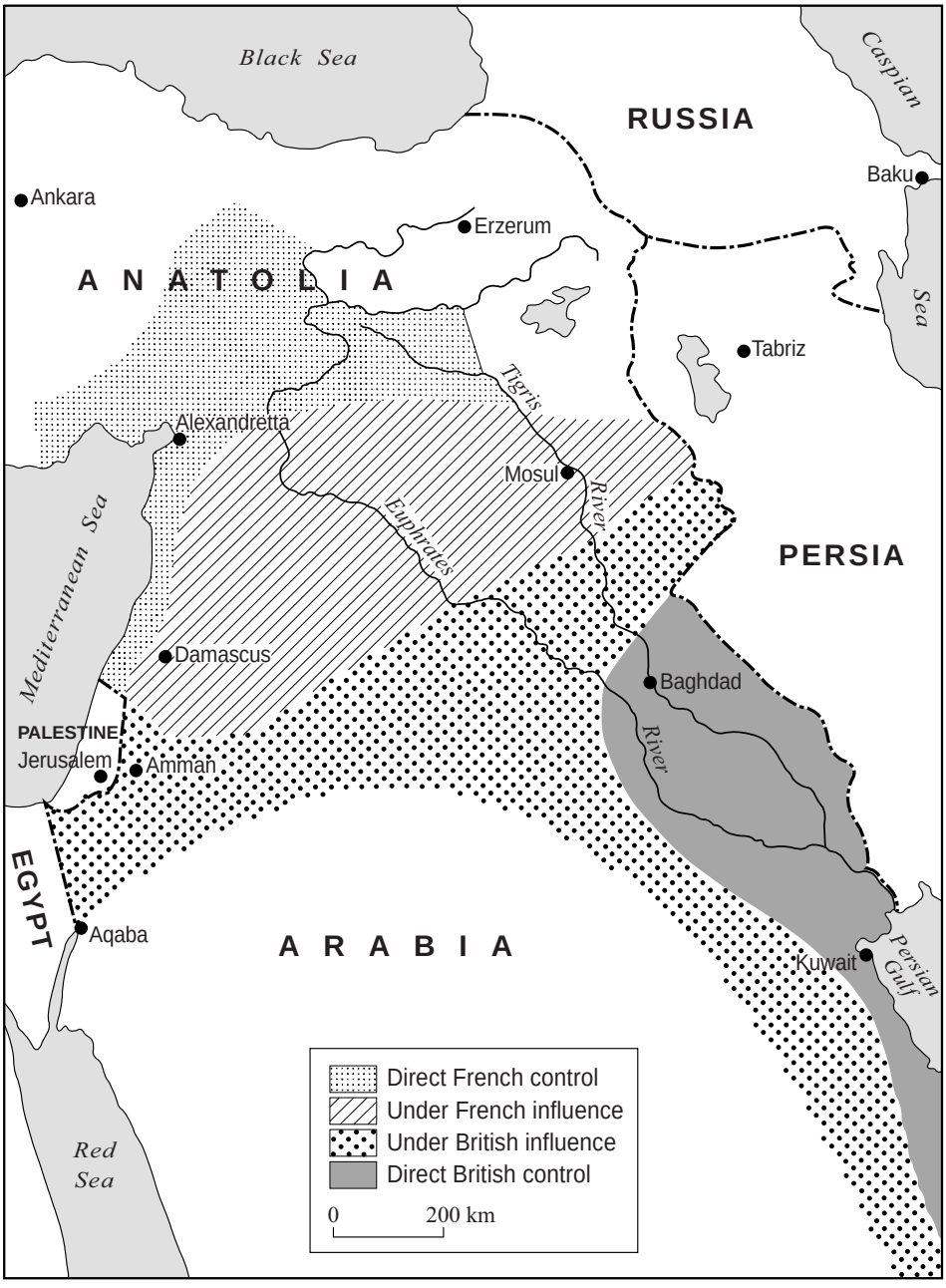
8.3 Occupation of South America by Portugal and Spain

8.4 Latin America after the Wars of Independence 1825



8.5 Colombia-Venezuela boundary

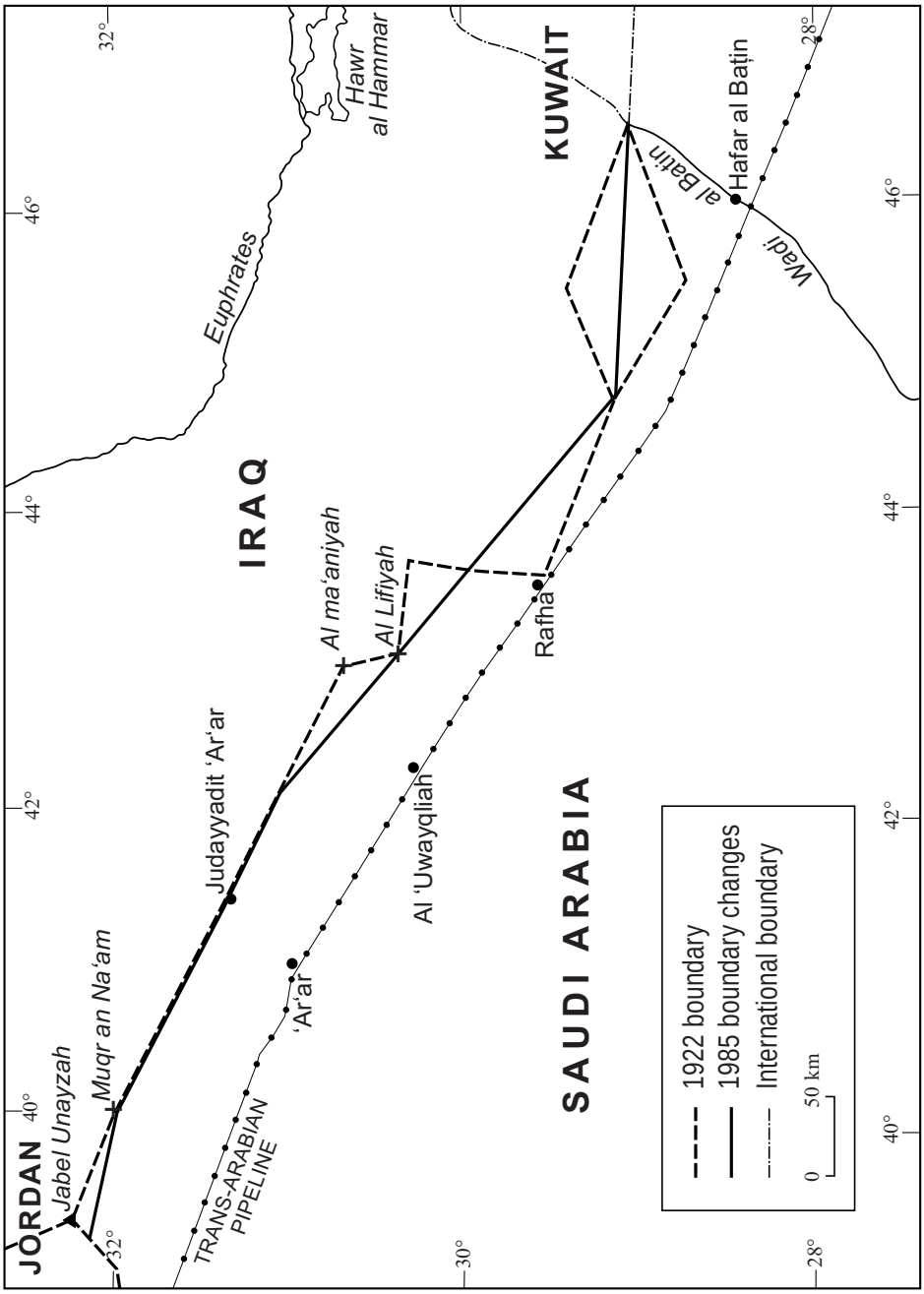
8.6 Argentina-Paraguay boundary



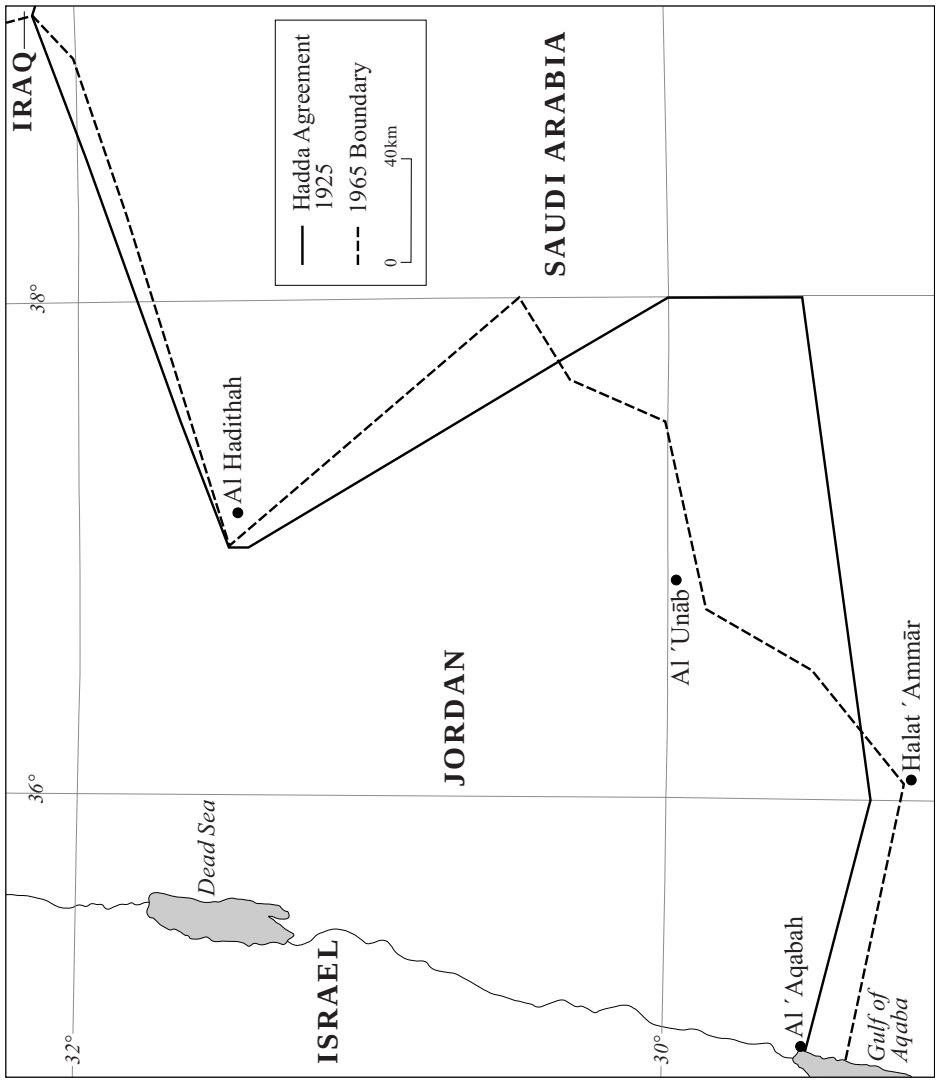
9.1 British and French occupations after 1918

9.2 The Afghanistan-Iran boundary

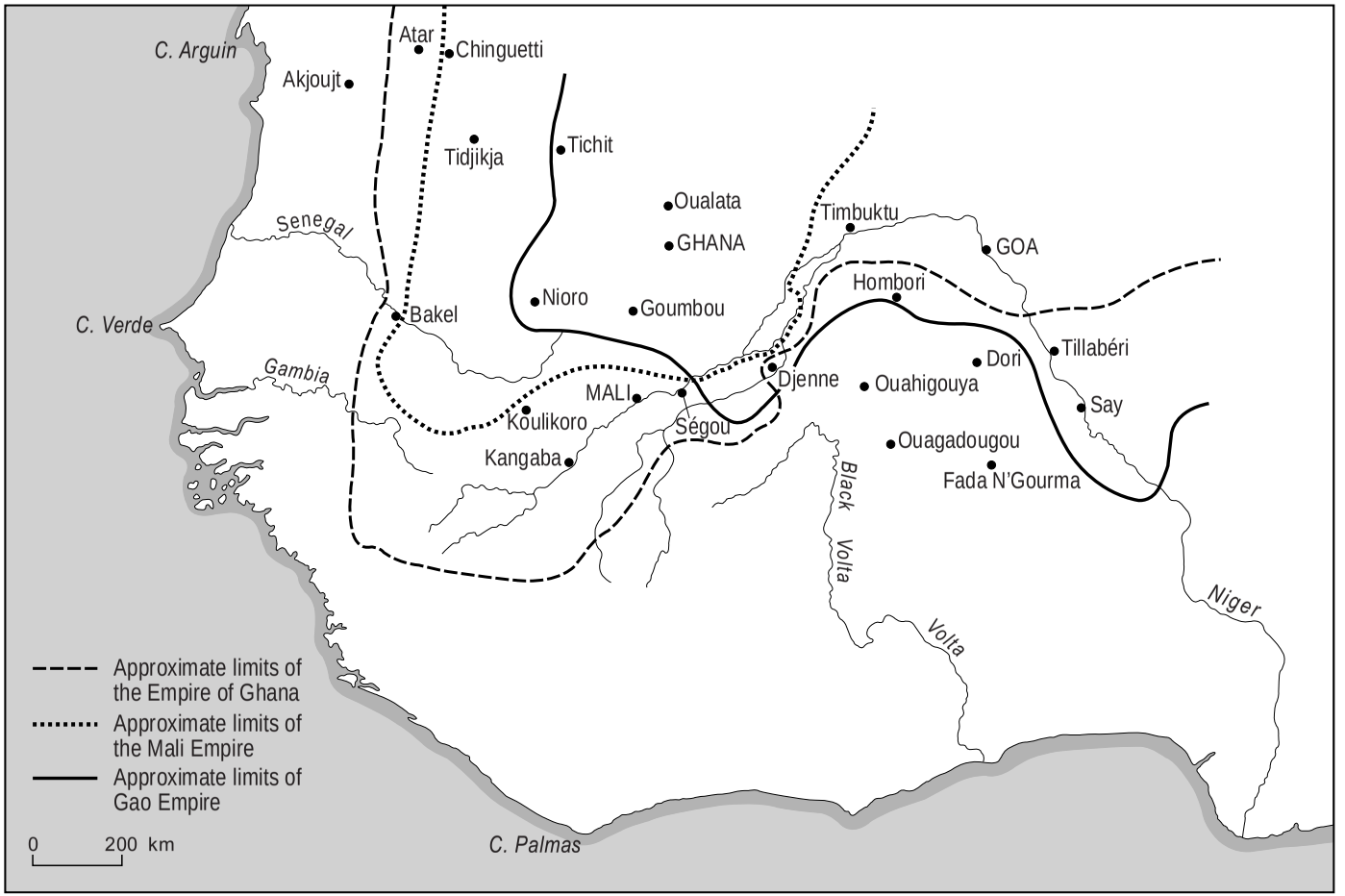
9.3 Kuwait's boundaries



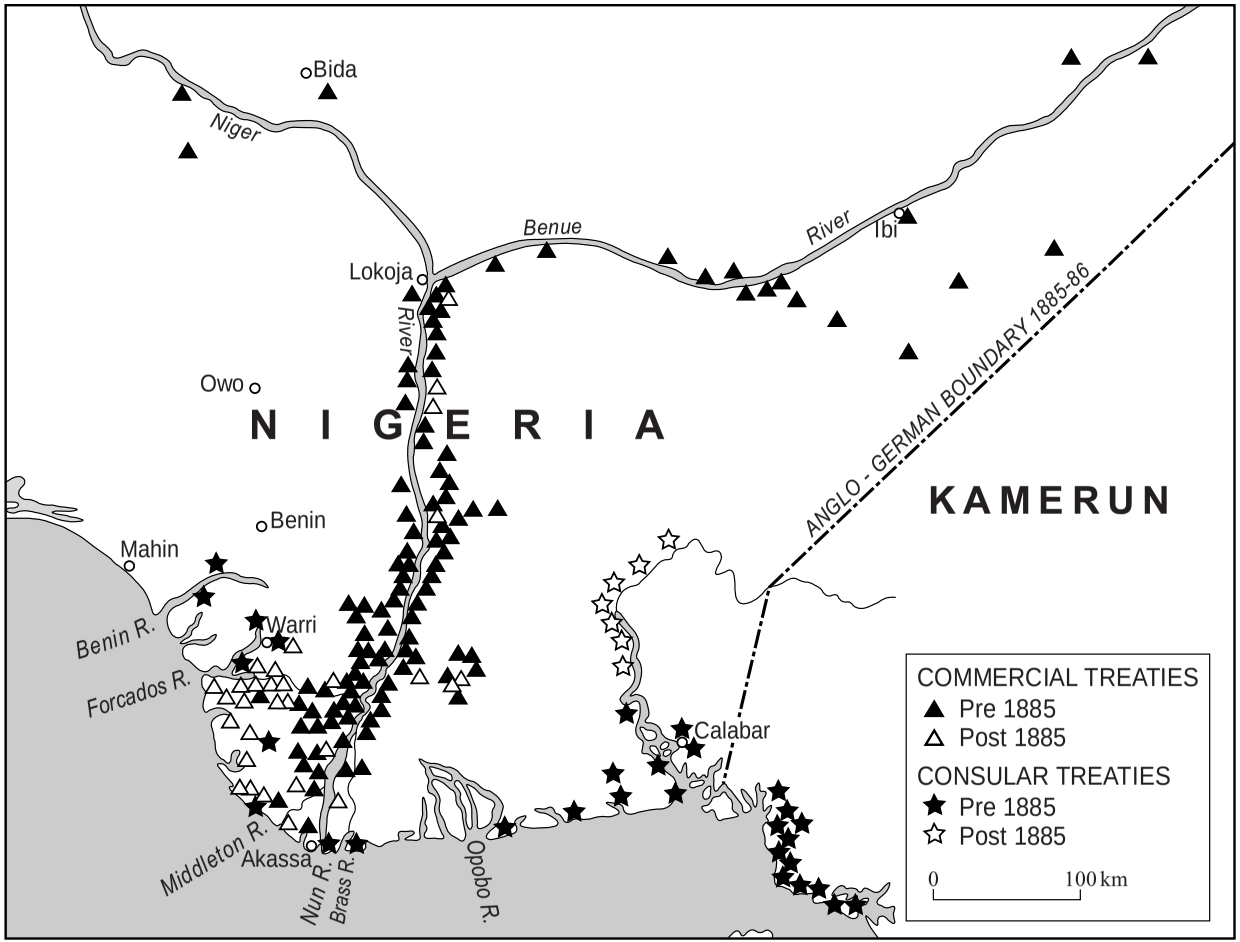
9.4 Adjustments in the Iraq-Saudi Arabia boundary



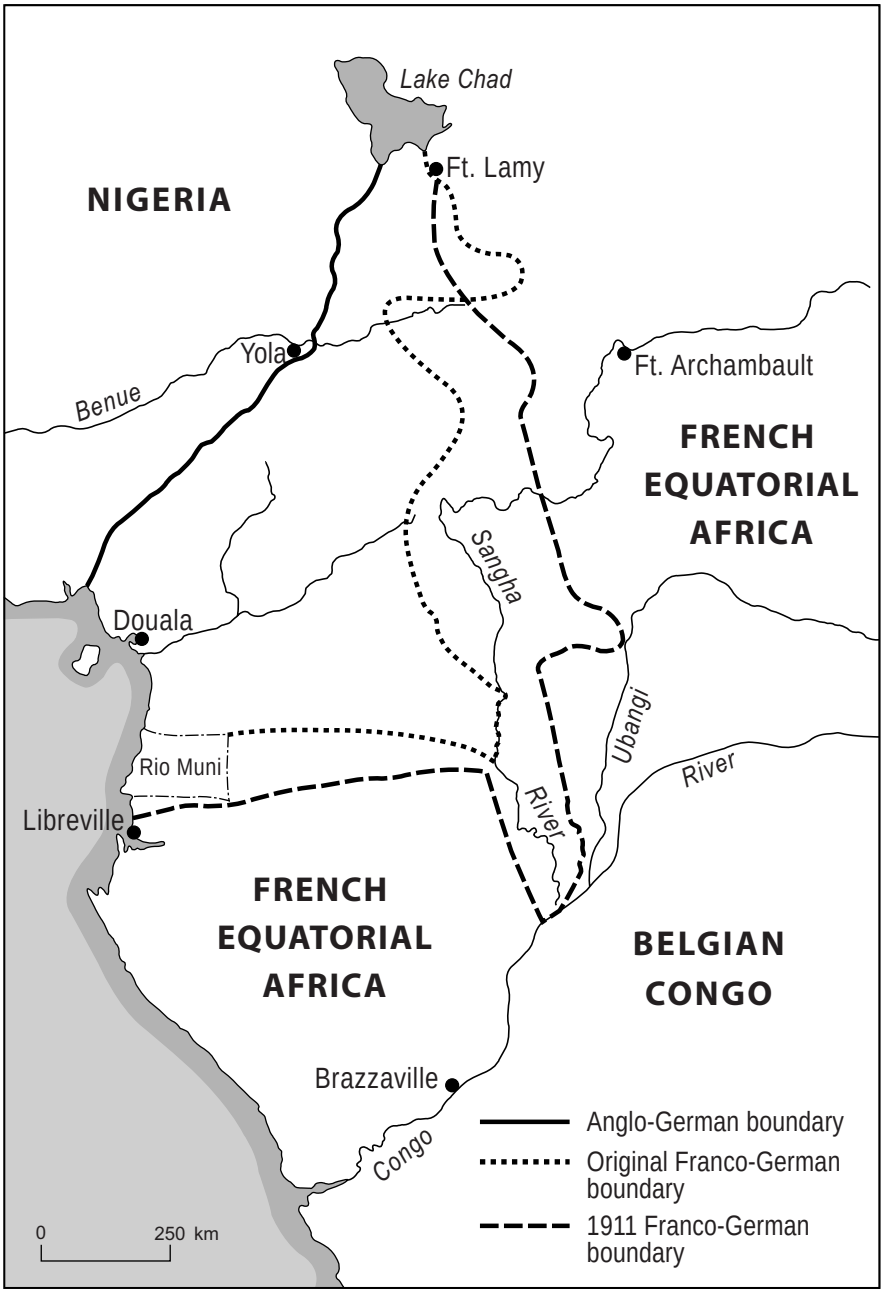
9.5 The revised Jordan-Saudi Arabia boundary



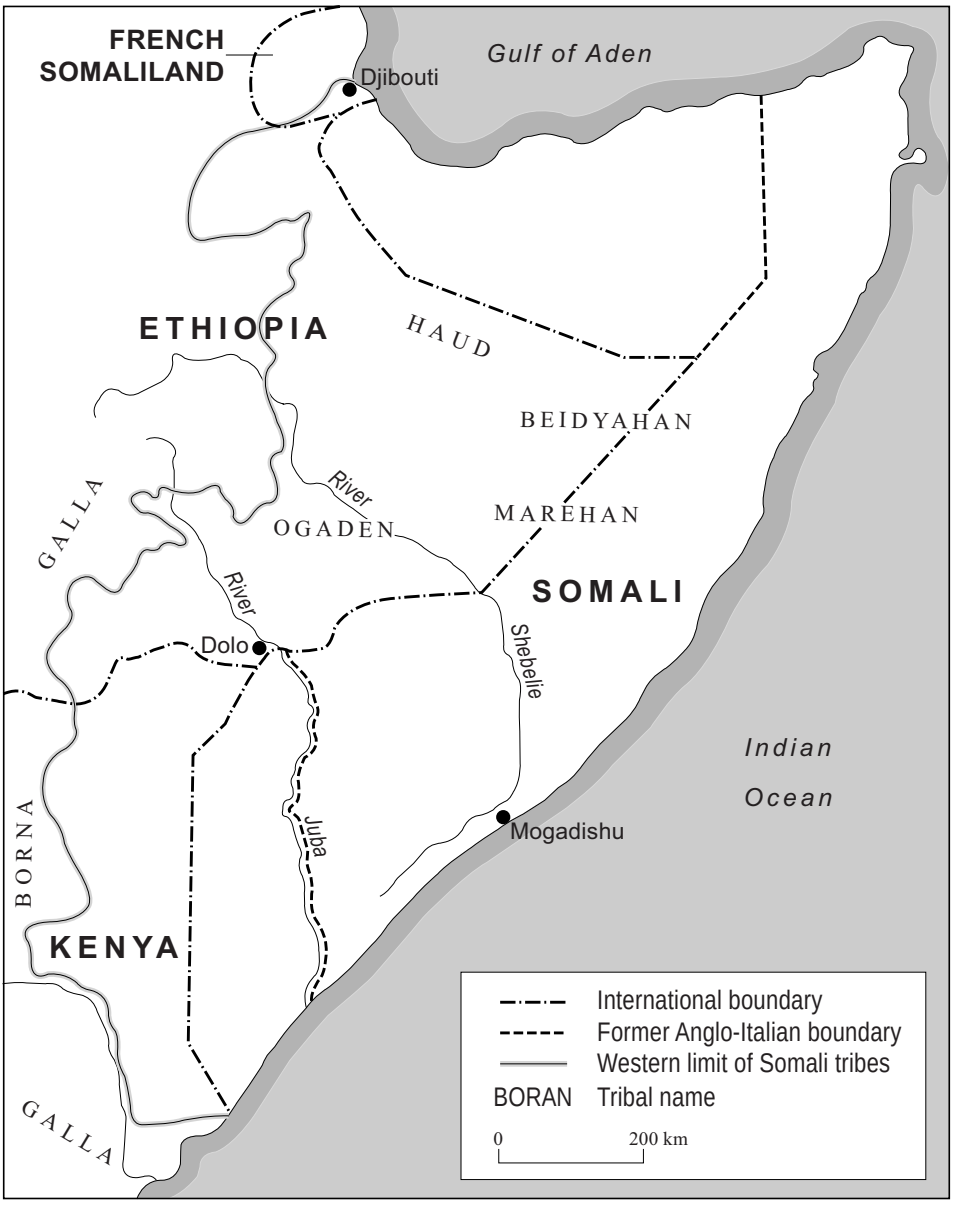
10.1 Empires of West Africa



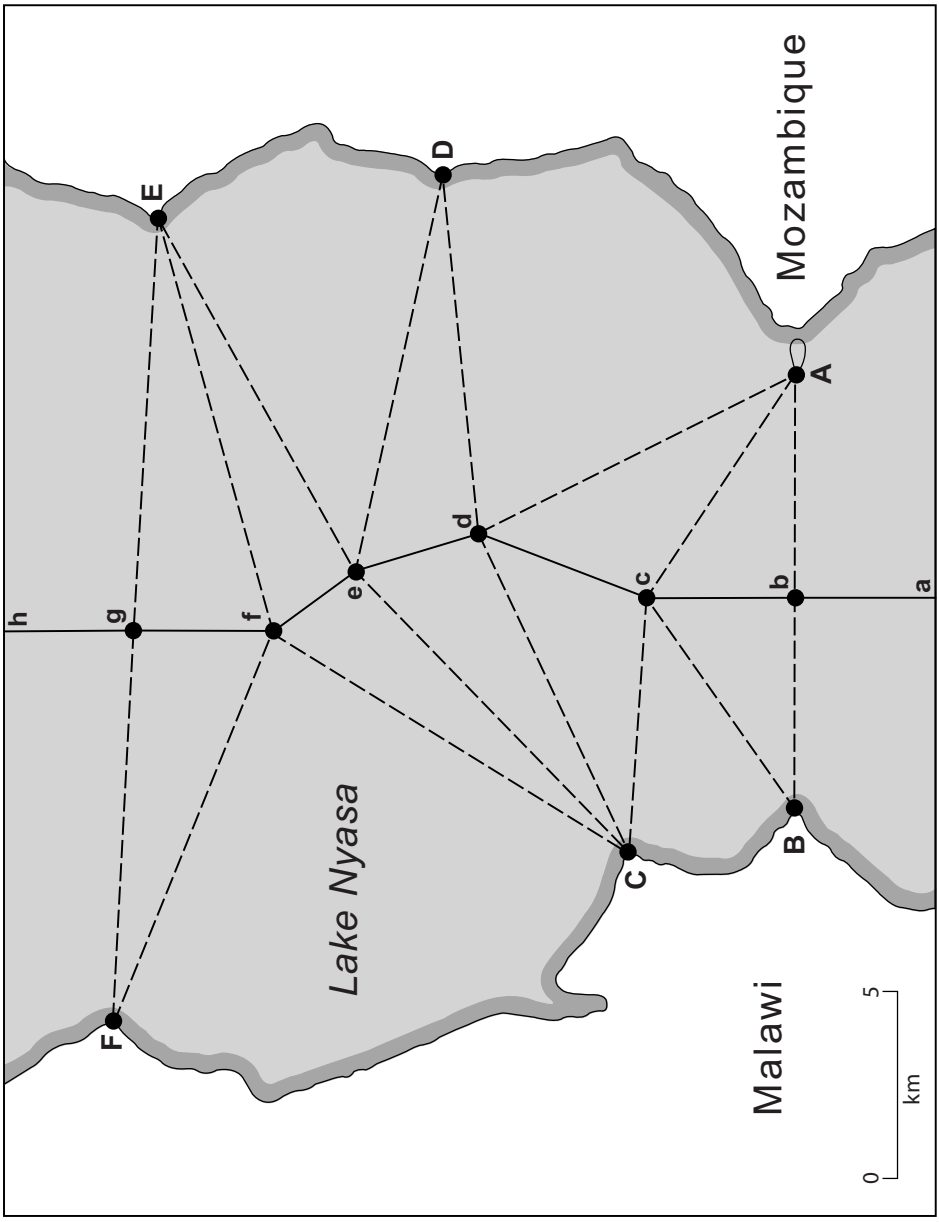
10.2 British treaties in the Niger Delta and along the Niger and Benue Rivers



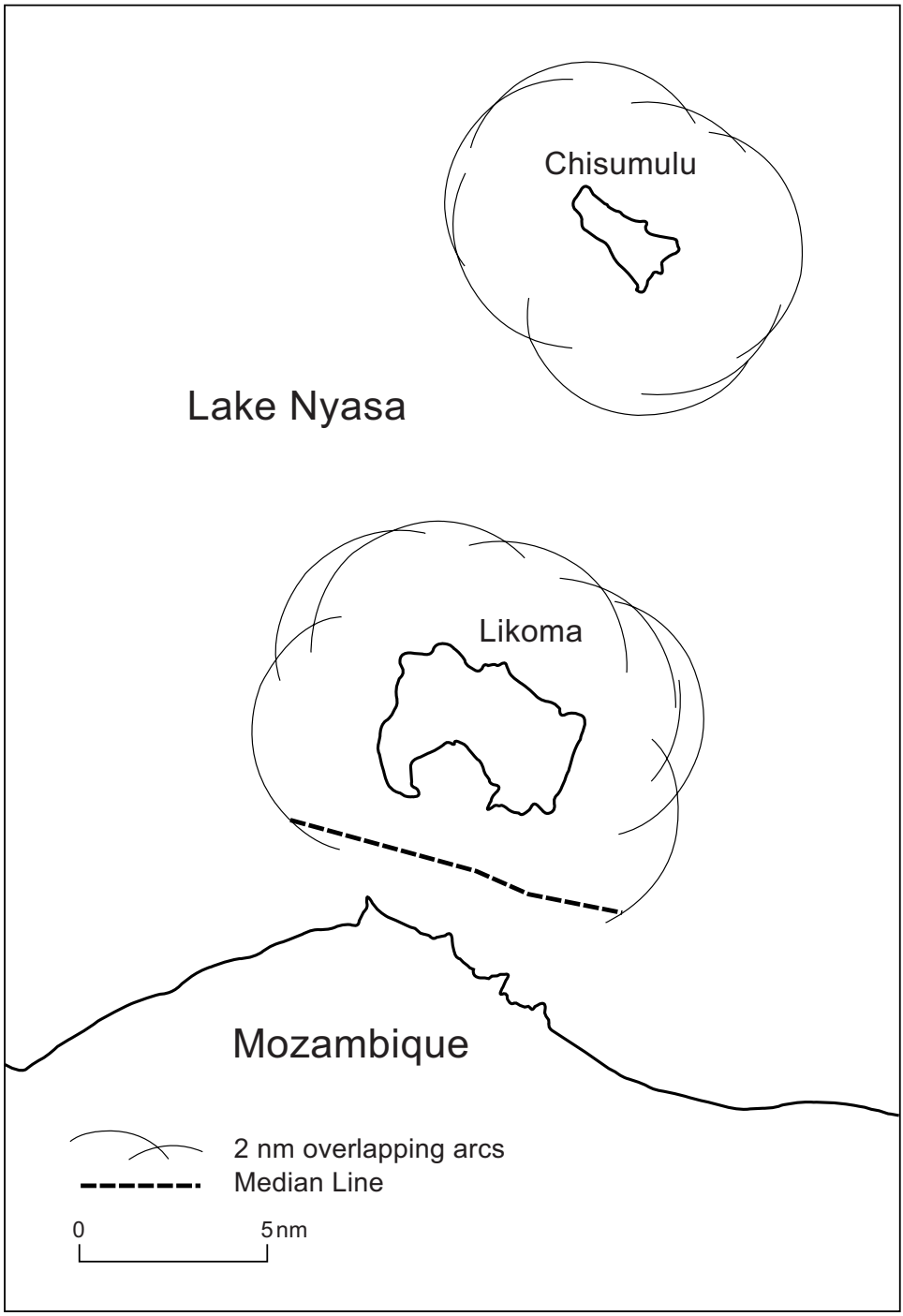
10.3 German gains in 1911



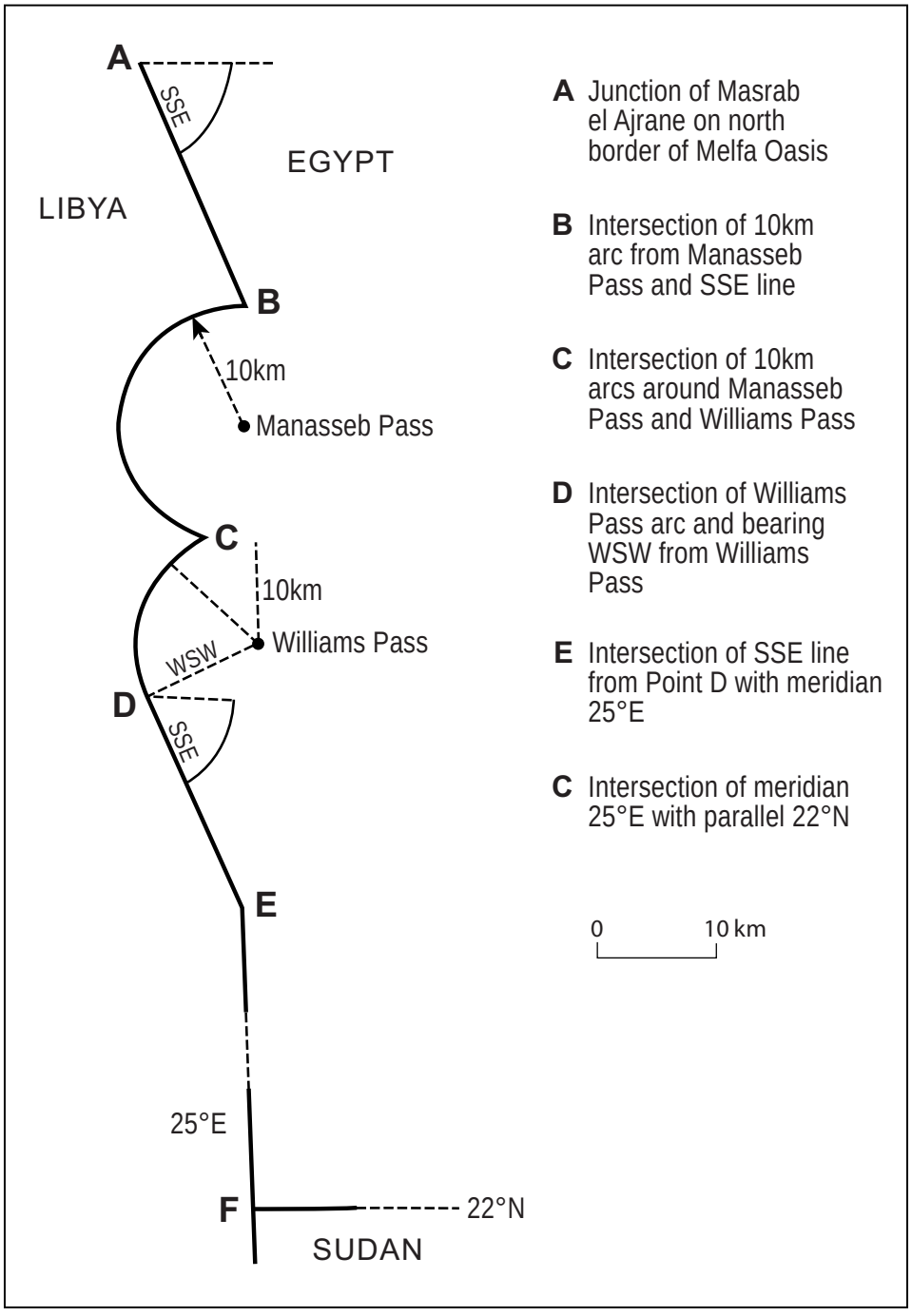
10.4 Italian gains in the Horn of Africa



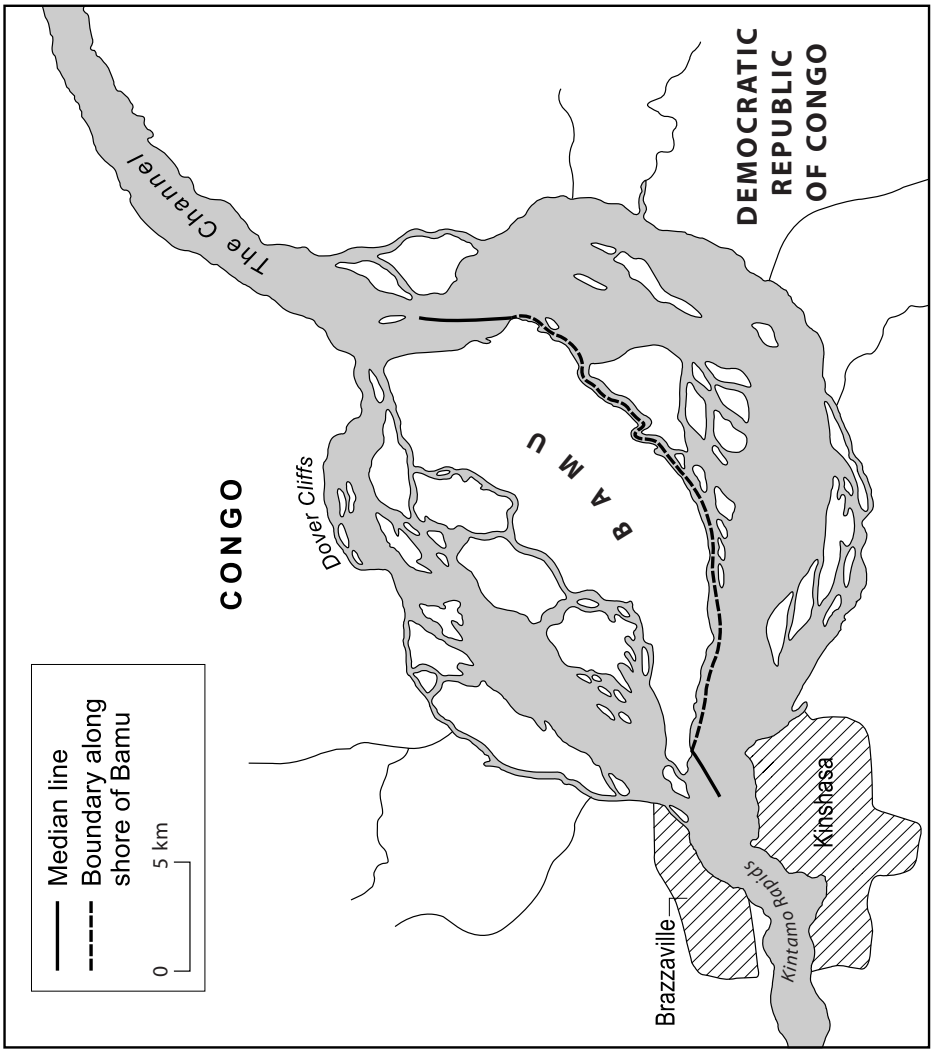
10.5 The Malawi-Mozambique equidistant boundary



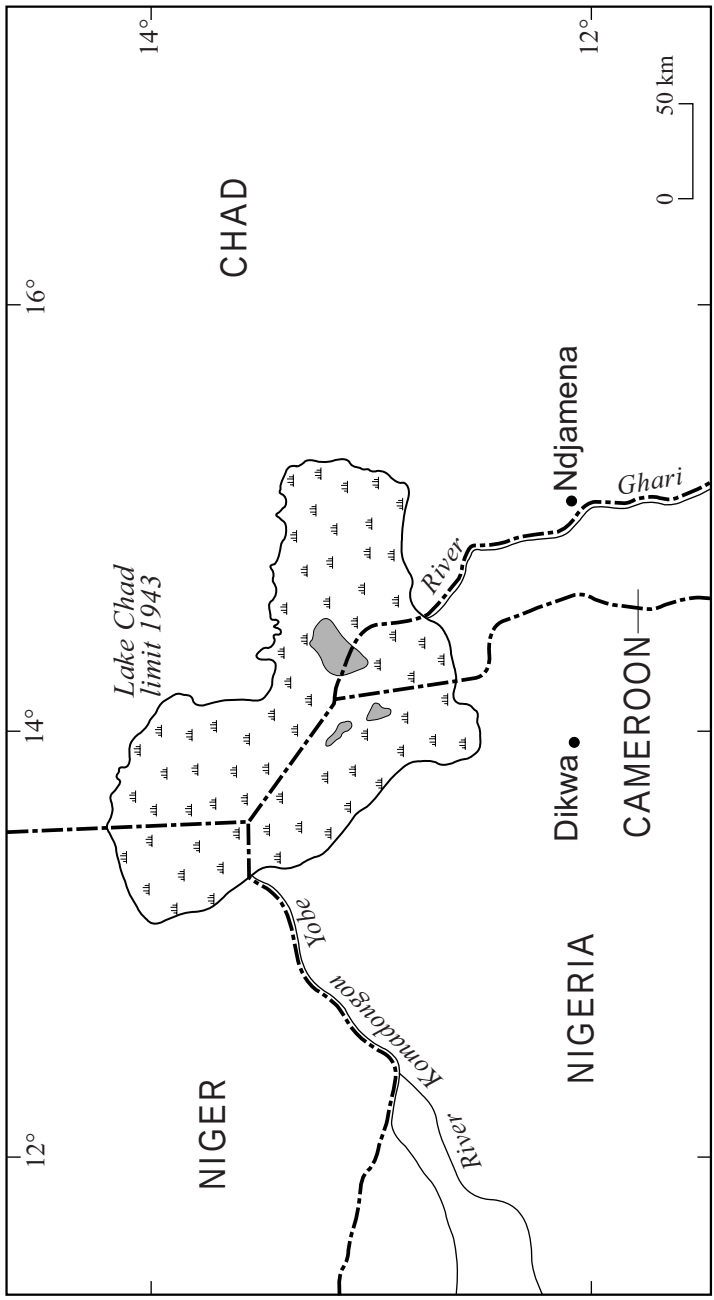
10.6 Water boundaries in Lake Nyasa



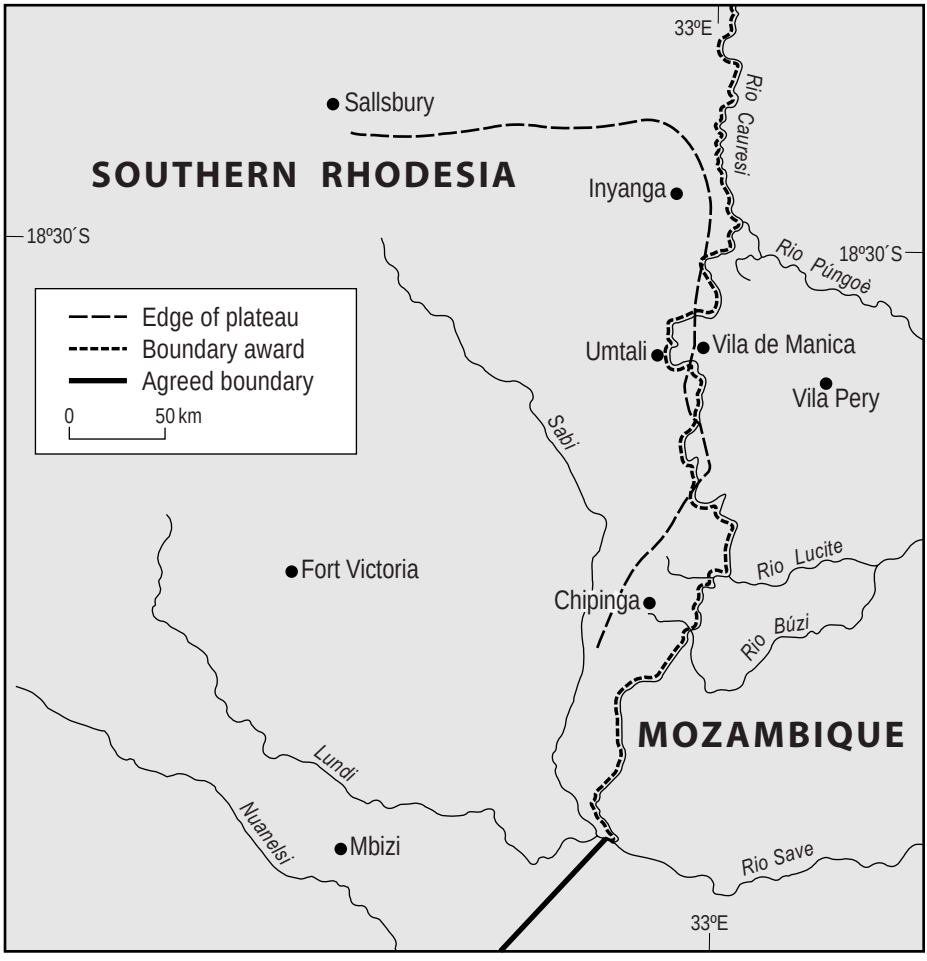
10.7 The geometric boundary between Egypt and Libya



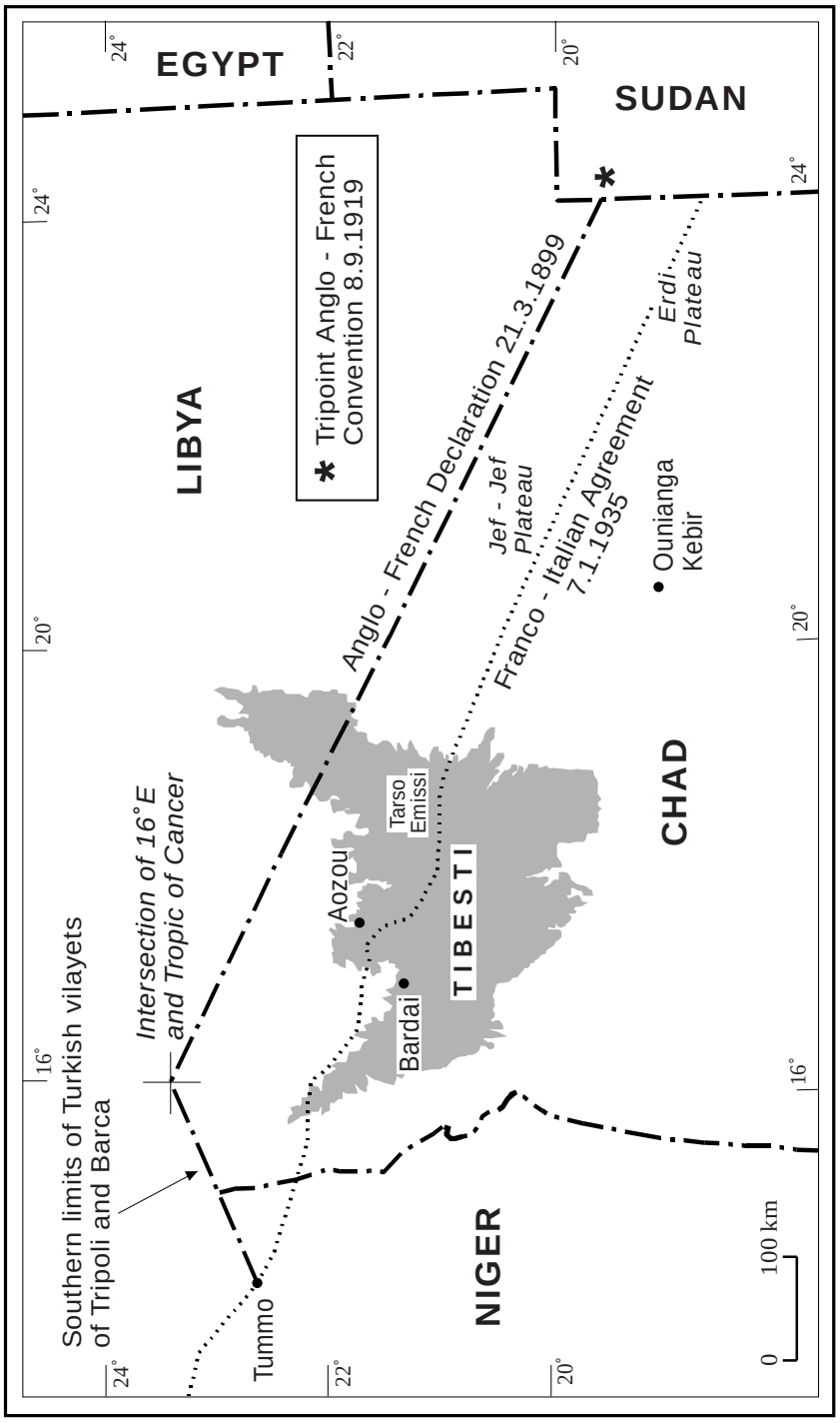
10.8 Boundaries in Stanley Pool



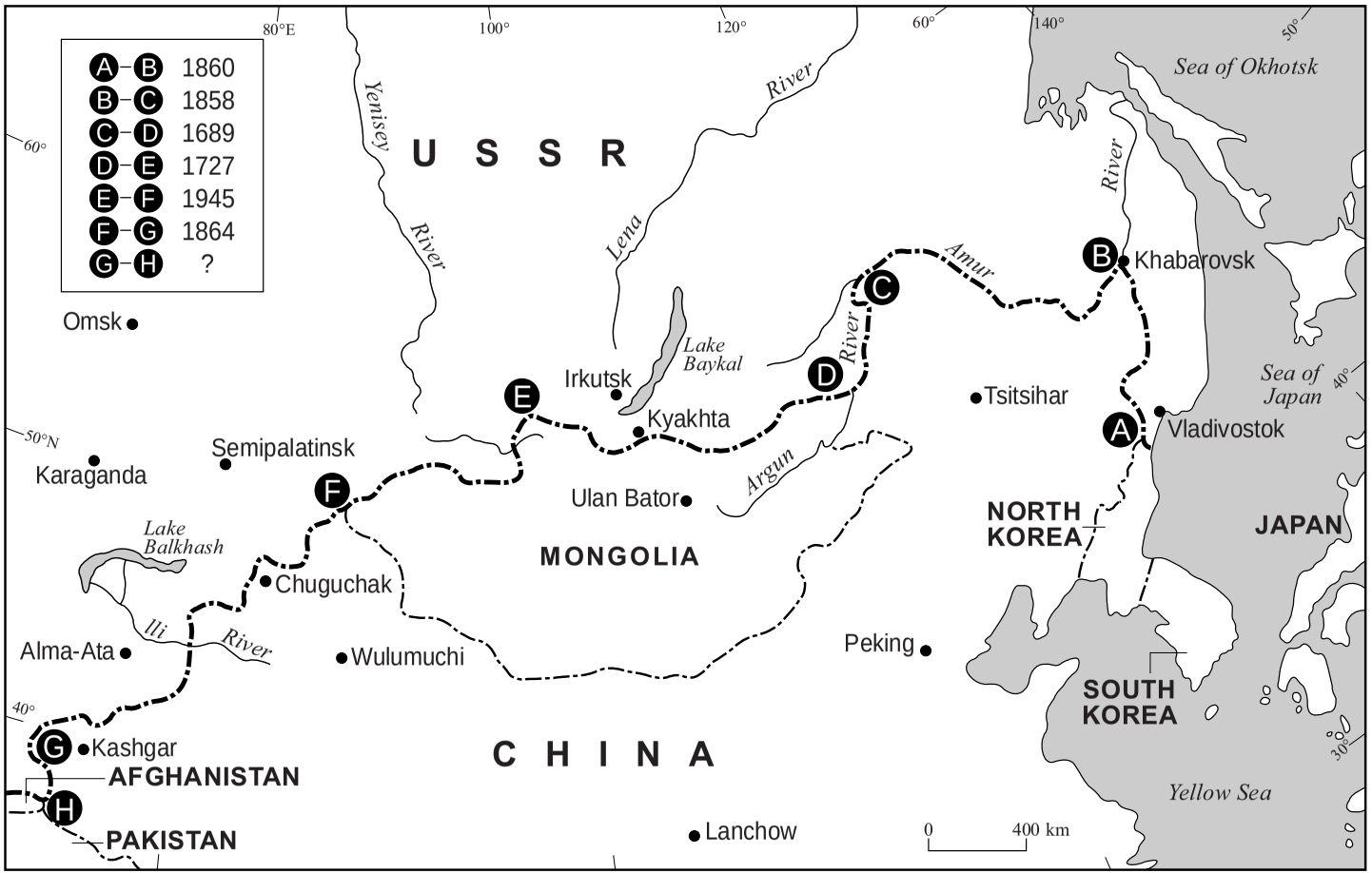
10.9 Boundaries in the former Lake Chad



10.10 The Anglo-Portuguese adjudication

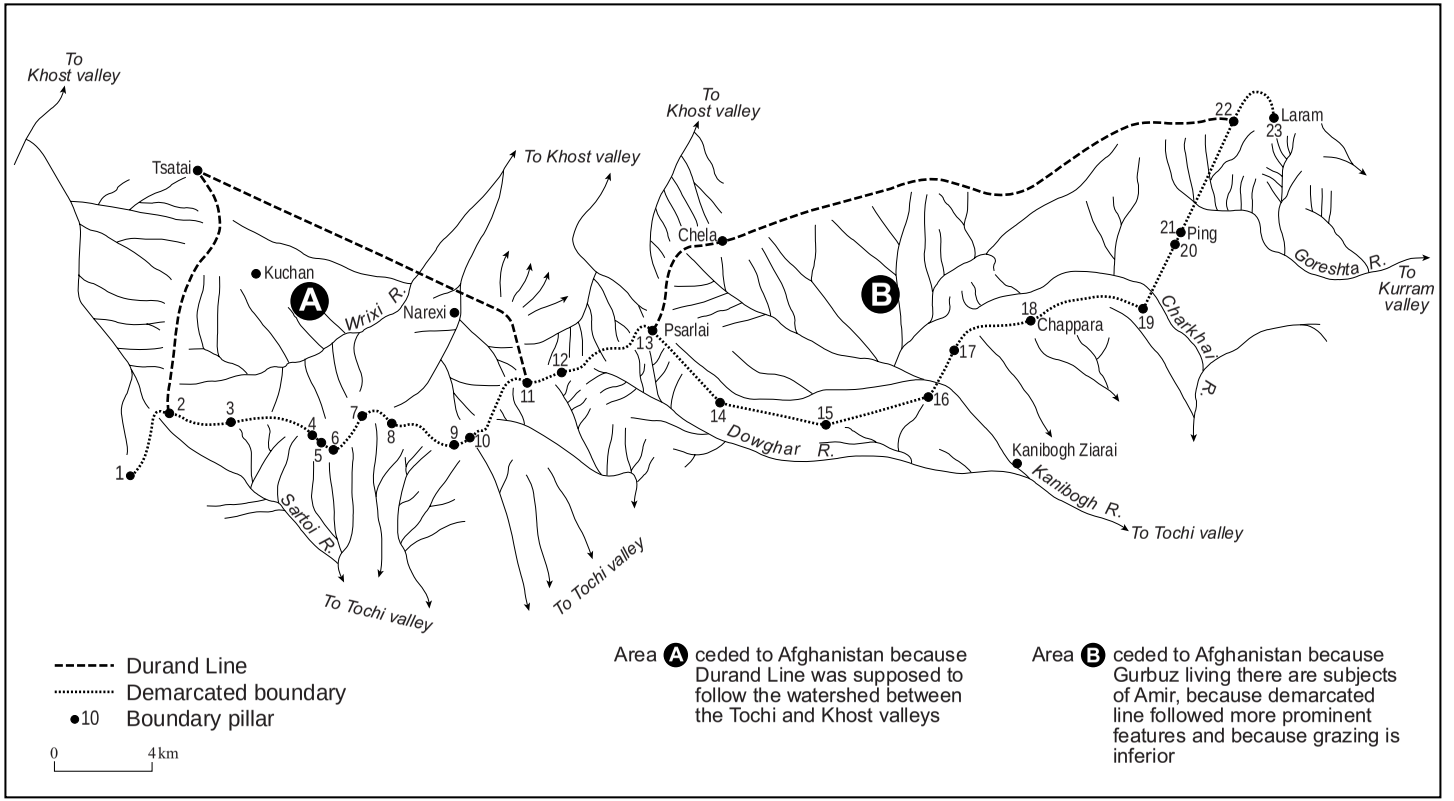


10.11 The Chad-Libya adjudication

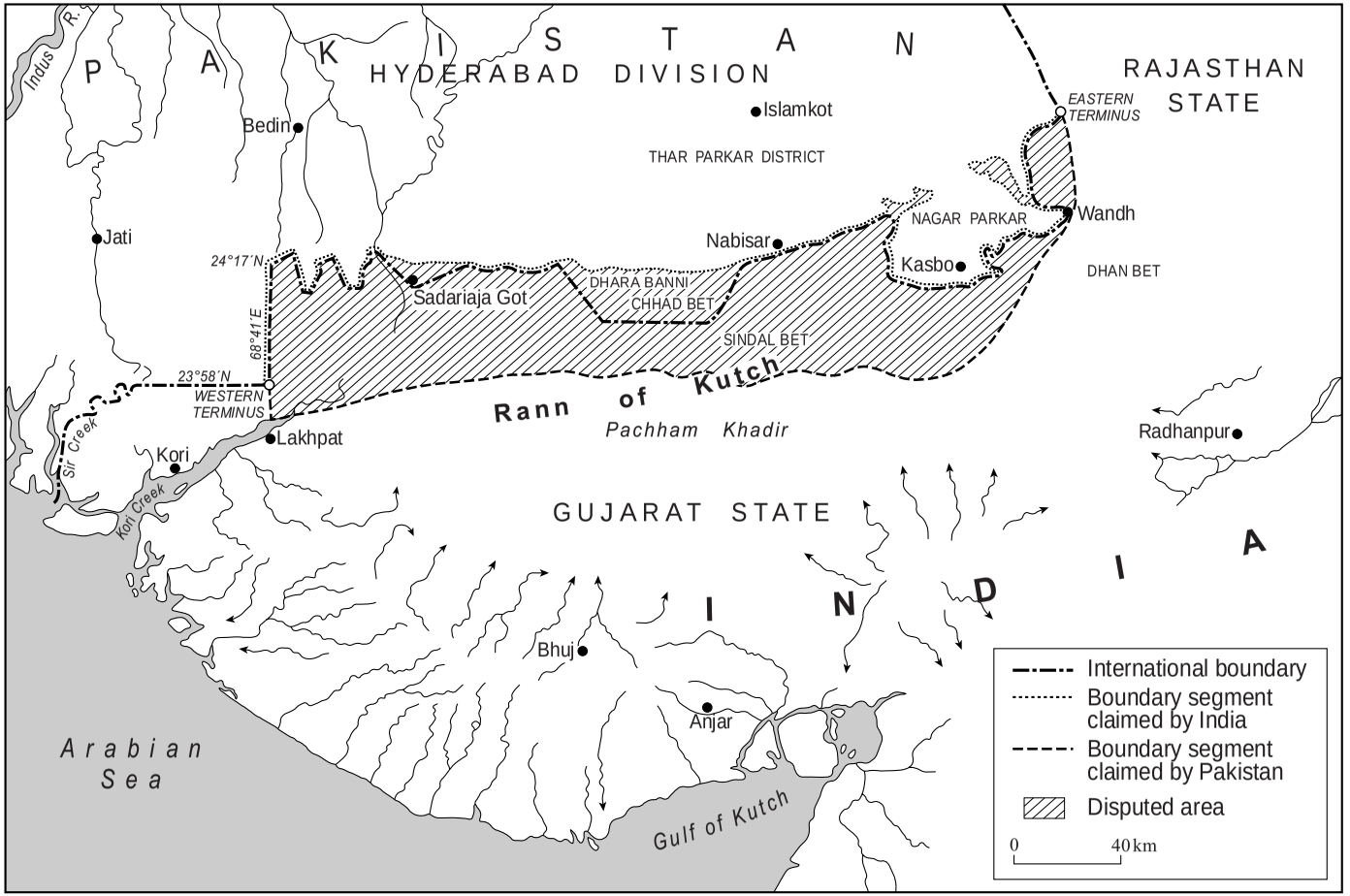


11.1 The Sino-Russian boundary

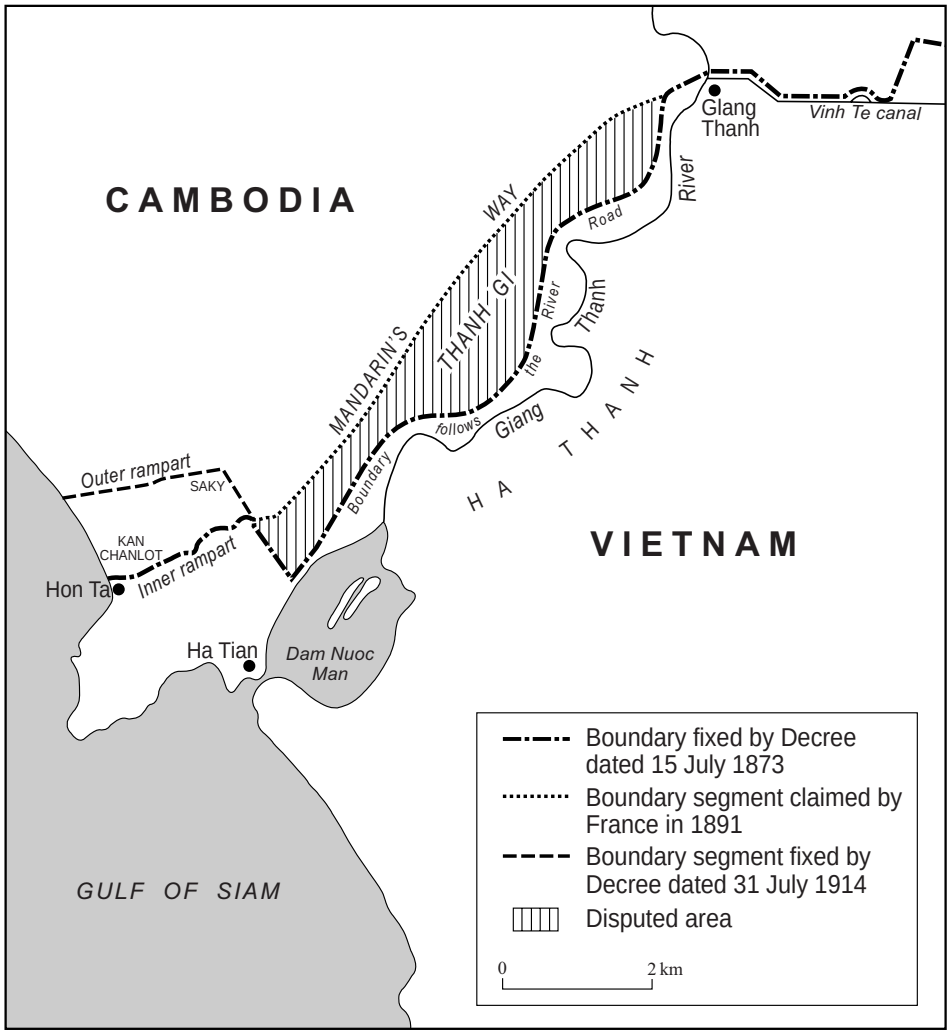
11.2 The Afghan-Russian boundary



11.3 Adjustments to the Durand Line



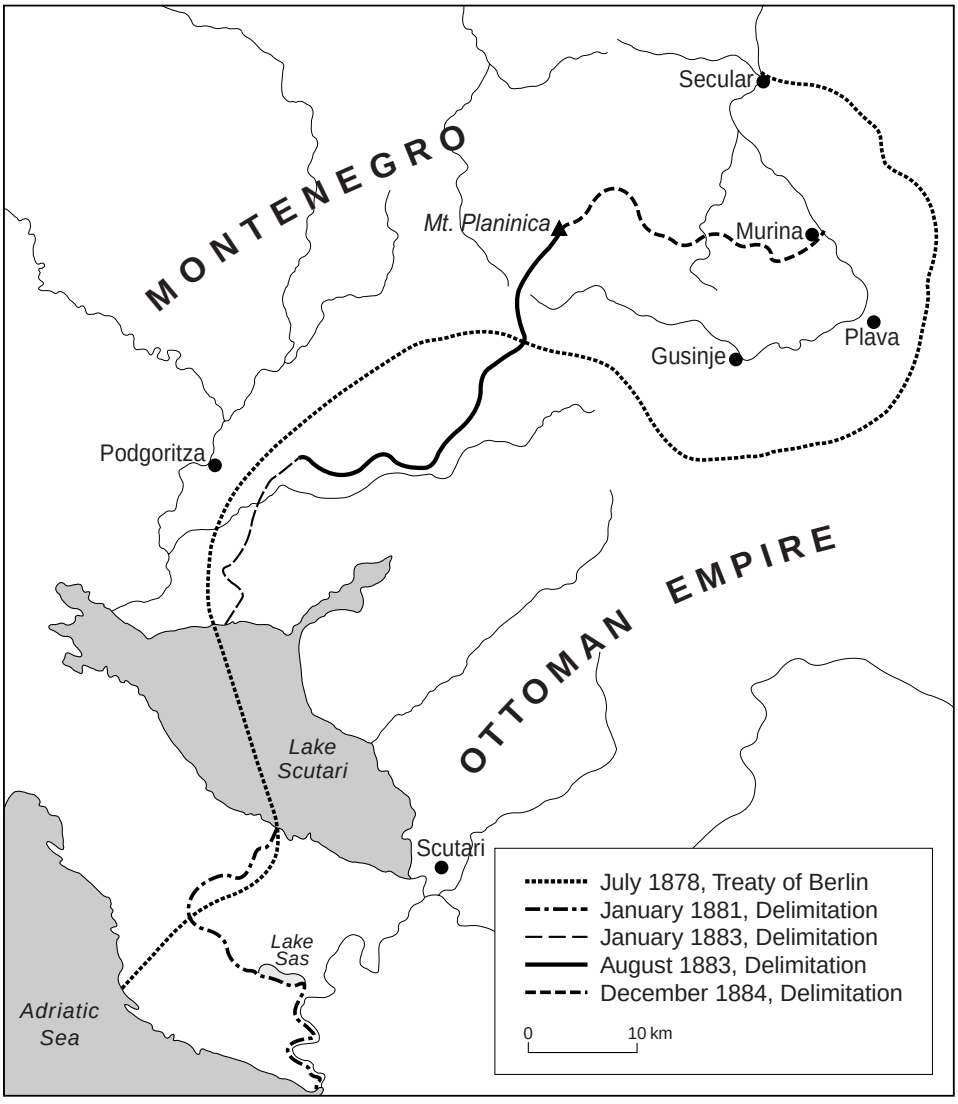
11.4 Resolution of the Rann of Kutch dispute



11.5 Adjustments to the Cambodia-Vietnam boundary

12.1 The origins of Italy

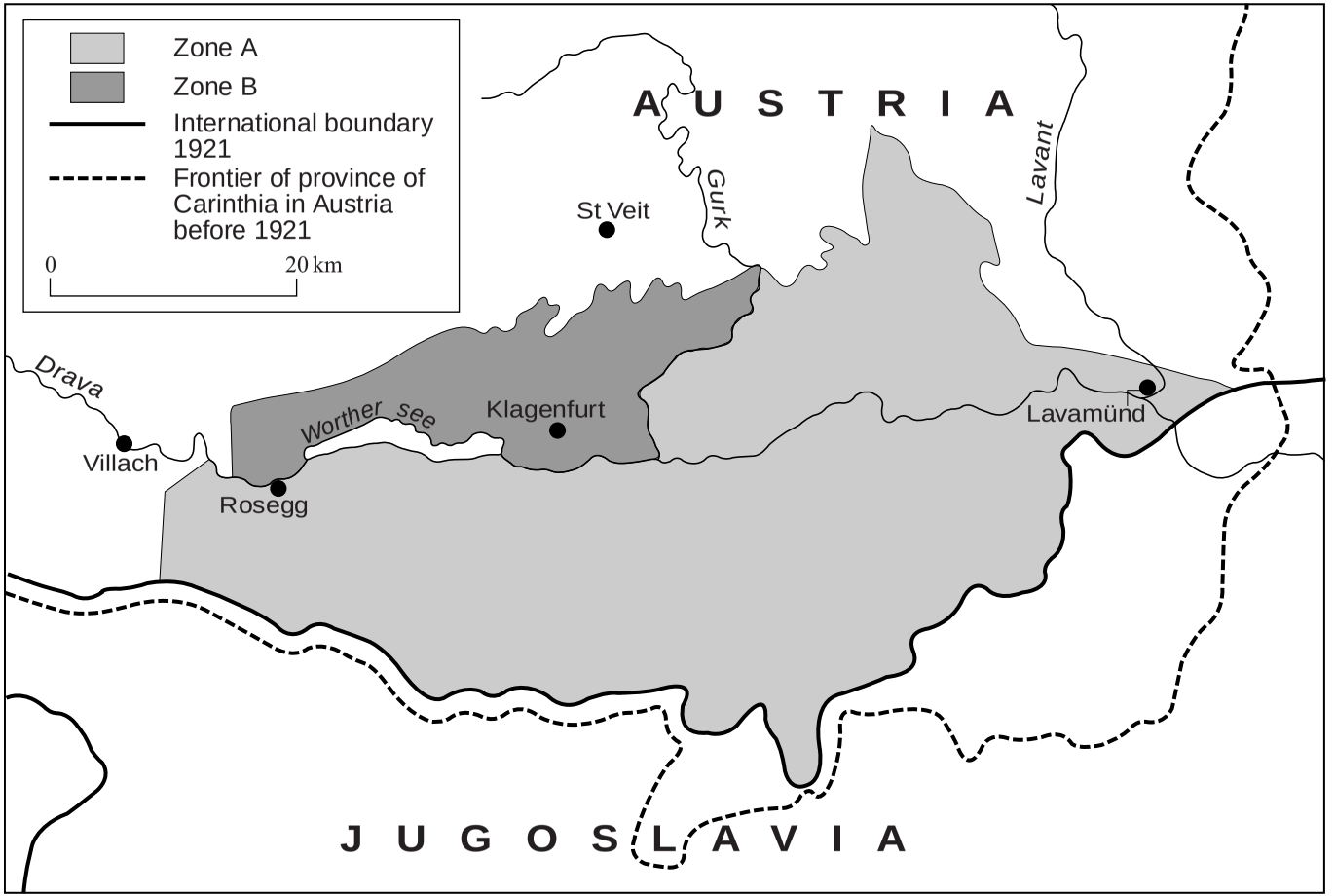
12.2 The territories lost by the Ottoman Empire 1878-85



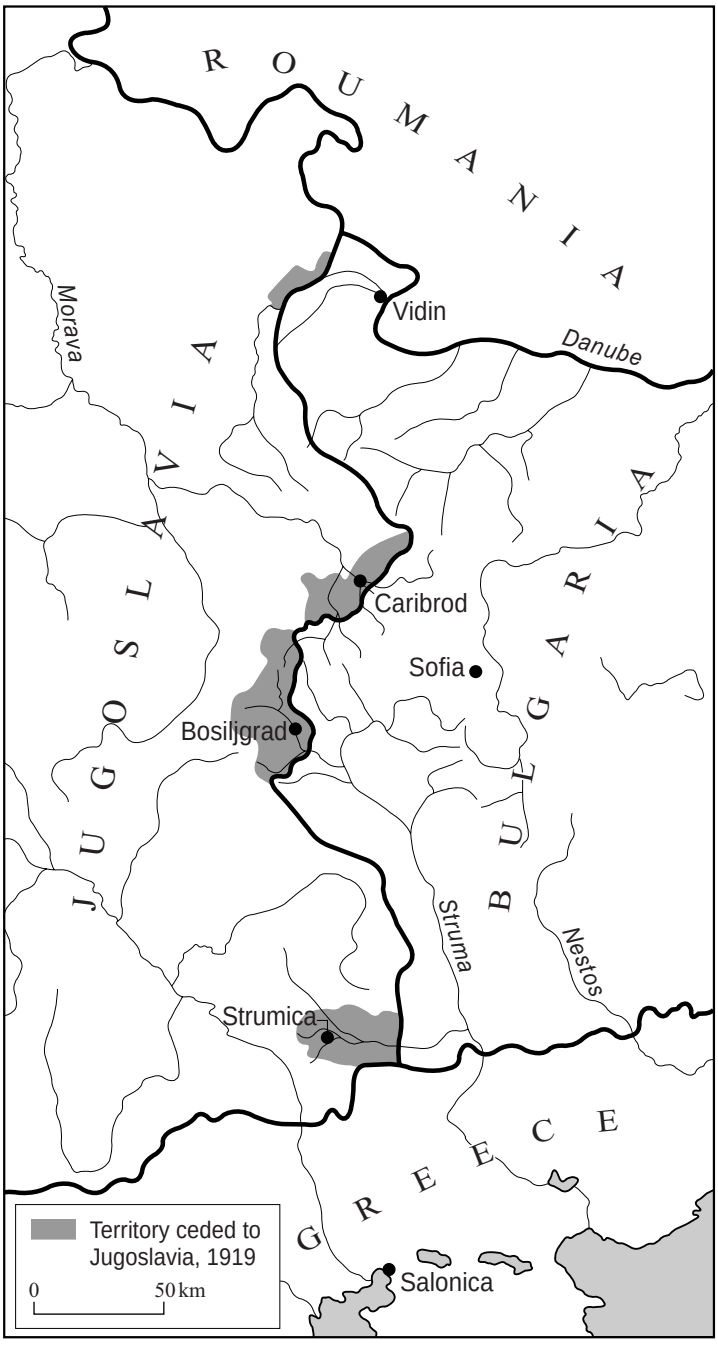
12.3 The boundary between Montenegro and the Ottoman Empire

12.4 The chain of new and modified states after World War I

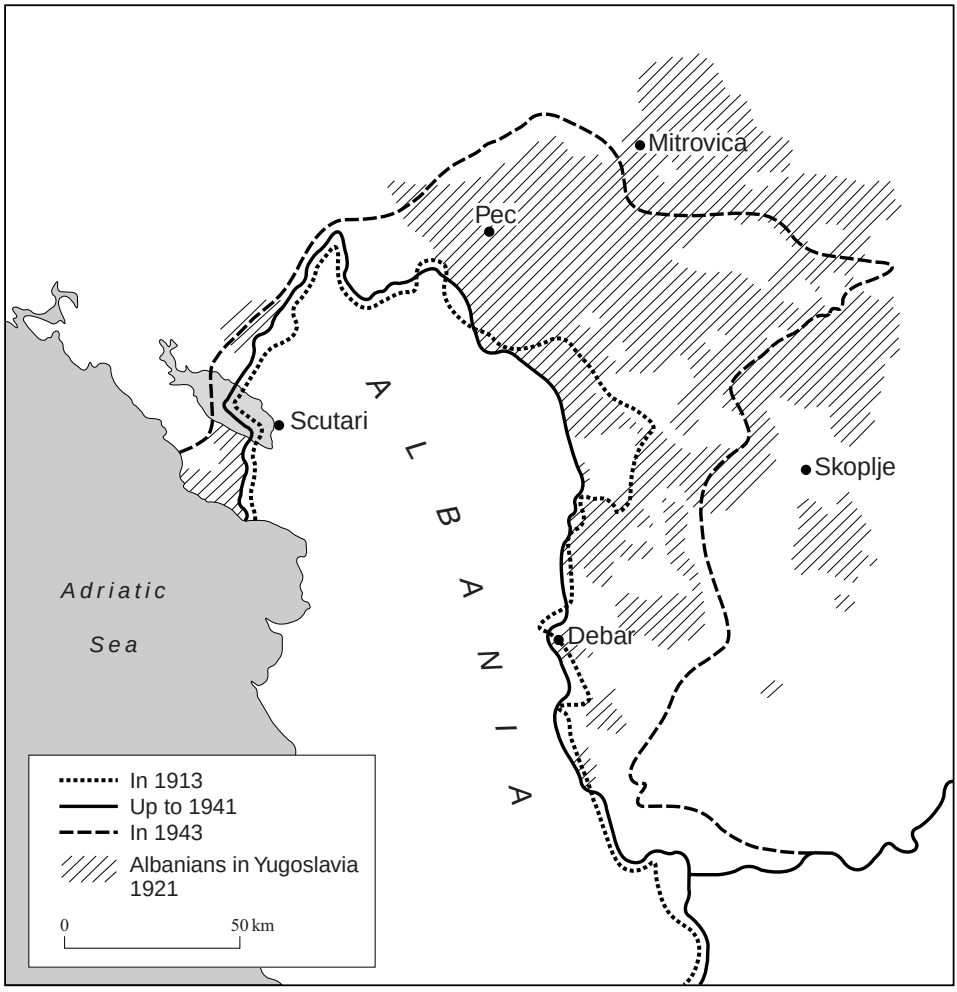
12.5 The formation of Yugoslavia 1918



12.6 The Klagenfurt plebiscite

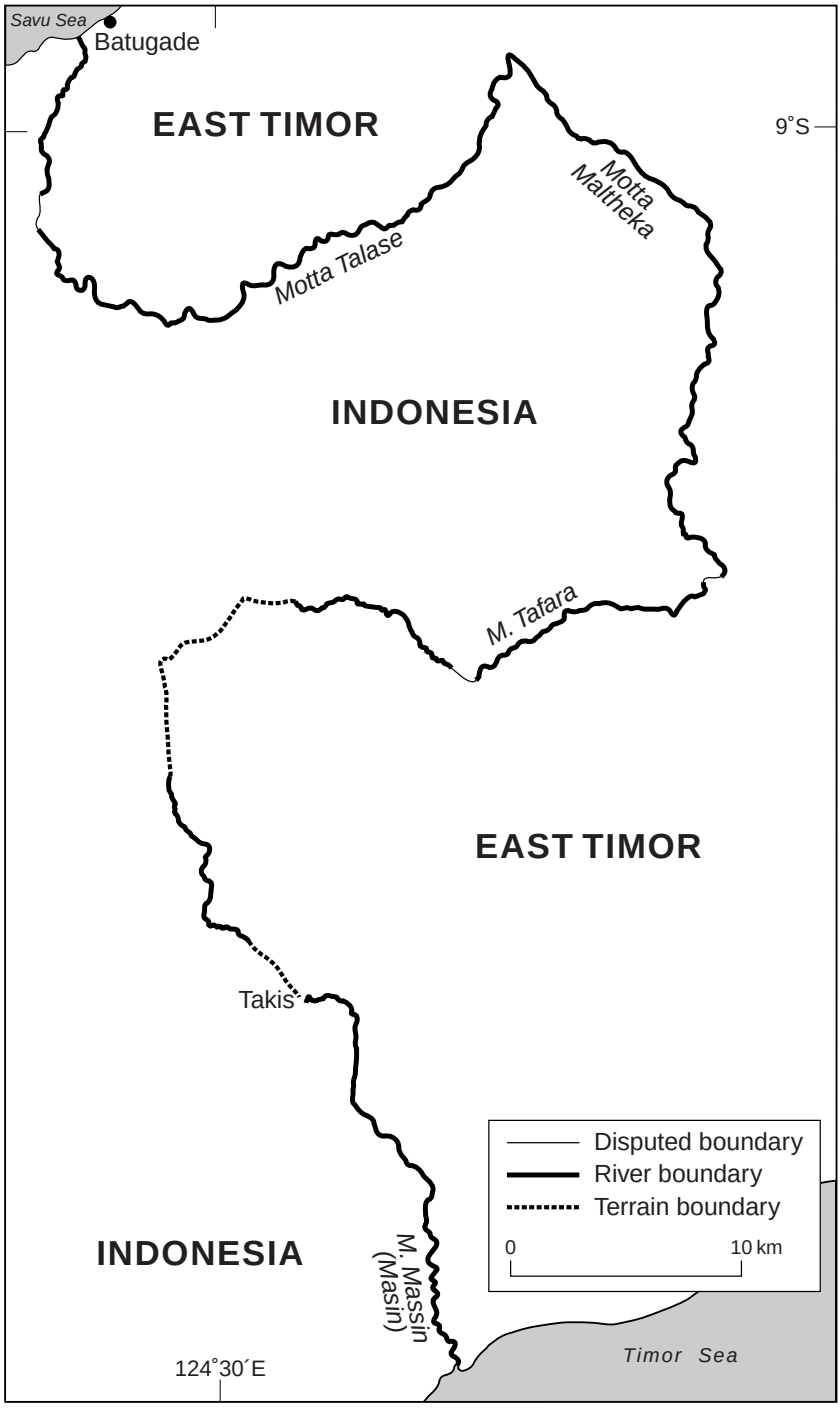


12.7 Jugoslavia's gains from Bulgaria

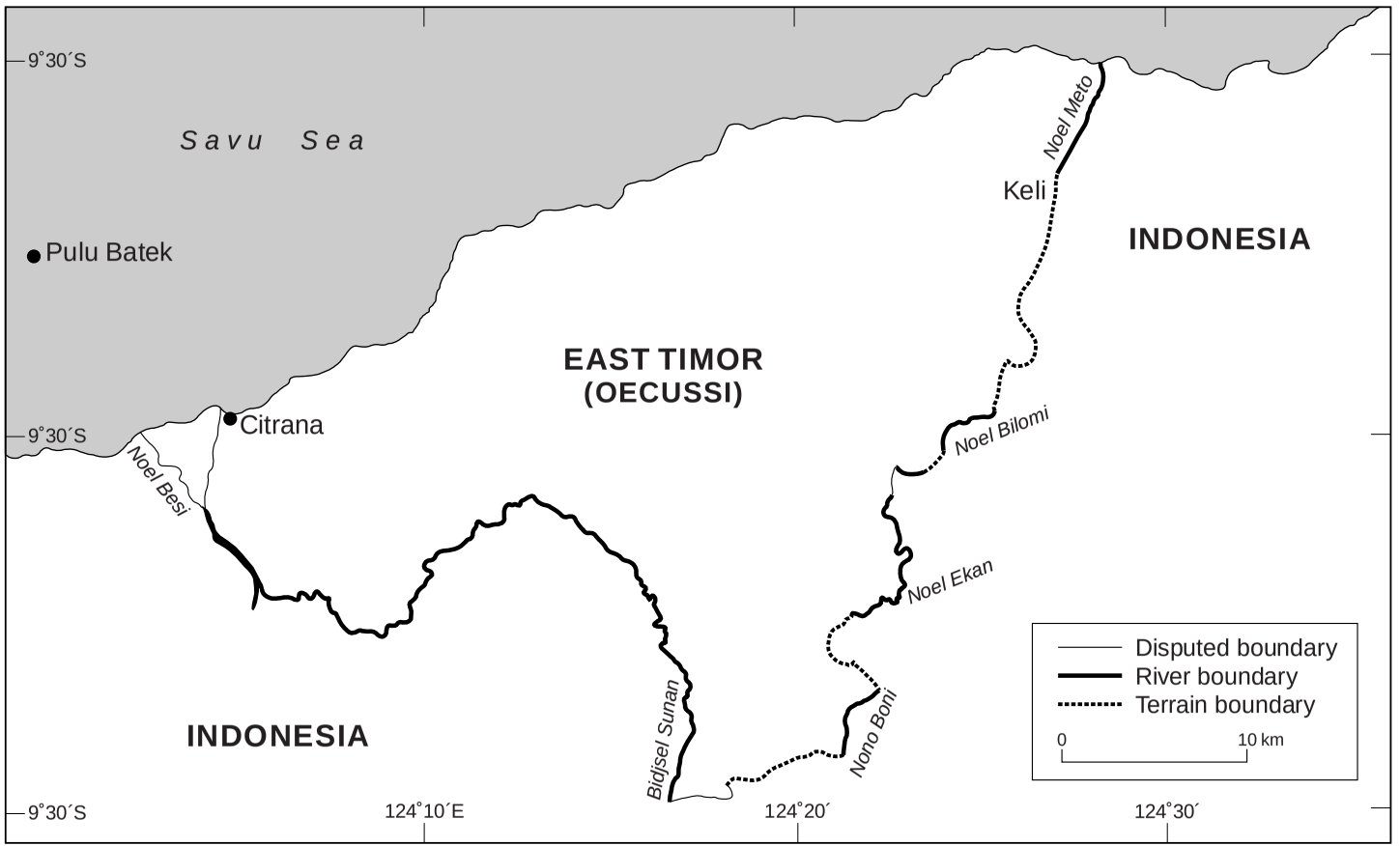


12.8 Albania's boundaries with Yugoslavia

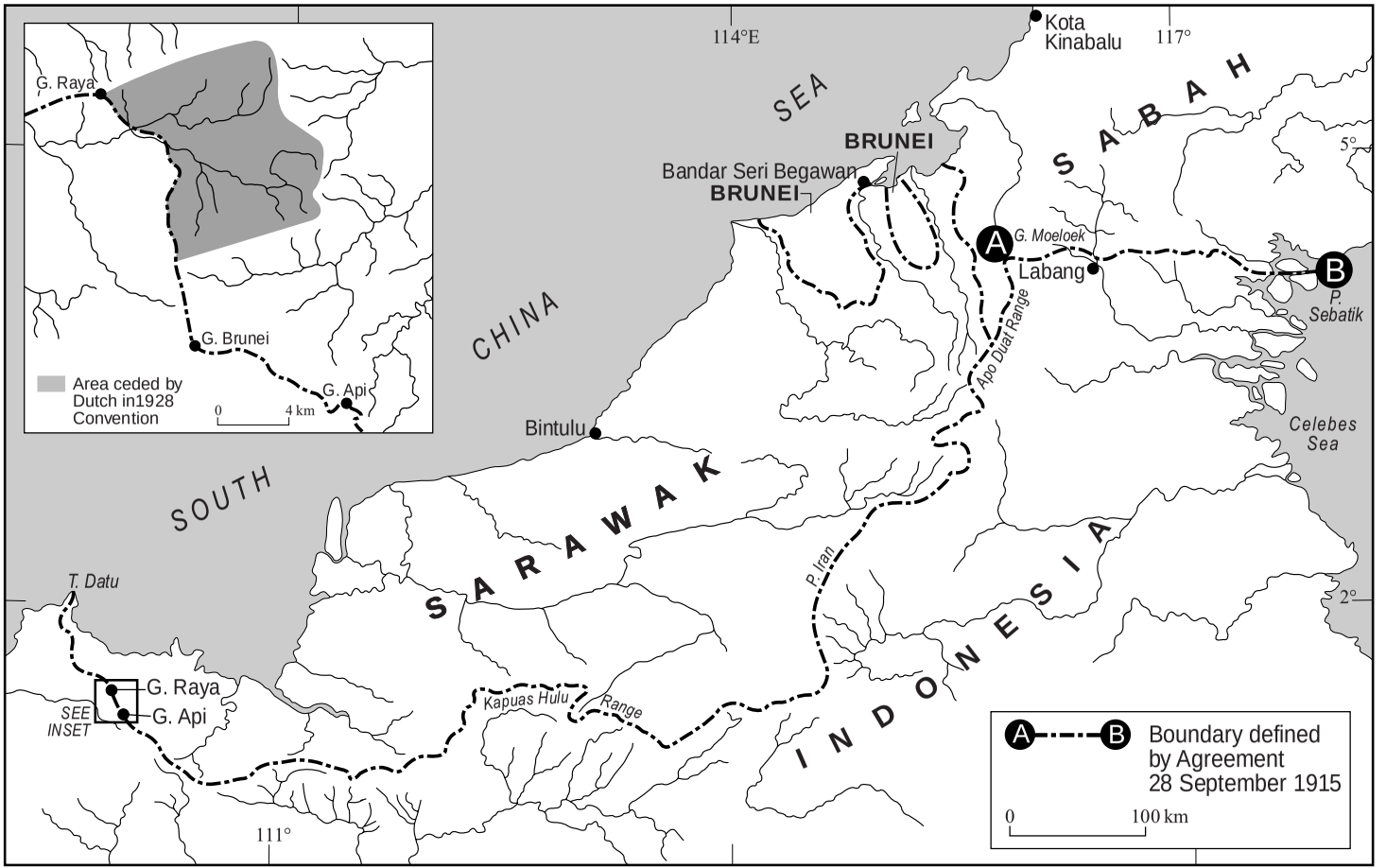
12.9 Boundary changes in Eastern Europe during and after World War II



13.1 The boundary between East Timor and Indonesia in the east of the Island



13.2 The boundary between Oecussi and Indonesia



13.3 Boundaries on Borneo

14.1 Boundaries in Antarctica

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