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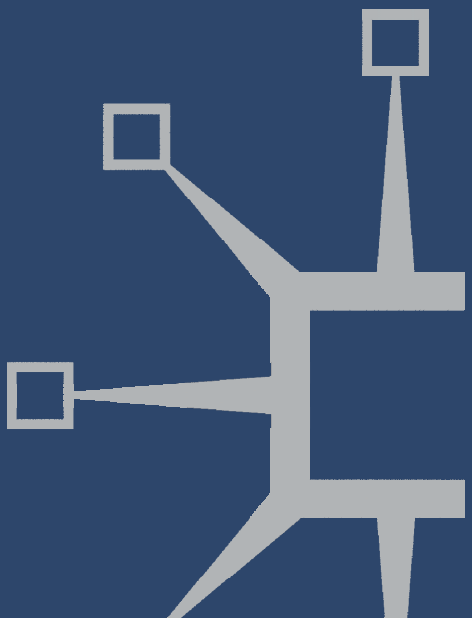
Assembling Health Care Organizations

Practice, Materiality and Institutions

Kajsa Lindberg, Alexander Styhre
and Lars Walter



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Softcover reprint of the hardcover 1st edition 2012 978-0-230-30350-8

First published 2012 by
PALGRAVE MACMILLAN

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

Palgrave Macmillan is the global academic imprint of the above companies and has companies and representatives throughout the world.

ISBN 978-1-349-33815-3 ISBN 978-1-137-02464-0 (eBook)
DOI 10.1057/9781137024640

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources. Logging, pulping and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

A catalogue record for this book is available from the British Library.

A catalog record for this book is available from the Library of Congress.

10 9 8 7 6 5 4 3 2 1
21 20 19 18 17 16 15 14 13 12

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Preface

Of all industries and domains reported most frequently in organization theory and management studies journals, health care is possibly among the top candidates. Health care is a major economic activity in contemporary society and it concerns us all; sooner or later, we all end up in the waiting room hoping to get the best possible care to be able to get rid of our concerns. In addition, the health care sector is labour-intensive and consumes a considerable share of the tax money in most European countries. Given these qualities and conditions, it is no wonder that health care practices have become the focus in a seemingly endless series of studies. The literature on health care is massive (here we could report the conventional Google search findings to alarm the reader but we choose not to), and one may then wonder whether there is, after all, a need for yet another publication addressing health care work. What justifies this book, in our minds, is that it seeks to combine an institutional perspective on health care regulation and governance, addressing programmes such as 'evidence-based medicine' and 'patient-centred care', and a materialist perspective, wherein everyday organizing – as we learn from actor network theorists and students of science and technology – is constituted 'from the bottom up' rather than being derived from abstract beliefs and norms. At the same time, the mobilization of such resources is always located within institutional settings. The view pursued in this book is, in other words, an attempt perhaps not to reconcile institutional perspectives and materialist epistemologies but to point at the fruitfulness of combining them in empirical work. Having said that, we also think that the combination of an integrated theoretical view of health care work and the reporting of first-hand data from four empirical settings motivates this publication.

The work reported in this volume is based on the contributions of various people and institutions.

Kajsa wants to thank all the people she met during her field studies who have offered their time and shared their experiences and practices with her. She also wants to thank her colleagues Anna Johansson, Mikael Löfstöm, Ylva Muhlenbock and Ewa Wikström, who took part in the study of the Swedish drug abuse treatment presented in Chapter 5.

Alexander would like to thank colleagues both at the School of Business, Economics and Law at the University of Gothenburg, Sweden, and elsewhere for various contributions, both small and large, over the years.

Lars would like to thank the Swedish Council for Work Life and Social Research for funding the research project 'Temporary care – a study of the use of contingent employment and agency work within the Swedish healthcare sector', which made it possible to carry out the research on which two of the empirical chapters presented in this book are based. He also wants to thank his two colleagues Ola Bergström and Torbjörn Stjernberg, who participated in the project with him and in a great number of ways contributed to the study.

Finally, we would like to thank Virginia Thorp, senior commissioning editor at Palgrave Macmillan, for commissioning the book and Paul Milner and Keri Dickens, editorial assistants, for helping us get everything in place.

Kajsa Lindberg, Alexander Styhre and Lars Walter
Gothenburg, Sweden

Part I
Theoretical Perspectives

1
Introduction: Organizing Health Care Work in Late Modernity

Introduction

The contemporary period is undoubtedly deeply entangled with the advancement of the technosciences, helping human beings to lead a completely different life from that of just a few generations ago. The capacity to move the human body over continents in a few hours, which would have taken months some centuries ago, or the capacity to communicate directly with family or friends on the other side of the globe are, for instance, two accomplishments of technoscience. What would have appeared as mere magic in the medieval period is today barely noticed as technologies such as the aeroplane or the telephone are taken for granted as they become part of the infrastructure of everyday life. When we can travel from London to New York and back in less than 24 hours and still have time for shopping and lunch, we have definitely managed to "dominate nature" in terms of shrinking distances and taming geographical spaces. In the specific domain of the life sciences dealing with biological processes and biological organisms, similar remarkable accomplishments have been reported. Human reproduction is supported by sophisticated in vitro fertilization procedures, humans may acquire new organs from recently deceased individuals, and active molecular substances are brought into the human body, helping to regulate biological pathways that have ceased to function. All these technoscientific marvels in the life sciences are sooner or later brought into the health care system in one way or another. In fact, much of the legitimacy of the technosciences resides in their capacity to perform new operations and functions (Lyotard, 1984); the systematic enquiry into nature is by no means an "amateur science" – as it once was – but is, on the contrary, bound up with the progression of

society and the economy at large, opening up new possibilities and new economic ventures. While the sciences have traditionally been treated as being additional to other economic endeavours, a form of prerogative of the social elites to engage in intellectually stimulating pursuits, located in the idiosyncratic *topos* of the university and separated from everyday life, today they are increasingly located at the centre of economic growth. The term 'scholar' derives etymologically from the Greek word *scholē*, 'leisure, distance from economic activity, and practical urgency' (Bourdieu and Wacquant, 1992: 89). Today there is no such distance between the academic scholar and everyday life matters. On the contrary, the advancement of society demands new contributions from the scholarly community, especially in the face of environmental disasters derived from global warming, to document and engage with the chemical pollution of sea and land as well as biological systems and other alarming issues pertaining to the *oikonomikos* of global resources. In late modern society, only the sciences can save us.

This book is an attempt to bring together a series of studies of various health care processes that have their roots in the life sciences. The life sciences are thus regarded as being the principal 'surface of emergence' (in Foucault's [1972] term denoting the setting wherein discourses emerge) for new technologies, tools, therapies and treatment procedures when it comes to health care work. At the same time, health care work is by no means determined by the life sciences. This work is the most costly activity in the modern welfare state, and what procedures and arrangements are possible to provide are always of necessity part of a broader political economy regulating where to make use of limited resources most effectively. A well-functioning society does not invest all of its resources in health care but seeks to balance a broad scope of interests and activities. At the same time, adequate and professional health care is highly prized among members of society and consequently there is wide support for substantial investment in health care work. This work is thus one of the largest sectors of the economy in the late modern period in most countries, in many ways helping individuals to live longer and happier lives. However, the health care sector is not a stable system but is intimately bound up with the technosciences, providing a seemingly ceaseless flow of new technologies, analytical methods, therapies and theoretical frameworks that not only cure illnesses and handle injuries and dysfunctionality but also help generate new diseases and illnesses. The life sciences (e.g., medicine) are not passively responding to perceived disorders but actively create new domains of investigation. As a consequence, they continually uproot

and problematize the line of demarcation between what Kurt Goldstein, and eventually Georges Canguilhem (1991), referred to as the normal and the pathological, that is, the abnormal. The advancement of the life sciences demands this restless questioning of the very idea of health per se. At the same time, health care work needs to operate on the basis of a relatively stable and clinically proven and sound body of technologies and procedures to handle their assignment. This makes the health care sector interesting to study as it needs to rest on a scientifically legitimate framework of procedures at the same time as it must call into question the very same routines.

In this book, a series of studies of different forms of health care work is presented. These studies seek to demonstrate that health care work is, on the one hand, shaped and influenced by the predominant institutional setting and the norms and beliefs regulating professional health care work, and on the other hand inextricably bound up with the material resources, a thoroughly heterogeneous body of materialities including technologies, protocols, standards and media, constituting health care work in its everyday practice. The studies thus make a contribution to two relatively separate bodies of organization literature: that of institutional theory and that of material theories of organizing (e.g., actor–network theory, science and technology studies, materialist sociology, and studies of sociomaterial practices, to name but a few such theoretical discourses). However, health care work in this book is commonly treated not as an isolated activity, neither 'diachronically' nor 'synchronically', but is rather closely connected to the advancement of the technosciences (and, more specifically, the life sciences) at large and the broader institutional shifts in late modern contemporary society (e.g., the neoliberal emphasis on privatization and deregulation of markets). This means that the theoretical framework anchoring the empirical studies in Part II of the book is diverse and broad in scope, even eclectic, rather than narrow and specialized. Having said that, the studies of individual health care procedures and technologies are synthetic and integrative rather than analytic and progressive; in other words, health care work needs to be understood as a social and organizational activity rather than a specialist pursuit by and large disconnected from broader social arrangements (i.e., as operating under its own regime of regulation and control). This perspective renders health care very much like a Moebius strip, where the inside and the outside of the organization become obscure; society is always already in place in health care work and in health care organizations, and society defines itself largely on the basis of health care activities that it provides and controls.

A common trope in the (popular) literature on the technosciences is that the technosciences are the vanguard of society, leading society towards a brighter future (Franklin and Robert, 2006: 13). In contrast to his view, we here conceive of society and technoscience as always being co-produced and co-evolving (Jasanoff, 2005); that is, technoscience cannot subsist without social support (Shostak and Conrad, 2008) at the same time as members of the late modern, contemporary society are accustomed to define the contemporary as a period of swift, and at times even revolutionary, advancement enabling new opportunities. Childless couples are capable of 'giving life a little helping hand' through in vitro fertilization therapy (Waldby and Cooper, 2007); kidneys are moved from human cadavers and transplanted into patients with reduced organ function (Sharp, 2003); impaired human bodies are complemented by biomaterials (Sharp, 2011); neurodegenerative diseases of the central nervous systems are mediated by active molecular substances. These and many other accomplishments could not be performed if the life sciences and society weren't closely related and connected.

Living in a technoscientific society

Health care work in contemporary society is the outcome of two distinct, yet interrelated, historical trajectories. First is the establishment of the sciences – what today is referred to as the technosciences to underline the central importance of technologies in any advanced scientific enquiry – originally in fields such as astronomy and chemistry in the Renaissance period, leading to a more substantial field of physiology and medicine in the first half of the nineteenth century. Second is the emergence of the modern state and what Michel Foucault has talked about as 'biopolitics', a specific form of governmentality, a governmental regime including various practices aimed at regulating and monitoring larger populations through scientific procedures such as statistics, demographic data and scientific know-how. Modern health care thus rests on the technosciences and a political regime, a certain biopolitical arrangement, mutually constituting health care work as a central societal function in modern society. In the following, these two trajectories will be examined in some detail.

Technoscience and everyday life

The greatest contribution from Greek society is perhaps the systematic enquiry into things themselves; that is, not to take sense impression

for granted but continually to seek to eliminate the various sources deceiving the perceiving eye and the thinking mind. The two principal orientations in this pursuit to understand the inner workings of things was to engage in Aristotelian classification – the formulation of taxonomies effectively structuring the world into categories – or the use of mathematical operations as prescribed by Plato. Needless to say, both activities are central to scientific work, but the abstraction enabled through mathematization has taken on the highest scientific prestige in contemporary epistemology. In the medieval period, scholastic thinkers in Europe, such as Roger Bacon or Nicholas of Cusa, either advanced scientific and methodological issues or translated or commented on scholarly works produced in the orient, in Baghdad and Alexandria, and the other intellectual centres of the Islamic world (Le Goff, [1985] 1993). It was not until the seventeenth century and the works of, for example, the Florentine astronomer Galileo Galilei, and the French philosopher and mathematician René Descartes, that a proper scientific method was established, capable of transcending both the Aristotelian dogma dominating medieval intellectual life and Christian theology (Koyré, 1959, 1992). For instance, Galilei advocated a method that relied not strictly on empirical investigation but on what Ernst Mach centuries later could call 'thought experiments' to by-pass Aristotelian doctrines regarding the movement and rest of physical bodies. While the clergy managed to declare Galilei a heretic, forcing him to denounce his own scientific findings, Galilei's methods drawing on both experiments and critical thinking set a new standard for scientific procedures. Nevertheless, the empirical sciences and empiricism were not first developed in continental Europe but in England where, for instance, the Irish aristocrat Robert Boyle developed experimental methods in his pneumatic research, accompanied by so-called 'modest witnessing', joint observations of the phenomena orchestrated by Boyle's technologies. Shapin (1994) outlines the principal arguments supporting Boyle's method:

> Experimental truth . . . was to be sought by selfless selves, seeking not celebrity or private advantage but the civic good. This was a conception of the gentlemanly civic actor thoroughly familiar from early modern ethical writing, and English scientific practitioners proposed to reconstitute the natural philosopher on just that civic model.
>
> (124)

Despite all these advancements of scientific procedures and a growing transnational community of *literati*, the sciences remained 'an amateur

activity' well into the nineteenth century. Universities engaged in discourses on theology, law and, until the early nineteenth century, a pre-modern and largely clinically irrelevant form of medicine grounded in the ancient teachings of Galen and Hippocrates – a medicine at times causing more harm than good (Larson, 1977: 24). The universities were thus pursuing scholarly activities in the original sense of the term, as 'otherworldly speculation' of relatively little practical relevance for the organization of society. At times, inherited doctrines and dogmas even prevented the advancement of the sciences, as in the case of medicine. One of the reasons why Paris became a leading centre for medical research in the first half of the nineteenth century was that surgeons and physicians could collaborate within the many hospitals in the French capital, thus wedding the practical competence of the surgeons and the more theoretical developments of the physicians. In general, the medieval universities were hostile towards the applied sciences, and the *pièce de résistance* in this critique of scholarly dogmatism is that Oxford University opened its business school only in 1996, some 115 years after the University of Pennsylvania instituted Wharton Business School, the first professional business school (Fourcade, 2009). At Oxford, the establishment of the Said Business School did not proceed without the regular debates regarding the role of the university, and some professors were unsurprisingly concerned that the reputation was 'sold out' to industry.

In the eighteenth century, much of the experimental sciences remained amateur sciences, conducted in bourgeoisie and aristocratic homes and salons to entertain privileged individuals and their audiences. Porter (2009) testifies to these 'pseudo-scientific activities':

> The social acceptance of science in the eighteenth century depended on the cultivation of a larger, elite audience. Genteel audiences evinced enthusiasm even for mathematics – satirists made much of the early eighteenth-century mathematical rage among fashionable women – and most notably for experimental demonstrations of balls arcing through hoops, birds suffocating under air pumps, and electrically charged orphans discharged great sparks while suspended from silk strings. All this sounds frivolous, and maybe it was, but serious careers, including the career of science itself, were sustained by such performances. By the end of the century, science was increasingly taking account of, and sometimes addressing, larger audiences.
>
> (299)

Some of these new experimental sciences, such as chemistry, revolutionized by the Prussian court scientist Georg Ernst von Stahl (1659–1734) and the Frenchman Antoine Laurent de Lavoisier (who ended his days on the guillotine as the new regime declared that they did not have any use for his services), were brought into the German and Swedish mining industries in the eighteenth century (Bensaude-Vincent and Stengers ([1993] 1996: 64). In the nineteenth century, chemistry was consolidated as the first integrated modern academic discipline, organizing the first academic conference in Karlsruhe in 1860. By the end of that century, chemistry gave way to physics as the leading field of scientific investigation, and in the post-World War II period the life sciences have been brought to the forefront as the jewel of scientific pursuits.

The advancement of modern science, only gradually brought into the university structure and in many cases through the polytechnic schools, started in the aftermath of the Napoleonic Wars in continental Europe, shows that the reliance on technoscience is a relatively recent phenomenon, part of what Max Weber speaks of as the rationalization of society. Society no longer relies on inherited forms of knowing but continuously seeks to transcend the basis on which it rests through the advancement of new theories, technologies and methods. The late modern period is thus characterized by a society that has institutionalized procedures for critically putting issues and conditions into question. Still, no society can be populated by members who are not taking anything for granted but are in a permanent state of doubt and mistrust – two scientific virtues (Peirce, 1992: 114) – but there needs to be a certain amount of trust in any social system (Luhmann, 1979). Porter (2009: 296) says that the trust granted to scientists is no different from the trust we grant any other occupational group in society: 'We trust scientists . . . for the same reasons we trust the mechanics who repair our cars; not on account of their superior rationality, but because they have the skills and expertise to do this work, while we do not.' With the growth of academic or applied sciences, there is simply a new group of experts who are capable of performing certain activities and functions that not everyone is capable of orchestrating, and this ability to grant trust to abstract social institutions and arrangements is one of the defining marks of modernity (Giddens, 1990). At the same time, Franklin (2001) and others (e.g., Braidotti, 2008) claim, for example, that the life sciences have made significant advancements and that the public's trust is less than ever despite the new possibilities. Anxieties evolving around the cloning of animals (Franklin, 2007), genetically modified organisms in food production (McAfee, 2003) and a general fear that humans are intervening

in the elementary mechanisms of life on the genetic and molecular levels (Marks, 2006: 334) are veiling some of the accomplishments of the life sciences. It is no coincidence then that the recent period has brought forth new professional groups, such as bioethicists being trained in navigating between the various ethical concerns derived from the new possibilities of the life sciences (Sunder Rajan, 2006). Dealing with this growing mistrust, a sense that the life sciences have 'gone too far' is one of the principal challenges for the scientific community and its regulatory bodies. Since no science can subsist for longer periods of time, widespread concern regarding how much man should seek to dominate and control nature needs to be taken seriously.

Biopolitics and governmentality

The nineteenth century was characterized by a swift urbanization in most European states (Hobsbawm, 1975; Gay, 1984: 49–50). Also, in North America, cities such as New York, Boston and Philadelphia grew in population as European immigrants flooded into the new nation. That century was in many ways the formative period of modernity, bringing an urban, modern life characterized by access to new media, large department stores in cities like Paris, Chicago and London, the establishment of civil society in its modern form with political parties, social movements and public debates in the press. It also brought new social concerns, such as criminality, and it is no wonder it brought both the discipline of criminology and its accompanying statistical methods and the literary genre of *crime fiction*, a genre revolutionized by Edgar Allan Poe in the middle of the century. This new interest in the regulation and control of populations has been discussed by Michel Foucault as a specific form of governmentality, a governmental regime, called 'biopolitics'. According to Esposito (2008: 16), the Swede Rudoph Kjellén was the first to use the term as an extension of 'geopolitics' in 1905, but Foucault uses the term *avant la lettre* to denote changes in state policies beginning in the eighteenth century. He defines biopolitics as '[t]he endeavor . . . to rationalize the problems presented to governmental practices by the phenomena characteristic of a group of living human beings constituted as a population: health sanitation, birthrate, longevity, race' (Foucault, 1997: 73). McNay (2009) identifies two elements in the biopolitical regime outlined by Foucault. First is the reliance on what McNay calls 'regulatory and massification techniques', such as statistics and demographics. Second is the use of scientific, statistical methods accompanied by 'individualizing, and disciplinary

mechanisms'; that is, the totality of activities 'that shape the behaviours and identity of the individual through the imposition of certain normalizing technologies and practices of the self' (McNay, 2009: 57). The biopolitical regime is thus operating on two layers: first, on the layer of populations in their entirety, being managed as a mass of individuals on the basis of various methods; and second, every individual is related to the layer of the mass as being an individual subject to discipline and normalization.

The first of these two complementary elements was intimately accomplished with the emergence of statistical demographic methods. Concepts such as 'political arithmetic' were developed in England in the seventeenth century by Graunt and Petty, and in Germany the discipline of *Statistik* was established from the 1660s by mathematicians, such as Conring, Achenwall and Schlözer (Desrosière, 1998: 16). In France, having big ambitions with the new republic after the overturning of the *ancien régime*, the new statistical methods were brought into the state apparatus in the late eighteenth and early nineteenth centuries. Statistics was a specialist field in the general discipline of mathematics, and the theory of probabilities of Laplace and Bayes was important in developing it (Desrosière, 1998: 60). However, these methods and theories were used to identify patterns and relationships in larger populations, enabling the 'taming of chance' in Hacking's (1990) term, but to reach down to the elementary unit of demographics – that of the individual citizen – demanded entirely different approaches. The Belgian astronomer Adolphe Quetelet (1796–1874) 'invented' the concept of 'the average man' and was, Desrosières (1998: 74) says, 'the one man band of nineteenth-century statistics'. In Quetelet's new project, careful methods and arithmetic were developed to measure the height, arms and legs, skulls and weight of human beings. Based on the data collected, he '[i]nferred the existence of an ideal average man, in whom all average characteristics were combined and who constituted the Creator's goal – perfection' (Desrosières, 1998: 76). He thus managed not only to collect a large data set providing clinical data representing the population but also to institute norms and standards regarding how to examine populations based on practical methods and techniques. With Quetelet, the concept of 'normality' as a statistical – and not moral, at least not in the first instance – concept was introduced. However, he did not stop at the possibilities of providing statistical measures but made a more venturesome leap in terms of seeking to establish connections between physical attributes and moral behaviours, making an important contribution to the emerging discipline of criminology:

> The second crucial connection in Quetelet's construct allowed him to associate *moral* behavior with the *physical* attributes previously studied. Indeed, both moral and physical attributes present an average, as has been seen, an important regularity, if only one considers the masses.
>
> (Desrosières, 1998: 76–77)

Quetelet's contribution lies in his establishment of the very idea of the 'average man' and that there is a distinction between the normal (i.e., the 'average') and the pathological (i.e., the 'abnormal') (Canguilhem, 1991). While the average is essentially a fiction or a *reductio in absurdum* (as in the case of women statistically giving birth to 1.6 babies), it increasingly wields a normalizing effect. Failing to comply with certain normal measures, one is always at risk of being treated as a case of a pathological deviation from the norm. Quetelet's seminal contribution thus lies precisely in making a connection between the first and second of the elements of the biopolitical regime; that is, to constitute self-monitoring and disciplined subjects on the basis of large clinical data sets derived from populations.

In the present biopolitical regime, failure to comply with instituted norms regarding, for example, weight or looks (as in the case of plastic surgery, see Blum, 2005; Pitts-Taylor, 2007) calls for not only self-monitoring and regulatory actions (e.g., dieting or getting a 'nose job' – a rhinoplasty – at a cosmetic surgeon's clinic) but also mobilization of a certain moral economy wherein the individual subject is held responsible for becoming obese or otherwise failing to maintain their bodily appearance in accordance with predominant norms and practices (Monaghan et al., 2010). In this biopolitical regime, obesity is not only an issue of health in terms of running higher statistical, clinical risks of suffering from various medical conditions like type 2 diabetes; it is also a violation of the moral order wherein the individual subject is expected to execute self-monitoring and self-regulating actions to prevent such weight problems. Obesity is thus a scandal as the subject is ignorant of widely shared information and know-how that obesity is an 'abnormal' and, consequently a (potentially), pathological condition. At the bottom line, the obese subject undermines Western rationality as scientifically produced knowledge is not – as is increasingly expected – mindfully adhered to. However, in this case the moral economy of the biopolitical regime is granting too much agency to the subject as it postulates that they are capable of choosing to be, or not to be, obese (or to smoke, etc.,

or, consequently, to get cancer or Alzheimer's disease). In practice, individual health and self-discipline are more complex than is assumed by such voluntarist frameworks, and individual subjects are not of necessity capable of adhering to general guidelines and recommendations. Illness is not strictly a matter of information and understanding but derives from complex biological and social conditions, in many cases interconnected in manifold ways. Still, the very idea of drawing a line of demarcation between the normal and the pathological on the basis of statistical methods plays a central role in the contemporary biopolitical regime and its instituted order, the modern health care apparatus.

In summary, the emerging state was increasingly concerned about regulating and monitoring its population, especially in the nineteenth century when populations were aggregating in densely populated urban areas. Statistical and demographic methods, developed in mathematics from the middle of the seventeenth century, were thus put into use. The construction of metrics specifying normality and tolerable deviations from the norm was initially a curiosity, but these increasingly became important tools when regulating populations and planning society. In the health care sector, these statistical methods developed in the nineteenth century were used to gain an understanding of how larger groups of patients were responding to therapies, leading to new standards regarding both clinical research methods and clinical practice. Modern health care thus emerged in the intersection between the advancement of the academic life sciences and the new regime of governmentality referred to by Foucault as biopolitics. The emerging life sciences and the modern state thus joined hands in providing sites – the clinic and the hospital – where individuals were treated on the basis of solid and robust scientifically proven methods. At the same time, as Foucault emphasizes, the clinic and the hospital are never wholly self-enclosed, but the norms of self-discipline and control are inscribed equally into the bodies of patients and 'not-yet-patients' (i.e., all members of society, inasmuch as they learn to execute self-control to avoid ending up in the clinics). Modern health care is thus by no means confined to the domains where it is executed, but a general awareness of the value of health and the costs and efforts involved in health care is part of everyday existence. Self-discipline is thus manifested in the use of various technologies of self, including heterogeneous activities ranging from membership of 'quit smoking programmes' to regular exercising and other mundane everyday life activities. Health care is thus an option, but an option that should be avoided as long as practically possible.

The life sciences and their application

In late modern society, the health care sector is intimately connected with the life sciences and the advancement of new life science know-how. Historically, science and health care have evolved as two trajectories that only at times have crossed one another. That is, while health care rested on clinical know-how and practical expertise, the sciences made relatively modest contributions to the health care sector prior to the late eighteenth century when the smallpox vaccine was developed. Despite the lack of a solid scientific underpinning, medicine has in most societies been a highly prestigious professional activity (Collins, 1979), primarily because it deals with issues of life and death, and health and suffering, and the suffering individual has few choices than to seek recourse from physicians regardless of their limited clinical competence. However, from the beginning of the nineteenth century, health care and science became increasingly co-evolutionary, in particular as soon as the life sciences abandoned ancient and medieval doctrines and started to address clinically relevant problems. Early experimentalists like Xavier Bichat at the turn of the nineteenth century revolutionized medicine (Haigh, 1984), and, in 1865, Claude Bernard published *An Introduction to the Study of Experimental Medicine*, commonly regarded, at least in the French intellectual tradition, as the first major statement in favour of experimental methods in medicine, establishing the field as an empirical science. Needless to say, contemporary life sciences not only support the health care sector but have branched into a variety of industries, including pharmaceuticals, biotechnology and biomaterials, and various specialist areas of the health care sector, including reproductive medicine and in vitro fertilization.

The pharmaceuticals industry is the oldest and perhaps most prestigious life science industry, having its roots in the more well-equipped pharmacies of the major European cities where certain drugs and compounds could be mixed (Swann, 1988). In the early twentieth century a few chemical companies in countries such as Germany started to elaborate on methods and procedures for the development of drugs. The interwar and post-World War II period saw rapid growth in the pharmaceutical industry as the fields of virology and infectious diseases were studied and translated into therapies (Galambos and Sturchio, 1998; Nightingale and Mahdi, 2006). The research universities in Europe and the USA favoured basic research, and it was not until the post-World War II period that universities and the pharmaceutical industry started to collaborate more systematically. Today, however, there are

intimate and manifold exchanges of ideas, resources and competence between universities and the pharmaceutical industry. From the mid-1990s, the historically remarkably successful new drug development model based on small molecules, in vivo research and large-scale clinical studies seemed to run out of steam and the major pharmaceutical companies today invest increasingly larger sums of money in return for a shrinking number of new and innovative drugs. In addition, critical voices have been raised pointing at the neglect of, for example, tropical diseases, such as malaria, and the strong emphasis on what has been called 'lifestyle diseases' in the major pharmaceutical companies' product portfolios and pipelines (Brody, 2007). In addition, writers such as Angell (2004) have stressed that pharmaceutical companies maintain their official image as 'intellectual hot-spots', while in practice they are spending more money on marketing and administration than research and development. Taken together, in recent times the major multinational pharmaceutical companies, such as Pfizer, Merck and GlaxoSmithKline, have grown through mergers and acquisitions of smaller and innovative companies. At the beginning of the second decade of the new millennium, the pharmaceutical industry is still struggling to regain its creative edge in a period characterized by rapid growth of know-how in the life sciences.

The biotechnology industry demonstrates a somewhat different trajectory from that of the pharmaceutical industry, being more intimately associated with academic research institutions and a general liberalization of patenting policy and public funding, first in the USA with the enactment of the Bayh–Dole Act (Mowery and Ziedonis, 2002; Rafferty, 2008). When recombinant DNA was patented by Stanford University and the University of California at San Francisco in the mid-1970s, the door was opened for commercial spin-offs from life science research located in the university setting (Smith Hughes, 2001). Over the last 40 years the biotechnology industry has been regarded as being potentially capable of advancing new and innovative methods, technologies and therapies. However, in hindsight, commentators argue that the majority of the profit made by the industry derives from a few successful companies, such as Genentech and Amgen in the USA, but that otherwise biotechnology has failed to report any solid economic performance over time (Pisano, 2006: 156). In addition, relatively few therapies have been produced by biotechnology firms (Hopkins et al., 2007: 578). Instead, most contributions from the biotechnology industry lie in the 'upstream' technologies and methods being developed, put into use in various analytical procedures and scientific work in, for instance, the

pharmaceutical industry (Mirowski and van Horn, 2005). When studying innovative work in the pharmaceutical industry, for example, there is a widespread belief that the precision and accuracy of the technologies and methods used are substantially greater today in comparison with those of 10 or 15 years ago, and that these accomplishments are in many cases directly derived from the biotechnology industry. Thus, as Hopkins et al. (2007: 584) warn, one must not imagine that the lack of quantitative evidence of the effects of the biotechnology industry implies no qualitative differences. Instead, much of the work accomplished in biotechnology may be used to exploit new therapeutic areas and only in the future might we be able to tell whether investments in biotechnology have paid off in terms of clinical therapies.

The life sciences are exploited in the domain of biomaterials, a specialist field in the intersection between biology, biochemistry, materials science, and the engineering and design sciences. Biomaterials are engineered and cultured tissues and materials that, in one way or another, interact with the human body. Prostheses, dental implants, medical devices and other materials interacting with the human body are examples. While the pharmaceutical and biotechnology industries are more or less bound up with know-how in life sciences and medicine, biomaterials are influenced more by the engineering sciences; for example, surface chemistry and surface physics operating on the micro to nano levels of analysis are important fields of expertise in the design of biomaterials such as catheters and prostheses. In many cases, biomaterials are combined with active biological substances supporting biological functions; for instance, so-called growth factors in dental implants. In health care organizations, a number of different material resources, including medical devices, pharmaceuticals and medical technologies, are brought together. Industry and the academic life sciences orchestrate multiple, complex interactions and exchanges and, similarly, health care organizations are closely associated with academic research (as in the case of clinics in university hospitals and medical schools) and are bound up with industry in providing specialist materials and equipment. Therefore, rather than thinking of the life sciences as being separated into compartmentalized domains, there is a flow of life sciences know-how back and forth across organizational and institutional boundaries. Thus it may be more appropriate to speak of 'upstream and downstream forms of life science know-how' when seeking to understand the connections and associations between life science research, industry and health care work. While some life sciences research is based in academic research laboratories, some of the know-how produced there eventually trickles down to clinical applications

benefiting patients and clients. On the other hand, clinical data serve to influence and shape the research agenda in academic research communities, and industry is always eager to adapt promising ideas to viable innovations and products.

In the case studies presented in Part II of this book, it will be demonstrated how the life sciences are bound up with the various forms of materialities (technologies, media and protocols) used to structure and shape everyday practice. These are the outcome of non-linear and iterative exchanges of flows of know-how and information in what could be called the life sciences sphere, a sphere constituted by academic research, industrial and commercial applications, and clinical health care work. What unifies and integrates these various organizations and communities, operating under their own professional and commercial ideologies and identities, is the care for life, and more specifically human life – a life that is, for analytical reasons, with Mol's (2002) articulation, 'multiple'. This biological life is technical, molecular, cellular, genetic and so forth, depending on the analytical framework enacted and put to use. In addition, the life sciences sphere is, as are all complex social systems, a highly organized and regulated activity, and therefore we turn next to the organizational issues and questions pertaining to the life sciences sphere.

Organization studies and the organization of health care

Despite all the accomplishments of the life sciences and their translation into industries and health care practices, the single most important factor in bridging academic research work, industrial applications and the uses of this know-how in the clinic is the capacity to organize fruitful and mutually supportive relationships between relevant organizations, units and actors. As a layperson it is easy to end up gazing at the life sciences in astonishment, thinking of the work accomplished as a form of magic produced out of nothing. However, such first impressions need to be accompanied by more systematic studies of how the life sciences, their industrial applications and health care work are embedded in organizational practices and arrangements. For instance, Fuchs (1992: 18) remarks that if there is one single factor explaining the advancement of the modern sciences, it is their organization:

> The authority of science is not simply grounded in its texts, but rather in its organization. The important consequence is that science deserves no more and no different type of respect than other powerful organizations. People are willing to surrender to the experts

> because they are in awe of the privileged rationality of their science. So we, accept the experts telling us what to eat, who we are, how we should live, and how to raise our children ... Once we stop being too impressed by the experts and their science, and once we realize that their power is simply that of their organization, we can begin to loosen their tight grip on our lives.

In the science and technology literature and the discourse on epistemology of science, there is a discussion about moving on from a 'Kuhnian perspective' (after Thomas S. Kuhn) on science emphasizing 'science-as-theory' to a 'post-Kuhnian epistemology' or Fleckian epistemology (after Ludwik Fleck) enacting a 'science-as-experimentation' perspective. In the science-as-experimentation epistemology, science is no longer determined by the theories used but is, on the contrary, constituted by the totality of theories, technologies and analytical methods, and the organization of such resources (Rheinberger, 1999: 285). The Polish philosopher of science Ludwik Fleck (1979) argued in the 1930s that science is constituted by 'thought collectives' sharing a certain 'thought style'. In order to become a professional scientist, the actor needs to belong to any of the various thought collectives available within a discipline. The thought collective not only shares a certain worldview or epistemology but operates on the basis of a variety of resources and equipment that influence and stabilize everyday research work. With the shift in epistemology from Kuhnian to post-Kuhnian perspectives, the emphasis is no longer so much on enacted theoretical perspectives as on the practical arrangements and the shared capacities of, for example, seeing the same epistemic objects in the visual media used in scientific work (Daston, 2008). Science is then not so much the aggregated theories as the total ensemble of technologies and resources being put into use.

Such shifts in perspectives from ideologies, norms, beliefs and professional identification to the everyday practical arrangement of tools, technologies and equipment is also helpful in understanding health care work. As will be suggested in Chapter 3, many studies of health care work are preoccupied with understanding its symbolic order (e.g., the relationship between professional and occupational categories). This renders health care work overtly anthropocentric, granting much authority and privilege to human beings and their concerns. But the health care sector is also populated by biological entities such as viruses, bacteria, organs, embryos and tumours, and a range of technical and material resources that influence the process. That is,

while human beings (e.g., a nurse and a cardiologist) may have a controversy regarding the particular arrangement of some aspect of health care work, their relationship is fundamentally determined by the influence of such biological entities and material resources. Failing to invite these other non-humans to the dialogue or analysis means excluding relevant actants from the analysis. In other words, health care work is the outcome of the mindful arrangement and organization of both humans and other biological specimens and entities, and the machinery and materiality used in such work. The assumption that human beings can decide how health care work is to be organized regardless of these other entities is a form of anthropocentric fallacy. In this book the materiality of health care is brought to the forefront. The enacted epistemology thus presumes that human beings play a central role in health care work but that they need to forge meaningful relationships with the biological entities with which they interact (e.g., oocytes and sperm, cardiac cells, microbiological entities such as viruses and enzymes, and organs and tissues). In addition, these human/non-human collaborations are always embedded in technological and material arrangements that basically set the boundaries of what could be accomplished.

As a consequence, there are fundamental organizational issues in health care work. Within an organization theory framework, health care work is reducible to neither social arrangements nor to the brute biological or physiological nature investigated and intervened into, but rather needs to be understood as the relation between these heterogeneous resources. Health care work thus evolves, with a geometric image, horizontally rather than vertically. The horizontal plane of health care consists of the totality of humans, technologies and biological entities being used, and individual health care work practices involve the assembling of relevant resources serving to accomplish specific goals. Health care work is thus to be understood – just like the sciences – through its capacity to organize and structure certain activities. Therefore the very organization is of great importance for health care work inasmuch as it needs to be understood as a combinatory practice including series of heterogeneous elements and practices.

Outline of this book

This book comprises this introductory chapter, two parts, including two and four chapters, respectively, and one final concluding chapter. Part I presents the theoretical framework structuring empirical studies.

Chapter 2, 'Organizing Health Care Work: Co-Aligning Institutions and Materiality', addresses two essentially complementary perspectives on health care work. First, organizations are conceived of as being constituted through the combination of abstract categories such as identities, ideologies, norms and institutions and the material resources being mobilized in everyday practices. Second, the literature on institutional theory and, more specifically, the concept of institutional logic, is reviewed and discussed. Thereafter the concept of materiality is discussed on the basis of a transdisciplinary body of literature, including organization theory, sociology, science and technology studies, and anthropology. At the end of the chapter the concepts of institution and materiality are brought to together in the analysis of what has been called 'medicalization': the rendering of socially problematic or medical conditions subject to therapeutic treatment. The chapter concludes that in order to understand health care organizations and health care work, both abstract and material resources need to be brought into the analysis.

Chapter 3, 'Organization Studies of Health Care Work: An Overview and Look at the Future', reviews the literature on health care work and health care organizations. Being an intensive area of research historically, the literature on health care work and related issues (e.g., professionalism) is substantial. The chapter provides an overview of the field and points to the tendency to reduce health care work to social relations and therefore, *ipso facto*, to exclude material arrangements and conditions. It thus points at some of the difficulties in understanding health care working without taking into account the biological entities and technologies mobilized within the work.

Part II of the book, the empirical segment, consists of four chapters. Chapter 4, 'Coordinating Care Paths: The Patient as a Boundary Object', examines a project in Gothenburg, Sweden, where the patient rather than the health care organization per se is determined as the centre of relations. Chapter 5, 'Standardizing: The Introduction of Evidence-based Methods into Drug Abuse Treatment', speaks of standardization of health care processes on the basis of the governance ideology of 'evidence-based medicine' and the difficulties involved in imposing ready-made alternatives on heterogeneous practices. Chapter 6, 'Crossing and Constructing Boundaries: A Case of an Infusion Pump', shifts focus from the process of institutionalizing new health care policies and regimes, and emphasizes how material objects, such as the advanced yet standardized product of an infusion pump, are not only embedded in domains of professional expertise and experience but also connected

to larger social network of health care actors. Chapter 7, 'Engaging Material Resources: Nursing Work in Leukaemia Care', the final empirical chapter, examines how nurses' work in many cases is a matter of mobilizing and coordinating resources at a distance – specialists and experts making authoritative assessments of clinical data, bioanalytical laboratories, and suppliers of technologies and materialities – in their day-to-day work.

The final chapter, Chapter 8, 'Assembling Health Care Work', seeks to summarize the various case studies and to articulate a formal theoretical statement regarding the organization of health care work. In a period of time characterized by increasingly older populations and the swift advancement of the life sciences, health care work is brought to the centre of society. In everyday life, human beings expect the life sciences and health care organizations to be able to sort out and handle most health concerns, and the medical and physiological sciences have been relatively successful in positioning themselves as 'miracle workers' that are capable of taking humanity anywhere. These great expectations are in many cases possible to handle, but they also lead to disappointment and disillusion when the health care organization fails to accomplish what is expected of it. However, an analytical shift in focus from being based on what is theoretically possible to accomplish to the practical work in everyday life settings may help in overcoming mythologies of health care as some kind of miracle business that is capable of instantly transforming illness into health. It is in no doubt that modern health care fills even the most hard-core sceptic with great wonder regarding what could practically be accomplished, but a reasonably advanced analysis will carefully examine all the skills, know-how and resources, entrenched and developed over decades or even centuries, being mobilized in the work. If nothing else, such an organization theory perspective is advocated and presented in this book.

Summary

In many ways, contemporary health care organizations are sites where the advancement of the technosciences – and more specifically the life sciences – the modern welfare state and its regime of governance are brought together. On the one hand, health care work is based on professional, even elite expertise, the latest and most advanced technologies and tools available. On the other hand, health care is embedded in a society wherein political decisions determine how these resources are to be allocated and put to use. Students of health care organizations

must therefore maintain both a diachronic and a synchronic perspective on their object of study. The technologies used and the professional expertise engaged are certainly path-dependent and were developed and refined over centuries of experimental research and clinical practice. The contemporary health care organization is, in other words, the outcome from a long history of theoretical and practical work. At the same time, health care organizations and their practice are shaped by ongoing activities and priorities, choices and selections. Synchronically, governing health care is a matter of being aware of the trade-offs and choices necessary. In addition, new health care practices and new actors are entering and leaving the field, and new disciplines (e.g., computational chemistry in the life sciences) influence both the technosciences and the health care organizations. Studies of health care work must therefore pay attention to the institutional setting, the 'institutional logic' that governs the day-to-day work in organizations. At the same time, we propose, materiality and tangible resources – chemical compounds and drugs, technologies and machinery, equipment and disposable materials, and so forth – need to be recognized as being constitutive of health care work. The health care sector is one of the largest financial posts in any Organisation for Economic Co-operation and Development (OECD) country and, with ageing populations in the West, we can expect the costs and significance of the health care sector to grow even larger. Studies of health care work must therefore seek to mobilize new analytical perspectives enabling an understanding of not only how abstract norms and ideologies regulate practices but also how such practices are constituted in the very act of mobilizing hands-on, material resources.

2

Organizing Health Care Work: Co-Aligning Institutions and Materiality

Introduction

Modern, contemporary health care is inextricably bound up with the advancement of first the sciences and then, from the beginning of the nineteenth century, the life sciences including medicine, physiology and chemistry. At the same time as health care needs to be understood within the context of the scientific revolution and the gradual institutionalization of scientific procedures, modern health care is also the outcome of the democratization of health and the emergence of the welfare state. Health care work is not strictly determined by advancement of the life sciences but is also largely a matter of making informed political choices on what actions to take and what areas to target. Being part of the political economy of public health, health care organizations differ across nations and regions, but they share the elementary predicament of making use of limited resources to seemingly unlimited human needs. The later modern period has been referred to as an information society, an attention economy, a post-materialist society, and a wide scope of such defining labels have been proposed. It would also be fair to speak of contemporary, late modern society as a society governed by the possibilities of the life sciences and the possibilities for maintaining life, restoring biological functions and rejuvenating human bodies through various therapies and procedures. In Western society, ageing citizens are willing to spend more money on health care and general well-being services, and the advancement of the life sciences has spilled over into the health care sector, today offering a multiplicity of services ranging from reproductive medicine to transplantation surgery. In this chapter, an analytical framework capable of apprehending and accommodating these changes in the health care sector of the economy will be outlined.

From entities to processes: Organizing health care

In organization theory and management studies, there has been a gradual shift in perspective from the study of organizational entities, stable structures, to processes of organizing, the active act of coordinating, monitoring, controlling and evaluating organizational actions on various levels, ranging from teamwork activities to the strategic alignment of business units of subsidiaries. In the classic accounts of organization, a systems view is taken suggesting that organizations are functional arrangements determined by some kind of goal or objective. 'An "organization" ', Weber (1962: 113) says, 'is a system of continuous activity pursuing a goal of specific kind. A "corporate organization" is an aggregative social relationship characterized by an administrative staff whose activity is oriented exclusively and continuously to achieving the goals of the organization.' The concept of organization – just like the concept of economy in neoclassical economics (Gammon, 2010: 223) – derives from the biological sciences. In biology the organization of the biological system, the organism, is not denoting a static condition but transgresses the entity–process divide: 'Although the concept of organization is central in biology and widely used, its meaning is far from clear. "Organization" is used to mean either a state or a process, or both. What we have in mind generally is both structural and functional in character', Atlan (1974: 296) remarks. That is, in biology organization means both a relatively stable structure integrating the organism and the ceaseless change determining life. When the term organization was imported into the social sciences, it was enacted within an engineering-based epistemology relying on theoretical frameworks such as cybernetics (Wiener, 1948, 1950; Galison, 1994; Scott, 2001; Pickering, 2010) or systems theory (Bertalanffy, 1968) made fashionable during the World War II years when military research predominated the social sciences (Fourcade, 2009). It was not until the end of the 1960s that a less systems-based view of organizations was advocated. Herbert Simon ([1947] 1976, 1957) proposed a behavioural theory of decision making, seeking to understand how humans actually make decisions in real-life settings and, in 1969, Karl Weick proposed a shift in focus from the study of organization to the analysis of practices of organizing. David Silverman's *The Theory of Organizations* (1970) published in the UK advanced a sociological framework that in many ways deviated from the predominant view of organizations embedded in a combination of economic theory and rationalist engineering sciences. Over the course of history, Karl Weick has been praised as the principal proponent of

the understanding of organization as inherently changeable and moving social arrangements, restlessly being shaped by the actions of its members. However, Weick was influenced by psychologists like Gordon Allport (1954), which in turn was part of the two great American traditions of Chicago sociology having its roots in European phenomenology in the tradition of Edmund Husserl, brought to the USA by Alfred Schutz (1962) and American pragmatism represented by Charles Sanders Pearce and William James. William James strongly relied on the process philosophy of Henri Bergson (see, e.g., James, 1996), fashionable in the first decades of the twentieth century (Burwick and Douglass, 1992). In other words, German phenomenology and French process philosophy are some of the elements in the American intellectual history of phenomenologist sociology and pragmatist philosophy, leading to a shift in focus from stable organizational structures to fluid and dynamic practices of organizing.

In the study of health care work, the analyst needs to pay attention both to the institutional arrangement monitoring health care organizations and providing its funding and to the ongoing activities in the wardens and laboratories to combine and co-align various material resources into functional arrangements that enable certain operations and accomplishments. That is, rather than merely seeking to understand health care work 'from above' through the formally enacted institutional arrangements, or 'from the bottom up' by tracing how heterogeneous series of material resources are put into use, such a study must move back and forth between the formal and the practical. Similar to the biological organism, defined on the basis both of its structural elements and of its capacity to continuously respond to changes in the organism's milieu, health care organizations and health care work are at the same time relatively stable and continually in a process of change. Rather than being mutually exclusive – as in the case of Wittgenstein's (1953: 194) famous 'Duck-Rabbit', the drawing where the perceiving subject sees either one or the other image, a duck or a rabbit – the analyst of health care organizations needs to develop the capacity to capture health care organization as a multiplicity, a manifold arrangement being recursively defined on basis of its structural and processual components. As a consequence, in outlining the theoretical framework for the cases studies of contemporary technoscientific health care work, this chapter will first discuss institutional theory in regard to serving as the structural analytical framework used in empirical studies. Thereafter, the focus shifts to the various material resources that are part of health care work and that are used in everyday interventions into patients'

bodies. When being able to combine institutional arrangements and material resources, health care is best at serving its social function, to save lives, care for the sick, restore biological functions and enable a better quality of life for the impaired.

Institutions and institutional logics

Defining institutions

Institutional theory is one of the most widely used and prestigious analytical perspectives in the study of organizations. Having its roots in classic sociology (in, e.g., the work of Émile Durkheim, [1893] 1933, [1912] 1995) and being addressed by Talcott Parsons (1956) as a viable theoretical perspective on organizations, institutional theory is today widely endorsed as an important theory capable of explaining both macro-sociological issues and everyday practices in organizations. What has been called the neo-institutional theory of organizations, commonly associated with the edited volume of DiMaggio and Powell (1991), has been in vogue for more than two decades but has recently been criticized by, for example, Lounsbury (2008) and Zald and Lounsbury (2010) for failing to theorize how institutions are established through processes of struggle and negotiations. '[O]ur discipline as a whole had become a fragmented set of inward gazing communities, unnecessarily impotent as a critical voice of contemporary societal institutions and contributor to policy and public debates', Zald and Lounsbury (2010) argue. In addition, Lounsbury (2008: 350) claims that many scholars have '[e]mployed relatively dated and caricatured versions' of institutional theory. Pointing at the foundational work conducted, for example by Philip Selznick and Alvin Gouldner, in the 1940s and 1950s, Lounsbury (2008) advocates a more explicit study of how institutions are established over time; any process of institutionalization is the outcome of, at times, fairly harsh conflicts and controversies. For Lounsbury (2008), institutional theory needs to pursue an analytical framework that complements and challenges the economists' emphasis on what Lounsbury calls a 'narrow, utility maximizing sort of rationality', being capable of unravelling the very struggle to institutionalize certain routines and practices in organizations. Fortunately, Lounsbury's (2008) call for a stronger emphasis on agency in institutional theory has been complemented by the concept of 'institutional work' (Battilana, 2006; Lawrence et al., 2009), underlining the importance of studying how institutions are constituted.

A central idea in institutional theory is that, rather than being self-enclosed and self-regulating social entities, organizations are strongly determined by institutional beliefs and norms enacted in the organization's environment (Meyer and Rowan, 1977). Only by accommodating such norms and beliefs within the organization can long-term survival be ensured (Baum and Oliver, 1991; Ingram and Baum, 1997). Organizations may adapt to institutional pressure through a variety of mechanism (DiMaggio and Powell, 1983), ranging from coercion (Zerubavel, 1982; Baron et al., 1986) to imitation (Zajac and Westphal, 2004) and normative, professional standards (Rao et al., 2003; Stuart and Ding, 2006). Firms and organizations having the capacity to accommodate external pressure and demands are more likely to survive over time. At times, organizations are capable of accommodating different sets of demands leading to even two or more institutional logics governing the firm or organization.

Institutional logics

A body of literature in the field of institutional theory emphasizes the role of institutional logics (Oakes et al., 1998; Lounsbury, 2001; Thornton, 2002; Meyer and Hammerschmid, 2006; Thornton and Ocasio, 2008; Dunn and Jones, 2010; Goodrick and Reay, 2010, 2011; Lok, 2011). Reay and Hinings (2009: 629) define institutional logics as 'the basis of taken-for-granted rules guiding behaviour of first-level actors' (see also Thornton, 2002: 82; Meyer and Hammerschmied, 2006: 1002). They continue: 'Logics are . . . important in understanding institutional change because a change in the field's dominant logic is fundamental to conceptualizations of institutional change.' In their study of health care organizations in Canada, Reay and Hinings (2009) identify two coexisting institutional logics, referred to as (i) medical professionalism and (ii) business-like heath care. 'The two logics continue to co-exist and neither one can be considered dominant', Reay and Hinings (2009: 630) report. While the former logic emphasized the traditional role of the health care profession and its domain of jurisdiction, the latter prescribed as indicated a business perspective on the health care processes, a view carefully examined by Samuel et al. (2005: 270), suggesting that the business logic has effectively penetrated parts of the American health care system: ' "Providers" and "consumers" have almost completely replaced "doctors" and "patients", and "care" is increasingly, delivered to enhance the "health status" . . . Doctors, nurses and clinicians are increasingly seduced by the language of efficiency, costs, and

management in speaking about what they do'. In this case, there is a 'conflict of logics' (Purdy and Grey, 2009) between two logics rather than, as suggested by Reay and Hinings (2009), a relatively peaceful coexistence. A similar business logic is observed by Oakes et al. (1998) in Canadian state-governed museums, and Thornton (2002) identified an 'editorial logic' and a 'market logic' in the American publishing industry. Meyer and Hammerschmied (2006) found a 'legalistic-bureaucratic' and a 'managerial' institutional logic in the Austrian public sector. Dunn and Jones (2010) identified a long-standing debate between institutional logics emphasizing either 'science' or 'care' in medical school curriculum and training. In these cases, complementary or competing institutional logics coexist in specific fields.

Reay and Hinings (2009: 631) emphasize that the institutional logics are what precede both the institutions and the action regulated by the institutions, saying that 'institutional logics are the organizing principles that shape the behaviour of field participants. Because they refer to a set of belief systems and associated practices, they define the content and meaning of institutions'. Another example of the shifting institutional logics is the movement from traditional *haute cuisine* in French restaurants to the so-called *nouvelle cuisine* being popularized in the 1960s and 1970s, and represented by star chefs such as Paul Bocuse (Rao et al., 2003). Rao et al. (2003) demonstrate that the *nouvelle cuisine* represented a shift in focus from the chef as a culture carrier and guardian of a great French tradition of advanced cooking, to a more active role as the chef as a *createur*, a culinary artist operating in the field of sophisticated cuisine where fresh ingredients varying over the season were placed at the centre of the new regime of cooking. In such a view, professions are adhering to institutional logics, and professionalism is both the cause and effects of shifting institutional logics.

In summary, an institutional logic is the integrated and abstract set of norms, beliefs and ideologies that leads to practical activities and decisions in firms and organizations. Institutional logics are not mutually exclusive, but accommodating competing institutional logics demands a certain degree of irrationality (Brunsson, 1985) inasmuch as organizational actors need to be able to submit to alternative regimes of rationality. In some cases, there are direct conflicts and controversies derived from competing institutional logics, and all organizations drawing on two or more institutional logics need to be able to handle such conflicts.

Institutions and everyday practice

One common critique of institutional theory is that it is primarily preoccupied with explaining abstract processes at a structural level over time and therefore fails to engage in the day-to-day work of member in organizations, professions and occupational groups (e.g., Lounsbury, 2008). Institutional theorists often like to sweep with a broad brush and are inclined to engage a vocabulary filled with grand concepts such as 'modernity', 'rationalization' and similar terms signalling epochal significance. However, all institutions are built from the bottom up, and therefore institution theorists need to be mindful of the intricacies of everyday work and matter, as expressed by Powell and Colyvas (2008: 377):

> Institutions are reproduced through the everyday activities of individuals. Members of organizations engage in daily practices, discover puzzles or anomalies in their work, problematize these questions and develop answers to them by theorizing them. In turn, participants ascribe meaning to these theories and, in doing so, develop and reproduce taken-for-granted understandings.

Czarniawska (2009: 423) emphasizes the connections between abstract norms and 'collective action' in institutional analysis: '[A]n institution is understood to be an (observable) pattern of collective action (social practice), justified by a corresponding norm.' She continues by emphasizing that one must not mistake the causality between actor and actions – 'the doer and the deed': 'Whereas actors perform actions, actions create actors (or, rather, their identities) within the context of a narrative, which is created, in turn, by actions and actors' (Czarniawska, 2009: 424). Actions are thus what create actors' identities, and identities in turn are shaped by both institutional conditions and whatever reproduces institutions. This renders the actions a proper analytical object within the institutional framework. These actions or practices are, in turn, assemblages of abstract resources (professional norms and ideologies, theoretical know-how, embodied experience, etc.) and material resources that are developed partially independently from the abstract resources, partially directly informed by such resources (as in the case of scientific technologies being embedded in enacted theoretical frameworks). Any action or practice is thus constituted by both abstract (i.e., social or institutional conditions) and material elements. Pinch (2008) emphasizes this condition:

> Institutions have an inescapable material dimension and part of the agency that actors bring to institutions is their work in producing and reproducing (and sometimes changing) the material dimensions of institutions. Likewise materiality itself exercises form of agency and part of the agency that materiality brings to institutions is the work of producing and reproducing (and sometimes changing) the social dimensions of institutions.
>
> (466)

In the next section, the materiality of organizing will be examined, pointing at the co-production of institutions and everyday practices through the alignment of social and material resources.

Materialities of organizing

Affirming the material

Institutional theory advances a view of organizations where they have to continuously respond to changes in the external environment to signal an adherence to certain rationalities, thereby safeguarding long-term survival. A common critique articulated on institutional theory is that it is primarily providing overtly abstract concept and favours macro-sociological perspectives, and that in many cases fails to capture the underlying day-to-day practices. In addition, institutions are commonly defined as being both intangible and abstract, and as being embedded in day-to-day practice, making the concept too generalized to serve fully as a theoretical construct in the conventional sense of the term, as what can lend itself to empirical research. In the falsificationist framework developed by Karl Popper (1959), suggesting that theories are defined on the basis of their capacity to be falsified, it is debatable whether institutional theory is a theory at all; since institutions can be virtually anything and emerge in any shape and form, it is complicated to falsify the theory (i.e., to prove that there is no such thing as 'institutions' through empirical testing). Notwithstanding such epistemological intricacies, institutional theory offers opportunities for an analysis of the more broad-ranging changes in organizational fields, in our case the case of health care organizations. Nonetheless, when it comes to empirical research on the shop floor, studies of daily work in health care organizations cannot subsist solely on the basis of an institutional theory framework, but need to pay attention to the materiality of contemporary health care work, that is, the tools, technologies, epistemic objects and other relevant material resources being brought into the practices.

In general, organization studies have been widely preoccupied with symbolic and linguistic resources in organizations, with the cultures, narratives and storytelling structuring of everyday life in organizations and giving meaning to intricate social processes. However, beneath all this symbolism and manifold uses of language and symbolism lies a material surface, a physical arrangement of a variety of heterogeneous materials that, in collaboration with more abstract ideas regarding, for example, identities and professionalism, constitutes everyday organizations (Berg, 1998; Miller, 2005, 2010; Elsbach and Pratt, 2007; Coole and Frost, 2010; Korica and Molloy, 2010; Kroes, 2010; Leonardi and Barley, 2010; Introna and Hayes, 2011; Leonardi, 2011). Under the influence of the linguistic turn, language and symbolism have served as a principal domain of interest, but there is also a variety of theories pertaining to the material life in organizations running in parallel to the intangible resources of institutions, language and symbolism.

'[The] management literature still for the most part continues to ignore objects and to focus on "purely" social and organizational processes,' Cochoy (2009: 32) remarks. Studying the materials involved in everyday consumption – the shopping trolleys, computer systems, shop-shelves arrangements, etc. – Cochoy (2009: 33) claims that 'the mundane, down-to-earth, functional, material and practical aspects of consumption are as important in the business game as their intellectual, ritual, cultural or anthropological approach'. What Cochoy points at is what Alfred Schutz (1962) referred to as the 'social world as taken for granted', the difficulties human beings face when examining their everyday life world. Rather than being immediately open for inspections and analysis, this everyday life world is obscured in all its familiarity; we are no longer capable of seeing what is always already present before us, we fail to move beyond the direct perception to which we are accustomed, and consequently the technologies and tools, machines, furniture, coffee mugs and paper clips around us slip through our analytical categories and we fail to account for them in theoretical terms. Bennett (2010) is engaging in a project wherein all forms of materiality in everyday life are not taken as being purely passive but rather include a certain 'vitality', inasmuch as they are part of various social processes where materiality is combined with other resources. The materiality is thus not the immutable and inert matter in the hands of vital humans, but instead material resources are also seen as being changeable, fluid and in the making. Mackenzie (2009), speaking about the constitution of financial markets, emphasizes this relationality between materiality (e.g., technologies) and 'social resources':

> The 'technical' and the 'social' are not two separate spheres, but two sides of the same coin, as a long tradition in the social studies of sciences and technology has emphasized. Any market . . . is a sociotechnical construction. A central role of the social studies of finance and similar 'material sociology' approaches to markets is thus to add to the well-honed set of tools for analyzing the the more directly social aspects of markets . . . a set of tools for making sense of their more 'technical' aspects. Because the 'social' and the 'technical' are inextricably linked in market construction, the two sets of tools will ultimately need to be integrated fully: a challenging but important academic task.
>
> (181)

Elsewhere Beunza et al. (2006), advancing what they call the social study of finance, speak of a 'material sociology' that takes on the assignment to examine 'the role played in social relations by artefacts and other physical objects and entities (including human bodies viewed as material entities)' (Beunza et al., 2006: 724). This is a broad-ranging perspective and, as Beunza et al. (2006) suggest, 'all sociology should be material, yet social theory frequently abstracts away from material entities and empirical enquiry often does not focus on them'. Similarly, Brown (2010: 188) is speaking about 'object culture', a term used to designate that '[t]he objects through which a culture constitutes itself, which is to say, too, culture as it is objectified in material forms.' For Brown, culture does not exists in some intangible, abstract and disembodied form but is always manifested in the various objects used within a specific culture. Material objects are cultural manifestations; objects are not complementing underlying or surrounding cultures but they are the culture. Barry (2001: 9) provides a similar argument, claiming that 'technological devices' are artefacts are not 'social constructions' or are 'socially shaped' because 'the social is not something which exists independently from technology'. It is not the case that there are first societies in place, enabling various forms of technological developments, but rather technologies and other artefacts and society are co-produced, folded into another, mutually constitutive.

In organization theory, Lucy Suchman (2007) and Wanda Orlikowski (2010, 2007) and Wanda Orlikowski and Susan Scott (2008) have discussed what they refer to as 'sociomaterial practices' on the basis of a similar perspective. The concept of sociomaterial practices is a fruitful development of the concept of practice recently popularized in organization theory (Schatzki et al., 2001; Schatzki, 2002). The concept of

practice has a long tradition in the social sciences and in organization theory, but one of the standing concerns has been the materiality of practice – how material and social resources are combined and co-aligned in day-to-day work. Suchman's (2007) distinction *between plans and situated actions* (i.e., enacted objectives and actual outcomes) underlines that all practice is embedded in bounded rationalities and situations where actors cannot predict and anticipate all relevant factors and conditions. Sociomaterial practices are thus inextricably bound up with specific technologies, tools and other relevant material resources. Seen in this view, organizing is a form of sociomaterial practice, shaped and formed by the technologies used in the activities, recursively both constituting the technologies through their very use and affected by the material conditions under which the work is conducted. On the one hand, technologies set the boundaries for what may be said and done; on the other hand, technology is always malleable and fluid, open to negotiations and local interpretations and uses (Bijker et al., 1987). Organizing qua sociomaterial practice is therefore always a matter of human–machine or human–technology interactions. Practices are bound up with material resources and know-how, and skills are inextricably connected to the tools and machinery used. Orlikowski (2007) suggests that '[t]he social and the material are constitutively entangled in everyday life', and thus proposes the term 'constitutive entanglement' to escape giving privilege to either the social or the material but to embrace '[a] form of mutual reciprocation'; 'there is no social and that is not also material, and no material that is also social', Orlikowski (2007: 1437) ensures. Orlikowki provides many examples of how this constitutive entanglement enfolds social and material practices – the innovative Google search engine developed by Sergey Brin and Lawrence Page (1998) being one example – and demonstrates that in organizational practices the social and the material are folded into one another.

In summary, a variety of analytical perspectives have emphasized the co-evolutionary relationship between materiality and social, cultural and emotional resources. In the following, a few of the analytical categories used in this wide-ranging literature will be examined and related to one another.

Conceptual frameworks on materiality

When making reference to the concept of materiality, there is a relatively extensive vocabulary that is used. First, Stering (2005: 9) speaks of artefacts as 'simple artificial, objects, made by hand, used by hand,

and powered my muscle.' In contrast, machines denotes '[c]omplex, precise proportioned artefacts with many integral moving parts that have tapped some non-human, non-animal power source' (Stering, 2005: 9). The distinction made between tool (or in Sterling's case, 'artefact') and machine is widely used in the technology literature; while the tool is driven by human muscular power, the machine is a more advanced technological arrangement powered by other sources. Many writers propose different concepts denoting larger or more sophisticated technological systems. Barry (2001: 11) speaks of arrangements of 'artefacts, practices and techniques, languages and bodies'. Such arrangements are 'collectives which include technological components' (Barry, 2001: 11), making up institutions such as 'states, markets, and families'. Operating on a lower institutional level, Schubert (2007: 129), studying nurses, uses the term 'socio-technical ensembles' as '[h]ybrid networks in the sense that they enclose human as well as technological components and that relations between the components are significant to its specific functions.' Callon (2007) introduces the term *agencement*, originally developed by Gilles Deleuze to point at the interconnections between subjectivity and the uses of devices (Callon, 2008: 38), to understand the patchwork of resources used by financial traders in their day-to-day work. Callon (2007) explains the concept:

> In French its meaning is very close to 'arrangement' (or 'assemblage'). It conveys the idea of a combination of heterogeneous elements that have been carefully adjusted to one another But arrangements (as well as assemblages) could imply a sort of divide between human agents (those who arrange or assemble) and things that have been arranged . . . *Agencement* has the same roots as agency: *agencements* are arrangements endowed with the capacity of acting in different ways depending on their configuration. This means that there is nothing left outside *agencement*: there is no need for further explanation, because the construction of tis meaning is part of an *agencement*. A sociotechnical *agencement* acts in line with the statement, just as the operating instructions are part of the device and participate in making it work.
>
> (320)

Elsewhere, Callon (2008: 38) adds the prefix 'socio-technical' to *agencement* to 'underscore the fact that the entities which are included in the *agencement* and participate in the action undertaken are both human and non-humans'. An *agencement* is thus constituted by 'fixtures

and furnishings, by elements that allow tracing lines and constituting a territory' (Muniesa et al., 2007: 3). The 'market devices' examined by Muniesa et al. (2007) are thus always of necessity embedded in *agencements* enabling financial trading. According to Mackenzie (2009: 22):

> Tracing the *agencement* making up the economic actor, rather than focusing exclusively on what one might call action's agential glamorous peaks, broadens the field of view of the social-science investigation of finance, not just towards things but towards less high-status human beings.

One principal virtue of the concept of *agencement*, Mackenzie (2009) suggests, is that it decentralizes the concept of the actor, making the actor what is essentially distributed across a heterogeneous ensemble of resources used in the work:

> Another virtue of the notion of agencement is that it suggests that actors should not be seen as having fixed natures of fixed characteristics. The equipment that makes an actor what it is, the particular material processes of calculation it engages in, the specifices of the distribution of cognition – all these shape the nature of actors, or so the social studies of finance postulates.
>
> (22)

The concept of agencement is thus moving from the perspective on the calculating agent, the *Homo oeconomicus* of finance theory, prescribing financial trading as a rational process embedded in solid scientific procedures, to the *agencement* as a heterogeneous body of resources, material as well as intangible, enabling actors both to constitute financial markets and to perform on them. Mackenzie (2009: 23) summarizes the argument:

> Rather than endorsing either the rational-actor or behavioural-finance viewpoints, the social studies of finance investigates how the nature of actors is shaped by their *agencements* that constitute them. For example, the incorporation of concepts and procedures from economics into actors' conceptual equipment may make the behaviour of actors more rational in the sense of becoming closer to the postulates of economic models.

The concept of *agencement* is thus opening up a material theory of financial trading that does not assume a calculating actor at the very centre of the operations, but rather a distributed structure made up by various elements, human as well as non-human.

Technologies and technological skills

Perhaps the most generic form of materiality is technology. Human societies are thoroughly constituted by technologies, and in the late modern society there are relatively few instances of human life that are not in any way influenced by some kind of technology or artefact. The French archaeologist André Leroi-Gourhan and, more recently, the French philosopher Bernard Stiegler even suggest that the very development of *Homo sapiens* as a species is co-evolutionary with the technologies used by mankind: the creation of pottery and elementary tools helped human beings develop their capacity to grow seeds and to store the food over periods of time, leading to better nutrition and, over the course of generations, higher intellectual capacities in turn producing more advanced technologies. Technology is thus a term that transgresses the boundary between the material and the symbolic and social, embodying both tangible material forms and social and cultural capacities to use the technology. Says Pfaffenberg (1988: 249): 'Technology, defined anthropologically, is not material culture but rather a total social phenomenon in the sense used by Mauss, a phenomenon that marries the material, the social and the symbolic in a complex web of associations.' As a consequence, technologies are not defined strictly by their brute materiality but must always be understood in a social and cultural context:

> Every technology is a human world, a form of humanized nature, that unifies virtually every aspect of human endeavour. To construct a technology is not merely to deploy materials and techniques; it is also to construct social and economic alliances, to invent new legal principles for social relations, and to provide powerful new vehicles for culturally-provided myths.
>
> (Pfaffenberg, 1988: 249)

In the scholarly literature addressing technology, this dual nature of technology – part artifice, part human convention – is a standing theme. In the science and technology studies tradition, 'the social construction of technology' has served as a catchphrase denoting how technologies are never self-enclosed and fail to respond to human interventions, but

that they are are always embedded in the social process wherein they are put to use: 'One of the central ideas in the social construction of technology is that the making of a piece of technology is acquired within social groups. Technologies, rather than developing under its own immanent technical logic . . . acquire meanings in the social world and these meanings shape and constrain their development', Pinch (2008: 471) remarks. Technologies are thus never operating under their 'own immanent technical logic' but are always bound up with human uses. For instance, ethnographic studies of the uses of technology reveal that the capacity to operate, modify and fix technologies when they fail or break down includes a subtle understanding of, for example, a machine and all its parts and functions, including the capacity to listen to sounds or even smell as the machinery is operating. For instance, Styhre's (2008) study of construction workers using robots to spray concrete on rock walls in underground constructions shows that skilled construction workers needed to acquire a full understanding of the machinery and how it interacted with the concrete. Listening to the pumping of the motor and visually inspecting the concrete were important competencies to avoid technological breakdowns being costly for the firm. In addition, Kusterer's (1978) study of shop floor operators in a manufacturing company suggests a similar familiarity and even intimacy with the technologies used. Kusterer (1978) speaks about the operators' capacity to 'keep the machine running' as being the mark of credibility in shop floor work:

> The machinery, the materials, and the organizational relations of production are all complex subject areas that the operators must learn in detail in order to do their jobs. Knowledge of all these areas is a technical necessity of production, because the operators do not merely passively tend their machines. They actively *keep their machines running*, meeting and successfully overcoming all the material and social obstacles which periodically arise to interfere with continued quality production.
>
> (62)

In their day-to-day concern for the machinery, two principal skills were needed, the capacity to use diagnostic and prescriptive knowledge in the domain of work:

> The diagnostic is made up by all background information about that aspect of the situation that is necessary for workers to ask and answer

> the question 'what is the source of this problem?'; the prescriptive element consists of a repertoire of previously tried and tested procedures or coping techniques that will (at least partially) solve this problem. After the problem has been diagnosed prescriptive knowledge enables workers to answer the question 'how can this problem be handled?'
>
> (Kusterer, 1978: 138)

Studies of, for example, shop floor cultures in manufacturing industry such as Donald Roy's classic ethnography (1952, 1954) and Burawoy (1979) follow-up study, demonstrate that the operators know perfectly well exactly how much effort they should make to accomplish their work, implying that they have a comprehensive understanding of the technologies used. However, Roy's (1952, 1954) and Burawoy's (1979) studies are located in a manufacturing setting employing a shrinking number of people in late modern, Western society (Kollmeyer, 2009), and today growth in professional services and knowledge-intensive and science-based work is growing proportionally (Barley and Kunda, 2006: 55–56), placing new technologies and new skills for 'keeping the machine running' at the centre of analysis. For instance, in the financial trading sector of financial services, financial analysts are now developing advanced technological frameworks to calculate and predict what financial assets to acquire or sell. Beunza and Stark (2004: 369–370) make reference to science and technology studies and what they refer to as a shift, described as the 'post-Mertonian studies of science', from the study of institutions of science to the everyday practices of scientists in laboratories. Similarly, Beunza and Stark (2004) claim that the study of finance should move into a 'post-Parsonian economic sociology' wherein it is the practices of the calculating agent rather than the institutions that are examined. In order to understand these calculative practices of financial trading, the student must target the 'tools' and the 'instrumentation' used in the day-to-day work: 'Calculation', Beunza and Stark (2004: 370) state, 'is not simply embedded in social relations. Calculative practices are distributed across persons and instruments'. In analogy with the science and technology studies tradition of research, Beunza and Stark (2004) suggests that the trading room, the *locus* for financial trading in financial institutions, is a form of 'laboratory' equipped with heterogeneous technological systems composed of technologies, tools and devices, but also including abstract skills and know-how such as mathematical algorithms and idiosyncratic software programs predicting changes in the market, all jointly supporting the financial trader in his or her work. According to Beunza and Stark (2004):

> We found our traders' tools remarkably close to Latour's (1987) definition of scientific instruments as inscription devices that shape a view. Scientific instruments, whether a radio telescope, a Geiger counter or a Petri dish, display phenomena that are often not visible to the naked eye. They reveal objects in space, radiation waves or miniscule bacteria that could otherwise not be discerned. Similarly, the trader's tools derive their strength – persuasiveness in the former, profits in the latter – from original instrumentation.
>
> (390)

As a consequence, they continue:

> [T]rading rooms can be understood as places that gather diverse market instruments together. Seen in this light, the move from traditional to modern finance can be considered as an engagement in the number of instruments in the room, from one to several . . . the best trading rooms bring together heterogeneous value frameworks for creative recombinations.
>
> (393)

Financial trading is then not strictly calculative in terms of simply drawing on publicly available financial data and information. On the contrary, there is a constant struggle to decode and understand the underlying information that potentially lurks beneath all the data and information. Zaloom's (2003) study of financial trading provides some insight into this deciphering and 'decrypting' of financial data: 'The first thing traders learn is that *numbers tell very little*', Zaloom (2003: 261) says. Rather than strictly relying on available public data, that is as being calculating agents *sensu stricto*, financial traders are what Zaloom (2003) calls informational entrepreneurs because they are able to exploit the ambiguities in the flow of financial data. For instance, rather than calculating that financial traders are making inferential interpretations based on a variety of sources of new information, all contributing to the understanding of what the publicly available financial information means: 'Traders know that market numbers carry social content that cannot be computed. Searching for the hidden values and phantom figures that lurks behind the numbers is the anchor in a global marketplace where the only certainty is instability' (Zaloom, 2003: 269). In an analogy with scientists in, for example, molecular biology or biochemistry, clinical data are used to construct theories about the underlying biological system producing the clinical data. The biological structure of the organism or the social structure of the financial market do not

reveal themselves to the analysis (scientific or financial), but need to be constructed 'from the bottom up'. Only when managing the theoretical constructs of biological systems or financial markets that prove to be viable over time and under different conditions can the scientist or financial trader outperform the competitors. Therefore, the work of both scientists and financial traders is analytical yet synthetic. As a consequence, both the scientist and the financial trader are operating on the basis of calculative and interpretative procedures and the various tools and technologies supporting this work. Neither science nor financial trading can be fully automatized at the same time as various technologies, media-processing data and information are needed to cognitively accommodate massive data sets.

In summary, then, technology cuts across the materiality–sociality divide, being simultaneously both, and the capacity to make use of and fix technology when its fails to operate as anticipated is a key competency in a variety of professions. At the same time as technology is constitutive of social life – indeed life per se, some would say – social life is never reducible to the uses of technology. Quite the contrary, the capacity to mobilize heterogeneous ensembles of resources and put them to use to serve a specific function is a competence in its own right. For instance, laboratory technicians (Barley and Bechky, 1994; Nutch, 1996) represent one specialized group in the field of technoscience capable of upholding the functionality of advanced experimental systems – laboratories comprising machines, equipment, biological specimens, laboratory animals and so forth – all enabling the controlled and monitored production of qualitative scientific data, lending itself to scientific theorizing.

Social concepts regulating material worlds

Standards

If materiality and its instances such as technology are social in nature, or, rather, are put to use in social settings determining which aspects of material resources are of significance, then materialities are accompanied by a range of social practices and concepts giving material resources their role and function. In the following, a few such social practices and concepts are addressed as being coexistent with material resources. First, what is called standards and technological standards are social accomplishments executing significant influence over material resources. In fact, the modern society is thoroughly preoccupied with standards and standardization (Brunsson and Jacobsson, 2000). '[A]fter

1880 we find ourselves in an empire of standards,' Kittler (2009: 37) remarks. As, for instance, Kula (1986) has demonstrated, well into the nineteenth century, weight and volume measures differed across regions and towns in Europe and, from the medieval period, many political initiatives were made by kings and authorities to standardize these widely used measures to lower the transaction costs in trading. For Pinch (2008: 472), 'standards are rarely simply technical matters; they are powerful ways of bringing a resolution to debates that might encompass different social meanings of a technology. Standards are set to be followed; they entail routinized social actions and are in effect a form of institutionalization.' Like perhaps no other social accomplishment pertaining to the regulation and control of material resources, standards are institutions, formally agreed specifications that define the boundaries of deviances inscribing lines of demarcation between the normal and the non-normal. As with all institutions, standards serve their purpose best when they become infrastructural (Star, 1999) (i.e., they become taken for granted and widely overlooked as long as they work). When living in France, you may spend relatively little time to reflect on the cost of a litre of milk (defined as one cubic decimetre), but as soon as you cross the English channel the continental European encounters an entirely different regime of standards, having its own trajectory. As one British official reported regarding the standardization in the European Union, the UK was approaching the metric system 'inch by inch' and in due time one unified European system might be expected. That is, what is widely taken for granted in France is not unproblematic in the UK and, consequently, weight and volume measures are disputed. In contrast, the standardized globalized time, what Zerubavel (1982: 3) writes of as a standard temporal reference framework based on 'clock time, the Gregorian calendar, and the Christian Era', has been in operation since the mid-nineteenth century. Even though there are, for instance, both a Jewish and an Islamic calendar, it has been widely agreed that, formally, we are living in the second decade of the first century of the third millennium. The pre-existing standard temporal reference framework is thus one example of a successful institutionalization of a globally shared system that facilitates social interaction.

While standards appear as either widely taken for granted and consequently disqualified for scholarly attention or overtly abstract, as in the case of standards for computer programming arithmetic (Mackenzie, 1993), there has been some attention paid to standards and standardization in the social sciences. This literature shows that rather than falling from the sky, standards rest on hard work and negotiations: 'Standards

such as human weight charts, blood types, and electrical current now appear fixed and neutral, although this inert quality obscures the enormous amounts of work needed to stabilize knowledge, freeze action, delete outliers, and residuals and facilitate use', Star and Lampland (2009: 13). The social sciences are thus paying attention to the institutionalization of material and technical standards. Such studies also show that, rather than being once and for all fixed, standards may be modified as practices and technologies are developed over time. Ortmann (2010: 210) suggests that there exists a 'recursive relation' between 'standards and their application'. Especially in the health care sector, operating under uncertainty and ambiguities, standardized therapies are applied to various medical conditions but, as new clinical evidence is produced, new standards are enacted. The popular media reporting advances in the life sciences commonly describe new directives regarding, for example, alcohol consumption during pregnancy, and new formal policies are enacted in the face of new clinical data. Taken together, standards are important social agreements in the intersection between the social and the material, both prescribing practical uses of, for example, materials and providing technical specifications for technological components and systems.

Classification

A concept closely related to standards is the practice of classification or categorization. Classification is here the cognitive and political 'groundwork' preceding the enactment of standards. Standards need to rest on intelligible classificatory schemes in order to make standards practically useful and possible to understand. In order to accomplish widely shared classificatory systems, there is a need for a shared epistemology or worldview making the classificatory system intelligible. Jorge Luis Borges's (1999) Chinese classification system in his essay 'John Wilkin's analytical language', later on referenced by Michel Foucault, reveals an entirely different epistemology failing to make sense to Western moderns because the categories appear complementary rather than mutually exclusive, and seem porous, leaky or simply haphazard:

> In its distant pages it is written that animals and divided into (a) those who belong to the emperor; (b) embalmed ones; (c) those that are trained; (d) suckling pigs; (e) mermaids; (f) fabulous ones; (g) stray dogs; (h) those that are included in this classification; (i) those who tremble as if they were mad; (j) innumerable ones; (k) those drawn

> with a very fine camel's-hair brush; (l) etcetera; (m) those that have just broken the flower vase; (n) those that at a distance resemble flies.
>
> (Borges, 1999: 231; see also Foucault, 1970: xv)

Classification systems are thus social in nature and therefore of interest to social scientists. According to Allport (1954: 22), the process of classification has five characteristics:

(i) It favours large classes and clusters for guiding our daily adjustments;
(ii) categorization assimilates as much as it can to a cluster;
(iii) the category enables us quickly to identify a related object;
(iv) the category saturates all that it contains with the same ideational and emotional flavor; and
(v) categories may be more or less rational.

In, for example, scientific work, scientists struggle to establish such categories (see, e.g., Roth, 2005; Sommerlund, 2006) and, in many cases, the scientific community is capable of making agreements on how to classify, for example, biological specimens. However, classification systems are social institutions in their own right and therefore they tend to lag behind the advancement of the sciences. Especially when the epistemic objects are brought outside of the narrow scientific communities, there may be instances where classificatory systems are falling short. Carolan's (2010) study of the patenting of epistemic objects reveals the difficulties of the juridical patenting system, developed to handle technical rather than microbiological entities, to accommodate the more recent research findings. Carolan explains:

> [B]iotechnology patents require a degree of flexibility in the thing they are said to protect because biotechnologies are by their very nature ontologically mutable. Not unlike earlier patented forms… the stability of biotech patents is produced. Yet, unlike conventional patented forms, the thing produced with regard to biotech patents retains a significant degree of flexibility to it, which is to say, at least in part, there has been so much activity in the courts in recent years over just what constitutes patents infringement.
>
> (2010: 111)

These conflicts, at times leading to court, reside in the fact that the patent system relies on the articulation of 'immutable, ontologically

independent object[s]'. As long as the life sciences sought to patent individual molecules, being part of the active substance in, for example, a drug, the patent system could handle such epistemic objects and new chemical entities. However, as the life sciences have advanced, increasingly relying on new biocomputational methods and examining advanced biological systems such as the central nervous system to identify therapies for neurodegenerative diseases such as Parkinson's disease or Alzheimer's disease, they are no longer operating on the basis of single and isolated molecules but are increasingly operating on that of interrelated biological pathways and processes. These biological pathways and processes operate on a systemic level and are irreducible to the neat categories required for handling by the patenting system. Thus, the more sophisticated scientific theoretical models of the underlying biological systems are translated into the relatively simplistic model of the juridical patenting systems, reducing 'life to chemistry': 'While no molecular biologist actually believes biology is just chemistry… it is this very view of reality that underlies biotechnology patents. In patent law, the fundamental unwieldiness of these artefacts is denied, leaving only discrete, isolated bits of reality to claim ownership over (e.g., chemicals, DNA, etc.)' (Carolan, 2010: 117). Carolan's (2010) case suggests that there is a mismatch between the scientific classificatory system, operating on the basis of broader categories accommodating underlying biological pathways and processes, and the patenting classificatory systems, imposing an entitative ontology on the process-based biological models, rendering what are intricate biological processes as relatively simplistic 'cause-and-effect' relationships capable of being accommodated by the patenting system. Carolan (2010) thus demonstrates that classification is a complex and, not of necessity, successful social procedure that demands both advanced specialist expertise and brokering and negotiation skills as idiosyncratic classificatory systems are translated into one another to make, for example, biological entities socially valuable.

Boundary objects

A third form of social practice regulating materiality is grounded in the use of boundary objects. Boundary objects could be virtually any objects (tools, technology, protocols, maps, blueprints, etc.) that enable heterogeneous groups to collaborate without having mutual agreement on what they are doing or what they are seeking to accomplish (Star and Griesemer, 1989). 'Boundary objects are a sort of arrangement that allow different groups to work together without

consensus. However, the forms this may take are not arbitrary,' Star (2010: 602) argues. She outlines three characteristics of the boundary object:

1. The object (remember, to read this as a set of work arrangements that are at once material and processual) resides between social worlds (or communities of practice) where it is all structured.
2. When necessary, the object is worked on by local groups who maintain the vague identity as a common object, while making it more specific, more tailored to local use within a social field, and therefore useful for work that is not interdisciplinary.
3. Groups that are cooperating without consensus tack back-and-forth between both forms of the object.

In order to collaborate effectively, the boundary object becomes a nexus, a meeting point where various resources, skills and objectives are anchored. Bechky's (2003) study of the work in a machine-building factory shows that the blueprints produced by the engineers and used by the machine builders, the operators, served the role of boundary objects in regulating domains of jurisdiction between engineers and operators. The engineers maintained the authority and prerogative to interpret what the blueprints said and demonstrated, and the operators were consequently asked to 'build to the print', to follow the formal instructions given by the engineers (Bechky, 2003: 734). In order to uphold prestige, social status and jurisdictional domains, the engineers put forth the blueprints both as a resource under their control and a boundary object regulating the relationship between the two occupational groups. In Bechky's (2003) analysis, the boundary object is politically and emotionally charged, but in Star and Griesemer's (1989) original use of the term, the boundary object serves a more neutral function as being the issue that brings heterogeneous groups and interests together.

Taken together, standards, classifications and boundary objects are analytical concepts seeking to reconcile material and social worlds, or rather, folding them into one another, making them collaborate and mutually reinforce one another. If we assume that the social is always materially mediated and that the material and technological is of necessity enacted and shaped within social settings and in social communities, then the terms of this order aligning the material and the social are of great importance for understanding social life and organizational activities and arrangements.

The social determines the material: Medicalization

In common-sense thinking, material realities largely influence social life inasmuch as human beings are unable to escape the conspicuous materiality of their existence. At the same time, social conditions and socially embedded norms and beliefs shape and form how materialities are understood and interpreted. The perhaps most telling example is the sciences, wherein humans are seeking to intervene into nature to understand its elementary constitution and processes. While some scientific ontologies and epistemologies assume that what the sciences are capable of revealing is brute nature per se, nature 'in the raw', where the scientific theories are the 'mirrors of nature' in Richard Rorty's (1980) memorable formulation, today it is more widely believed that scientific theories and their accompanying instrumentations are socially enacted patchworks of ideational and material resources. Such ontologies and epistemologies assume that the specimens of nature produced in scientific laboratories and research sites are a fabrication under disciplinary and institutional frameworks. A range of philosophers of science, ranging from Pierre Duhem and Gaston Bachelard to Georges Canguilhem and Ian Hacking, have emphasized that the scientific theories, instrumentation and output cannot be treated as isolated entities but must be regarded as various technoscientific resources derived from within the same epistemological-theoretical framework, and therefore mutually constitutive within specific technoscientific programmes. For instance, the so-called Duhem hypothesis – the idea that theories are never overturned by new facts but predominant theoretical frameworks are merely expanded by additional ad hoc hypotheses in the face of new, still-to-be-explained data – leads to the situation where theories and theoretical frameworks are never abandoned based on scientific procedures and data production, but merely on basis of mutual agreements within the community of scientists. Theories are therefore never 'proven wrong' but rather become 'insignificant' as scientists identify more promising and intellectually stimulating theories with which to work.

Scientific theories and accompanying procedures are of great relevance when shaping and informing social life, especially in the life sciences and in the health care sector. For instance, in the pharmaceutical industry, scientific ideologies determine what counts as legitimate claims regarding the efficacy of certain therapies. However, the pharmaceutical companies are not totally exposed to the unpredictable and non-linear outcomes from scientific research, residing in isolated 'natures' such as the human organism, but may inscribe social

meaning into certain therapies. This process of rendering certain medical conditions subject to pharmaceutical treatment has been called medicalization (Clarke et al., 2003). Medicalization denotes the 'process by which nonmedical problems become defined and treated as medical problems, usually in terms of illness and disorders', Conrad (2007: 4) says. He continues: 'The key to medicalization is definition. That is, a problem is defined in medical terms, described using medical language, understood through the adoption of a medical framework, or "treated" with a medical intervention' (Conrad, 2007: 5). Medicalization is widely criticized and problematic because it essentially violates the scientific ideology wherein perceived medical problems (illness, medical disorder) are treated by therapies being developed within prescribed technoscientific frameworks (i.e., the 'objectively true' medical disorder precedes the therapy). Under the regime of medicalization, the therapy may be available first and only after some time, the therapy may be associated with a relevant disease or the demand for certain therapies be created through the problematization of certain medical conditions. 'Pharmaceutical companies have invested heavily in the development of diagnostic instruments and symptoms inventories, often well in advance of an approved treatment for the disorders they purport to identify,' Marshall (2009: 144) says, studying the production of what has been called 'sexuopharmaceuticals', therapies primarily for women experiencing a lack of sexual interest and/or performance. This kind of 'first shoot the arrow, then draw the target' logic is in conflict with the experimental methods institutionalized in the technosciences since the seventeenth century. In addition, the term medicalization is used by its critics to denote the ambition primarily to promote drugs dealing with 'lifestyle diseases' and relatively marginal medical conditions such as baldness or 'erectile quality' (Mamo and Fishman, 2001). These lifestyle diseases are concerns for relatively financially endowed people in the Western part of the world and, consequently, critics contend, pharmaceutical companies are more concerned about developing therapies for dealing with receding hair than tropical diseases such as malaria. Medicalization thus means a concern for financial performance rather than what is medically relevant. Under the general umbrella term medicalization, there are variety of studies of how pharmaceutical companies are strategically seeking to establish legitimate and robust relationships between certain therapies and medical conditions.

Greene's (2006) study of the development of Diuril, the world's first hypertension therapy, developed by Merck Sharp & Dohme and

marketed by 1958, shows how diseases are increasingly defined on basis of what therapy 'they respond to' rather than being autonomously defined. Greene (2006) here points at a recursive relationship between Diuril and how hypertension was diagnosed by practising cardiologists after the drug was introduced at the same time as Diuril became the 'hypertension drug per excellence':

> Hypertension became a different disease after Diuril. It is equally true, however, that Diuril became a different drug after it encountered hypertension. If we look at a pharmaceutical as both a clinical entity and a branded consumer product, the relationship between drug and disease emerges not as a story of design or serendipity, control in production, but rather as a narrative of cumulative negotiation and reciprocal definition. The history of Diuril and hypertension . . . illustrates the mutually constitutive processes of clinical research, clinical practice, and medical marketing in the postwar American pharmaceutical industry and traces the evolution of a set of hybrid structures that became central institutions of pharmaceutical promotion in the second half of the twentieth century.
>
> (Greene, 2006: 22)

Before Diuril was introduced on the market hypertension was a more unusual medical condition, but as soon as the drug was available in the market the 'threshold' was lowered, enabling cardiologists and other physicians to prescribe Diuril for their patients:

> Diuril not only altered the options available for the treatment of hypertension but also changed irreversibly the tools available to 'think hypertension' with. By making antihypertensive therapy a sweeter pill to swallow, Diuril lowered the threshold for the prescription and consumption of antihypertensive medication, enlarged the population of potential hypertensive patients in both clinical trials and clinical practice, and contributed to the consolidation of a single threshold of hypertension.
>
> (Greene, 2006: 53–54)

For Greene then, pharmaceuticals like Diuril become 'central agents' when defining disease categories (i.e., diseases and medical conditions are no longer separated from the available therapies but instead becomes defined on basis of what they respond to). Based on his two other case

studies, that of the drug Orinase in diabetes therapy and Mervacor in elevated cholesterol, Greene summarizes:

> [T]he drug serves serve as a technology of control, reshaping the formerly unruly contours of disease into forms of more acceptable to human lives and livelihood . . . Certainly this claim can be made for the impact of Diuril for hypertension, Orinase on diabetes, and Mervacor on elevated cholesterol. Each of these drugs helped to make their associated conditions more manageable, and in the process the drugs themselves become defined in terms of the related disease . . . As these terms become fused in the regulatory practice of the therapeutic indication, drug and disease become formally (and legally) understood in terms of each other.
>
> (2006: 226)

Pharmaceutical therapies have many illustrative merits in demonstrating the intricate relationships between material and social resources. First, pharmaceutical drugs rest on scientific procedures, perhaps the most prestigious area of human accomplishment capable of producing an almost inexhaustible flow of new findings, insights, innovations and other scientific marvels. Second, pharmaceutical drugs are commercial products, yet heavily regulated and monitored by various authorizes and regulatory bodies, making them sensitive to social critiques where they are treated as if they were managed by money-grubbing executives seeking commercially to exploit human despair and suffering. Third, it shows that even though there have been centuries of disciplined development of technoscientific routines and procedures institutionalized over time, the capacity to accomplish certain objectives (e.g., lowering of blood pressure or growing hair where it had previously ceased to do so) is a stronger argument than at least some social concerns regarding where the pharmaceutical companies put their money. In general, the whole medicalization framework demonstrates the tension between how the material and the social are interrelated; at times the one determines the other, while in other cases a different arrangement prevails. In any situation, the material and the social are in many ways co-constructed and co-evolutionary terms, reminding the analyst of social organization that there is no clear-cut ontological and epistemological boundary between the two categories. Again, they are mutually constitutive and interrelated, defined in a field of relationality, a single plane, wherein the social is of necessity understood with reference to material conditions and material resources are, in the same manner, unobtrusively social.

Summary and conclusions

This chapter has sought to outline an analytical framework helping students of health care work, health care practices and health care organizations understand the intricate relationship between abstract and ideational categories such as institutions or professions and the wide variety of material resources that recursively constitutes, yet is constituted by, these abstract categories. Institutions are norms and beliefs structuring human lives and activities, but these institutions are of necessity constructed 'from the bottom up', being manifested in their everyday activities and the various resources being developed and put into use within this work. Following the general analytical framework of the actor–network theory (Callon and Latour, 1981), institutions need to be understood not as being immutable and enclosed social conditions but as what are effectively constructed from all the activities, actions and resources brought into harmony in the very act of accomplishing certain objectives. There is no such thing as 'society' as a reified and pre-existing social structure from which we can draw inferential conclusions, but society and institutions are precisely what are being constructed and reproduced through the bundling of material and ideational resources. Society is therefore not what is capable of explaining ('this actor does thus and thus because of her sociality, as a member of a particular society') but is what needs to be explained itself. The same goes for health care organizations and health care processes. This work is never accomplished in isolation from wider social conditions and resources but is, on the contrary, fundamentally open to all kind of influences. That is, the institution of health care work is, similar to society as such, to be examined on the elementary level, in the day-to-day bundling of medical devices, diagnostic procedures, mundane technologies (e.g., paper tissues, syringes, and plastic containers), patients, active molecular substances and so forth, that is, all the resources needed to accomplish specific procedures in the idiosyncratic domain of health care work. Health care work is to be understood as the process wherein institutional conditions and material resources are brought together, put into use and further shaped in the process of action. Health care work is thus the totality of procedures and activities accomplished and, in order to examine and analyse all these procedures and activities, there is a need for a theoretical framework that provides a recursive relationship between material and social resources.

3

Organization Studies of Health Care Work: An Overview and Look at the Future

Introduction

Health care is regarded to be one of the pillars of today's welfare societies, and an area that concerns citizens, professionals and politicians. It is also an area that is under constant debate and transformation. During recent decades, health care organizations have undergone a number of different reforms and can, in principal, be described as an experimental workshop where various concepts and models are tested. These models and concepts are put forward as solutions to a number of different problems with which health care is wrestling. In the encounter between the solutions that are being introduced and established practice, different institutional logics are set against one another.

Studies of health care have largely either focused on organizing health care systems, often on the basis of an institutional macro perspective, or on the professions and their work, often the role of the physician in health care. The introduction of reforms during recent decades – often gathered under the term new public management (NPM) – has also given rise to a great deal of studies focusing on management aspects and organizational changes and their consequences. The roles and positions of the professionals have also changed with time. Examples of this include duties changing in step with developments in medical technology, professional practice having to be evidence-based and an increase in specialization. At the same time, the organizational reforms have entailed the professional logic, which had been prevalent for a long time, also coming to be characterized by a management logic (e.g., Llewellyn, 2001). In later years, studies based on perspectives like

science and technology have also come to focus on health care (e.g. conceptions of the body and the opportunities opened up by technology). In this chapter there will be a review of studies of health care on the basis of both an organizational and a professional perspective.

The field of health care: National and transnational perspectives

Health care governance in Europe is basically a national concern (Blomgren and Sundén, 2008). The history of health care in Europe can be described in terms of an ever-expanding state involvement whereby the state assumes the political responsibility for large parts of health care (Maarse, 2006). This political responsibility, and interventions by the state, includes legislative measures and other state programmes concerning, for example, access to health care, legal protection for the medical professions and the patients, the payment of providers and the organization of health service delivery systems. Despite many countries being members of the European Union (EU), its chances of controlling European health care have been, by tradition, strongly restricted. It is largely up to the member countries themselves to make decisions regarding how the respective health care system is to be organized, controlled and financed. There are, however, similarities between countries; thus, these health care systems are usually categorized using two (ideal type) models: the Beveridge and Bismarck models.

The Beveridge model (e.g. National Health Service (NHS) as it is also called) entails health care being financed using tax revenues and delivered by organizations that are publicly owned. Access to health care is via a referral procedure where general practitioners working in primary care are the first step. Britain's NHS is the prototype of the Beveridge model, while other countries, such as Sweden and Denmark, mostly use this model. According to Bevan et al. (2010), countries using this model have traditionally been quite successful in controlling their overall expenditure on health care and have provided their patients with a limited choice. This has been done by using general practitioners as 'gatekeepers' and coordinators of health care. However, the current policies of countries using the Beveridge model emphasize an increase in the choice of provider (Bevan et al., 2010).

The other model, the Bismarck model, is based on financing health care via multiple insurers using employer-based schemes supplemented by the state. In a model like this there is a mix of private and public health care providers (Maarse, 2006), with patients having direct access

to specialists. Examples of countries using this model are Germany, Belgium, France and the Netherlands. Patients have a free choice when it comes to specialists or general practitioners, but have no choice when it comes to insurers. Germany and France have experienced problems when controlling their overall health care expenditure. However, current policies in Germany and France are seeking to restrict the choice of specialist by introducing 'soft gatekeeping'. The Netherlands, however, has been relatively successful in controlling its overall health care expenditure. Patients can choose an insurer and Dutch insurers are, in principle, allowed to contract providers selectively (Bevan et al., 2010).

By tradition, health care has thus been a national matter, even though health care systems are designed in different ways. However, this is gradually being challenged by increased mobility across organizational, professional and territorial boundaries. Hedmo (2009) describes how health issues have come to be a matter requiring a shared vision, governance and policy on the EU level. The EU's opportunities to govern European health care have, by tradition, been strongly limited; however, by focusing measures on the field of public health, which is not regarded as coming under health care, the EU will nevertheless have the possibility of exerting an influence on governing and regulating the health of its citizens. The emergence of a European public health policy challenges and questions existing professional, organizational and territorial boundaries. This will not mean, however, the absence of boundaries, rather that existing boundaries will be spanned, displaced and renegotiated within the framework of what has been promised to be open and inclusive coordination processes. The EU's ambitions to stimulate European competitiveness through the inner market's demands for the free movement of goods and services will also contribute towards a trend whereby health care services are no longer national matters. The EU's ambitions can be seen as a platform for health care sector companies wanting to establish themselves in Europe. Blomgren and Sundén (2008) describe how private health care provider Capio put forward programmatic ideals of industrialization, marketization and Europeanization in health care. They argue that 'The construction of a European market is not only about institutional design and governance, it is also about informal institutional dynamics such as routines, norms and operating practices' (Blomgren and Sundén, 2008: 1518). Another example is when health systems internationally have developed policies to support evidence-based health care (Ferlie et al., 2009). The development of international classification systems such as Evidence-Based Medicine (e.g., Lambert et al., 2006; Learmonth and Harding, 2006) has

exerted a great influence on the health care sector, also contributing towards increased mobility across boundaries. All in all, these developments contribute towards challenging prevailing institutions (rules and norms) and demarcations between that which it is to be regarded as national/transnational and public/private (Lindberg and Blomgren, 2009). The same applies to the trend towards increased mobility of patients and health care professionals such as doctors and nurses.

Boundary-crossing and mobility

Studies of the mobility of health professionals have called into question the traditional national approach by pointing out the need to take into consideration the increasing interdependency between national health care systems (Berman, 2001). Several studies have reported on the cross-border effects of the mobility of health professionals. Berman (2001), for example, argues that the mobility of health professionals is likely to have a substantial impact on the provision of services, particularly in countries with land borders where there are good and easy communications.

> For example, in the Maastricht-Aachen area, if a hospital in Maastricht decided to open a specialist orthopaedic unit specialising in joint replacement, it is likely that such a unit might attract orthopaedic surgeons from Aachen, creating in effect a regional supra-national centre of excellence. Such a development might cause a 'snowball effect' attracting patients not only from the Netherlands, but also from Germany and Belgium, and hence inducing doctors also to transfer their practices. Eventually – the nightmare scenario – this might leave the Aachen hospital with insufficient orthopaedic surgeons to offer an effective accident and emergency service.

The increasingly complex policy environment of the European health care sector has triggered initiatives towards improving the coordination of national policy responses. For example, the European Health Policy Forum (2003) has noted the need to coordinate the different national policy responses in relation to the mobility of health professionals in Europe: first by improving collaboration between national authorities as regards the transnational mobility of health professionals, and second by implementing clearer and more transparent procedures for recognizing professional qualifications. Thus, the increasing mobility of health

professionals in Europe suggests that the traditional view of health care systems as a national matter may need revision.

In several European countries, immigration restrictions concerning highly skilled workers have been relaxed and laws regulating the inflow of professionals from outside the EU have been eased (OECD, 2007). The transnational mobility of health care professionals, both nurses and doctors, into OECD countries has been increasing over the last 25 years and has seen a radical upswing over the last 5 years (OECD, 2007). This increase has been particularly strong in the European countries, which account for more than 40 per cent of the foreign-born nurses and doctors working within the OECD (2007). In Europe in particular, there is an increasing flow of health care professionals from the new member states in Eastern Europe into the old member states in Western Europe. The previously independent national health care systems of Europe would thus seem to be becoming more and more interdependent.

Throughout Europe, measures aimed at managing the mobility of health professionals have been given a high priority, both on the national level and among health service providers. As Bach (2003) notes, employers play a key role in health worker migration. Hospitals attempting to fill vacancies are using recruitment agencies to attract and recruit health workers abroad, while health care organizations in the 'donor' countries are struggling to fill vacancies left by highly skilled workers moving to other countries. Governments, on the other hand, are implementing policies aimed at supplying national health services with foreign health workers while holding on to existing health workers.

Studies of the health sector usually assume that health service providers operate within a closed national system. This narrow perspective is particularly problematic when trying to understand the complex interdependencies that exist regarding the mobility of patients and health professionals, but also with regard to the packaging and transfer of knowledge. First, while health service regulation and financial systems remain a national concern, there is growing transnational collaboration and interaction between European health service providers. Second, there is a growing market for cross-border health services. For example, Hungary has become a popular destination for dental care, while British patients are travelling to France to undergo surgery (OECD, 2007). Currently, the health services of the EU are the responsibility of the respective member states. However, in several of its rulings, the European Court of Justice has said that EU citizens can seek health care in other member states, and be reimbursed by their national health services, if the same treatment cannot be provided in their country

of residence. Given the growth potential of patient mobility, as well as its complexity and its potential consequences for health services and financing, the Commission decided to hold a public consultation with the aim of putting forward a framework proposal in 2007. The issue at stake in this new round of consultation is the development of a Community-wide framework of safe, high-quality and efficient health services in Europe – with a special emphasis on cross-border patient mobility (OECD, 2007). Third, the creation of a European market for health services may also play an important role as an alternative response to the mobility of health professionals. The OECD (2007) points out that cross-border patient mobility may help to alleviate concerns about health worker shortages in the recipient countries. Instead of resolving the problem of staff shortages by recruiting foreign nurses or doctors, patients may be sent abroad. Patient mobility may also be a way of reducing waiting lists in key areas where there are bottlenecks. These types of activities may also offer patients a way of accessing highly specialized skills and treatments that are not available in their countries of residence. Providing health services to foreign patients allows a hospital to offer highly specialized services, thus enabling the hospital to maintain a high quality of practice without incurring the risk of doctors moving to other employers for more challenging duties. However, there are also problems related to the cross-border mobility of patients and health professionals, as this means that national health services will not have the same level of control over patients and health outcomes. In addition, there may also be problems coordinating insurance and financial systems.

Organizing health care

Traditionally, the organization of health care in most industrialized countries has been relatively stable over a lengthy period. The state has exercised control over health care and decided who will be allowed to deliver services and how they are to be delivered and financed. The central caregiver has been the hospital. Health care professionals, especially those in hospitals, work within single-purpose organizations with strong informal networks (Ackroyd et al., 2007). Bucher and Strauss (1961) describe the medical profession as being structured in different 'professional segments' that often, but not always, coincide with medical specializations. Professional segments such as these have been the basis upon which day-to-day work in the health care organizations has been organized, and they still are (see, for instance, the organization of

clinical directorates in the NHS; Buchanan et al., 1997). Based on studies of the American health care system and organizations, Scott et al. (2000: 21) describe it as 'the era of professional dominance'. There was a period when professional organizations, supported by the state, dominated the arena and when the key value governing service provision was the quality of medical care, as determined by professional providers. This is a description that also tallies with the European health care services.

However, during recent decades, the health services of many Western countries, with their relatively stable and professionally dominated organizations, have been called into question and criticized. In the main, this criticism is that the sector is perceived to be ineffective and poorly adapted to citizens' needs. Yuen and Hayllar (1999) summarized the situation by pointing out that health care systems around the world have faced a common set of problems; that is, how to control rising costs, how to allocate resources efficiently, how to improve access to care and how to ensure that care is delivered in a qualitative manner. The aspiration to provide health care that has a good level of availability and quality was previously often met by allocating more resources to health care and letting the sector expand. However, during recent decades, the focus has consequently shifted from expansion and enlargement to financial restrictions, prioritizations and efficiency drives. Thus, reforms in the health care sector have been, and still are, high on the agenda of most governments as they experience increasing demand and budgetary constraints.

The reforms contributing to this trend are often gathered under the banner of NPM. The NPM 'movement' (see Hood, 1991; Hood and Jackson, 1991) emerged as a mixture of theory and the prescription and description of reforms that diffused most rapidly within a cluster of English-speaking OECD member states: the UK, the USA, Australia and New Zealand. For health care-related overviews, see Pollitt (1993); Saltman and Figueras (1998); Farrell and Morris (2003), for example. The reforms instituted a 'hands on' management style in public service organizations, as well as competition where there had previously been monopoly. Scott et al. (2000) describe this as 'the era of managerial control and market mechanisms', where government policies have shifted towards deregulation and a reliance on market forces. The key value governing practice during this period is the efficiency of service provision (Scott et al., 2000: 22).

Thus, since the 1980s, businesslike reform stories have dominated health care delivery, and the terms and tools that followed are organizational means of creating better conditions for organizational

performance (Noordegraaf and van der Meulen, 2008). Such stories, including management trends, have spread around the world (e.g., Solli et al., 2005). For example, the pendulum has swung back and forth between the ideals of having centralized or decentralized health care organizations. Contributions to the public management literature have noted the tensions and potential contradictions of NPM (or its rhetoric). Christensen and Lægreid (2007: 4–8), who understand NPM as a 'global reform movement . . . inspired by a broad neo-liberal ideology', also contend that it 'was something of a hybrid, advocating both decentralization (let the managers manage) and centralization (make the managers manage)'. Decentralization has purportedly freed public service managers from the inflexibilities of bureaucratic rule while government has fashioned systems in order to performance-manage them from the centre. For example, in the UK, the government proposed a restructuring of the NHS in 1989. The tension between a national and centralized NHS and a local and decentralized service was one of the major debates regarding the reformation of the NHS. However, simultaneous shifts towards decentralization and centralization are currently ongoing within the NHS (Peckham et al., 2008). This has also been the case in Sweden. There has been a tendency to both centralize, in order to exploit the advantages of large-scale production (e.g., mergers between hospitals) and to decentralize (e.g., distributing responsibility and authority) in order to develop organizational capacity (Trägårdh and Lindberg, 2004). Other examples from the Scandinavian countries show that, since 1970, they have implemented, in different ways, a decentralized model of health care governance in the hospital sector. However, this has shifted in recent years and, in Norway and Denmark, the trend is towards increased centralization (Byrkjeflot and Neby, 2008).

New public management

The NPM 'movement' emerged from a preoccupation with public sector reform in terms of being key to macroeconomic policy across the EU and the OECD, as monetarism replaced Keynesianism in response to the economic crisis of the 1970s. Governments sought to curtail the growth in public expenditure, partly propelled by the demographic trend towards an ageing population, and additionally to reduce the percentage of gross domestic product in the interests of improving national economic competitiveness in an increasingly globalized market. Governments of the 1980s and 1990s proposed that continued growth in public expenditure would be incompatible with national competitiveness in an era of

globalized economic relations and integrated financial markets. There needed to be a review of the size and scope of the public sector. Assisted by NPM, the public sector would thus be reformed through the introduction of the private sector's logic and language into public activities. The reforms were about replacing, for instance, the hierarchical bureaucracy, which was felt to be inefficient, with market logic, which was assumed to contribute towards efficiency (Power, 1997), and to decentralize responsibility and control.

The NPM reforms have largely touched upon methods of organizing, governing, controlling and reporting activities rather than the products and production of the public sector. At the beginning of the 1990s, this trend was primarily about attempts to create more delimited and governable organizations, for instance through the introduction of profit centres and performance rewards, which can also be evaluated (Power, 1997). All in all, the reforms in health care have contributed towards a trend of more and more delimited organizations with decentralized responsibility and clear hierarchies linked to financing and administration in parallel with the professional hierarchies. Hasselbladh et al. (2008) are of the opinion, however, that the introduction of NPM-inspired reforms varied considerably between different countries and contexts. On the one hand, there are those countries that can be said to represent a more radical and conflict-oriented implementation of NPM. In such cases, reforms have been introduced as a clear alternative, and solution, to problems; problems that, wholly or in part, were deemed to be caused by an established institutional order which was felt to characterize a lot of public administration, and which was sometimes also deemed to be reproduced and supported by some of the professional groups in and representatives of health care.

On the other hand, NPM reforms were introduced in other parts of Europe, for instance the Scandinavian countries, more as modernization and development projects that were implemented, either wholly or in part, jointly with representatives of the various professional groups in health care. These groups also saw, via the reform, opportunities to develop, augment and change their professional positions or at times, and somewhat more defensively, a way of not losing professional influence and status. For example, Blomgren (2003) shows how representatives of Sweden's nursing profession, during the 1990s, systematically reoriented the nurse's professional role, status and identity towards increasingly including a range of different management roles. Furthermore, there are also significant differences in the degree of implementation.

The extent to which NPM-inspired reforms had a *de facto* impact on the practical governance and organization of health care can be said to vary between what Olson et al. (1998) describe as everything from marginal to considerable, all depending on which areas, countries and professions are envisaged, which critique has been formulated and what resistance is mobilized. Thus, there are significant differences between different countries, areas and professional groups between how NPM has rhetorically and ideologically been formulated as a solution to defined problems and the extent to which these ideas have been translated into and implemented as concrete reform projects in various parts of the organization, activities and governance of health care (Ferlie and Steane, 2002; Hasselbladh et al., 2008).

Hood (1991: 3–4) labelled NPM as 'a loose term' whose 'usefulness lies in its convenience as a shorthand name for the broadly similar administrative doctrines which dominated the bureaucratic reform agenda in many of the OECD group of countries from the late 1970s . . . '. Eliassen and Sitter (2008: 101) defined the reforms into three categories. First, NPM reforms focusing on the reorganization of the public sector, mainly by improving information and control. This includes defining explicit standards and performance indicators, further emphasis measuring performance, and separating policymaking and service delivery. Second, NPM reforms aiming at increasing competition, either within the public sector or through competition between public and private health care providers. Third, NPM focuses on incentive-based management in the public sector, implementing new management techniques from the private sector. It also suggests a clearer demarcation between political and operational accountability.

It is entirely clear that Western European health care, during the 1990s and 2000s, has been strongly characterized by recurring reforms and reorganizations, changes which have often, and to varying degrees, been inspired by NPM and that contain elements of reformed organizational structures and of internal competition, and more incentive-oriented management and governance systems. At the same time, it is important to underscore the fact that these changes were introduced as a means of improving health care activities and results, and via reform projects with wholly or partly different objectives and expectations concerning results.

One change and development project of this kind is aimed at boosting the quality of care and treatment in health care via the implementation of different types of quality development and quality assurance systems, change processes often inspired in terms of content by

broader organizational concepts originating from industry and production (e.g. Total Quality Management). A common characteristic of many of these quality assurance systems is a pronounced focus on the customer, the process and improvement, implemented with the support of different types of evaluation instruments, self-checks and the continuous development of operations and processes, often, but not always, via the establishment of techniques of systematically evaluating and controlling work processes and production with the aim of ensuring that production targets are met, standards complied with and deviations minimized (Wilkinson et al., 1997; Övreveit, 2000). When encountering a publicly financed operation like health care, it is not unknown for such management and governance models to collide with an established institutional order and professional roles (Kitchener, 2002). Additionally, demands regarding evaluation and control seem to have been developed and redefined in order not to focus solely on the quality of care and activities per se, but have also been expanded to include a comprehensive discussion about the need for increased transparency in health care more generally, and with the support of other types of arguments such as demands for greater democratic insight into activities and for their transparency, or a wish for increased patient influence (Levay and Waks, 2009).

Patient influence, then, is often regarded as a goal in itself; there is value in developing and expanding the patient's prospects of choosing and exerting an influence on his/her health care, based on accountability, transparency, patient security, a holistic view and evidence-based methods (Fotaki, 2010). At the same time, there are also other arguments for carrying out reforms that concern freedom of choice and patient influence, for instance by means of introducing quasi-markets into the health care sector that enable the patient, in his/her capacity of customer or consumer and on the basis of preference, to choose his/her health care and provider. In doing so, competition is established between various caregivers who are, in turn, expected to make a contribution towards continuous rationalization and quality efforts in the activities concerned. There are several reasons why interest in patient-centric care has been getting stronger and stronger. First, there is a pronounced ambition, on the part of politicians, to strengthen the status of the patient in health care (Levay and Waks, 2009). Moreover, there is also an underlying interest, on the part of the medical profession (the doctors), in improving the relationship between doctor and patient. Second, patient-centric care can be seen as a part of the consumer and service focus accompanying the NPM reforms.

Another category of reform, designed with a clear foundation in NPM, is organizational change that has been initiated with the aim of rationalizing and making more efficient the organization and activities of care, often inspired, as regards both language and content, by the 'Lean production' of the industrial sector (Kollberg and Dahlgaard, 2005; Young and McClean, 2008). The departure point is a clear process-oriented view of activities whereby the patient's needs are often reformulated in terms of customer benefit and which become, as such, the departure point for the continuous analysis and evaluation of the various activities and organization, thus making it possible to identify and assess which resources and structures can be said to contribute towards 'customer benefit' and what can be described instead as 'slack' or 'junk' within the organization, and which should thus be the object of rationalization efforts. At the same time, a discussion is also being conducted concerning the difficulties of implementing Lean-inspired reforms within the health care sector; among other things, there are examples of it being difficult to translate, simply or in a meaningful way, corporate concepts such as 'customer' and 'benefit' into the conditions and contexts of health care and, via organizational change, achieving the expected effects (Proudlove et al., 2008).

The explicit claims regarding a clearer patient focus, higher quality and better and more efficient resource utilization have been, at least on the rhetorical and ideological level, key arguments for justifying and legitimizing reforms under the generic term NPM. At the same time, the wide-ranging changes have also been the object of extensive and multifaceted criticism. There is a raft of studies holding that many of the changes have not led to the expected rationalization and quality increases (Doolin, 2002; Kitchener, 2002; Bach et al., 2007; Fotaki, 2010), together with a recurring discussion that calls into question the objectives formulated for NPM-inspired reforms, advancing the opinion that it is instead a matter of legitimizing major cost savings within the European health care sector. Another important departure point for criticizing NPM has instead focused on how reform projects are implemented, and then in particular on what Ferlie et al. (1996) call 'management, markets and measurements', in other words the various technologies and mechanisms for regulation and governance introduced into health care via, and as a part of, reform work. Among other things, there has been criticism that NPM reforms have not been sufficiently adapted to the conditions of the sector, for example by not sufficiently taking into account what is described as the special complexity of health care (Doolin, 2002), or its character of unpredictability

and need for preparedness to deal with expected events (Young and McClean, 2008). Furthermore, NPM-inspired changes are often criticized because they risk leading to unexpected, unintentional and at times unwelcome consequences. Examples involve a trend towards increased professionalization and specialization within health care and a generally more slimmed down and rationalized organization of the various activities of health care having other, not obviously predictable, consequences – for example, increasing competition over qualified staff, suboptimization (an intensification of work (Tailby and Walter, 2001), more routinized and fragmented duties for certain groups of employees (Bach et al., 2007), and the increased vulnerability of health care activities in the event of planned or unforeseen staff absences, something which in turn has led to increased numbers of temporary staff and manpower being contracted in (Tailby and Walter, 2001). On a more comprehensive level, NPM-motivated change entails a shift of influence and power away from dominant professional groups in favour of more traditionally hierarchical leader structures and business-inspired management functions (Wilkinson et al., 1997; Hasselbladh and Bejerot, 2007). This is a trend that has not occurred without resistance and conflict, among other things entailing previously important functions and roles in health care being redefined and redesigned (Doolin, 2003; Boin and Christensen 2008; Coupland et al., 2008) and the existence of tendencies towards a greater disengagement between, on the one hand, (newly) established management and governance systems and, on the other, the activity being conducted within health care and which is dominated by the various professional groups in health care (Kitchener, 2002). There is also criticism that the introduction of new types of monitoring and incentive structures runs the risk of leading to new bureaucratization processes (Mcdonald et al., 2008).

In retrospect, it can be established that, even if market solutions and market ideology have nowadays become institutionalized within the public sector in many respects, they have not entirely driven the old bureaucratic structure out of business (Christensen and Lægreid, 2007). Ackroyd et al. (2007) argue that 'Public organizations now strive to be more financially driven, accountable and transparent. However, these changes have been far less radical than many assume. The available evidence suggests that in many areas older patterns of custodial administration continue to be important in shaping service provision.' Organizational structures, governance models and ideals thus continue to live on while new ones are simultaneously being added.

Public and private

Today's health care shows clear signs of the NPM reforms that spread across the world during the 1980s and 1990s (see, for instance, Hood, 1991; Christensen and Lægreid, 2001, 2007), and the health care sector can most closely be compared to an experimental workshop for different management and organizational instruments and concepts. The NPM reforms were also accompanied by an increased interest in private alternatives in health care. Over the last 25 years, governments all over Europe have engaged in reform programmes of the public–private mix in health care in order to curb the rise of their overall expenditure on health care while at the same time retaining access to basic health services and further improving the quality of care (Maarse, 2006). Noordegraaf and Van der Meulen (2008: 1055) describe some of the practical consequences of the reforms of recent decades:

> Professionals on the shop floor, such as doctors, operate within strategic and budgetary frameworks; health care organizations grow in size, become multi-divisional and are run by executive boards; health care purchasers and providers negotiate prices and agree upon contracts.

Private alternatives are sometimes put forward as a solution to the problems of health care, while such alternatives are advanced by others as a threat to the objective of providing care to the entire population on an equal basis. Discussions concerning public–private are often based on a division into public/private production and public/private financing (Donahue, 1989). The former variant entails public financing and the production of care under public auspices (i.e., in compliance with the Beveridge model), while the latter variant also entails public financing but with the production of care under private auspices (i.e., according to the Bismarck model). Private care centres and the majority of private specialist clinics can be seen as such examples. There are a further two alternatives, which have not been equally common in Europe but which are now springing up. A third possibility entails private financing combined with production under public stewardship. The fourth alternative entails both the private financing and the private production of care. Patients with private health insurances who turn to private producers of care can be seen as examples, something that is common under the American health care system.

The political attitude to private enterprise in care varies from country to country. According to Maarse (2006), privatizations in health

care have traditionally encountered less resistance in countries with social insurance systems (Bismarck systems; e.g., Belgium, Germany, the Netherlands and France) than in countries using tax-funded systems (Beveridge systems; e.g., Sweden, Denmark and the UK). In Germany, the number of private hospitals has been steadily growing since the 1990s (Schulten, 2006). However, in the UK too there has been a clear ambition to increase the private elements of health care since the 1990s (Stevens, 2004). Nonetheless, the debate is not just about what is happening within national boundaries: health care has also gained an international dimension. With free movement within the EU, Swedish health care is sometimes described as a future 'export industry', entailing that health care may shift from a local or national matter to an international industry under forms of ownership other than public ones (see, for instance, Blomgren and Sundén, 2008). All in all, it can be said that, in this debate, there are arguments that support the trend shifting away from public activities towards more private operational and financing alternatives (Lindberg and Blomgren, 2009).

However, the discussions surrounding public/private care do not need to be solely linked to issues such as ownership, financing and operational forms. Public/private is also about openness and transparency regarding the results of the care delivered and the work of the professionals. A palpable trend in health care concerns professional practice in health care largely being evidence-based (Hult, 2006; Learmonth and Harding, 2006) and quality-assured (e.g., Erlingsdottir and Lindberg, 2005). Activities must be scrutinized, regulated and reported, as regards both those acting in the field and the general public. New measurement instruments, reporting routines and monitoring systems have been developed and are being used to an ever greater degree to increase the transparency of the finances and quality of care (e.g., Blomgren, 2007; Levay and Waks, 2009). However, it is not just national supervisory authorities that are checking and working towards increased health care transparency. Other actors such as scientific alliances and accreditation institutes – often international – are also advocating standardization and control through, for instance, evidence-based medicine and methods. The idea is that patients will be able to make active choices based on information available regarding which caregiver has the 'best' care, people skills and availability. But those who procure care activities will also be able to compare the quality of the various caregivers. The debate contains questions about what is made visible and whether it is to be open and public for all or just for the select few. This trend can be described in terms of going in the opposite direction; professional

practice, which has largely been regarded as an intra-scientific matter and has thus been more closed, is today being made increasingly public (Lindberg and Blomgren, 2009).

This leads in to yet another trend in health care, concerning private and public interests, whereby decision-making power and authority, but also responsibility and duty, will to a greater extent be moved between the representatives of the public – in the form of politicians and professional groups – and the citizens. Patients will, to an ever greater degree, be given the opportunity to choose their care and caregiver while simultaneously being given an increased level of influence on their own treatment. The freedom of choice reform, the right to choose between suitable treatment alternatives and the possibility of obtaining a second opinion, are two such examples. Furthermore, demands are also being made of individuals to take more personal responsibility for their lifestyle and health, to become acquainted with as well as involved in prioritization decisions and weighing things up from an ethical and existential viewpoint. This will entail certain decisions, but also responsibilities, being redefined so that, to a greater degree, they become private questions for private individuals and their relatives. At the same time, the trend on other levels is going in the opposite direction. In certain areas, for example preventative care and primary care, national goals and guidelines are being set. Forces within the EU are also working towards making public health a joint policy area, a trend whereby politicians and civil servants on the European level increasingly attempt to exert an influence on the governance and regulation of care. Thus, processes are ongoing where there are shifts of focus between, on the one hand, public and collective interests, and on the other, individual and private interests (Lindberg and Blomgren, 2009).

Professions

The health care sector is well known for having strong professions which have the autonomy to decide upon the principles and procedures of their own activities (e.g., Freidson, 1986). The very backbone of these professions may be described as threefold: specialized knowledge, a societal need for this knowledge and a monopoly of practice. In this sense, professional groups are experts and control their own work. A distinguishing characteristic of health care organizations is these professions' influence and power, and primarily, by tradition, the doctors. However, both the identity and the everyday practice of professional groups in health care have been transformed during the era of NPM.

Professionals and new public management

The introduction of the NPM reforms into health care organizations included new ideals of organizing and controlling, which in turn changed the conditions of the everyday practice of health care professionals. In the professional literature, the significance of professional work has been defined in terms of having very advanced control of one's work – especially as regards how this work is evaluated and checked (Freidson, 1994: 71). Health care professionals, mainly physicians and nurses, are keen to protect their jurisdiction over the quality of their health care (Davies, 2007). The reforms have, however, shifted the emphasis away from professional knowledge and expertise towards more explicit and measureable standards of performance as provided by different accounting and management techniques. Currie et al. (2009) argue that the extension of managerial prerogatives and organizational controls challenges the autonomy, legitimacy and power of professional groups. The possibility and capability of making balanced assessments based on knowledge and tried and tested experience has been deemed to be under threat from the reforms that have been implemented (Shore and Wright, 2000; Frowe, 2005). Previous studies show that strong professional identities and ideologies protect the core of the profession from managerial interventions and practices. For instance, McGivern and Ferlie (2007) show that audits undertaken in the UK health care sector were used in a ceremonial manner that did not really affect the way work was conducted, while Bolton (2004) shows that nurses were unwilling to compromise regarding how 'bedside care' was organized when a major reorganization of the UK's NHS was implemented. Broadbent and Laughlin (1998) have also shown that professionals have resisted reforms by trying to protect their core activities and key values. Thus, in some cases, professionals have managed to decouple work processes from managerial interventions. In other cases, professional groups have developed a 'soft autonomy' – combining professional internalization of auditing ideas and external control while maintaining professional control over evaluation criteria (Levay and Waks, 2009). Some consequences include professional self-governance being challenged by managerial control efforts (Levay and Waks, 2009) and professional groups coming under pressure to make their work more transparent (Power, 1997; Blomgren and Sahlin, 2007). Thus, a professional logic has given way to an administrative-managerial logic (Scott et al., 2000; Llewelly, 2001). Based on studies of the American health care sector, this development is described by Scott et al. as the

'decline of Professional dominance' and 'advances of Managerial-Market orientation'.

The physician's clinical jurisdiction has historically and technically been well established (Abbott, 1988). The physician is described by Freidson ([1970] 2007) as the symbol of healing whose authority takes precedence over all others. The professional role of the physician has been characterized by clinical freedom, supervisory practice and the right to assess people's health status. Through their medical knowledge, physicians have major opportunities to make decisions impacting on the individual patient's treatment and the organization's resource consumption. Physicians were also quick to organize themselves; the British Medical Association was founded in 1832 and the American Medical Association in 1847, while the Swedish Medical Society was created as far back as 1807. Even though the medical profession is the outcome of successful organizational projects (Freidson, 1986) – the establishment of professional schools and professional associations (Larson, 1977: 74) – professional boundaries are always contested and subject to negotiation, both within the profession and in relation to other groups.

Increasingly prominent in the work of the physician is a range of other occupations that form a complex division of labour whereby medicine is dominant but only forms, nonetheless, a part (Freidson, [1970] 2007). The doctoring profession has been challenged from different quarters, not least from nurses. They have been competitors as regards influencing the administrative leadership, but also as regards the carrying out of certain duties. The difference between their jobs is usually described in terms of nurses caring for the patient while doctors get on with the technical task of curing him/her. Nurses also act as a bridge between patient and physician. In that there has been both technical and medical progress: duties and areas of responsibility have shifted. The tension that exists has also been visible in conjunction with the NPM reforms. Nurses have been described as a profession aspiring to establish and defend different notions of identity (i.e., the notion of the nurse as an expert carer and administrative leader (Blomgren, 2003)). These processes also entailed them having jurisdictional strategies vis-à-vis doctors and assistant nurses. The nursing profession got behind the notion that financial responsibility could be delegated since it was expected, in this way, that the profession could strengthen its position in relation to the doctors.

It is not just between physicians and nurses that there has been tension regarding who does what; there has also been tension within the body of physicians and between physicians and managers. It is

normally said that medical work is complex and not accessible to standardization (Freidson, [1970] 2007), and certainly not to non-medical people, including managers (Dent, 2003). The introduction of NPM entailed medical leadership and also included management responsibility. In the UK, doctors were hesitant to take on a management role when 'clinical directorates'(management units formed around a medical specialization or support service) were introduced (Buchanan et al., 1997), even though the acceptance of such an assignment was growing the whole time. Llewelly (2001) describes clinical directorates in terms of their entailing 'management from the inside' and that they '[c]onstitute a territory within which medicine and management are mediated (597)'. Kitchener (2000), in his study of the consequences of that reform, showed that doctors were becoming, to a certain degree, more bureaucratized and that they were increasingly coming to use management language. However, things did not go as far as to enable us to speak of de-professionalization. Some researchers talk about such leadership in terms of having become a hybrid position, whereby professionalism and managerialism are linked together (Llewelly, 2001; Kragh Jespersen, 2005; Öfverström, 2008). A manager can then be both a medical supervisor of day-to-day work and an administrative superior who is responsible for financial and human resources issues. By means of his/her affiliation as a physician, this manager can be responsible for the leadership that the professionals need in their day-to-day work and, furthermore, provide the necessary legitimacy for decisions concerning medical practice. A manager in a hybrid position must be able to link up medical evaluations with management within the organization. Llewelly (2001) is of the opinion, thus, that in public sector organizations, a unique professional/managerial discourse has emerged. O'Reilly and Reed (2011) challenge the division of professionalism and managerialism and suggest that there is also an emergent discourse of leaderism. Studying the organizational agency in UK public service modernization, they show how leaderism is to be linked to neo-bureaucratic organizing, which represents the evolution of NPM.

Being in between different interests is part of the organization of health care. As far back as the early 1970s, Freidson and Lorber ([1972] 2009) were describing the medical profession as being caught in a vice between professional needs and political demands. For a long time, collaborations between physicians and managers have been seen as a key activity in health care organization (e.g., Pettigrew et al., 1992). However, Ackroyd (1996) argued that clinicians, as professionals, have

differentiated themselves from both senior executive management and routine operational management. Llewelly (1998) also showed how conflicts between professionals and managers in medical organizations were diffused through boundary maintenance concerning the differential areas of expertise associated with their work. Based on a study of doctors and managers in Canadian health care, Reay and Hinings (2009) show how the different groups of actors maintained separate identities but had a common purpose regarding collaboration. The physicians and managers were separately guided by different and competing logics over a lengthy period of time.

Summary and conclusion

Health care has always been of interest to scholars of several disciplines, and the object of many studies. In this chapter, we have mainly focused on management and organization studies. We do not claim to have conducted a comprehensive review, but we have pointed out the main tendencies during recent decades' organizational research into health care. Health care organizations are often investigated due to the transformations and changes taking place in their structures and work practices.

In this book, we present four chapters that are each based on studies conducted in different areas of health care. These studies were conducted using ethnographically inspired methods, entailing that whatever happens in practice is in focus. Focusing on practice means addressing organizational activities in terms of what is actually being done 'here-and-now' (Miettinen et al., 2009). However, practices are not mere descriptions of what people do, or detailed accounts of organizational processes. Rather, practices are meaning-making, identity-forming and order-producing activities (Chia and Holt, 2006). Knorr-Cetina (2001) also stresses the creative and constructive practices – the kind of practice that people engage in when confronted with non-routine problems. Practitioners have to keep learning; when they develop their knowledge base, they continually reinvent their own practices for acquiring knowledge. She has suggested that the challenge we are facing lie in dissociating the notion of practice from its fixation with human dispositions and habits, and from the connotation of iterative procedural routines. Instead, she proposes that practice is conceived in terms of a relational dynamic that extends itself into the future in creative, but also disruptive, ways (187). Given the focus that we have on practice, materiality becomes a self-evident part of day-to-day organizing.

Schatzki (2002, 2005) stresses that practices are recurrent, materially mediated and situated social activities. Studies of materiality are commonplace in science and technology studies, but not as commonplace in health care studies, exceptions being Hirschauer (1991), Berg (1997), Mol (2002) and Burri (2008), for example.

In this book, we thus want to combine an organizational approach to health care studies with a focus on the concept of materiality and practice. While studies focusing on the practices and materiality of health care are unusual, they do offer an interesting and significant complement to previous research into health care organizing, and its prerequisites and conditions. Bearing in mind that health care is technology-oriented and specialized – and is becoming more and more so – the significance of materiality for organizing is most relevant.

Part II
Health Care Practices

4
Coordinating Care Paths: The Patient as a Boundary Object

Introduction

Health care has traditionally been organized on the basis of a division along the lines of medical specializations, and characterized by clear demarcations between organizations as well as between units within organizations. These demarcations have largely been based on professional and knowledge-related foundations. The health care reforms of recent decades (i.e., the introduction of New Public Management) have contributed towards strengthening the boundaries, but they have increasingly come to be based on administrative and financial foundations. In the society of today, demands are also being placed on organizations, causing them to become clearly demarcated units, for example in terms of them having to be accountable and transparent. This is causing a refinement of the operational units, for instance through a narrower assessment of the duties falling within the framework of the organization's tasks. As a consequence of this trend towards clear demarcations, and as an alternative to the traditional organization, process and collaboration as principles for organizing have been put forward in the debate.

Collaboration between organizations has been emphasized as a solution for dealing with complex issues that often end up in the 'inter-organizational domain' (Huxham, 2000). This can be a matter of both internal boundaries to be crossed within an organization and external boundaries to be spanned out towards other organizations. Collaboration thus occurs between different types of organizations, and these have different reasons for entering into relationships with other organizations. One practical explanation for this is that organizations need to collaborate in order to deal with increasingly complex processes. Doing

things together entails being able to achieve things that would not have been achievable alone. Another explanation, which is of a more symbolic nature, is that organizations collaborate in order to cater to demands from outside (i.e., from other organizations or people), and thus appear modern and legitimate. This entails, for example, catering to clients' or customers' needs and desires; but it can also be about competing over resources of different kinds. This can be a matter of financial resources, but also knowledge resources in the form of, for example, competent staff. A further explanation could be the fact that there is a large selection of collaboration models that are distributed, for example, by consultants and dominant organizations within the sphere. The arguments for collaboration are mainly based on resources being used more effectively and an increase in quality, as experienced by the individual (the patient).

In order to collaborate, therefore, interaction is required between people working in different organizations and there is an implicit assumption that there are boundaries that are to be spanned. Collaboration is always about the participants working together around something – in other words, there is an object of collaboration – and it is in relation to this object around which the activities are also organized. However, the object does not need to be a thing. There can be collaboration, for instance, around patients with a certain diagnosis or in order to develop a new medicine or to attain environmental goals.

The significance of the objects in boundary-spanning processes has been emphasized by different researchers who are of the opinion that knowledge and experience can be inscribed into objects and thus also stored. This also means that the knowledge inscribed into the objects can be moved in both time and space. The objects can also contribute towards creating shared meaning between different local contexts (see, for instance, Carlile, 2002; Bechky, 2003). The objects thus contribute towards stabilizing the processes. Consequently, having people do things together is not sufficient to create permanence in collaboration; rather, the object of the collaboration also plays a significant role in the organizing. However, in order to participate in the organizing, objects do not always need to be moved between different places, they can stay where they are and the various participants will still be able to relate to them. Star and Griesemer (1989) call such objects 'boundary objects'. Studying a scientific museum, they noticed that the actors involved worked around certain objects (rather than verbal agreements), allowing them to maintain a plurality of viewpoints

while maintaining their separate identities and a good deal of autonomy in their own workplaces:

> They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds.
>
> (Star and Griesemer, 1989: 393)

Boundary objects provide the means of crossing boundaries, being used to inscribe and share meaning across different local contexts (e.g., Carlile, 2002; Bechky, 2003). Carlile (2002) showed how different communities of practice use boundary objects to share knowledge across different local contexts. The objects themselves can also help people to learn about differences across boundaries and to understand the dependencies between them (Carlile, 2002; Sapsed and Salter, 2004; Kellogg et al., 2006).

The object being collaborated around can thus be described as a boundary object, which actors from different organizations can unite around when working together. Danermark (2004) points out that actions conducted via collaboration seem to have a special intentionality as they focus on the object of collaboration. Thus, these are not just any activities but actions with a definite purpose. These actions are based on the previous experiences and perceptions of the person who is acting. This means that an object can have a different significance for each person from a different social world who is a part of the collaboration, even if the objects remain the same. The boundary objects contribute towards understanding how contexts (e.g., collaboration around elderly patients) can be developed and maintained between different social worlds which cross each other. The objects themselves can also help people to learn about differences across boundaries and to understand the dependencies between them (Carlile, 2002; Sapsed and Salter, 2004; Kellogg et al., 2006).

Different actors participating in a collaboration have what Carlile (2004) calls domain-specific knowledge, which is also one way of demarcating: different actors have different knowledge and, on that basis, they also have different mandates to make decisions. Boundaries that are linked to the practice of various professional groups are constantly being called into question and are subject to negotiation. In operational

activities with strong professions, the work carried out is often subjected to checks and there are regulations that have to be complied with. In health care, for instance, professional practice is governed by both legislation and strong professional norms. Operational activities are constantly being evaluated, and today many treatments must be able to show that they are scientifically proven (they must be 'evidence-based'). In boundary-spanning work, however, authority as well as areas of responsibility and authority are often called into question. Thus, even if the boundary objects are described as robust, this does not mean that they are static or stable units, but rather are reinterpreted and developed over time.

Boundary objects provide the means for crossing boundaries, being used to inscribe and share meaning across different local contexts (e.g., Carlile, 2002; Bechky, 2003). In addition, the process can also facilitate the creation of fresh knowledge as the objects contribute towards clarifying dissimilarities and dependencies between those taking part in the collaboration (Carlile, 2002). However, it is not just knowledge that is inscribed into the objects but social relationships as well, causing the objects (e.g., the 'patient' as a boundary object) to legitimize boundary-spanning work. But this can also contribute towards maintaining or challenging the control that is exercised over specific areas of work (Bechky, 2003). The boundary objects, the collaboration activities and the knowledge generated are not, thus, to be considered stable. This is also described by Kellogg et al. who, in their studies, arrived at the following:

> Cross-boundary coordination is a contingent, emergent, and dynamic outcome that cannot be planned or prescribed, but is highly dependent on the situated activities of the various communities.
>
> (2006: 39)

The boundary objects are linked to several different 'communities of practice' (Brown and Duguid, 1991), but not to all, or to just any. On the one hand, boundary objects are sufficiently mouldable to adapt to the local requirements and restrictions of the parties using them; while on the other, they are robust enough to retain a shared significance across the different areas. This also causes the boundary objects to contribute to both coordination and demarcation (Lindberg and Czarniawska, 2006): coordination in the sense that actors can rally around something, be connected to or allied with an object, and demarcation in the sense that it defines what the actors are rallying around and what does not belong there.

In this chapter, there is a description of how a care pathway for elderly patients was organized and where the patient functioned as the 'object' around whom the participants from the hospital, primary care and social services collaborated (Lindberg, 2002; Lindberg and Czarniawska, 2006). The term 'patient' had a shared meaning for those participating in the project (i.e., a person in need of care); however, in the link with their various practices and the different worlds that the participants represented, the term had a different meaning. In emergency treatment, medical practice concerning the patient took priority. In primary care, too, it was medical practice that dominated, even though this was not as advanced and specialized there. In municipal geriatric care, it was nursing practice that took priority. In the project, the participants' discussions and activities were based on how they worked with their patients, not specific individuals but patients in the general sense; as a boundary object, the 'patient' contributed towards clarifying dissimilarities between the different organizations' tasks and practices, as well as dependencies between the project participants.

Therefore, those involved in the collaboration do not have to have the same reasons for collaborating; however, they will not be able to achieve their aims without the help of others. The various activities that the project participants conducted in order to link up with each other will be described and discussed using the four different activities that Michel Callon (1986) describes and which contribute towards creating connections between actors, known as an actor network. The activities are problematizing, interesting, enrolling and mobilizing. These are not to be regarded as four different phases, but as different activities that jointly contribute towards creating connections between the participants, and which occur simultaneously.

Problematizing means that those who take the initiative, and who are involved right from the start in the creation of the network, will define, or redefine, a problem. They invite other participants who are interested, or who are needed, into an alliance in order to obtain a solution to the problem. Those who enter the network and participate must accept the problem definition, even if they have different motives for taking part; in doing so, they pass what Callon (1986) describes as an *obligatory passage point* in order to enter the network.

Interesting entails those taking part in the creation of the network carrying out different actions aimed at strengthening it. This also means that the other participants coming into the network later on will have to adopt the identity that is created in relation to the

problem definition they have accepted; in other words, if you are going to take part in the network, then you will also have to accept a certain identity linked to it. Participants who have passed the obligatory passage point will, in that way, be 'locked' in relation to the other network participants. Neither will they simply be able to leave the network, in any event not without damaging their interests.

Enrolling entails those participating in the growing actor network being coordinated in relation to each other. This can occur by means of various forms of negotiation where their interests, too, are adjusted in relation to the others'. This in turn can entail the problem definition being changed. The participants attempt to recruit each other and influence each other's interests using different methods (i.e., there can be different coalitions trying to create preferential rights of interpretation for themselves when the problematizing is occurring). Being defined as a network of actors is thus a continuous process where negotiations take place between various interests and where the links are constantly being adjusted.

Mobilizing is what happens when the actor network is beginning to stabilize and is able to act and speak as *one* actor vis-à-vis others. The network can then have a spokesperson who represents the other participants. Mobilizing is also about simplifying the network, translating it into something that can be described and even distributing it in time and space.

In this chapter, the process of organizing a care pathway will be described: the activities contributing towards creating connections between different actors whereby the patient functions as a 'boundary object' around whom knowledge is exchanged and organizing occurs.

Organizing a care path

During the 1990s, health care in many countries was strongly criticized. The criticism was that health care was inefficient and poorly adapted to citizens' needs. The aim of having a good level of availability and quality in health care has previously been achieved by allotting health care more resources and allowing the sector to expand. However, during recent decades, the focus has shifted away from expansion and enlargement towards financial restrictions, prioritizations and efficiency drives. Also, the general perception was that health care was hierarchically organized and characterized by structures that were old-fashioned and classified by function.

There have been many different endeavours to rectify these problems. One such example is Sweden's National Institute for Working Life (NIWL) embarking on a programme to support projects in Swedish health care in the late 1990s. In this way the NIWL wanted to stimulate a trend within health care towards more process-oriented and boundary-spanning ways of organizing operational activities. An invitation was sent to health care organizations throughout Sweden whereby already ongoing development projects were urged to apply for participation in the Healthcare Programme, as it was known. In the invitation, it was explained that the collaborating projects were assumed to be part of a network in continuous contact with other participating projects. The Programme would also be responsible for the cost of disseminating information and exchanging experience (e.g., by means of conferences and educational visits). The invitation introduced the Programme's management team, consisting of six representatives of trade unions and employers' organizations (the Federation of Swedish County Councils, the Swedish Association of Local Authorities, the Swedish Medical Association, the Swedish Association of Health Professionals, the Swedish Municipal Workers' Union and the Work Environment Fund).

The projects selected for the Healthcare Programme obtained, among other things, financing for one project manager for two years and process support from a consultant who visited the projects regularly to 'stimulate the process'. One of the projects included in the programme was the Högsbo Project, whose purpose was to develop the care pathway for the elderly. This entailed staff at units providing municipal, primary and institutional care collaborating in order to develop new routines and enhance the quality of patient transfers between organizations. For a period of just over two years, a series of activities was carried out and many different participants came to be involved.

One of the departure points of the Healthcare Programme was that development work would be conducted with a focus on a specific care pathway. In the mid-1990s, when this was unfolding, it could be said that the 'care pathway' was a fashionable idea in health care, and it was related to overarching conceptions of quality and efficiency. Care paths are usually defined as the 'patient's way/journey through health care' and emphasize the process and flow of activities (Trägårdh and Lindberg, 2004). Care paths can be regarded as one of many ways of organizing health care, with the prime purpose of preventing problems and creating a more efficient flow when patients are moved from one unit to another. One prerequisite for efficient flows is the reliable and

specialized 'links', which interconnect and thus form a 'chain', as well as the integration between the 'links'. Regarding health care activities as links in a chain is a horizontal view of organizing, in contrast to traditional vertical and hierarchical views.

Problematizing: From quality to coordination

The Högsbo Project had its origins in the Quality Project conducted within municipal geriatric care. The Quality Project had noticed shortcomings when patients and information were transferred between different units and that there were factors affecting the quality of the geriatric care which were outside the municipality's area of responsibility. In order to put that right, project management wanted to increase the level of collaboration between the different caregivers and thus enhance the quality of the care path from the patient's perspective. A concrete example of this is how information transfer occurs when patients move from one unit to another. This is not just about which pieces of paper are sent between the units – a procedure such as this also involves ethical and financial aspects. In other words, it was realized that, in order to improve the quality of the care path, there had to be collaboration with other units, with a holistic perspective on geriatric care also being needed. This meant that they redefined the problems of the operational activities, from quality to coordination.

Initially, when project management at Högsbo – a group of seven – applied to participate in the Healthcare Programme, they explained that they wanted to work with the care path for elderly patients. Several of the interests of the NIWL, as they had been expressed in the invitation, tallied with experience gained during the Quality Project. The NIWL stressed, among other things, that the development work that it supported would be conducted on the basis of a holistic view and that this would lead to new forms of operational activity and organization whereby the patient's combined needs would take centre stage. One of the most important lessons learned by the Quality Project participants was that a holistic perspective was a prerequisite for being able to develop operational activities. The project participants had arrived at the fact that a municipal perspective was not enough; specialist and primary care also had to be involved in order for the patient's combined needs to be met. On the basis of these experiences, the project management group started discussing the importance of developing the 'care path'.

In the application to the NIWL, they defined 'care path' as 'the patient's route through care' (i.e., Home help service→emergency care→primary care→home→help). The NIWL's representatives felt that project management had too broad a definition and actively tried to make it delimit the care path to encompass a specific group of elderly people, for example those with a common diagnosis like diabetes. Following discussions within the group, project management decided, despite the pressure being exerted by the NIWL, to retain a broad definition of the care path. Project management's argument was that it wanted to find a way of working that would contribute towards quality and still apply regardless of the patient's diagnosis. This broad definition meant that work on the care path was not dependent on organizational or professional demarcations; instead, quality and security for both patients and staff would be the case, irrespective of the diagnosis and at the stage along the path. Those who were involved in the project right from the start thus defined the problem and stuck to their definition, despite coming under pressure. This meant that the project participants felt strengthened and that they had obtained common ground to start out from.

Survey

The project management group decided to survey a number of patients' care paths. This survey would commence when patients needed emergency care at the University Hospital and would run until the person in question was back at home. In this way, the project participants would be able to identify which units within the respective organization were involved (i.e., were in contact with the patient). In order to conduct the survey, the project manager got in touch with the manager of the accident and emergency (A&E) department at the hospital, who was positively inclined towards taking part, since the staff of the A&E department felt that there had been problems with elderly patients who had been sent by the municipality. The project manager asked the A&E staff to allow a form to accompany the patients' case notes on which each unit that the patient attended would append its name. When the patient was discharged, or went into housing in the municipality where geriatric care had been involved, the forms would be sent to the manager of the Quality Project. The criteria for patient selection included in the study were that they had to be aged 75 years or over and come from a specified part of the town. This work was thus demarcated both geographically and with regard to age. Over a period of a couple of weeks, a

total of 37 patients' paths were surveyed from when they were admitted to A&E to the time they returned home.

The survey contributed towards a number of units being identified and key professional groups being pointed out, with the project participants gaining an understanding of the patient's care path. In this way, there was an 'inventory' of the current situation, in other words the project participants created an understanding of how units were organized and linked to each other. This survey can be seen in terms of having set up a framework regarding what was included in the chain of care and what fell outside it. Thus far, the notion of the care path was about the project participants gaining a picture of patient flow.

The problematizing that project management had done formed the basis for how work would continue. The notion of the care path, interpreted by project management as 'the patient's route through the care system', functioned as a coordinating notion that defined which actors would be part of the project. A survey of the flow of patients and the information that accompanied the patient was conducted, illustrating links between different actors in the care path. The patient's route through the care system was described in an abstract way by means of accounting for the flow of patients between different units, and the whole scheme was illustrated using a flow chart. Thus, the specific features of the units and organizations involved were not described; instead, the flow of patients could apply to any health care organization and so the survey described an ideal type of care path.

The survey came to form the basis for new activities. Having conducted the survey, the project participants realized that it was not primarily new guidelines and forms that were needed in order to improve the care path, rather it was increasing the knowledge of the different actors: knowledge of the work being carried out in the care path and of the prerequisites and needs of different organizations and units in order to be able to do their work. On the basis of the survey, project management was also able to identify elements of the care path where there was a dependency between the various organizations. The project group thus defined four different objectives for the project:

1. increasing the quality of the care path, based on the patient's perspective;
2. increasing collaboration between different caregivers;
3. obtaining a greater understanding and knowledge of each other's operational activities;
4. easing patient transfers between different caregivers.

It was not the case, however, that there was just one care path (i.e., that all patients followed the same route through the care system); instead, each patient had his/her own care path. However, the survey provided a picture of which units were largely affected by the care path for the elderly. All the units involved have to assume their responsibility, not just internally but also when encountering other units, making it a shared responsibility. Thus, it was also made clear that there was a dependency between the units. This dependency was not, however, always mutual; it was often the receiving unit that was dependent on the one handing over. Therefore, it was a matter of getting those handing over responsibility for a patient to understand that their actions would have consequences for the receiving organization. The project launched activities that contributed towards identifying problems and emphasizing existing processes rather than presenting solutions. Thus, the care path became a technique for coordinating across boundaries, with 'the patient' as the starting point. In order to realize this, the project has to be expanded and other participants are needed in order to create an alliance that can jointly solve the problem. The principle of organizing shifted from being based on unitary thinking to more holistic thinking. Despite that, the established boundaries between the different organizations included in the project were not challenged.

Enrolling and interesting: The project is expanded

The project participants and the steering group had decided to expand the project in order to obtain a clearer link between day-to-day work and the care path. In order to do that, one person would be appointed at each unit identified during the survey of the care path. These people would be tasked with functioning as resource staff and would coordinate the care path and disseminate information at their respective workplaces. The job title for this assignment was discussed by the members of the steering group and different suggestions were put forward, for example 'care path administrator' and 'process administrator'. Both suggestions were dismissed as these terms could be confused with involvement in diagnosis-related health care programmes. Besides that, the function of collaborating the care path did not involve any formal responsibility, entailing that the members of the steering group did not want to have the word 'administrator' in the job title. In the end, they agreed on 'care path coordinator' (CPC), even though that was felt to be a long and cumbersome job title.

The recruitment of staff to train was carried out in different ways. At the hospital, a formal invitation was sent out to the managers of the respective operational spheres. At the municipality and in primary care, recruitment was instead carried out through personal contacts, for example by means of staff who were already involved in the project continuing as CPCs. During the recruitment process, it was emphasized that there would be a strong link between day-to-day operations and the project participants' tasks.

The role of CPC would be designed in such a way that the participants, on the basis of local prerequisites, would be able to deal with and coordinate issues concerning the care path. Additionally, it was stressed that their tasks were to be firmly established with their immediate superiors. Thus, a precondition for participation in the network was that each appointed CPC drew up a contract with his/her boss. This contract would make it clear that the coordinators were allowed to take part in the network during ordinary working hours and, furthermore, to have absence from work to learn how other coordinators do their jobs. The aim of the contract was to give the coordinators a clear mandate to take part in the network and to act as CPCs at their workplaces. In total, 30 CPCs were appointed, of whom 3 came from primary care, 8 from the municipality and 19 from the hospital. Together with project management, they now constituted a group of around 40 people who would come to meet regularly.

What those who signed up to take part in the network had in common was the fact that they were all clinicians; in other words, they were very much in contact with patients in their day-to-day work. This was an active choice on the part of project management, instead of recruiting staff who, for instance, worked with operational development and quality assurance. This was to be of significance to the project going forward.

The project was expanded, consequently, and the participants jointly created an alliance in order to obtain a solution to the problem of poor quality in the care path. Actively notifying one's interest in taking part in the project, and working on the basis of the broad definition of the care path which had emerged via the problematization, can be described as the obligatory passage point (Callon, 1986) for entry into the network. Moreover, the patient came to take centre stage in their various activities and commitments.

The notion of the care path was thus accepted and established with the project participants. They would also come to use this notion in their day-to-day work – putting the notion into practice. A notion

can be used either to name activities already being conducted or initiate a new set of actions. The introductory activities of the project involved the notion of the care path putting a name to current practice. The care path was not, in this case, a new way of organizing; instead, the survey was a way of identifying and naming a pre-existing process. Initially it was the 'flow of patients' that defined the care path – patients were objects of coordination when the survey was conducted. On the basis of the survey, the units involved – as well as the actions indicating the interfaces between them – were identified. It was a matter of linking together actions carried out by staff in their day-to-day work and creating, in that way, a sustainable and enduring care path.

Interesting: Activities within the project

Normally, the participants in the care path project had no natural meeting place. Their workplaces were geographically scattered, and most of them only had a vague perception of the activities of the other units. By setting up network meetings (as they came to be called), on one afternoon a month, project management created a meeting place for the participants. The network meetings were, to a great extent, planned in a similar way. First, there was a joint introduction, followed by discussion about a chosen theme in smaller groups and, finally, the participants reassembled and made suggestions for measures to take. The participants' stories about their day-to-day professional duties were their 'input' into the process.

The network meetings started off with the participants, the CPCs and the project group gathering for about 30 minutes. The project manager welcomed them and checked whether any of the CPCs were missing. The purpose of the introductory part of the network meeting was to introduce the agenda for that meeting and to disseminate information of relevance to the CPCs. The agenda for the network meeting was set by the project group and was mostly linked to a theme that the CPCs would discuss a little later on. The information being disseminated might concern, for instance, events in the organizations included in the network. Additionally, time was set aside in order to give the project participants the opportunity to reflect upon what had happened at the previous network meeting. The staff, the CPCs and project group participants, who had been tasked with doing something in between the network meetings, made a presentation of what they had done. The initial part of the network meeting would be concluded when the project manager,

or someone from the project group, introduced the theme for group discussion.

The second part of the network meetings involved the participants discussing a selected theme in smaller groups for just over an hour. They were split into five groups consisting of hospital, primary care and municipal staff. The theme for the group discussions had either been selected by the project group in advance or there had been mutual agreement at the previous network meeting as regards what was to be discussed. Most of the time, elements of the care path relating to everyday procedures in the work of the CPCs were discussed. In connection with introducing the theme, supportive documentation for the discussions was handed out, which would then serve as a starting point for the discussions – for example, the National Board of Health and Welfare's (NBHW's) directives and recommendations or incident reports received from the CPCs. All the groups discussed the same theme and, following each group discussion, the groups assembled and presented their findings.

During the third part of the network meetings, the smaller groups accounted for the content of their discussions. The project manager summarized each group presentation and highlighted similarities and differences. After that, he/she formulated a proposal for how they would continue their work on the basis of what had emerged during the group discussions. The network meetings concluded with some of the CPCs and/or project group participants being tasked with continuing to work on the proposal and reporting back at the next network meeting. The network meetings mainly followed this structure, even if the content of the information passed on and what was discussed gradually changed in nature.

Over and above the network meetings, they jointly agreed on a number of activities they would implement in order to achieve the goal of developing the care path for the elderly, among other things auscultation (see below) and writing incident reports. These two activities entailed the participants coming into contact with each other's practices. The concept of contact is used to describe how meanings of the past and organizational actions are connected with the actions of others (Czarniawska, 2002a; Diedrich, 2004). A mutual experience and orientation vis-à-vis a shared object in a face-to-face situation is described by Knorr-Cetina and Bruegger (2001) as temporal coordination. The CPCs coming into contact with each other contributed towards linking together actions in their working lives that were separated in time and space. Thanks to being in contact with different

operational activities, and using examples from different practices, the participants were able to adapt their actions to one another.

First, auscultation would be carried out in order for the CPCs to gain insight into each other's activities. In this way, they would 'learn about' the entire care path and gain an understanding of its prerequisites. Auscultation entails the participants visiting each other and, for a day, 'shadowing' another participant in his/her work. Auscultation is an established practice in health care and one which was used in the project to link together the CPCs' perceptions of each other's organizations and professional duties. Auscultations can be likened to a traditional apprenticeship scheme whereby staff see what other staff do 'in action'. That leads to contact between different practices. All the CPCs in the network learnt how other CPCs worked and received CPCs at their own workplaces, most of them doing this three or four times. This led to the CPCs getting to know each other and gaining an insight into each other's professional duties and conditions of work:

> We learnt the ropes from each other. For my part, this has been absolutely the most important contribution made by this project because now I understand how things work at other units and I can also convey that to my colleagues.
>
> (CPC at University Hospital)

Learning the ropes from each other helped the CPCs to enhance their knowledge and understanding of each other's activities. For many CPCs, these were entirely new experiences. An example of this was the hospital nurses being astonished at the fact that the old people's homes did not have a medicine cupboard; instead, each patient had to keep their own medicines. Immediately, they understood why the home help service was in need of – and had asked for – medicines to be included which would last for a couple of days when patients were transferred from hospital to geriatric care. This was of primary importance when the patient was transferred during a weekend, as it could then be a while before someone could collect a prescription or the pharmacy would have time to send new items.

Secondly, each CPC would be responsible, at his/her workplace, for writing incident reports. Every time there was an incident regarding non-compliance with routines, this had to be documented and sent to one of the registered nurses in the project group. The incident reports also meant the CPCs proposing measures to be taken. The writing of incident reports was standardized in order to make this work sufficiently

straightforward, with regard to both how the incident was be formulated and to time. New participants would quickly and simply be able to become acquainted with the procedure, and the CPCs would pass that on to their colleagues. The participants proceeded by trial and error and gradually redesigned the form till it met their requirements.

Writing incident reports was a constant activity. The incidents came from all the participating units, thus mirroring the negative part of the care path (i.e., when links between actions did not work). The reports were followed up and discussed, which led to measures that linked up the care path. This also led to the CPCs becoming more motivated to write incident reports, as they saw that this led to concrete measures instead of simply statistics and a way of pointing out where incidents had arisen. The measures to which the reports led created links, and thus contributed towards building the care path. The incident reports thus provided insight into the entire process of building the care path. In doing so, the incident reports were also a stabilizing measure inasmuch as they offered corrective feedback that contributed towards stabilizing the links between the actions of which the care path was composed.

The incident reports had a further function in that they constituted a basis for the group discussions at the network meetings. In this way, a meta-link was created: the linking up of stories. Due to the incident reports being written down and handed out, the incidents became available to, as well as shared by, all the participants. When the CPCs met through the network, the brief descriptions in the reports were supplemented by stories. The stories featured examples from their various practices and thus contributed towards linking up actions, a process that Czarniawska (2004: 779) describes thus: '[E]vents do not chain spontaneously: the actors or the observers tie them to one another, usually in the activity of *story making*.'

Story-telling was one aspect of the translation of the notion of the care path into practice. By telling stories, the CPCs put their own practice into words – their everyday work situations. They listened to and compared the stories of other CPCs and thus saw similarities and differences in each other's practices. The story-telling included translations that framed compromises and negotiations. Story-telling entailed sharing examples of actions, something that also contributed towards building up trust and recognition.

The interesting that occurs here involves actions aimed at strengthening the network. The activities that were implemented can be described as a way for project management to discipline the actions that the

participants had implemented within the framework of the project. It was also a way of stabilizing the participants' identities in relation to the problem definition. The project participants had accepted working on improving the care path for the elderly and, in doing so, came to be identified as CPCs. As they had accepted the shared definition of the problem, they had 'locked themselves in' relative to the other network participants. In that they had entered into a contract with project management, which had also been signed by their bosses, they were also unable to leave the network in a straightforward way.

The participants also conducted activities in between the network meetings – for example, they 'shadowed' each other and wrote incident reports which they took along to the next network meeting. These activities also contributed towards coordinating the participants in relation to each other. Both interesting and enrolling entailed, in this case, actions that the project participants carried out, with these actions centring and focusing on the object of the collaboration – the patient. No patients were in attendance when the project participants met, instead functioning as 'boundary objects' around whom the project participants gathered and with whom they engaged, even though their actions were separated in time and space. Carlile (2002) points out that boundary objects ease the process of creating fresh knowledge on the basis of the dissimilarities and dependencies discovered. When the participants met at the network meetings, each compared their operational activities and working situations, but not for the purposes of finding a shared strategy for how this work would be done. Instead, it was more a case of clarifying similarities and dissimilarities. The story-telling worked as a 'substitute' for contact in day-to-day work and enabled interaction between the participants. In the Högsbo Project, the story-telling and comparisons helped the participants to create shared boundary-spanning knowledge (which was unique in relation to the knowledge of their colleagues who were not part of the project). This made a further contribution towards stabilizing the network and connecting the participants more tightly together.

The story-telling can also be seen as a coordination that was demarcated in terms of space. This coordination was based on the participants sharing their experiences and perceptions. These were not conveyed by means of them being *in situ* and seeing what others were doing, but by means of them telling each other how they did things afterwards. This meant that examples conveyed via stories functioned as bases for finding boundaries, while at the same time retaining openness. Additionally, the story-telling and the examples contained therein enabled

the participants to imitate each other and to adapt the implementation of their professional duties to each other. Thus, the story-telling helped to link actions together, in addition to entailing that the participants came to develop a shared identity. This process of interesting led to the network becoming augmented and stabilized; in doing so, the participants were unable to cease their involvement without further ado, or leave the network.

By working in this way, the participants' various commitments and perceptions could be combined: they were able to retain their autonomy while being able to communicate around dissimilarities and dependencies. When the project participants from the various organizations collaborated, they developed an understanding of each other's perceptions while simultaneously reconsidering their own standpoints. By means of the various activities being carried out, their interests gradually adjusted. However, the participants were able to retain their established professional identities while the activities they carried out in the project contributed towards defining them as CPCs. This meant that the actions constructed the actors and contributed towards the emergence of a shared identity in the project participants, who were linked to the problem definition they had accepted upon entering the network. Being defined as a network of actors is thus a continuously ongoing process, whereby negotiations take place between different interests and the links are constantly being adjusted.

Mobilizing: Stabilizing the network and disseminating the model

In the Högsbo Project, the participants worked in various ways to develop the care path for the elderly. Quite soon after the network for the CPCs had been set up, however, project management, together with the principals, started discussing how information about the project was to be disseminated, this being partly to draw attention to and legitimize the project and partly to disseminate results and get them used in other contexts. The target groups were patients and their relatives, as well as colleagues in organizations included in the project. There was also a desire to reach out to decision-makers and politicians in order thereby to be able to sway them towards making the project's modus operandi permanent. The information about the Högsbo Project that came to be disseminated contained descriptions of the project participants' interpretations of what the care path for the elderly entailed, as well as descriptions of the modus operandi of the project.

One way of disseminating information about the project to outsiders was by giving a theatre performance. A drama group was hired that performed sketches dealing with commissioned themes, and then doctors and managers were invited to a performance. By means of a theatre performance mirroring everyday situations in the care path, the problems of transferring patients between different organizations would be illuminated. The project participants perceived this as a way of establishing the project within the different organizations. The thinking behind the theatre performance was that it would give rise to reactions among the audience, and thus a discussion about ethical issues could get started. Therefore, they also agreed that the theatre performance would be followed up with a seminar featuring two guest lecturers who were 'experts' in health care ethics. Both the theatre performances and the ethics seminars were fully booked, with a total of 150 people attending. The project participants were satisfied with, as well as slightly impressed by, the interest shown in the theatre performances and the seminars. The reputation of the theatre also spread among colleagues who did not take part. Additionally, the daily newspaper *Göteborgs-Posten* featured an article about the theatre performance and the Högsbo Project.

The CPCs told of obtaining positive reactions from colleagues, as well as from patients and relatives. They felt they made it easier for them to leave work and, as one CPC expressed it, 'My colleagues think it's okay for me to leave work now when they know what I do.' The CPCs were also agreed that it was easier to inform their colleagues about the care path once the project had become better known. The majority of CPCs had brought their bosses along to the theatre performance, despite many of them wanting to dispense with that due to a heavy workload. The project participants felt that it was important to be able to show bosses and colleagues that things were happening in the project. The theatre performance and the ethics seminar were one way for the CPCs to involve their colleagues and for bosses and to emphasize the importance of the care path for the elderly.

Another way of disseminating information about the project was the compiling of a brochure. This brochure was envisaged as being handed out to the staff of the various organizations, as well as to patients and relatives. It would contain information about what the participants in the project worked with, as well as how they worked. To design the brochure, the project manager contacted an advertising agency. Representatives of the advertising agency were given access to all the notes taken at meetings, and they also interviewed the project manager in order to gain an understanding of the project's activities. The project

manager also brought along the advertising people to some of the care path coordinators' workplaces so they could ask questions and take pictures for the brochure.

The brochure described the project's task in terms of 'finding functioning forms and practically viable solutions for improving the quality of the entire path of emergency care–primary care–social services–own residence'. The work carried out within the project was described in terms of being conducted in 'process and network form' in different groupings. The Högsbo model was also presented using colour images, in which the CPCs held meetings, met patients and spoke on the phone. These images illustrated different parts of the CPCs' work and emphasized the project's establishment in practice. The brochure also featured descriptions in the form of extracts from the NBHW's constitution regarding how information transfer and coordinated health care planning were to be carried out. Once the brochure had been printed, it was sent to each CPC who was then tasked with distributing it at his/her workplace, giving it to colleagues and leaving it in staffrooms and waiting rooms. The members of the steering group undertook to distribute the brochure to all managers of geriatric care and clinics, and to operational managers and clinical unit managers at the University Hospital (UH). Distributing the brochure throughout the various organizations was felt by the project participants to be a quick and simple way of reaching out with outline information about the project. This would be supplemented by a meeting at which a more in-depth presentation of the project and the activities implemented would be made to selected staff.

A further initiative for disseminating information about the project was to invite guests to what the project participants themselves called an information seminar. The project arranged two meetings at which the project participants presented the Högsbo model to invited guests. The first meeting was a seminar held for politicians and decision-makers. To the second meeting, representatives of a university hospital group working with collaboration issues on a comprehensive level were invited. The project participants hoped that this group would be the 'inheritors' of the Högsbo model. Both these meetings were aimed at attendees who were not working with the care path in an operationally related way, but who were, rather, in decision-making posts. The aim of the presentations was to convince the attendees of the Högsbo model's benefits and potential. When these outwardly directed activities were implemented, the network acted like one actor vis-à-vis others – that is, those presenting the project functioned as spokespersons, representing the other participants. In order to present the network outwardly, there

was also a necessity to simplify and describe it in such a way that it could be disseminated in both time and space.

Meetings with the purpose of disseminating

First out was the information seminar. The project manager started it off by presenting the Högsbo Project and the network of CPCs. She then handed over to three CPCs representing the three principals included in the project. The three sat down on the dais and each spoke about their work within the network from their respective operational perspectives – emergency care, primary care and the municipality.

Municipal CPC: I'm involved primarily because this is a good forum for disseminating information.

UH CPC: It's important to collaborate well with the next clinical body. Attempts have previously been made at this kind of collaboration, but these were completely chaotic. That's why I saw this as a good opportunity to carry on working with this.

Primary care CPC: Us district nurses are so alone in our work and, most of the time, we only get scant information. It's important for us to know how things work at other places.

UH CPC: Learning the ropes has given me an insight into the different operational activities. There is a lot of expertise that has to be coordinated and made use of.

Municipal CPC: I've seen the network meetings as training. One way of creating consensus was the discussions concerning incidents – when something occurs that makes looking after people more difficult. The objective has been to highlight the problems.

They concluded their presentation by summarizing four factors which they felt contributed to the project's success. The first one they raised was that the CPCs who were part of the network themselves had exerted an influence on the network. Second, they felt that learning the ropes had been important. In this way, they had gained an understanding of the operational activities of others and were able to see what they needed to change in their actions in order to create good prerequisites for the next step along the care path. Writing incident reports was the third factor that the chain of care coordinators felt had contributed towards the success of the project. Descriptions of incidents acted as the basis for discussions within the network regarding routines and measures to take. The fourth factor of success that the care path coordinators

highlighted was the project group, which they felt had worked like a 'sponsor' of the care path coordinators and like a 'motor' that drove the network forward.

The meeting with the UH group followed that information seminar. Project management and the care path coordinators were hoping that this group would be able to contribute towards establishing their model and spreading it throughout the health care sector. At the meeting, the care path coordinators once again described their experiences of working on the project. Following that, the UH group described its task and which activities it had carried out. What the UH group had achieved was a survey of what had been done with regard to coordinated information transfer among health care organizations in Gothenburg and the rest of the country. Thus, they were acting on a comprehensive level, far away from the operationally related way in which the Högsbo Project had been conducted; in their presentation, there was no link with actions in local practice. That entailed firstly surveying the current situation and producing different alternatives, and then someone else would make the decision. It was also unclear, however, who would implement the decision.

From care path to collaboration

The mobilizing that took place can be described in terms of the modus operandi of the project being objectified into a collaboration model where the project participants described how they conducted the project instead of why. By focusing on how they worked in the network, what or why became less important and they thus avoided controversies, for example as regards whether medical rhetoric or nursing rhetoric would dominate. The model entailed the participants jointly creating a representation of what their modus operandi involved. The model was packaged using stories and images in order to appear attractive, being presented partly in the form of an information brochure and partly via presentations at meetings and seminars. Thus, it can be said that the collaboration model was presented as a new idea – collaboration instead of care path. All the actions that were carried out also entailed a constantly ongoing negotiation process between the participants whereby these were coordinated in relation to each other. Moreover, that led to the problematizing being changed and the focus of the project being shifted from the quality of the care path for the elderly to the development of a modus operandi for collaboration between organizations. The model was rendered contextless by not being called the Högsbo model but the

'collaboration model'. It became an object that could be moved between different sites and practices and it could also carry unchanged information. Such objects are referred to using the term 'immutable mobile' (see Latour, 1987) – as they are part of a network that has a rather stable nature, they retain their shape even when moved in time and space. Over time, the Högsbo Project thus came to be designed as an actor network which outwardly acted like an actor that represented the participants but which consisted of many actors with differing perceptions and experiences.

Summary and conclusion

That health care is organized with clearly divided areas of responsibility, based on both medical knowledge and finances, is a fact. Despite, or due to, that, a number of different processes are conducted which transcend boundaries and during which people, objects, information and money must be coordinated in order for health care to be able to do its job. In the case described here, the care path came to be a technique for coordinating across boundaries. The practice emerging from the activities of the project will, in due course, lead to a change in current practice, but without challenging the established and institutionalized structures of health care.

The modus operandi of the care path project represented a difference vis-à-vis many 'normal' projects where the participants are first appointed and then have to agree about what they are going to do (e.g., Czarniawska, 2002a). Here, the initiators have defined a problem – what the project is about and what is to be achieved – and the participants being recruited into the network accept this problematization, even though they may have different reasons for doing that.

The care path took its point of departure from 'the patient' without linking him/her to a specific diagnosis. This differs from the traditional way of organizing, which is based on either medical specialization or financial aspects. Instead, the driving force here was to find a general modus operandi, one that worked regardless of which diagnosis or group the patient belonged to, with the principle of organization shifting from being based on unitary thinking to more holistic thinking. Despite that, the established boundaries between the different organizations included in the project were not challenged.

In this case, the contents of the project came to be about how to organize around the patient. The patient was constructed as a boundary object by means of a systematic approach, by surveying the flow of

patients and by opening up the network to participants from the units that attracted attention in the survey. The participants were able to unite around the patient as a boundary object and affirm the differences they take in to the collaboration. Allowing practice to define the boundary object and demarcate the project, instead of defining this in advance, had a bearing on how the project was filled with content linked to the participants' day-to-day practices.

Health care is a complex and heterogeneous sector with institutionalized structures. However, there is a risk of inefficiency and suboptimization in these established structures. One way of dealing with that is via boundary-spanning processes, but challenging the institutionalized structures is problematic. The case described in this chapter, however, shows how new practice can emerge without threatening established structures.

5

Standardizing: The Introduction of Evidence-Based Methods into Drug Abuse Treatment

Introduction

Today's society is often called the knowledge society, and there is a strong conception that what we do must be based on the best knowledge available. Technological development contributes towards the aim that knowledge must be inscribable and storable so that it may be transferred and used in other contexts (i.e., that knowledge must be transferrable in time and space). This is also noticeable in the care sector, where the notion of evidence-based medicine (EBM) has had a major impact. EBM emphasizes that professional work in medicine should be based on scientific criteria in order to reduce uncertainty in clinical practices (Learmonth and Harding, 2006). The basic idea is that the treatments and methods used must be based on the best knowledge available and that it is possible to produce universally valid knowledge. It is thus a matter of how scientific knowledge can be translated into practice. Doing systematic reviews can also be seen as a response to the information overload characterizing today's society. EBM, then, constitutes a strategy for creating overview and transparency in the flow of knowledge. Additionally, it is becoming more and more common for knowledge, which is summarized and translated into guidelines and methods, to be inscribed into computer-based programs. The notion of evidence-basing has also gained an increasingly prominent role as regards policy formulation, research agendas and during the allocation of financial resources, enabling us now to talk sooner about evidence-based activities in health care (Lambert et al., 2006). The notion of 'evidence-based' has also spread, today being found in many parts of society, for example social work, education and correctional treatment. This movement is often divided up into evidence-based practice, which

deals with decisions and interventions during day-to-day work, and evidence-based policy, which deals with decisions on the management and strategic levels (i.e., it can be seen as a political and administrative application of EBM). This trend has thus brought consequences for political contexts as well as for the practice where it is to be used.

Even though EBM is a relatively new concept, health care has been conducting health technology assessments (HTAs) for a lengthy period of time. EBM is about providing clinical guidelines. In these guidelines, clinical trials, meta-analyses and systematic reviews are summarized and translated into checklists and criteria that can be used directly in health care. The guidelines are based on systematic reviews of studies conducted within a specific area. The 'evidence' from these studies is ranked according to specific criteria existing in an established 'hierarchy of evidence' where randomized controlled trials are at the top and doctors' reports and case studies are at the bottom. EBM began, thus, as a form of 'clinical epidemiology' (see Sackett et al., 1985) and was driven from within the medical profession; however, over time, EBM has frequently been placed on an equal footing with best practice (Lambert et al., 2006). The evidence movement is also in line with the more general trend in health care regarding various types of guidelines for medical practice – standards, protocols or practice policies. These are tools whose shared characteristic is that they are, or can be read as, a set of instructions guiding medical personnel through a sequence of steps (Berg, 1997).

The package of quantitative techniques and procedures currently known as EBM was founded by a group of people at the McMaster University in Canada in the mid-1980s. During recent decades a range of national and international HTA organizations has emerged, among which the Swedish Council on Health Technology Assessment (SBU) is counted among the longest established. The SBU describes its mission statement thus: 'Scientific assessment in health care aims to identify interventions that offer the greatest benefits for patients while utilizing resources in the most efficient way' (http://www.sbu.se/en/, accessed 25 August 2011). It is worth noting that this is not just a matter of scientific criteria but also a matter of accountability regarding financial aspects and using resources as efficiently as possible. In Sweden, SBU is responsible for producing knowledge reviews, while the National Board of Health and Welfare, NBHW) is responsible for compiling guidelines and for implementing them. The NBHW, which is Sweden's official supervisory authority, is not the only actor scrutinizing and working towards improved transparency in health care, however. Other actors such as scientific associations and accreditation

institutes – often international – also advocate standardization and control via, for instance, evidence-based medicine and methods.

The early 1990s saw the establishment of the Cochrane Collaboration, an international network of researchers who conduct and update systematic reviews. They have drawn up an extensive handbook of methods regarding systematic reviews. The Cochrane Collaboration has come to be the leading and most productive organization, internationally speaking, producing reviews and functions as a prototype for many other evidence-based organizations. In 2000 the international Campbell Collaboration was established, which is Cochrane's equivalent when it comes to producing systematic reviews within the fields of social work, education and criminology. The Cochrane Collaboration is both the organizational and methodological prototype for the Campbell Collaboration.

The evidence movement has been applauded, as well as strongly criticized. The commonest argument is that evidence is a means of documenting and legitimizing the work done within the professions. It can then function as a strategy for strengthening professional positions of power and defending operational activities. Furthermore, it is often stressed that the evidence movement advances the exchange of experience and learning, and that it safeguards quality. Those criticizing the evidence movement argue instead that there is a risk of micro-management and a standardization of the work, meaning that professional autonomy is restricted and the significance of physicians' clinical experience is devalued. Furthermore, misgivings are put forward as regards how the relationship between the profession and the patient or client will be affected as there is a risk of him/her being objectified. A guideline can, in a detailed way, describe what is to be done in specific situations; however, in day-to-day work, unforeseen events are constantly arising, which constitute the core of medical work and that are of greater urgency than complying with procedure (Berg, 1997). This entails tension between formalized procedures and experts' independent assessments. Moreover, scientific knowledge should not be regarded as an unambiguous and coherent object. It is more likely the case, as Annemarie Mol (2002) showed in an illuminating way, that knowledge controversies, both between and within disciplines, are the rule rather than the exception.

The fact that EBM has had such a strong and rapid impact on the Western world is explained by Bohlin and Sager (2011) in terms of EBM being closely connected with two other strong currents of ideas in society. One of these concerns publicly financed activities having to

be quality assured and assessable. This is becoming increasingly important in times when the health care sector is increasingly being exposed to competition and health care is being procured. Operational activities are to be scrutinized, regulated and accounted for, both for those who are actors within the field and for the public. New measuring instruments, reporting routines and monitoring systems have been developed and are being used to an ever greater degree to enhance insight into the finances and quality of health care (Levay and Waks, 2006). The idea is that patients will be able to make active choices on the basis of information that is available regarding which caregiver provides the 'best' care, reception and availability. However, those who procure health care activities will also be able to make comparisons between the various caregivers regarding quality. This trend can be described in terms of professional practice in health care, which to a considerable degree has been considered an intra-scientific matter and has thus been off-limits, but is today increasingly being made public. In step with reforms having been introduced in the health care sector, aimed at rationalizing and exposing operational activities to competition, other demands have also been placed on the organizations, for example increased transparency and being made measurable. This is turn has entailed demands for the standardization of practices and EBM has, in that context, come to play a significant role.

The second stream of ideas is about citizens' rights to equal treatment and the debate concerning arbitrary local variations in the exercising of public authority. For a long time, creating guidelines for medical work has been considered essential when safeguarding the standardization of actions and interpretations of outcomes across all the participating organizations (Berg, 1997). The proponents of a perspective like this argue that the guidelines describe good clinical reasoning in such a way that it becomes transferable between sites, thus reducing variations in practice and enhancing the quality of care.

A similar discussion underpinned the initiative by the Swedish government to reform the treatment of substance abusers, particularly drug addicts; this initiative will be presented later in this chapter. When the initiative was taken, there were no national guidelines for caring for substance abusers; instead, local traditions and modi operandi determined what efforts were employed, involving major variations. Two government agencies, Mobilization against Narcotics (MOB) and the Institute for Evidence-Based Social Work Practice (IMS) initiated a programme for local projects interested in developing their work activities. As Swedish drug abuse treatment is an area characterized by heterogeneity and a

diversity of work activities, the aim of the initiative was to develop collaboration between different organizations. Additionally, since a significant part of treating drug abuse is assessment, involving decisions about treatment and its evaluation, the initiative's second aim was to implement standardized assessment methods for treating drug addicts. The government set up four local projects in different parts of the country to participate in this initiative, the idea being that these projects would act as prototypes for other organizations in Sweden. The initiative allowed for heterogeneity of forms in the local projects, while at the same time calling for the creation of homogeneous practices and routines.

In this chapter, we will show how the introduction of standardized assessment methods served the interests of the government agencies attempting to make drug abuse treatment practice more homogeneous. The particular method used in the four local projects standardized the practices, making them more transparent and accountable. We also suggest that this government initiative represents a comprehensive effort to structure drug abuse treatment as an organizational field. The result is that this field is becoming increasingly structured and homogeneous due to the changes in practice rather than due to the changes in form.

The study

Narcotics abuse in Sweden increased sharply during the 1990s, concomitant with cuts to public spending on treatment. Recognizing the gravity of the abuse problem, the Swedish government approved 'A National Action Plan Against Drugs' (the Plan) in 2004. As part of this plan, the government appointed a National Drug Policy Coordinator (the Coordinator) to implement and monitor this action plan, which was intended to coordinate national measures against drug addiction. The Coordinator's first act was to create the MOB office where work would be organized around various areas of responsibility – preventative work, care and treatment, and control measures.

As the Swedish government funded MOB directly, its budget lay outside that of the Ministry of Health and Social Affairs. There were two important reasons for establishing MOB as an independent agency rather than as an agency under the authority of the ministry. First, MOB's authority in substance abuse and treatment extended beyond the areas of responsibility of the ministry. Second, MOB's independent status indicated the increased political priority given by the government

to its drug policy. As a consequence, the Coordinator was answerable to the government rather than to the ministry.

The Plan describes the current status of drug abuse treatment and explains the diffuse nature of the treatments, which are contingent upon local traditions and routines. The Plan reviews several drug abuse treatment reports, prepared in Sweden, which all show that the treatment chain for drug abusers had not been working. This was partly due to deficient strategies and guiding principles. Thus, the expectation was that MOB would, among other things, 'contribute to *building up functional collaboration* between preventive work and early measures, care and treatment and combating crime, ensuring that measures against drugs are followed up and evaluated and *that good examples are spread*' (National Action Plan, 2006: 3–4, emphasis added).

The government's position was that there was a need for the organizations working with drug abuse treatment to collaborate on the national policy level as well as on the regional and local levels. A problem arose with this collaboration goal, however, as drug abuse treatment is an area of concern for many different organizations, including highly specialized medical units, primary care units, police departments, social services, the National Board of Institutional Care, the prison commissioners and a variety of volunteer organizations. These organizations all have to comply with different laws. They are also financed by different budgets and responsible to different authorities. In addition, they get involved in their day-to-day work at different times, in different places and in different ways. Thus, drug abuse treatment is complex and multifaceted, and does not fit into a single institutional framework. MOB's response to the problem of inter-organizational collaboration was to assign the organizations with various projects.

The Prototype Municipality programme

MOB employed 15 people, most of whom were individually responsible for a specific area in which they initiated projects and endeavours on the regional and local levels. One of these MOB initiatives was the programme entitled 'The Prototype Municipality', whose mission was to develop collaboration between the different organizations and to introduce and implement standardized assessment methods in the treatment of drug abusers.

In this programme, collaboration between organizations was encouraged as a way of dealing with the complex issues of the 'inter-organizational domain' (Huxham, 2000; Phillips et al., 2000). In its

directive on the treatment and rehabilitation of drug abuse, the NBHW emphasized the importance of productive collaboration all along the treatment chain. Collaboration aimed at substance abuse treatment embraced medical treatment, access to social services and correctional treatment. Another goal of the programme was the introduction of standardized assessment methods, a policy consistent with the EBM movement. Subsidizing standardized assessment methods, which had been scientifically tested, was one way for MOB to professionalize and homogenize its drug abuse treatment. As one of the MOB representatives said:

> There is now a demand for increased evidence and then we have to use what there is in the form of standardized instruments, or at least have some type of recommendation. It can't be homemade; it has to be designed in a way which also enables us to ensure some kind of quality. Things can actually be deemed to be rather legally insecure if the assessments that clients are subjected to in social services, while public authority is being exercised, are extremely varied. There are very many homemade assessment instruments around.

In the interests of achieving both collaboration and standardization, MOB named four local projects, dispersed geographically throughout Sweden, to be included in the programme. The government initiative supported these four local projects, each of which was to serve as a prototype for other organizations in the field of drug abuse treatment. MOB deliberately chose the four projects on the basis of their diversity. In stressing the differences between the projects, MOB's hope was that other municipalities might relate to the conditions of at least one of the projects. This was MOB's way of encouraging imitation of the four projects. As one of the MOB representatives put it:

> The idea was, of course, that they could be models. That others could see what these municipalities had done, a potential development path. I believe that this was based on the fact that things looked so incredibly different around the country. When you see that all municipalities choose their own solutions, then maybe you could still say that if they've been given that money, and they've done this with our support, then it would've been given an ok stamp, or a quality stamp. That, if you do things like this, then it'll be good. It's a kind of pointer without using fingers. The aim cannot be for things to be equal, because it could never be like that. The aim is, if anything, to

> start out here from some kind of experience and knowledge, having that as a basis when doing this.

By tradition, narcotics abuse treatment in Sweden is decentralized. Each municipality and county council plans and conducts treatment within its own area of geographic responsibility. In the absence of national strategies and guiding principles for such treatment, local traditions and routines prevail. As a result, throughout Sweden, drug abuse treatment varies in both structure and practice. This diversity was evident in the four projects – all of them worked under different conditions and had organized their work in different ways.

The first project, the Suburb Project, was conducted in a Stockholm suburb where there is a high rate of unemployment and severe drug problems. The project participants were experienced in drug abuse treatment and had been using standardized assessment methods for a long time. Social services and the primary care units worked together in various ways, including their collaborative work with the police and volunteer organizations. The goal of the project was to increase the use of standardized methods and to strengthen the collaboration already in existence.

A second project, the Eastern Project, was conducted in a large municipality in eastern Sweden. Because drug abuse treatment had been a high priority for a long time on the municipality's political agenda, politicians and managers from the participating organizations readily supported the project. These project participants had an established network where issues such as collaboration and treatment chains were discussed. Some participants – the correctional treatment units and the health care units – were already using standardized assessment methods. The focus of the project was education, as well as the implementation of standardized assessment methods, especially in social services.

A third project, the Western Project, was conducted in a medium-sized municipality in western Sweden, where there had been little contact between staff from social services and the health care units. The focus of the project was mainly the reorganization of social services and the implementation of standardized assessment methods. The project participants were dedicated to improving collaboration within both social services and their contact with the volunteer organizations. Project management decided to reorganize social services in order to facilitate use of the Addiction Severity Index (ASI), which most social services staff had been trained to use.

The fourth project, the Northern Project, was a collaboration between three small municipalities in northern Sweden. This project was structured as a collaboration because no municipality had sufficient numbers of drug abusers to merit having its own project. Also, each municipality had only a few employees who worked with drug abusers. However, the project covered a large geographical area. For example, a social worker from one municipality had to drive 300 kilometres in order to meet a project participant in another municipality. All participants – social services, police, correctional treatment and health care units – were motivated as regards increasing collaboration on the regional level. In general, they were inexperienced in using standardized assessment methods, although staff from social services and correctional treatment had been trained in using the ASI. All in all, the four projects represented municipalities with different conditions, in terms of both demographics and experience in drug abuse treatment. This diversity was intentional as MOB wanted to emphasize the importance of local experience and the organizations to represent those circumstances. The Prototype Municipality programme, as designed by MOB, encouraged the participants in each project to develop their own organizing of activities independently of the other projects' participants.

All projects were supported financially for a period of 18 months. This support paid for the project managers' salaries and a large-scale investment in staff training. Both financial support and eligibility for the programme were dependent on two conditions being met. First, the municipality and the county council had to sign the agreement drawn up between MOB and the project, ensuring their understanding of the importance of their collaboration. In some project management groups, members of the local police department, the National Prison and Probation Administration and volunteer organizations were all represented. Second, the projects had to agree to use a standardized assessment method during their day-to-day work. The preferred method was the ASI because the NBHW, and its affiliate the IMS, encouraged the use of this particular method. Furthermore, unlike several other methods that charge a licence fee, the ASI is free of charge.

The four projects agreed to collaborate with the treatment chains; however, the manner of their collaboration was decided independently by each project. In general, the first step was to make an inventory of all units and organizations along the treatment chain. MOB stated that collaboration was vital; however, in order to collaborate, 'one must create a common understanding and description of the problems in the field and see this as a joint mission' (MOB representative).

Several groups were appointed, consisting of participants from these units and organizations, in order to facilitate boundary-spanning collaboration.

During the course of the projects, great emphasis was placed on training staff in how to use the ASI. One MOB representative said: 'Joint training sessions are one way of making people from different organizations come together, of developing a mutual language and conception'. The IMS provided the ASI training sessions free of charge, for the use of both staff during client meetings and managers during data analysis on a combined level. Thus, a major part of the Prototype Municipality programme dealt with the introduction and implementation of standardized assessment methods.

The introduction of standardized assessment methods

One trend in social services today is the use of 'knowledge-based', 'evidence-based' and standardized methods. EBM is already well established in the health care sector. As noted above, evidence-based means that medicine should systematically base its decisions regarding diagnosis, treatment and prognosis on the best possible scientific grounds. This aim, as Learmonth and Harding (2006) state, is almost axiomatic. The founding of the IMS in Sweden is part of this movement.

The IMS was established in 2004 as an institute with its own board of directors; even though it is affiliated to the NBHW, the IMS is a part of the Campbell Collaboration, an international network providing systematic research reviews of the effects of interventions and social programmes. The IMS had four main tasks:

(i) to provide the social sector with systematic research reviews regarding which interventions and methods work in social work;
(ii) to support studies of social interventions and structured measurement programmes;
(iii) to support the development of systematic assessment methods; and
(iv) to disseminate information regarding the results of reviews and studies.

In his inauguration speech for the IMS, Morgan Johansson, the former Swedish Minister for Public Health and Social Services, said:

> I am convinced that knowledge-based social services are here to stay. We can see the inauguration of IMS as a manifestation of this fact.

> Knowledge is a process that must be continuous . . . An operation that is largely based on knowledge and tested experience affects the working conditions of professionals. This will enhance self-esteem and professional pride and afford greater opportunities for discussions about the profession, both internally and externally.[1]

Morgan Johansson's comments support 'knowledge development' in the drug abuse treatment field; they also make an appeal to the professional networks working with drug abuse treatment to accept standardized assessment methods. In 2010, the IMS ceased to be an organization in its own right, becoming part of the NBHW.

The use of standardized methods, client assessment instruments and systematic methods in social services has increased during recent years. Such methods inform professionals in direct casework, as well as managers, about individual clients and client groups. The advantage of having this information is that it functions as a platform for treatment planning and collaboration with other units and organizations. The method that the IMS, and now the NBHW, continues to promote is the ASI.[2] Advocates of standardized assessment methods such as the ASI claim that these facilitate the planning and organization of work. The fact that the ASI had been scientifically tested also made it appealing to the IMS, since such testing showed the method as being connected to clinical practice.

The ASI interview is a personal interview conducted in direct contact with the client or patient. Even though the ASI is a structured interview containing questions primarily relevant to client addiction problems, it also relates to other problem areas such as work, family/social relationships, physical and mental health and criminality. The ASI was developed during the early 1980s by American researchers at the University of Pennsylvania in Philadelphia, and has been translated into a number of languages. The ASI interview is designed to be conducted in two steps. During the first interview with the client, 180 questions are posed. In the follow-up interview, six months after the first, approximately 150 questions are posed, focusing on the client's current situation. The forms ASI Basic and ASI Follow-up contain choices for both questions and answers, reproduced in plain language, and the interviewer can mark the responses directly on the form. Using a 10-point scale from 0 to 9, interviewer severity ratings indicate the degree of patient problems in each of the seven problem areas, based on historical and current information. Composite scores are based entirely on current information and are indicators of the present status of the

patient; they are thus useful for treatment outcome studies since successive composite scores can be used to summarize changes in patient status.

The ASI interview technique has been scientifically tested for groups of substance abusers in the USA and Sweden (Nyström et al., 2005). In Sweden, the first official version of the ASI interview was issued in 1996 for use in addiction treatment services rendered by social services and health care units. In Sweden, the ASI is also used by the prison and probation services, and at several residential treatment centres. Studies of the ASI interview's usability by Swedish social services show that both clients and social workers have a positive attitude towards the ASI interview and that its level of acceptance is very high among social workers. They also show that the relationship between social worker and client is not affected negatively when the ASI interview is used with the client; if anything, the ASI interview is perceived to be valuable by both groups (Engström and Armelius, 2002; Nyström, 2003).

The ASI in practice

The rhetoric of MOB promotes 'local solutions', combined with an agenda for implementing standardized assessment methods for drug abuse treatment. The four projects in this report responded by initiating comprehensive training endeavours, mainly regarding use of the ASI. One basic problem shared by all four projects was how to handle the questionnaires. As users of the ASI are not allowed to alter the method, the projects all copied the questions and followed the standardized interview procedures in order to ensure the minimum level of equivalency in their assessments. However, ASI users may choose a computer-based version of the ASI rather than the paper questionnaire. The advantage of the computer-based version of the ASI is that the accumulated data can be used to make prognoses during treatment, but the disadvantage is the extra cost.

For a small project like the tri-municipality Northern Project, the data processing cost regarding the ASI was prohibitive. Yet, the project still found the paper ASI valuable since using the ASI meant introducing a more systematic way of thinking about drug-related problems:

> Today, we're really bad at documenting things – I keep stuff in my head – but if I leave, the information goes with me. Being structured makes it [the ASI] so much better.
>
> (Social worker, Northern Project, 2005)

The Northern Project participants also felt that taking part in the ASI training sessions was a good opportunity to meet with colleagues from other organizations. When their training sessions ended, they continued to meet regularly. Thus, in the Northern Project, the consensus was that meeting other professionals-in-training was actually more valuable than using the method.

In the Eastern Project, the ASI, which was sporadically used by social services before the Prototype Municipality programme began, had the strong support of politicians and managers:

> Within social services, we've been talking about evidence-based methods for many years, and that we have to guarantee quality. They [the work methods] can't be something that we make up on our own.
>
> (Manager, Eastern Project, 2007)

In the Eastern Project, work had previously been carried out largely in accordance with the norms communicated by MOB. Thus, they have not had the same need to demonstrate and legitimize their actions. The activities taking place within the framework of the project have been integrated into existing operations. The Eastern Project participants did not use the computer-based version of the ASI because they saw no greater advantage in using the computerized format compared with how they normally worked. To some extent, regardless of the politicians' and managers' support, it was not easy to increase usage of the ASI.

In the Suburb Project, the use of standardized assessment methods was already an established practice. The main goal of this project was to increase the interactions between units within social services and to enhance the use of standardized methods. In the Suburb Project, work was conducted in an operationally related and action-oriented way by means of creating activity groups which, in turn, worked with standardized assessment instruments, collaboration and care paths. There were clear links between the central norms and the way in which work had been done within the framework of the project; however, these links can be defined as 'loose' since, within the Suburb Project, there had been clear examples of self-translations of guidelines as well as demands from MOB.

The Western Project backed the computer-based version of the ASI and began to use the ASI net immediately after the training sessions had ended. The managers in social services were convinced that using the ASI would help them to plan and organize their work. Most importantly, by using the aggregated data from the ASI, these managers were able to

show politicians the efficient work procedures of social services. According to the Western Project managers, the ASI was an excellent tool that legitimized their activities.

The use of standardized assessment methods is a way of standardizing work procedures and categorizing their results. Because such methods can be used to manage and control work processes, they are similar to other types of standards. According to Brunsson and Jacobsson (2000) 'following a standard' means establishing some degree of consistency between the standard and one's actions. If a number of people follow the same standard, their work will show similarities. Those who advocate standardized assessment methods believe using these makes drug abuse treatment more homogenous:

> Once we have learnt how to use the method, the assessment is no longer dependent on the mood of the social worker.
>
> (Social worker, Suburb Project, 2005)

> Later on, the ASI may become our common language when communicating with each other or with our clients, but we're not there yet.
>
> (Manager, Western Project, 2005)

After using the ASI for some time, the users in the Western Project admitted that they had become more focused on the drug-related problems, and that they found it easier to decide which tasks they could carry out within their unit and which issues they were unable to deal with. Thus, the method revealed the complexity of a client's problem, making it easier to see with whom they needed to collaborate. They also saw the advantages of using the ASI when collaborating with other units within social services:

> When I talk to other people [colleagues in other organizations] and refer to the ASI, the judgment I've made is not questioned, as they know what it's based on. So, it's good to have routines. However, we mustn't stop using our intuition.
>
> (Social worker, Western Project, 2007)

In a tradition where operational activities are shaped by the contact between the staff and the patient/client, the departure point is a bottom-up perspective. This means that the modi operandi and routines used in local operational activities during the encounter with the patient/client are crucial for how the activities are shaped. This can be seen as a

contrast to standardized assessment instruments and control models that, if anything, have a top-down perspective. This means that methods and models are created centrally, but will be used locally. These models are standardized and will ensure that the client/patient is treated equally regardless of which activity he/she encounters. One aim of these methods is to enhance the quality of the operational activity by means of, for instance, differences in staff competence not affecting individual clients/patients. The methods and models also put the focus on control and reporting – staff must be able to account for what takes place during operational activities. The state has a clear power of definition whereby there is no direct governance (e.g., legislation), but a prescriptive way of governing.

Thus, the ASI works as a visualizing technology: it opens up the relationship between the social worker and the client to other professionals by giving these professionals access to clients' answers in a standardized format. As a result, clinical practice is more accountable. Practitioners, when referring to themes and questions from the ASI manual, must account for what they do in relation to the method used. In brief, the ASI promotes accountability and transparency in practice.

Striving for isopraxism

The ASI method was propagated by the dominant organizations having the power to define the norms and standards for shaping and channelling behaviour. In theory, the process of theorization – specification, justification and legitimizing – occurs prior to the diffusion of an innovation (Greenwood et al., 2002). Although the method was, to some extent, already in use in various areas, it achieved greater legitimacy when it was accepted and promoted by MOB and the IMS. Both agencies wanted to justify the ASI by aligning it with normative prescriptions, both prior to and during diffusion. The movement towards making practice more 'knowledge- and evidence-based', and making practitioners more 'professional', also added to the credibility and prestige of the ASI method. The Swedish government's Prototype Municipality initiative further supported and strengthened development of the ASI. The purpose of the ASI, beyond coordinating activities in the field of drug abuse treatment, was to legitimize local organizations using the method. Such legitimacy would provide them with the strong identities needed when working in their institutional surroundings. In sum, the ASI model met the MOB and IMS goal of making drug abuse treatment more standardized, transparent and accountable.

It has been demonstrated that change in structures and processes may be explained by the prevailing institutional forces, and such forces result in a growing homogeneity of forms since organizations in the same organization field are influenced by the same set of institutions (Meyer and Rowan, 1977). The phenomenon of the increasing homogeneity in organization forms is called institutional isomorphism and emerges out of the structuration of organization fields (DiMaggio and Powell, 1983). Additionally, the homogenizing forces operating in an organization field – coercive, mimetic and normative – also make practices more alike. Organizations adopt practices in order to maintain a flow of resources (e.g., financial and competence), including legitimacy. They also imitate the practices of organizations they think worthy of imitation owing to their importance, success or power. The power of collective arrangements, such as unions and professional associations, is a normative force that also makes practices more homogeneous. As this chapter demonstrates, organizations are also exposed to ideas, such as standards or methods that also influence their work activities. Thus, while organization forms are becoming more alike, so too are actual work practices, a phenomenon that Erlingsdóttir and Lindberg (2005) describe as isopraxism. Various features of the ASI method led to a homogenization of practice. For example, the ASI contained both monitoring and account-giving features (see Sahlin-Andersson, 2006). Monitoring includes processes conducted by 'others' – inspections, reviews, assessments and evaluation (Blomgren, 2007). Implementing the ASI in day-to-day drug abuse treatment gave managers a tool for gathering and then monitoring data, which could then be used to plan work as well as to present and legitimize performance to politicians. Account-giving is conducted, as Blomgren (2007: 71) explains, 'by the involved party itself'. People account for their actions when they have to justify them – for example, when their actions are challenged by an observer (Czarniawska-Joerges, 1996). The day-to-day work of the social workers involved in the four projects became subject to account when their procedures were described in relation to the methods used. Thus, using the ASI made the practices more accountable. Accounts of what people did in their day-to-day work were framed by the ASI method and aimed at others as members of a network. In brief, the ASI made it easier for the project participants to account for their actions. The ASI, as a method of standardizing assessment, thus led to isopraxism (Erlingsdottir and Lindberg, 2005) among the four projects.

Use of the ASI is common in drug abuse treatment, and is continuing to increase. However, the process of evaluating the extent to which

the ASI is used has become much more complex, especially when interpreted in terms of fashion, which asserts that people want both to be like everyone else yet still unique. It is also difficult to determine whether such organizations actually use the ASI method, merely claim to use it after having attended the training sessions, have imitated the Prototype Municipality programme, or have adopted the 'evidence-based trend' from another source. Regardless of the source, in adopting the assessment models, promoted as legitimate and successful, the participating organizations demonstrate that they are trying to improve their work practice programmes. Nevertheless, the conclusion is clear: as the ASI method gains popularity, drug abuse treatment practice is becoming more homogeneous.

An emerging field of drug abuse treatment

This study of the organizations working with drug abuse treatment suggests that a field of drug abuse treatment is emerging. Clearly, in Sweden, increased political priority has been given to drug policy issues. The main evidence of this trend is the work and influence of the two government agencies, MOB and the IMS. MOB aims to coordinate diverse activities in the area of drug abuse treatment while the IMS aims to promote evidence-based methods for social work practices.

In order to change the structure of the field, however, the organization participants must have the resources necessary to exert an effect on coercive, mimetic or normative forces (Phillips et al., 2000). MOB and the IMS had the necessary resources to influence the coercive and normative forces, and to provide conditions stimulating mimetic forces in the field. In addition to providing financial resources, MOB and the IMS were the forerunners of the increased level of professionalism in the field. DiMaggio (1991) points to the establishment of professional associations as a key element of field level change. Many MOB and IMS employees were professionals with extensive experience of drug abuse treatment. Therefore, professionals at MOB and the IMS could make decisions that were crucial to organizations working with drug abuse treatment, in addition to having the resources and ability to promote certain methods.

In summary, with their support for changes in the structure of the field, MOB and the IMS provided the emerging field with formal authority, the control of resources and discursive legitimacy (Phillips et al., 2000). These government agencies did not force organizations in the field to use standardized assessment methods through legislation.

However, because of the recommendations and financial support provided by these two government agencies, a certain degree of coercive force seemed to be in evidence.

The goal of the government agencies was to make standardized assessment methods an institutionalized way of working. However, it is not enough to look purely at structure when trying to understand change. Reay and Hinings (2005) also stress the importance of political factors and institutional logics. The introduction of the ASI was one way of infusing drug abuse treatment with another – competing or complementing – institutional logic: a work practice based on actors' individual assessments changed into a more standardized and scientific logic. And the two government agencies used their power – their formal authority, their control over resources, and a discursive legitimacy – to achieve their goals. Thus, using the ASI in drug abuse treatment was assumed to be a broadly accepted way of performing the task of assessment.

Another important issue for the agencies is the fact that drug abuse treatment is typically a heterogeneous area involving many different actors. This was the case in the four local projects, as well as in the local/national arena, where inter-organizational collaboration was a necessity. Since collaboration has become a commonly accepted conception of how to work in order to be successful (Huxham, 2000), the need for collaboration between the various organizations was emphasized by both the government agencies and staff working with drug abuse treatment. Both groups agreed that organizations in the field would be – at least partly – dependent on such collaboration if they were to provide drug addicts with 'good' treatment and rehabilitation. Thus, the government agencies, with their power and influence, and the practitioners in the four local projects, with their firsthand experience, viewed heterogeneity in work practices as a problem while viewing collaboration as a solution. As a result, the organizations working with drug abuse treatment were inclined to collaborate, with the extent of their collaboration seeming to increase. Such interaction causes all the participants in a field to become more aware of one another and more cognizant of being involved in a common enterprise that requires some degree of interdependency. As DiMaggio and Powell (1983) suggest, such knowledge is an indication of an ongoing structuration.

The MOB's plan was that the Prototype Municipality concept would be imitated by other organizations in this emerging field of substance abuse treatment. The theory behind imitation was that organizations, in order to relieve their uncertainty, tend to compare themselves with organizations that are perceived as worthy of imitation, because of their

importance, success or power (e.g., Phillips et al., 2000). MOB's task, therefore, was to make the local projects worthy of imitation. In order to enhance the chances of such an imitation occurring, MOB chose the four local projects carefully. The projects varied in their experience of drug abuse treatment, in their geographic environments and in their demographic aspects. They also differed in terms of how their work activities were organized, thus exhibiting heterogeneity of forms. In this way, it was hoped that other organizations could identify with at least one of the local projects. However, MOB could not decree that the projects had to be perceived as important, successful, powerful and/or worthy of imitation; it could only try to increase the likelihood of the appointed organizations being perceived that way. The actual dissemination of the practices from the Prototype Municipality concept through the emerging field was dependent on the motivation and capability of other organizational actors.

Structuration was thus aided by the interplay between the different actors. The government agencies were never supposed to interact with clients; rather, they adopted ideas, developed solutions and acted as distributors and carriers of recommended practice. They had the power to define the norms and standards intended to shape and channel behaviour, and the assumption was that the four local projects would use those norms and standards in their day-to-day work. Structuration was also aided by the simultaneous interplay between the coercive, normative and mimetic forces at work. The agencies, with their centralized resources, attempted to structure a field of drug abuse treatment; however, at the same time, there were other processes, firmly established in the field, that were just as influential. The use of evidence-based methods was already an established practice when the government agencies decided to promote these methods. The need for collaboration between the different organizations, which the agencies wanted to encourage, was also commonly felt. As a result, these processes also shaped the emergence of the field of drug abuse treatment, composed of a number of organizations sharing rules and resources. The work practices of the organizations in this emerging field became increasingly similar.

Summary and conclusion

In this chapter, we have shown how the Swedish government initiative appeared to be a part of a comprehensive effort to structure an organizational field – drug abuse treatment. The powerful government agencies, the IMS and MOB, worked as mediating actors in the ongoing

structuration and institutionalization of the field. However, the field structuration in this study did not necessarily mean that the organizations were becoming more alike in form. In fact, at least during the first phase of the initiative, they retained their different modes of organizing their activities. The government agencies concentrated on creating a more homogeneous work practice: standardizing work procedures and making the practices accountable and transparent. Thus, the structuration of an organizational field may also occur when striving towards isopraxism (Erlingsdottir and Lindberg, 2005) (i.e., towards the standardization of practices).

In this study, isopraxism occurred when the standardized assessment method was introduced. The ASI was a technology that made the practice more standardized, transparent and accountable. It will take time, however, for us to be able to see the effects of this effort. Local responses must be studied further. The achievement of isopraxism may not necessarily lead to tight connections between actions. It may allow a field to be structured using loose connections between actions, something that may be as sustainable and stable as tight connections. Additionally, loose connections may be easier to achieve since they do not threaten established structures. Thus, instead of re-forming drug abuse treatment, we can speak of re-practising it.

6
Crossing and Constructing Boundaries: A Case of an Infusion Pump

Introduction: Organizing and boundary construction

During recent decades, organization scholars have shifted their focus of attention away from organizations as stable entities, divided from their environments by boundaries, towards organizing as a process, making it possible to understand how organizations emerge and are accomplished (e.g., Weick, 1979; Feldman, 2000; Weick et al., 2005). From such a perspective, organizations are seen as temporary reifications as the process of organizing never ceases (Czarniawska, 2002b). In this chapter we report on a study of the role of organizational boundaries with regard to an occurrence of a critical incident at a Swedish hospital[1]: the failure of a drop infusion pump. We studied the investigation of the incident and the efforts made to prevent any similar occurrences. As it turned out, the investigation was not restricted to one specific organization, but involved different organizations, units and groups of people. The aim of the chapter is to describe and discuss the role of boundaries and how they are constructed, deconstructed, reconstructed and stabilized as part of the ongoing process of organizing health care.

Health care work of any kind involves not only people doing things but also various kinds of objects and technologies. The point of departure for this chapter is a critical incident when a hospital drop infusion pump failed. Air was about to be injected into a patient's bloodstream, and the failure could have resulted in a life-threatening situation. Immediately, actions were taken to replace the pump. The pump was in constant use on this ward and, we discovered, was the pivot around which the actions of the different actors revolved – actions undertaken at different times and in different places. First, we show how the pump was taken for granted as long as it worked as expected. After the incident

the pump became an object of inquiry: its own boundaries were under scrutiny. We demonstrate how the collective actions of people involved led to changes in established practice, resulting in the reconstruction of boundaries.

Boundaries and organizing

Studying organizations and processes of organizing always involves the issue of boundaries, either implicitly or explicitly. In everyday organizing, boundaries tend to be taken for granted; however, in times of change, boundaries often become visible and questioned. Lamont and Molnár (2002: 167) denoted boundaries as '... part of the classical conceptual tool-kit of social sciences'; indeed, this is a concept that played a significant role in organization theory. Santos and Eisenhardt (2005) claimed that boundaries reflect the essence of organization as they constitute the demarcation between an organization and its environment. 'As such, they speak both to why organizations are unique and advantaged, and why they fail. At the same time boundaries necessarily address what is outside the organization, not just what is inside' (505). This view can be traced back to earlier organization theories emphasizing the inside/outside divide (e.g., the contingency theory (Lawrence and Lorsch, 1967), the open systems theory (Katz and Kahn [1966] 1978) or the resource dependence perspective (Pfeffer and Salancik, 1978). There has been a strong tendency within this tradition to focus on internal structures and processes, even when taking the environment into consideration. Thus, organization theory has had – and still has – a tendency to emphasize the organization as an entity demarcated by a stable and unambiguous boundary, yet still influenced by the environment.[2]

However, the issue of boundaries and their role in organizing, as well as other aspects of social life, has gained renewed interest following an increased focus on processes and a decreased focus on structures (Hernes and Maitlis, 2010). These organization scholars emphasize the social structuring processes rather than seeing boundaries simply as things (e.g., Sturdy et al., 2009). Hernes and Paulsen (2003) proposed several explanations for this – the increased use of information technologies, the globalization of world markets and trends in the arts, literature and politics, entailing an increased focus on crossing and bridging boundaries. Thus organization scholars have been studying how knowledge is managed across organization boundaries (Carlile, 2002, 2004), boundary-spanning coordination in post-bureaucratic organizations (Kellogg et al., 2006) or even boundary organizations

(O'Mahoney and Bechky, 2008). After studying boundary organizations enabling collaboration between open-source communities, O'Mahoney and Bechky (2008) concluded that these organizations sustain their ability to represent different parties solely by preserving the boundaries that separate them.

Others scholars have focused their attention on the actors taking part in work across organizational or professional boundaries. Boundary work is described by Nippet-Eng (2003: 263) as '[t]he never-ending, hands-on, largely visible process through which boundaries are negotiated, placed, maintained and transformed by individuals over time'. Abbott (1988) suggested that professionals are constantly participating in boundary work, whereby authority and domains of jurisdiction are always called into question. Also, Bechky (2003: 721) claimed that 'Jurisdiction is contested through public, legal, and workplace claims, for control over task areas . . . These jurisdictional claims act to shift both relations between professional groups and the boundaries of their core work domains'.

Furthermore, in management and organization studies, it has been shown that objects are able to provide the means for crossing boundaries, being used to inscribe and share meaning across different local contexts (e.g., Carlile, 2002; Bechky, 2003). Carlile (2002) showed how different communities of practice use boundary objects to share knowledge across different local contexts. Such objects provide the rudiments of a shared language, allowing idiosyncratic knowledge to be represented in a structure that is recognizable to many, including those who act on the other side of the boundary. The objects themselves can also help people to learn about differences across boundaries and to understand the dependencies between them (Carlile, 2002; Sapsed and Salter, 2004; Kellogg et al., 2006). However, Bechky (2003) has shown that boundary objects also constrain knowledge sharing if used to legitimize or impose occupational interests, while Levina (2005) has stressed the possible consequences of silencing and fragmentation. It has also been shown that boundary objects may function as a means of delimitation and exclusion, in the sense that the object defines why people gather round, and which people it would involve (Lindberg and Czarniawska, 2006).

To summarize, in line with the more general development in organization theory of focusing on organizing as a process, boundaries have also been studied from a process perspective and the interest in boundary spanning processes has increased. But still there is a tendency to treat the organizations involved in boundary-spanning processes as stable

entities. There is also a tendency to create typologies of boundaries and to list their enabling and constraining consequences. However, boundaries, as emphasized by Nippet-Eng (2003), are what people do every day: classification, ordering and organizing are about drawing boundaries. Also, as Suchman (2007: 285) has pointed out, boundaries are never innocent since they also entail accountability. In this perspective, boundaries are not defined in advance, but negotiated and set as the process of organizing continues.

The setting

The incident described and analysed in this chapter occurred on a ward at a regional hospital. Like most hospitals in Sweden, this one is owned and managed by the local county council, the Region of West Sweden. Since 1983, Sweden's county councils have been largely responsible for their activities as a result of decentralization. The county councils are governed by democratically elected politicians, and have the right to self-govern and to levy taxes. They are financed by taxation and patient guilds (80 per cent), as well as by funding from national government sources (20 per cent). There are 24 county councils in Sweden, bearing most of the responsibility for the country's health care and being the largest employers in the health care sector. The Region of West Sweden is the second largest county council in Sweden, having a population of 1.5 million (nearly 20 per cent of Sweden's total population) and encompassing 29 municipalities of different sizes, growth trends and demographies. The Regional Council of West Sweden is the highest decision-making body, bearing the political responsibility for the region's health care. Administrative responsibility lies with the Healthcare Board, which includes ten local health care committees. These are responsible for five large hospital groups, each with a high degree of autonomy and the responsibility for a specific catchment area within the region. However, they collaborate by concentrating the provision of highly specialized and expensive care to one hospital within the region. Moreover, some functions are centralized in order to bring about economies of scale. One example of this is Westma, the central authority for purchasing and distributing drugs and medical equipment within the Region of West Sweden. Westma was established in order to increase efficiency, ensure quality control and utilize the bargaining power of a major purchaser. Consequently, Westma is responsible for negotiating contracts with suppliers regarding the kinds of equipment needed to run a health care organization.

The hospital is a full-scale acute hospital, offering specialist services in all major areas and bearing some educational and research responsibilities. It is organized into five divisions, created on the basis of (medical) specialization: medical, surgery, psychiatry, medical support and general/technical support. Most of the hospital's physicians are employed on the clinic level and not designated or tied to a specific ward or a defined group of patients, but on the basis of their medical specialization. The medical specialities constitute the largest divisions, containing four clinics subdivided according to medical specialization. One of these, the clinic of internal medicine, has six different wards, each of which is highly specialized in a specific medical field. One of the wards in the medical clinic constituted the site of this study.

This ward specializes in various types of blood diseases, such as leukaemia. The responsibility for the ward is shared between a physician, who is responsible for medical decisions and general treatment, and a ward manager. The ward manager is a nurse who is responsible for the day-to-day nursing care, but also for administrative tasks and staffing. The ward has a staff of 28, consisting of 16 registered nurses and 12 assistant nurses, including those who work nights. There are 18 beds. The ward includes a surgery providing treatment to outpatients with haematology diagnosis during daytime hours. Typical treatments provided by the ward include blood infusion and chemotherapy, during which patients use beds belonging to the surgery for a few hours. Chemotherapy is potentially dangerous for both patients and staff, which means that any treatment of this type is rigorously controlled and monitored, invariably performed by highly skilled and experienced nurses. This requirement for qualifications and specialist skills means that the nurses working in the surgery are among the most experienced on the ward.

The infusion pump: From a tool to an object of inquiry

The ward is a place where patients are treated and nursed for periods longer than a day, with the average time being seven days. However, since the ward provides care to patients with serious and often life-threatening diseases, with occasionally some being treated over periods spanning several years.

Patients with leukaemia and other blood-related diseases are usually under medical treatment for long periods of time, sometimes for the rest of their lives. However, they do not always need to be hospitalized in order to obtain treatment; in many cases, they can self-treat

at home or receive support from local primary care centres. A patient with an established diagnosis and who is receiving ongoing treatment is labelled 'open returns'; this label allows him/her to obtain easy access and instant treatment at the surgery if necessary. Apart from this type of emergency action, the activities carried out in the surgery are scheduled procedures prescribed by the patient's doctors. In addition to providing patients with medicine, nutrition and blood, a number of tests, measurements and follow-ups are also conducted there.

The importance and seriousness of the activities on the ward are also reflected in the physical design of the premises, which consist of one large room with windows facing the outside at the back, with three beds on each side and a smaller room in the middle with glass walls, facing the other beds. The smaller room is used by hospital staff and for storage of medical equipment. It was designed as a 'panopticum' that allows the monitoring of all beds from a single point. The surgery is very quiet and quite pleasant. It is open between 07.00 and 16.00 five days a week, and is staffed at all times by two registered nurses and one assistant nurse. Across the corridor, four haematologists have their treatment rooms, at least one of whom is always on duty during the ward's opening hours and is prepared to treat emergency cases.

The incident

As mentioned before, treatment of cancer patients includes chemotherapy, which is a very serious and potentially painful treatment, but a routine procedure for the staff working on this ward. The anti-cancer drugs, cytostatics, are infused into the patient's body. The infusion pumps used at the hospital, provided by a company called Medone, are designed for general use. Therefore, an adjustment had to be made to the infusion pump in order to enable the administration of cytostatics without compromising the safety of both staff and patients. These adjustments are made by the hospital pharmacy. An ancillary item of equipment, provided by a company called Medtwo, has been added to the infusion system to allow a more controlled and regulated flow of fluid into the patient's body

In the event, a patient diagnosed with leukaemia and who had previously been hospitalized and was well known to the staff, was scheduled to receive chemotherapy. The patient was given a bed in the ward, then a nurse hung up a bag of cytostatics, connecting it to an infusion pump and then to the ancillary device. Finally, the nurse connected the infusion pump to a cannula previously placed in the patient's artery. Before

starting the treatment, the nurse checked the prescription from the doctor for this particular medicine, adjusting the equipment to ensure the correct dosage and flow rate. The patient was instructed to remain in bed for at least one hour while the anti-cancer drug was slowly infused into their bloodstream. However, a couple of minutes later, the nurse discovered that that the infusion pump had malfunctioned and was seconds away from injecting air into the patients' bloodstream, an event potentially causing severe injury or even death. Treatment was stopped immediately and the nurse reported the incident to the ward manager.

Since this profession is subject to control, when a critical incident occurs, a strictly regulated routine has to be followed. The person who discovers, or first receives information about, an incident is obliged to file a deviation report using a system called MediControl, which is a standardized system containing pre-formatted forms and is used in all hospitals in the region of West Sweden. Once the form has been filled in, it is sent to the ward manager who has the formal responsibility of dealing with all deviation reports originating from the ward. This responsibility includes investigating the circumstances of the incident and taking actions necessary to prevent repetition in the future. It also includes an obligation to monitor the effects of the actions taken.

The investigation: From questions about causes to distributing responsibility

An investigation of the causes of the incident was initiated by the ward manager. When an incident is related, as in this case, to medical equipment, specific routines regarding analysis and documentation are prescribed. The National Board of Health and Welfare (Socialstyrelsen) is a government agency in Sweden under the jurisdiction of the Ministry of Health and Social Affairs, and is the main authority overseeing health and safety within the Swedish health care sector. One of the main methods for ensuring compliance with health and safety legislation is the stipulated duty for all health care employees to report, investigate and correct any error or malpractice they encounter:

> Serious deviations occurring when practice care and treatment is required to be reported to proper authorities in order to insure action taken to prevent similar incidents to occur again, to improve existing regulative framework, distribute information and guidelines and to create opportunities for learning.
>
> (The National Board of Health and Welfare)

This means that, as soon as an incident occurs, the ward manager is required by law to initiate an investigation without delay. The investigation is required to follow a strict protocol with regulated procedures of what to do, how to distribute responsibility and authority, how to document the incident and the investigation and so forth. Furthermore, the supplier of a medical technology product is required by law to report and investigate any accidents or incidents in which a medical product are involved, and to take sufficient actions in order to ensure that the risk of further incidents with the equipment will be within acceptable and regulated levels. In order to meet such requirements, the suppliers need support and access from the caregiver and to be given the opportunity to investigate their product and the circumstances surrounding the incident, in order enable the establishment of causes. The care provider is required to report any accident or incident without delay to both The National Board of Health and Welfare and the supplier responsible for the equipment, in order for investigation to be implemented as quickly as possible. Furthermore, the equipment must be preserved pending a possible investigation, along with instructions, additional equipment, spare parts and wrappers. None of these items can be used until a full investigation of the incident has been completed. The following types of action should be accounted for:

- whether the equipment was handled or used incorrectly;
- whether the staff were lacking in training and/or experience to use the equipment;
- whether there were organizational and/or coordination errors,
- whether there were any design or manufacturing faults or defects in the equipment;
- whether maintenance of the equipment was neglected or performed incorrectly.

The purpose of this detailed investigation is twofold: first, to establish what had happened – what actually occurred during the incident, and second to establish the causes – why did the error and/or malfunction occur? The investigation involves face-to-face meetings, telephone calls, letters and e-mail messages.

In the case we are concerned with in this chapter, large number of actors were involved in the procedures that followed. First, the staff working in the ward were called as eye witnesses, with the task of describing the incident step-by-step and in great detail. Second, the ward manager contacted representatives of the hospital pharmacy, which

had authorized the use of this particular equipment configuration. The equipment had frequently been used over long periods of time, without any incidents previously being reported. The pharmacy is located in the hospital building and staff from the ward visit the pharmacy on a daily basis, and vice versa. Consequently, a pharmacist specializing in chemotherapy and related equipment visited the ward a few hours after the incident. Together with the ward manager and one of the ward nurses, they examined the equipment without finding any clear explanation of why the incident occurred: at this stage the investigation was inconclusive as regard to causes. It was clear that air had been drawn into the system, but there were no answers as to why this had happened. No indications of malpractice or error were found in regard to how the staff had handled and maintained the equipment. Since this design of equipment had been in use for a long time, the first hypothesis was that this particular pump was faulty, not that there was a general problem with this type of equipment. The pump was placed in storage awaiting further and more detailed investigations.

The next stage of the investigation was to make contact with the two pharmaceutical companies that supplied the equipment. Medtwo specializes in supplying medicines, drugs and medical equipment for the treatment of leukaemia patients, and the company's sales representative frequently visited the ward and was well known to the staff. When the ward manager contacted him, he immediately scheduled a meeting with the ward manager, the staff involved in the incident and a pharmacist technician from the hospital pharmacy. The items of equipment that had been supplied by Medtwo were sent to the company's experts for more elaborate investigations and tests.

Similar arrangements were made with Medone, whose representative took the pump involved in the incident and conducted extensive tests on it. Subsequently, Medone issued a written statement declaring that, despite searching for problems or errors in the design or production of the infusion pump, no signs or indications of malfunctioning had been found and that, subsequently, no causes had been established. Furthermore, they also issued instructions regarding how to use the infusion pump, as well as a refusal to accept responsibility if the pump is used together with equipment supplied by any company other than Medone (in this case Medtwo). However, the Medone infusion pump, which was a 'general' infusion pump, had to be combined with extra equipment in order for it to function with anti-cancer drugs, and Medone could not provide such extra equipment. Nevertheless, the refusal to accept responsibility had been made, even though it was likely to prevent

further use of Medone's infusion pump in the treatment of leukaemia patients.

The other supplier, Medtwo, acted in a similar way. It stated that it could not establish the cause of the incident and, since no problems had been found in the equipment that it had provided, in order for it to assume responsibility for the use of its regulating equipment, this was to be used only with infusion pumps produced by Medtwo. This was the only way, the company argued, to ensure that a system was safe to use on patients. Thus, Medtwo was offering an overall solution.

While the investigation was being conducted, the ward manager decided to keep using the infusion pumps from Medone in day-to-day work on the ward. It was also decided that the use of these infusion pumps had to be constantly monitored, until a clear conclusion had been reached regarding what had caused the malfunction. Monitoring was carried out by the nurses, which required them to be present continuously when using the pump. A number of similar, but less serious, incidents occurred over the next few weeks, after which the ward manager decided to stop all further use of this particular type of infusion pump.

The problem grew from potentially being restricted to a specific pump and item of equipment to a more general problem related to the system of equipment and routines for treating patients in need of chemotherapy. In consequence, the decision was made – by the ward and clinic managers – to replace the Medone pumps with Medtwo infusion pumps. This was an extraordinary decision and a departure from normal routines, which entailed the purchasing of products other than those approved by Westma, the region's purchasing authority. Purchase of these new pumps would also involve exceeding the ward's stipulated budget, as Medtwo's pumps were more expensive than less specialized versions.

The national recommendation: Translating actions into words

Incidents occurring at the hospital, and reported as deviations using MediControl, are categorized in terms of 'degrees of seriousness'. This categorization is based on the potential consequences for the patient and on the estimated risk of the same sort of incident being repeated. Thus, the way the ward manager decided to describe the incident had a major impact on the actions that followed. The incident involving the infusion pump was judged to be life-threatening and was thus

categorized as 'serious', a label second only to 'catastrophic'. Because of the severity of the incident, the ward manager reported the incident to the senior physician, who has the overall responsibility for systematically identifying and assessing the causes of incidents and taking further steps to prevent them from happening again.

The senior physician reported the incident to the Medical Products Agency (MPA) and the National Board of Health and Welfare, pursuant to the Act on Professional Activity in Health and Medical Services. The two agencies are the regulatory bodies responsible for monitoring adherence to the codes of conduct. Using a special form for serious incidents in the Medicontrol deviation report system, the report provided an account of when and where the incident occurred, the type medical equipment involved and the names of the suppliers. A detailed description of the incident, including its causes and consequences, was also to be included in the report, as was an account of the actions to be taken to prevent further incidents. This form is used to submit reports to the National Board of Health and Welfare and to the MPA, which is the national agency for regulating medicines and drugs.

When the deviation report reached the MPA, it became clear that similar incidents had been reported by other health care organizations in various parts of Sweden. However, none of the investigations of these incidents had provided a clear explanation as to why they had occurred. In spite of the fact that no explanation had been found, the MPA issued national recommendations for this type of infusion pump, which warned against the particular configuration of equipment used on this ward. However, these national recommendations were not put in place until long after the system had been taken out of use.

Discussion

This chapter has detailed the actions of a group of health care professionals aiming to organize and maintain the continuation of health care on a medical ward in a critical situation. We argue that this was accomplished by pursuing three different, though interrelated and interdependent, paths of action. The first, intrinsically connected to the other two, concerned actions related to the practical investigation and correction of a malfunctioning infusion pump; the second was oriented towards re-establishing, without interruption or delay, safe and functional procedures for treating patients; the third followed the protocol for formal procedures prescribed in the event of a critical incident.

After the incident the ward manager, together with involved actors, set out to identify the causes of and to correct problems related to a particular piece of medical equipment, and to ensure that the problems associated with that item did not occur again. As a consequence, the critical incident became the point of departure of this study, yet a story emerged about how the actions taken by the group of people had quite another purpose – to (re)define and (re)distribute authority and responsibility within that group. The incident and the actions that followed redistributed responsibility and reconstructed boundaries, with new meanings attached.

An investigation was initiated with the purpose of identifying and correcting what had caused the incident. The pump, as an ordinary operational tool, became an object of inquiry, as such losing its transparency in the sense of being taken for granted. Instead, the investigation focused on how the different parts of the infusion equipment were assembled, on the handling of the equipment and on the suppliers' production processes, that together changed the perspective on the infusion pump away from being an entity in itself towards being an assembly of parts. The deconstruction of the infusion pump did not only create 'new' physical boundaries between its different parts, but it did reveal hidden or reconstructed organizational boundaries between involved actors. Put in other words: The he equipment were initially weakly structured in a common use, as they inhabited several communities of practice and satisfied the requirements of each of them. However, when the investigation was initiated, the equipment became strongly structured in individual-site use, as different parts of the pump became visible to, and was investigated by, different actors. Initially the infusion pump function simultaneously as means of coordination because actors gather around them and in this way become connected, and as delimitation because they exclude other possible foci of attention (Lindberg and Czarniawska, 2006). During the investigation, actors were demarcated and boundaries were revealed as various objects became separated within the process. As a consequence actions were coordinated through the jurisdiction of the ward manager and prescribed routines for dealing with deviations and incidents. Existing procedures prescribing how incidents should be documented and labelled were inscribed into the standardized form. The objects, and in this case the procedures as well, inscribed not only knowledge but also social relations, such as legitimizing work and maintaining and challenging the control of task areas (Bechky, 2003). However, during the investigation, neither blame nor

criticism was directed at the way hospital staff had used and maintained the equipment. The medical companies that had supplied the parts also conducted investigations into their products.

Each of the suppliers concluded that it would not assume responsibility for the particular equipment configuration that had been used on the ward. When doing so, an organizational boundary was constructed, through the redistribution of responsibility and authority, between the different parts of equipment used in the infusion system. Furthermore, this reconstructed organizational boundary made it impossible for the ward to continue using this particular infusion system, which necessitated the ward manager investing in new and expensive infusion pump products. The new equipment could only be used as a stand-alone system, and not in combination with items manufactured by other producers, ruling out not only the previous system but also the previous configuration of actors, thus making some suppliers surplus to requirements and others more important. Furthermore, this was a decision that challenged the formal structure of the health care organization in general, and the position of Westma in particular. Westma, which was the Region's designated purchaser organization as well as fulfilling the negotiated budget restrictions in place at the hospital, represented both institutionalized and legitimized ways of acting within the organization. The incident – and reconstruction of organizational boundaries as a result of this – affected the way responsibility was distributed between the ward, Westma, and hospital management. Trust in the equipment and its use was given priority over formal decision structures and cost management.

The actors involved in the investigation possessed what Carlile (2004) called domain-specific knowledge of the infusion equipment, which they needed to share with each other. The pump, as a boundary object, functioned as a means of coordination. However, the actions taken did not require the actors to meet, since connections could be made by sending written documents from one place to another. Such connections represent a kind of coordination at a distance.

The domain-specific knowledge was also a way of marking things out; different actors possessed different knowledge and, on that basis, enjoyed different levels of authority to make decisions. And, on the basis of this specific knowledge, the established boundaries were now being contested and subjected to negotiation. As suggested by Abbott (1988), professionals are constantly participating in boundary work whereby authority and domains of jurisdiction are always being called

into question. However, none of the actors involved was able to identify any mistakes or errors, coming to different conclusions as regards what to do. This corroborates the observation of Kellogg et al. (2006: 39) that 'cross-boundary coordination is a contingent, emergent, and dynamic outcome that cannot be planned or prescribed, but is highly dependent on the situated activities of the various communities'. Since this 'cross-boundary coordination' was directed towards distributing responsibility among the actors, rather than towards establishing the cause of the incident, the result of the investigation was the redistribution of responsibility and the creation of new boundaries.

The investigation revealed interdependencies between the actors providing the different equipment items. However, dividing the equipment into its component parts, which allowed the actors to assume the responsibility for their individual parts, made the differences between them visible. From such differences and interdependencies, new boundaries were constructed that had new meanings attached – boundaries specifying the future distribution of financial and legal responsibilities, as well as knowledge and authority. In this particular case, the long-term use of a safe infusion system for treating patients receiving chemotherapy was also ensured.

Even though the formalized and regulated procedure prescribed to be followed in the case of occurrence of a critical incident was important in coordinating the investigation, the actual actions taken to prevent similar incidents had little to do with the resulting national recommendations. The problem had been solved long before the recommendation was issued. Furthermore, and more importantly, the events that led to a solution that secured the prevention of similar incidents had little to do with understanding and defining what had caused the incident. In fact, no clear explanation for the incident was determinable in any of the cases reported to the Medical Products Agency. However, the formal process that ended with the issuing of a national recommendation influenced further health care practices by transcending the experience of the incident in both time space and time. The detailed and standardized manner in which both the incident and the actions taken during the investigation were documented led to a decontextualization of the events. Thus, the local actions had been separated from their institutional surroundings (disembedded) and translated into an object – in this case, being packaged into a text, and a text with inscribed regulative authority. Such translation is of importance in order for an idea to travel in both time and space (Czarniawska and Joerges, 1996). The national recommendation can be seen as an institutionalized memory

of what had happened. As such, the recommendations become valid in different times and spaces, and support the stabilization and institutionalization of the reconstructed boundaries to ensure the safe and reliable treatment of patients.

Summary and conclusion

This study illustrates a critical incident occurring at a hospital when a drop infusion pump failed to function; and also the ensuing inquiry, which did not succeed in providing a rational explanation for the problem. However, the outcome was the provision of safe care and treatment for patients in an acute situation, as well as stabilizing new practices in the long term. Rather, for the purposes of the investigation, the pump was separated into its constituent parts, which all came under scrutiny, and was thus translated from an operational tool into an object of inquiry. The actions, and the translations enabling their connection, revealed the shift occurring during the investigation from searching for causes to distributing responsibility and claiming jurisdiction.

As the investigation was initiated, the pump became translated from a tool into an object of inquiry. This shift made the investigation the focal point for coordination among different actors, though simultaneously delimiting. Furthermore, the result of the investigation and the collective actions taken led to changes in practice. Responsibility was redistributed among the actors involved and boundaries were reconstructed. Once practice had changed, national regulations were issued and, in doing so, the construction of boundaries was stabilized and institutionalized.

To summarize, actions were the focal point of this study; by observing actions and their connections with one another, it was possible to trace the dynamics of organizing across and between organizational boundaries and how boundaries are constructed and reproduced. The picture of organizing that emerged from this study reveals a process through which organizational units and people, as well as what they do, are constantly being connected and reconnected with one another. In this sense, boundaries are analytical constructs that need to be studied in order to understand the ongoing construction of organizations.

7
Engaging Material Resources: Nursing Work in Leukaemia Care

Introduction

Traditionally the health care sector has been characterized by the dependence of strong professional groups organizing, evaluating and delivering the health care services. Such professional work has often been attributed to the individual body, where professional know-how and skills are to be found. Reporting on a study of nursing work in a leukaemia ward of a Swedish regional hospital, it has been demonstrated that the conventional view of nursing as primarily involving bedside care, organized around the patient and through social relations, accommodates only a subset of nurses' work. In addition to face-to-face care and patient interaction, nursing work is the melding of a great number of actors with different domains of expertise to safeguard the health care status of the patient, spatially distributed, temporally fragmented, and performed and mediated through the utilization of a number of material resources and technologies outwith the everyday lives of the patients.

A sector in crisis

From the early 1950 to the late 1980s, the health care sector in Sweden enjoyed stable development, with annual increases in resources and funding, while slowly adapting to technological development and increasing professional specialization. However during the late 1970s and 1980s, advances in technology were accelerating, and new methods of medical treatment created a need for further and faster specialization and a more rapid increase in resources. By 1980 this had come to be regarded as a problem. The argument put forward was that increased spending on health care was using too great a proportion of public resources, and when this trend was projected into the future

the financial burden on the public purse would become unsustainable and jeopardize the legitimacy of a publicly funded health care sector. This argument gained momentum when comparing Swedish health care spending with other comparable countries in Europe and North America, which showed that Sweden was spending more on health care than other countries. As a result of this, Swedish expenditure on health care in relation to gross national product (GNP) was reduced from 9.4 per cent in 1980 to 8.4 per cent in 1990, and to 7.7 per cent in 1995 (Arvidsson and Jönsson, 1997). By doing so, Sweden contradicted the international trend where ever greater proportions of GNP were being allocated for health care expenditure, but at the same time brought about basic structural changes that were implemented over a short period of time.

However, further problems were emerging. Statistics indicate that costs were increasing faster than output, recognized as an efficiency problem due to a declining 'efficiency' in the production of health care. Furthermore, the problem within the health care sector was related not just to the reduced resources and increasing costs, but also to an increasing demand for health care, partly due to better diagnostic methods and treatment and partly due to the demographic developments in Sweden, with a large increase in the elderly population, a group that traditionally needs and consumes more health care resources then the average population (Arvidsson and Jönsson, 1997).

The general view of health care changed from that of a growing sector with annually increasing resources to (during the 1990s) a sector described as under-financed, inefficient and in crisis. The increased costs in producing health care, combined with diminishing resources and increasing demand, were considered a greater problem (casually called the 'gap') and structural changes in the sector were called for.

The 1990s: A period of reform

In order to deal with these emerging problems, a number of various reforms were launched to implement structural changes (Trägårdh and Lindberg, 2004), among which was to decentralize parts of the health care sector. Until 1992, most Swedish health care sectors were managed and organized by one authority, the regional authority. In that year responsibility for certain areas of health care services was transferred from regional to local authorities, including care for the elderly and some aspects of psychiatric care. This decentralization were initiated in order to achieve better performance, better local coordination, clearer borders of responsibilities and more efficient use of operative resources.

Furthermore, deregulation and amendments to management approaches, allowing for privatization of parts of the health care services provided, were introduced, even though those activities were still closely monitored and regulated, and were restricted to certain areas and functions of the health care sector. Nevertheless most of the health care provided and consumed in Sweden is funded from public sources (over 90 per cent). However, a growing body of private health care entrepreneurs have become established, based on public contracts normally established over a numbers of years, which allows them to invest over the longer term (Arvidsson and Jönsson, 1997). These changes, however limited, have resulted in a changed view of the relations between employers and employees. The possibility then arose for health care sector workers to choose their employer.

Another significant event during the 1990s was that the public authorities' previous way of managing and organizing health care changed from traditional regulative techniques, using budgets and regulation to achieve their defined goals, towards market-oriented systems based on performance. Working practices were hitherto based not on mutual agreement between two parties but on the fact that regulatory management devices made all the major decisions and these were then implemented by the public/political institutions. This change towards marketization came about by the implementation of different systems for pricing and evaluating performance. One of the most common organizational concepts implemented and used within the health care sector, inspired by the idea of lean production and other management concepts, was to rationalize and develop the organization concurrently (Trägårdh and Lindberg, 2004).

The health care sector tried to solve their problems by incorporating and adapting models initially developed and used in industrial production and manufacturing. A common feature to most of those reforms was that they were based on the idea that a publicly funded organization with no profit maximization ambition lacks 'natural' incitements to continuously increase the efficiency and quality of its performance, which was presumed to be the case with privately operating actors in a free market.

Another trend partly based on the same logic of efficiency was to centralize by merging several different health care units into fewer but larger units, in order to achieve the advantages of economies of scale (Arvidsson and Jönsson, 1997; a development partly contradicting the logic of decentralizing responsibility to local authorities, described above).

In summary, the Swedish health care sector has since 1990 endured a number of reforms and structural changes. These changes have been far-reaching in regard to the way health care is organized and produced, and also for the different professional groups working within the sector.

Professional nursing work

Nurses are commonly treated as some kind of supplement to generational practitioners and physicians, caring for the 'care' of the patient while the physicians' domain of jurisdiction is the 'cure' (Benner, 1984). The profession is also highly gendered historically, in terms of being primarily a female profession while physicians have primarily been male. More recently the medical profession has seen things changing in this respect, with the majority of students in medical schools today around the world, including Sweden, being female. There has thus always been an element of jurisdictional struggle between physicians and nurses. For instance, Hughes (1958: 73) claims that 'as medical technology develops and changes, particular tasks are constantly downgraded; that is, they are delegated by the physician to the nurse. The nurse in turn passes them on to the maid.' Hughes (1958) suggests that work accruing relatively little prestige among physicians is commonly passed on to nurses. However, over recent decades, nurses have managed to professionalize their work, and today nursing has a higher prestige, especially in specialized fields (Goodrick and Reay, 2010). Studies of nursing work, nursing training and so forth are today much researched, and the social science and health care studies literature is massive. In the field of organization theory, researchers has been particularly concerned about the relationship between professionalism and various managerial practices (see, e.g., Lane, 2000; Bolton, 2004; Waring and Currie, 2009). In this body of research, nursing work and health care work more broadly is seen as being strongly influenced by new routines for monitoring and controlling professional work, potentially being in conflict with professional standards and beliefs (Llewelly, 2001; Kitchener, 2002) and contributing to the blurring of professional boundaries (Kitchener, 2000) and the redistribution of power and control between professional groups (Kurunmäki, 1999). For instance, Samuel et al. (2005: 270) suggest that the health care sector is being penetrated by economic models and accounting routines imposing a managerialist vocabulary, undermining the health care profession's traditional terms:

> 'Providers' and 'consumers' have almost completely replaced 'doctors' and 'patients', and 'care' is increasingly, delivered to

> enhance the 'health status'... the ill-health people is no longer viewed as a social problem but increasingly as a 'budget-deficit problem'... Doctors, nurses and clinicians are increasingly seduced by the language of efficiency, costs, and management in speaking about what they do.

Despite such manageralist influences, the nursing profession has managed to maintain nurses' professional identity (Bolton, 2004; Goodrick and Reay, 2010), and to some extent even strengthen their position in relation to other professional groups (Blomgren, 2003). However, in order to understand how nurses' professional knowledge is being used in practical settings and under determinate conditions, there is a need for thinking about their capacities for wielding agency in their domains of expertise. That is, rather than assuming that professional practice cannot be visualized by the outsider, a form of overt esoteric practice, it may be examined as a series of activities and encounters taking place in a variety of settings. Thinking about the agency of professional nurses as *agencement* opens up an alternative understanding of their expert knowledge.

Nursing work in a leukaemia ward

The setting: The Swedish health care sector

The empirical focus of this chapter is on the work nurses perform when treating leukaemia patients, and the case described and analysed unfolded on a ward at a regional hospital. A regional hospital is defined as a full-scale acute hospital, offering specialist care and treatment in all major medical areas, providing medical training and conducting research. The organization of the hospital is divided into five divisions, defined by (medical) specialization: medical, surgical, psychiatry, medical support, and general/technical support. The medical specialities are the largest part and include four clinics, each with a specific medical specialization. The clinic of internal medicine has six different wards, each specialized in a specific medical field and group of patients. One such ward, specializing in haematology, is the focus of this study.

The ward

The haematology ward specializes in blood diseases such as leukaemia. It is a place where patients are treated and nursed for periods longer than 24 hours, with the average time spent by patients on the ward

being seven days. However, since the ward provides care to patients with serious and often life-threatening diseases, the same patients are treated on occasion over periods spanning several years.

Responsibility for the ward is divided between a physician, responsible for medical matters, and the ward manager. The ward manager is a trained nurse responsible for maintaining the day-to-day nursing and care of the patients, as well as for administrative duties and staffing. In all, the ward has a staff of 28, comprising 16 nurses (of which 4 work nights) and 12 assistant nurses. The ward is able to treat and care for 18 overnight patients simultaneously.

Patients with leukaemia and other blood-related diseases are usually under medical treatment for long periods of time, sometimes for the remainder of their lives. However, they do not always need to be hospitalized in order to obtain treatment; in many cases, they can self-medicate at home or receive support from local primary care centres. A patient with an established diagnosis and who is receiving ongoing treatment is labelled 'open returns'; this label allows him or her to obtain easy access and instant treatment at the clinic or ward if necessary. Apart from emergency procedures, the activities carried out in the surgery are scheduled procedures prescribed by the patient's doctor. In addition to providing patients with medicine, nutrition and replacement blood, a range of tests, measurements and follow-ups are also conducted there.

Typical treatments provided by the ward include blood infusion and chemotherapy, during which the patients use the surgery beds for some hours. Many treatments are specific to patients with leukaemia and other blood diseases. Chemotherapy is potentially dangerous for both patients and staff, requiring that any treatment of this type is rigorously controlled and monitored, and always performed by highly skilled and experienced nurses. This need for qualifications and specialist skills means that the nurses working at the clinic are among the most experienced on the ward.

The ward is physically organized with the nurses' office located centrally. Next to this are the ward pharmacy and the nurses' recreation room. The office contains four workplaces with computers, phones, fax machines and other office equipment, and a large whiteboard is situated on the front wall of the room. The whiteboard displays all staff rotas and nurse/patient schedules. The nurses' office is not only the physical centre of the ward but also in many ways the place where the care and treatment of the patients is organized, coordinated and documented.

Everyday work on the ward

The procedures involved in everyday work on the ward are split into three different categories. First, there are a number of structuring procedures coordinated by the nurses that are constituted by a number of more or less institutional meetings/interactions between staff members; these contribute to the coordination and organization of everyday activities in treating patients. Second, as nurses' work represents only part of all the activities that together constitute the continuous care and treatment of patients, and much of their work is dependent, informed and guided by the initiatives, actions and intentions of other involved actors, their work involves a number of mediating procedures. Third, within their everyday work the ward nurses conduct a number of interactive procedures aiming to implement and coordinate patient treatment. Everyday work, as a series of standard operating procedures, is detailed below.

Structuring procedures: Reporting and rounds

Reporting

The morning routine on the ward starts with reporting. Reporting denotes a meeting where relevant information is exchanged between the nurses that have worked overnight and those starting their shift. The aim is to report everything regarded as significant that occurred during the last shift, and this can take anything between 15 minutes and an hour depending on what has happened (e.g., the admission of new patients or any emergencies occurring). One of the nurses related how she collected data and information for transfer to the computer after the meeting: 'After I have collected all my folders and taking notes during the entire day, I have this pile of papers. When reporting [to the computer system], this helps you avoiding some of the confusion regarding all the papers' (Nurse 1).

Rounds

The rounds start about 08.30, every day from Monday to Friday. The round is a routine meeting where the attending physician and the two nurses working the morning shift discuss each case currently on the ward. However, not all cases are discussed, according to Nurse 2: 'It matters how much time there are for the patients. At times, not everyone is being reviewed.' Grouped around a computer screen, they discuss treatment plans, the current prescriptions of medicine and potential changes, patients' test results and general condition, the effects of

previous treatments and actions, possible testing or other types of medical examinations requiring to be conducted and so forth. On at least two days a week the round ends with the group visiting each patient and examining them physically.

Mediating procedures

Office work

The result of the round determines much of the nurse's workload for that day – which tests to conduct, what referrals to schedule, what medicine to give, preparing for send patients home and so forth. Most of this work is done, or at least prepared, documented and coordinated, by computer or telephone, in concert with many other people who, in different ways, are involved in the treatment of patients. This part of the work was generally regarded as being time-consuming, and demanded very careful handling of data and information:

> Then you need to collect the information regarding the laboratory tests for the coming day during the round . . . so that is finished in the morning. What types of controls that need to be conducted until tomorrow, like urine measurement, blood pressure, temperature, and so forth. We also need to update the status, to see if they for instance had any fever or if the fever has passed since the day before. So we need to maintain a bit of control. Many of the patients are long-time care takers and they spend long periods here. For them, it is not that much to report because it is basically the same. But that is the thing, that there are little written about them recently, things may still happen and then it needs to be reported.
>
> (Nurse 1)

Even though the office work demands great concentration on the part of the nurses, they were often interrupted during their work. One nurse accounted for such disruptions:

> After the morning work and the round, we try to go through it all at the office. The telephone rings and you talk, you get interrupted – all the time. Some days, we are really busy and then a patient needs to be laid down or take to the bathroom. Then you take care of that and then you return and 'well, what was I doing? Okay, that's what's going on'. And I need to call to places. At times when I finally get into my car to go home, it's like what did I really accomplish here today? The whole world just turns around . . . We finish the day by reporting

> to the night shift and when there are new co-workers not knowing the patients we need to report about the status on everyone.
>
> (Nurse 2)

Arrival of new patients

When a new patient arrives, there are a range of decisions and arrangements that need to be done, mostly in conversation with the patient and their municipality. There is also a need to help patients understand why they have been admitted to the ward and what they might expect over the following few weeks. One of the nurses pointed to the activities organized when a patient arrived:

> Contacts with the family and the relatives – if we are allowed to say they're here if someone calls them or if they want secrecy. What else? Yes, the home situation, if they need some help to get back home. Such things are addressed. When we get a report from the physicians or a nurse, the patient wants to create their own understanding of what they are doing here, because they may have their own ideas, ideas that are not fully aligned the actual reasons for coming here. Especially the elderly patients are perhaps a bit confused.
>
> (Nurse 3)

Another important procedure was to get the patients into the administrative routines that regulated much of the day-to-day work in the ward:

> When they [patients] arrive at the ward their medicine list or the medicines they eat into the drug modules in Melior [health care administration system] where we document everything. If we print the list we can distribute the medicines on their boxes. We have different boxes for each room ... when we distribute their medicine, we just hand out the boxes.
>
> (Nurse 3)

The procedures followed when a new patient is admitted to the ward are characteristic for much of the work on the ward, in that they are structured around routine-based and regulated procedures, thereby supporting and enabling the coordination of the highly disparate and distributed treatment of patients diagnosed with leukaemia. The rounds and reporting procedures are particularly important in this respect, since they represent institutionalized events for the coordination of ongoing patient treatment and, as such, in many ways determine the nurses'

further actions and activities over the working day: what contact to make, what tests to do, what medicine to give and so forth.

Coordinating procedures

The work of the ward nurses is a combination of interaction with physicians during the round and telephone conversation, seeing the patients and dealing with many issues arising from health care administration systems. All these activities are situated in the local setting on the ward, but the work of the nurses also includes continuous and substantial exchanges of data and information with a range of organizations external to the ward. Such organizations include specialized laboratories such as the Isotope lab, the biomedical lab, the blood central, municipality administrations, other wards and hospitals and so forth. Figure 7.1 summarizes the various organizations comprising part of the health care apparatus accessed by nurses in their work.

The nurses in this situation play a key role in serving as the hub in a spatio-temporally dispersed and highly heterogeneous network of resources that in various ways contributes to patient health care:

> If we have a patient that is scheduled to be transferred to a specialist university hospital for bone marrow transplantation, we always get a lot of paperwork from them, test to conduct and a lot of phone calls asking about the patient's conditions, what type of medicine he or she has been prescribed, the type of consultations the patients has been through, etc. so you talk quit a lot with them over the phone, preparing.
>
> (Nurse 6/assistant ward manager)

One of the nurses pointed to the inflow of information to the ward from external sources and that these contacts often were short, information-centred and largely devoid of more personal contact:

> The physicians write the referrals and they call to inform you that they are coming down to with the patients. We receive calls telling us that the patients are going to different places. That is barely having a contact with a person, it is strictly a dissemination of information. They call from the x-ray department to tell when they want the patient to come. Short and distinct information and there is like no chance of getting any more detailed contacts.
>
> (Nurse 3)

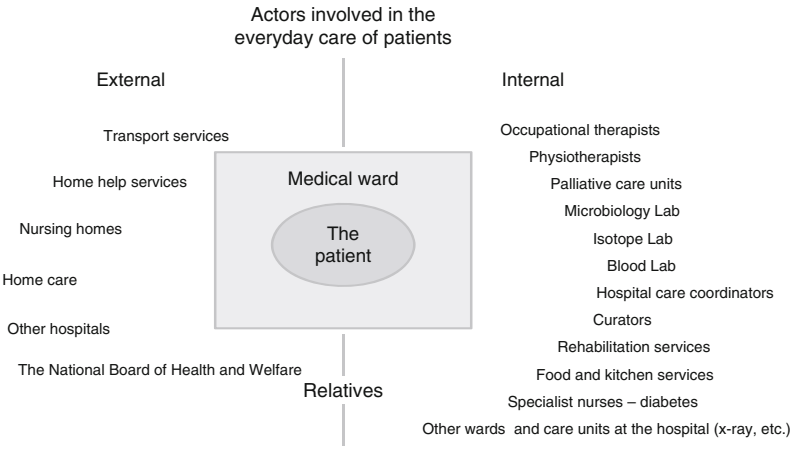

Figure 7.1 Actors involved in health care work

Another nurse shared a similar experience from the contacts with the laboratories:

> It is not that we call them to have a chat – we collect our test samples and then they come here to collect them. We're not even going there to deliver the tests unless it is a case of emergency. The results are delivered over the computer or through the fax machine. In case of alarming figures, they normally call us, but otherwise it is put into the patients lab-list directly. So that contact is not too developed.
>
> (Nurse 1)

The role of these exchanges of more or less 'brute data', objective in terms of being measurements based on standard, widely enacted medical procedures, was to safeguard the health status of the patient. In many cases, such data did not call for any action while in others they might trigger substantial action, including the involvement of a number of professional groups and organizations. As a consequence, the nurses had to learn to handle a situation where patients could eventually be transferred to some other organization in the health care system, and they did not always know the eventual outcome of those patients:

> They [patients] spend some time here after the first treatments, but then they are brought to other wards and then you see them a bit out there. Or they may go to Gothenburg for transplantation, and then

> they are gone for a while. When they disappear you may wonder what happened to them. I have not seen them being healthy but just as being sick so I hope they are well. If they pass away of anything else occurs, it is Gothenburg [staff] contacting them. You never get that feedback.
>
> (Nurse 4)

Seen from this viewpoint, the ward is both the centre for a number of complex relations between various of organizations and professional communities and domains of expertise, as well as a staging post for the patient; as long as patients are on the ward, relevant data and information regarding their health status are brought to the ward and handled by the nurses in charge, but as soon as they are moved elsewhere for medical or administrative reasons, all data are transferred and stored elsewhere. One of the consequences of this system is that nurses need to deal professionally with the loss of full overviews of individual patients.

Professional ideologies: From providing care to coordinating treatment

Even though nurses' work and qualitative health care services are strongly dependent on the ability to request and collect data and information from a variety of sources such as specialized laboratories, nurses maintain the professional belief, anchored in a long-standing professional ideology, that nursing work is primarily a matter of bedside care. That is, rather than being a matter of orchestrating a technoscientific life science system capable of providing clinical data guiding decision making with regard to adequate health care for patients, many nurses deplored their perceived lack of interaction with patients:

> They [hospital management] tell us that we should be health care professionals, but there is way too little time with the patients. Of course, it is important to document, but spending half of the day by the computer, that is no okay, I'd say.
>
> (Nurse 3)

Another nurse even thought that her university training was inadequate for the work-based ward experience:

> It is almost like I question what I did for three years at the university. You learn to use a syringe, you can make generic evaluations but

> everything else, all those telephone calls and faxes and health care planning, and so forth, that is not trained at the university, not at all.
>
> (Nurse 4)

This perceived lack of personal contacts and bedside care was often translated into a managerial issue of understaffing, an endemic sense that this in some way was plaguing the health care sector:

> We're short of staff at the ward and there is a need for much more conversations with the patients than we are providing, but since we have such therapeutically complex cases it takes so much time. So it's quite rare for us sitting here [next to the patient].
>
> (Nurse 5)

Even though the nurses were fully aware that their work in orchestrating the production, distribution and storing of clinical data was of central importance for patients' well-being and the quality of their health care, they still had a sense that they were unable to create a working situation where they had sufficient personal contact with the patients. This ambition to 'work with people' was a common theme in the interviews:

> All this telephone time spent on the municipality [administrators], sitting in office having this feeling that you just keep on talking on the phone . . . There's no time for being with the patients because there is so much that needs to be done. When I was trained as a nurse, it was because I wanted to work with people but now I barely have the time to go to their rooms because there's so much else to do.
>
> (Nurse 4)

In summary, the work in the leukaemia ward was organized around a number of standard operation procedures such as the morning meeting and round, and the administrative work in the office. Nurses are in charge of a series of interactions and exchanges with a number of organizations outside of the ward, such as requesting, collecting and evaluating clinical data, interacting with other health care units or municipalities, and specific service organizations. Despite all these highly diverse communication with a heterogeneous body of organizations, all specializing in providing specific services or expert know-how, nurses tend to lament the perceived lack of patient interaction. Professional ideologies enacted by the community of nurses prescribe the role of nurses as being not an information-producing or data-collecting

activity but rather as a social practice located in close proximity to the patient. Much concern was expressed during interviews regarding the gradual loss of such patient interaction. Notwithstanding such professional concerns on the part of the nurses in the study, in the actual setting nursing work is a form of agency that mobilizes a range of resources located in many places and provides highly specialized information and know-how. That is, nursing work unfolds as *agencement*.

Managing and coordinating treatment

Historically, nurses have maintained a strong professional ideology that to a large extent prescribes bedside care as their principal responsibility and may at times express their concerns regarding their difficulties in fulfilling such objectives. The present study suggests that the traditional professional role of nurses has undergone considerable changes during the last 10–15 years. Although such professional developments among nurses have been highlighted in recent years (e.g., Blomgren, 2003), most have focused on what is perceived as an ongoing trend among professional associations representing nurses to establish 'nursing' more as a distinct profession in itself rather than being defined as a profession that, first and foremost, acts in complementary and supporting ways with regard to physicians and their professional capacity. However, in this study we suggest that there is a shift of professional focus within the nursing profession that is not necessarily a result of any intentional strategy among involved actors, but rather the effect of continuous change in the way care and treatment is produced, organized and delivered. As health care in general has become more sophisticated, specialized and technology embedded, the provision of care and treatment by necessity involves a further division of labour and the involvement of a much larger group of various health care professionals representing a range of expertise and educational backgrounds. In order to provide appropriate care, especially in a sophisticated and qualified area of treatment such as leukaemia, patients continually interact with a wide range of specialists, which means that the provision of bedside care has changed from being a task more or less solely carried out by ward nurses to that of a network of actors interacting with patients in manner that is distributed spatio-temporally.

Furthermore, in a health care system increasingly embedded in highly sophisticated technoscientific medical expertise, nurses' role has being modified to take advantage of their position as physically close to, and with the responsibility for the day-to-day care of, the patient by

managing, coordinating and organizing patient treatments with regard to the necessary expertise located either within or outside the focal ward or hospital.

Summary and conclusion

The analysis of the data collected on this medical ward illustrates that nurses' work is organized around the management of the patient's treatment, as this includes a number of activities performed in order to coordinate that treatment, which is distributed among a number of actors and functions, fragmented in time and space and mediated trough a variety of technical devices and support systems.

Since the daily work of treating patients involves as many as 25–30 different actors, including physicians with a variety of different medical specialities, a number of professional groups allied to medicine and administrative personnel, with each representing a particular area of expertise, responsibility and interest, ward nurses play a critical role in interpreting, translating and coordinating health care with regard to other actors involved and in relation to patients' needs and conditions. Furthermore, because of the many actors involved, the procedures constituting patient care and treatment need to be subdivided and distributed spatio-temporally. Some procedures are well defined and institutionalized, such as the rounds (for the evaluation, design and planning of future patient treatments) and the daily morning meetings. However, many procedures are dependent on actors or activities taking place outside the direct control of nurses and the ward, such as the arrival of test results or scheduling for specialist treatment such as surgery or radiography. Given the method of distribution and fragmented characteristics of the treatment delivered within a hospital, nurses have a critical function in interpretation, translation and coordination with regard to the patient, and their role in the treatment and care of patients has expanded away from the focus on bedside care and patient interaction towards a much more complex role, which is mediated though a variety of technical devices and support systems. Spending time on the phone, on the computer, dealing with lab reports and interacting with (non-patient) actors within and outside the ward is not only part of their everyday work, but at the very centre of their professional function in providing qualified and sophisticated care to very sick patients. This shift in focus in nursing work, away from the traditional role as provider of care and treatment towards that of an enabler of care and treatment, is the result of structural change in the

conditions for organizing health care through making patient treatment much more of a collective effort. This in turn requires considerably more coordination and management in bringing its constituent parts together in order to provide a standard of treatment that benefits the patient. Our study indicates that nurses, as a profession, are likely to be at the centre of this development, a development likely to challenge their traditional professional identity.

Part III

Bridging Institutions and Materiality in Health Care

8
Assembling Health Care Work

Introduction

The title of this book includes the word 'assembling', a term that we shamelessly poached from Latour's (2005) introduction to actor-network theory. The verb assembling is a evocative term as it suggests that something is being brought together, compiled, put into action in an almost haphazard manner, as a form of bricolage or tinkering, using what is at hand. Such a view of 'the social' (Latour, 2005) or health care work is in conflict with common-sense thinking assuming that society is once and for all firmly being settled. As, for instance, Carruthers and Babb (1996: 1556) remark, social institutions such as money works best when they can be taken for granted, when they can simply be assumed. Institutions also rest, Carruthers and Babb (1996: 1558) argue, on the combination of naturalization and forgetfulness – a mindful forgetting of the work and negotiations initially needed to put the institution into place. Against such views, the verb assembling is indicating an entirely different view, a dynamic and fluid image of how society and social organization is an ongoing accomplishment characterized by the continuous mobilization of equally abstract and concrete resources. In the first two chapters of the book, the principal resources mobilized in health care work are institutional resources, the totality of abstract norms, beliefs, ideologies, assumptions guiding and structuring everyday work, and material resources, the tool, machines, equipment, biological specimens and so forth, being used. These two categories of resources are by no means developed and used in isolation; the professional ideologies of health care experts are closely bound up with the technologies and other materialities involved in their work, and technologies and biological specimens are always already determined and

influenced by scientific know-how. Professional ideologies and practices and the materiality involved are already implied in one another. Nevertheless, despite such criss-crossing of connections and relations, it still makes sense to formulate an analytical framework that enables the analyst to separate different elements in the total set-up of health care work. Everyday health care work is both governed and regulated by professional norms and societal interests (e.g., the effective use of the financial resources dedicated to health care work) and by the available technological resources and scientific know-how. The use of the term *assembling* is still used in this setting to indicate that health care work is always 'in-the-making', in the process of pulling together a variety of resources *en route*; there are always new tools or know-how being advanced that health care workers such as leukaemia nurses or health care directors must take into account and relate to. To speak of health care work as a process of 'assembling' resources is then to underline the dynamics of any social organization, a form of working against the forgetfulness that is the landmark of common-sense thinking, the tendency to take things for granted as soon as they settle.

In this final chapter, the four empirical cases presented in Part II of this book will be revisited. Thereafter some implications for health care organizations and the study of health care organizations will be discussed. Next, some implications for the study of organization and management practice will be outlined. Finally, some concluding remarks regarding the theoretical framework and empirical studies will be made.

Revisiting the analytical framework

In Part I, modern health care was related to the development of the sciences – today (after Lyotard, 1984) widely addressed as the technosciences – as a major shift in focus in the modern period. While medicine is of ancient origin and medieval and renaissance physiologists explored the human anatomy, it was not until the end of the eighteenth century and the development of the smallpox vaccines that medicine could offer any potent therapies. From the beginning of the nineteenth century, the field of medicine quickly developed and was championed by figures such as Thomas Sydenham in the UK, and Xavier Bichat in France. In France, the first medical schools and modern hospitals were built in the first decades of the nineteenth century, making France the leading nation in medicine in the century. For over two centuries, medicine has developed both as a practice and as a portfolio of research disciplines, and today we can take advantage of advanced health care services. These

health care services are produced in the intersection between scientific, political, financial, ethical and juridical interests and possibilities, and consequently health care work is a most complicated pursuit towards effective balancing of the use of various resources under economic restrictions. As the medical possibilities cannot always be exhausted in a democratic health care system open for all citizens, co-workers in the health care sector have to live with an enduring sense of at best satisficing (in Cyert and March's [1963] use of the term) rather than optimizing. The public and scholarly debate on health care is also riddled by criticism regarding suboptimization and the squandering of possibilities.

In the analytical framework developed in Part I, institutional theory and the concept of institutional logic was discussed as the overarching and abstract principles guiding everyday practices in health care organizations. Institutions serve the role, Douglas (1986) argues, to 'think for us', to serve as scripted frameworks for action of which social actors are not always fully aware. Institutions are in this view something similar to what Sigmund Freud ([1940] 2003) spoke of as the *Über-ich*, the cognitive structure of the self's topography that regulates social behaviour, that impose a sense of 'shame' or 'guilt' when failing to act in accordance with institutionalized, scripted behaviour. Such a 'cognitivist view' of institutions is recognized by researchers speaking of 'institutional logics' as a useful analytical category. In this view, to repeat from the second chapter, institutional logics are '[a]re the basis of taken-for-granted rules guiding behaviour of first-level actors' (Reay and Hinings, 2009: 629). While such institutional logics are regulating and naturalizing procedures and routines in industries and professions, it is more complicated when actors are facing competing institutional logics. In some cases, actors are even facing what Bateson (1972) speaks of as 'double-bind situations', where actors are 'failing' or violating institutional norms no matter what action they take or decision they make since they are operating under goal incongruence and conflictual objectives. In health care, for instance as Reay and Hinings (2009) suggest, the two institutional logics of 'professional health care' and 'business-like heath care' have coexisted for a long period of time, making actors in the health care sector pay attention to multiple objectives and goals. The institutional setting of health care organizations is strongly influencing the day-to-day work.

In addition to the institutional settings and all abstractions being embodied by the professional health care workers – their *habitus* in Pierre Bourdieu's (1977) use of the term – the theoretical framework laid out in Part I emphasized the materiality of health care work and health

care organization. While institutional theory is helpful in explaining how routines and practices are related to abstract terms such as professional ideologies, it is relatively impotent in explaining the role of technologies and other material resources. In general, as Orlikowski and Scott's (2008) review of top-tier journals in organization theory have shown, organization theory and organization researchers are only marginally concerned about the use of technologies, materiality, media and so forth. Being trained in the social sciences, by tradition relatively ignorant of materiality, Orlikowski and Scott (2008) argue, organization researchers are poorly equipped for theorizing materiality. As a consequence, resources such as technology are at best addressed in the passing but play a very marginal role in everyday organizing. Such a negligence of materiality is problematic because it ignores that fact that much of the professional work in, for example, health care organizations involves the engagement with a series of material resources. Failing to address such material resources obscures professional work and imposes an overtly anthropocentric view wherein materiality is only supplementary to human expertise. Organization theory and management studies are heavily indebted to science and technology studies and actor-network theory in emphasizing that any organizational practice is embedded in material relations, ranging from full-scale experimental systems such as laboratories as in the case of Big Science to the small and seemingly insignificant technologies such as Latour's (1991) doorstops or key-holders shaping social action. In Chapter 2, a series of activities pertaining to the organization of materiality including the uses of standards, classification systems and the enactment of boundary objects serving to make organizations durable and predictable over time were discussed. The relationship between 'the social' and 'the material' (for the lack of more adequate terms) is, however, by no means unidirectional or hierarchical; but on the contrary, the social and the material and biological are in many cases folded into one another in unexpected or innovative ways. For instance, the debate regarding medicalization suggests that pharmaceutical companies are strategically working to make social problems or natural biological processes such as ageing subject to medical therapies, thereby economizing scientific know-how as it is translated into commodities. Technoscientific possibilities, commercial opportunities, market demand and consumer expectations, and legal and ethical framework are here blended in complicated ways. For instance, the so-called sexuopharmaceuticals (Fishman, 2004), including Pfizer's blockbuster drug Viagra aimed at enabling better 'erectile quality' (as it is addressed in the marketing materials, see Mamo and

Fishman [2001]; Åsberg and Johnson [2009]), are one example of how natural bodily processes are being handled as 'health issues'. The commercial success of Viagra is beyond doubt, but the more long-term consequences from a shift in focus from, for example, neurodegenerative or tropical diseases to exploiting the demand for 'a more qualitative sex life' are still debated. In order to understand both health care organization and social organization at large, materiality needs to be brought into the discussion.

The economic sociologist Viviana Zelizer says that money is of necessity always dual; on the one hand money is the abstract stock being theorized by economists and economic sociologists (e.g., Simmel, 1978; Bryan and Rafferty, 2007); on the other hand, money is used in everyday interactions and is inscribed with meaning. A financial derivate market analyst is not treating money or thinking of money in the same manner as a seven-year-old girl receiving her weekly allowance from her parents, but nevertheless these two actors are part of the same financial systems (see Zelizer, 1989). Zelizer (2000) recognizes this 'duality' of money:

> All moneys are actually dual; they serve both general and local circuits. Indeed, this duality applies to all economic transactions. Seen from the top, economic transactions connect with broader national symbolic meanings and institutions. Seen from the bottom, however, economic transactions are highly differentiated, personalized, and local, meaningful to particular relations. No contradiction therefore exists between uniformity and diversity: they are simply two different aspects of the same transaction.
>
> (386)

In analogy with Zelizer (2000), health care work is on the one hand, when 'seen from the top', determined by institutional logics, macroeconomic and demographic considerations, the technoscientific advancement of the life sciences and so forth; on the other hand, when 'seen from the bottom', it is a form of practice to assemble and mobilize a series of heterogeneous resources into functional arrangements that serve the patients and other stakeholders. According to Zelizer (2000), the study of money as, with a Durkheimian term, a 'sociological fact' the analyst needs to recognize both the abstract and the concrete meanings of money. Similarly, health care organization is to be examined as both an abstract system of institutionalized order and a sociomaterial practice dealing with tangible resources. The very term 'assembling' here serves as an intermediary term capable of accommodating both the abstract

and the concrete and material register of health care. Institutional logics are abstract terms, but they are present in the actual practices of everyday health care work; institutions are, on the other hand, recursively constituted by the recurrent practices of actors. If understanding health care organization demands a simultaneous and multidirectional view from the top and the bottom, the concept of assembling is what accommodates such a dual view. In summary, then, both institutional perspectives and sociomaterial practices need to be combined in the study of health care work; these are not mutually excluding perspectives but are, on the contrary, complementary views.

The cases revisited

In Part II, four empirical cases were presented. These four cases are illustrative of some of the work procedures and practices in health care organizations, but are by no means intended to capture all of the complexity of the field. Instead, these four cases serve to demonstrate how health care processes are contingent on a variety of conditions and external factors while at the same time obeying their own professional norms and operating under determinate material conditions.

In Chapter 4, a study of the construction of a 'care path' pointed at some of the difficulties and possibilities when restructuring the organization of health care work. In order to overcome the traditional specialist, functional organization of the health care organization wherein the patient is transferred between different care units or departments, the Högsbo Project in Gothenburg aimed at making the patient the centre of relations. In the project, involving a variety of care units and domains of expertise, the patient was enacted as a boundary object, as an entity that can be the basis for extended collaborations regardless of varying interpretations of the entity. Boundary objects promote collaboration without agreement. That is, rather than having a fully unified and shared perspective of the patient, the various actors could maintain their own professional perspectives on the patient. So-called care path coordinators were responsible for the collaboration between the actors. In order to accomplish this shift in focus from the functional organization of health care work to what has been referred to as 'patient-centred care', the actors had to mobilize and enrol a number of key stakeholders and to anchor the process in joint storytelling about the benefits of shifting the focus from the health care organization to the patient. The case illustrates how the reorganization of health care organization demands both a shift in perspective on the role and position of

the patient, beginning with individual needs and demands rather than medical diagnoses and prescribed therapies, and a set of accompanying activities to maintain the interest for organizing the work differently.

Chapter 5 describes the introduction of 'evidence-based medicine' standards in drug abuse treatment in the Swedish health care sector. Evidence-based medicine has been a catchphrase in recent work in the health care sector, emphasizing that therapies need to rest on adequate clinical evidence testifying in favour of the efficacy and safety of the therapies. However, the programme implemented in the drug abuse treatment did not only or even primarily have therapeutic consequences and benefits but also played a key role in the process to standardize and streamline the national drug abuse work organized in the different health care regions. Transparency and accountability rather than clinical effects were the guiding principles for the reform. That is, political, managerial and administrative interests and concerns – in themselves propelled by new public management programmes and underlying governance ideologies – rather than medicinal and therapeutic concerns influenced the process. In other words, despite the scientific marker 'evidence-based', signalling the adherence to a certain rationalist credo, that of justifying clinical work on basis of solid and undisputed evidence, the process was unfolding as the establishment of new institutional logics, that is, to define drug abuse care as an institutional field characterized by standard operation procedures (referred to as *isopraxism*, the 'sameness of practices'), indicators structuring the work (e.g., Addiction Severity Index (ASI)) and a shared performance metrics. The chapters demonstrate that the institutional work conducted by governmental agencies co-opted (Selznick, 1949) and made use of medicinal terms such as evidence-based medicine to accomplish managerial and administrative objectives. Rather than being the objective for the reform, evidence-based medicine was used as a tool to accomplish other objectives.

In Chapter 6, the focus of attention is a critical incident in a leukaemia ward in a regional hospital when an infusion pump malfunctioned. The health care work provided in leukaemia wards includes highly advanced therapies such as the administration of chemotherapy and other sophisticated drugs. In their day-to-day work, physicians and nurses are using various tools and technologies that are usually assumed to work as prescribed, while at the same time such technologies need to be monitored and controlled. This makes health care work two-sided in term of what the clinicians can assume and take for granted. On the one hand, they are expected to rely on the technologies in use – similar to

the scientist in the experimental situation in the laboratory, being more concerned about the data produced than worrying whether the experimental system serves as anticipated – while on the other hand they need to make inferences regarding the functioning of the machinery on basis of interactions with and observations of the patient. In the case of the infusion pump, the nurse overseeing the administration of the chemotherapy noticed that the pump did not function as planned, and managed to halt the procedure in order to examine why the technology did not work, potentially saving the patient from being severely injured or even killed. After the event, the incident was reported to monitoring authorities and an investigation was initiated. The malfunctioning of the infusion pump were not initially treated as being a strictly technical problem, but all sorts of possibilities explaining the event were addressed. The two companies (MedOne and MedTwo) that supplied equipment and training to the ward on a regular basis were included in the process. Eventually the decision was made to switch from MedOne infusion pumps to MedTwo infusion pumps, having implications for both the medical supply and purchasing function and for the budget of the unit. In addition, the investigation had implications for policy and new guidelines were developed, emphasizing new routines when using the infusion pumps. The case of the malfunctioning infusion pump points to the connections between situated practices, actual undertakings in the health care organization and the extensive network of actors and regulatory framework overseeing and controlling health care work. Needless to say, critical incidents are taken very seriously and, in order to sort out what happened and for what reason, a series of actors are mobilized including health care personnel, providers of medicinal equipment and technologies, regulatory authorizes, and more specialized health care organization functions such as the procurement unit in the regional health care organization. Technologies, 'mundane' as well as advanced or even 'heroic', are always already situated and embedded in a network of relations that are both recursively dependent on the use of such technologies but also render the technologies per se useful. By tracing the connections between local and situated uses of technologies all the way to the level of national health care policies, guidelines and recommendations, the loosely coupled yet robust network of relations between artefacts and actors need to be examined.

In Chapter 7, the focus shifts from technologies and critical incidents to the work carried out by nurses. Drawing again on the study of the leukaemia ward and, more specifically, the work of specialist nurses, it is suggested that nurses, an eminent example of how occupational groups

that have historically served as a supplement to physicians have now been professionalized (i.e., have extended their discretionary specialism and jurisdictional domains), are today serving a quite diverse role in health care organizations. While much of the work conducted by nurses is based on routines such as the ward round and daily reporting, nurses are in fact managing a network of relations with external units and organizations of great importance for the quality of the health care. In addition, nurses conduct administrative work that is rarely examined as being of relevance for the therapies but that nevertheless needs to be done in order for the health care organization to function effectively. The traditional view of nurses is that they engage in the 'care' rather than the 'cure' – the prerogative of the physicians – of the patients. This professional ideology is still predominant in heath care organization, and also among the nurses themselves, and consequently many nurses in the study expressed their concerns regarding their inability to create personal contacts with the patients. 'Bedside care' was thus regarded as the backbone of the nursing profession. However, serving the role as the hub of extended relations to laboratories, expert bodies and other relevant organizations, the nurses in the ward were upholding key activities determining the heath care work. That is, rather than solely being committed to bedside care, nurses were navigating in a health care organization characterized by a considerable degree of functional organization and discretionary specialist fields, in order to acquire the information and data needed for safeguarding a qualitative health care for the patients. The nurses acted locally on the ward, but their network of relations extended throughout the regional and national health care system. The study of the nurses' work in the leukaemia ward shows how health care work is situated and local, while at the same time there are extensive resources that are drawn on to supply and provide the right information and expertise. This suggests that health care organization is assembled across organizational boundaries, as different units (e.g., a laboratory) may provide test results that lead to significant changes in the therapy or, if no changes proved, to no particular actions. Health care organization is at the same time functionally organized and process-oriented, local and global, specialized and generic.

The four cases presented in Part II of the book all suggests that health care work is what is stabilized into routines, procedures and roles but, at the same time, all these seemingly stable and once-and-for-all negotiated arrangements can be reconfigured instantly as new research results are produced, critical incidents occur or patient demand changes. If a certain technology ceases to function, if a certain patient

group responds unfavourably to a medication or if new research results are published calling for a change in therapies, health care organizations are capable of reassembling their resources at hand. Health care organizations (e.g., large university hospitals) may appear as immutable and monolithic structures, firmly settled in professional ideologies and institutional orders and operating under fixed (or even shrinking) budgets, but the empirical studies suggest that this is potentially a deceptive image. For the newcomer, large hospitals are quite often intimidating places, large-scale architectural structures populated by all sorts of specialists using a technical and opaque, almost impenetrable, professional language, but such first impressions must not be taken at face value. Health care work is structured around a set of professional ideologies, and the concern for the patient and the demand for solid clinical evidence of the efficacy of prescribed therapies are axial principles in the health care professions. As a consequence, new and emerging insights and conditions are not ignored or overlooked but are subject to detailed analysis. In addition, health care organizations are monitored and regulated by various authorities instituting mechanisms for self-reflexivity and a capacity for change. Rather than always stressing the inertia and lack of adaptability of health care organizations (see Chapter 3 for an overview of the literature) or overstating their functional and instrumental features, the empirical studies emphasize that health care work is always – with William James's formulation – 'in-the-making', in the state of being modified and reconfigured; drawing on, for example, actor-network theories and other theories (e.g., the concept of sociomaterial practices) assuming that social organization is composed of loosely coupled entities and processes that may easily dissolve and reconfigure as new conditions emerge, health care organization are assembled in the face of uncertainty and emergent conditions. Although common-sense thinking may suggest otherwise, heath care organizations are organized as transient and temporal arrangements, operating on the basis of corroborated knowledge – knowledge that has proved itself valuable but that may be displaced by other forms of knowledge in the future. With this perspective, indebted to Perrow and Guillén (1990: 40) studying the responses of the US health care system to the AIDS 'epidemic' in the 1980s, one may speak of organizations as 'imperfected and refractory tools'. In contrast to Perrow and Guillén (1990), however, being highly critical of the slow response to the spread of AIDS in the early 1980s, we believe that organizations may in fact serve their purpose quite well when responding to emerging conditions. The concept of 'assembling' used to examine health care organization is then not supposed to serve

as a derogatory term but, on the contrary, to underline the dynamics of the health care sector and its capacity to organize in the face of uncertainty.

Implications for studies of health care work

Many of the studies of health care work, organization and management are concerned with taking one single theoretical perspective. While this may be justified on the basis of the publication game of the academic journals that increasingly governs academic life (prescribing 'one theory, one paper'), it is a problematic analytical approach inasmuch as it reduces health care work to one-dimensional categories. That is, rather than speaking only of professionalism as an overarching analytical framework capable of shedding light on and even explaining, say, long-term conflicts between radiologists and surgeons or between obstetricians and midwives, such a professionalism based on compartmentalized domains of jurisdiction is constituted on the basis of both institutional resources and the materials and technologies mobilized and mastered by various professional groups. That is, the concept of profession qua analytical category is capable of explaining only certain aspects of jurisdictional struggles; to fully understand them, we concur, both abstract categories such as institutional logics and tangible resources such as materiality need to be taken into account. As, for instance, studies of medical visualization technologies demonstrate (Kevles, 1997; Joyce, 2008), the professional expertise of, for example, radiologists cannot be fully explained without examining the technologies and materials (e.g., photographic plates) being used in their work. In other words, future research on health care work would benefit from syncretism and diversity rather than the scholarly virtues of specialization and the verification of relatively trivial propositions. As Davis (1971: 309) remarked, 'those [theorists] who carefully and exhaustively verify trivial theories are soon forgotten; whereas those who cursorily and expediently verify interesting theories are long remembered'. Studies of health care work should thus not be too overly concerned about verifying organization theories, but on grappling with how health care work is actually organized and theorizing those practices. In this view, theories are the tools for understanding a field of practice rather than mirroring underlying practices; theories are not, in this constructivist epistemology, of necessity 'true' but they may be helpful – perhaps 'truthful' – in advancing an argument or initiating a discussion.

The empirical studies reported in this volume are trying to recognize both institutional perspectives (path-dependencies, political agendas and ambitions, professional privileges and responsibilities) and the material conditions of everyday work in organizations. One viable research strategy when studying health care work is to start in the middle of things, in the midst of everyday practice, and to invoke the theoretical resources needed to explain and understand the intricacies of everyday health care work. Keeping an eye on the practices potentially helps the researchers avoid the trap of verificationism, the idea that their role is to prove theories true rather than to demonstrate their usefulness in the research work. This shift in emphasis from theories to practices does not, however, suggest that theories are obsolete or marginalized. On the contrary, nothing is as theoretical as a good practice, and there are good opportunities for articulating theoretical propositions on the basis of the detailed study of practices. Therefore, we hope our empirical studies and their theoretical framing, diachronically and synchronically, may inspire more intriguing and innovative – 'interesting', in Davis's (1971) terms – studies of health care work.

Implications for organization theory

This book is written with the ambition to both report empirical studies of health care work and to advance a more theoretical argument of relevance for the study of organization and managerial practice at large. Organization researchers employing abstract analytical frameworks such as institutional theory and strategic management theory, often beautifully composed as tight conceptual frameworks supported by persuasive rhetoric, are at times giving the impression of collecting data primarily to further celebrate the glorious theoretical framework they endorse, at times from their time as graduate students or doctoral students under the supervision of international leading proponents of the theory. In such cases, empirical studies become little more than the maiden of theory, a supplementary resource yet again providing evidence that the theory is adequate, meaningful, useful, perhaps even true. While the field of organization studies and academic research more generally needs to operate on the basis of concept and theories, simply because concept and theories are empirical materials condensed into stable signifiers (i.e., conceptual frameworks are *economic* ways of expressing ideas), it is a category mistake (in Gilbert Ryle's [1949] sense of the term wherein abstract terms are obscuring observations of actual entities or events) to assume that theoretical frameworks overrule all empirical material, to

grant theory the highest status in every instance. Every now and then, there are alarmist calls in editorials and commentaries for more empirical research and for displacing dry and abstract theoretical debates with more vivid 'tales from the field'. Unfortunately, such statements often overlook the publishing ethos being instituted in academic circles wherein publishing per se is valued more highly than making more substantial contributions. Collecting first-hand data is more demanding and time-consuming than writing review papers or conceptual papers, allowing the researcher to stay by his/her office desk rather than spending time in unruly empirical environments. At the same time, what Charles Wright Mills (1959) speaks of as the 'sociological imagination', the capacity to formulate a relevant social problem of theoretical relevance, is gradually lost if too many engage for too long with intramural issues and concern. Having said that, we do not want to moralize over career paths chosen in academic fields, but still propose that empirical research is needed to advance the field beyond 'theory crunching'.

Practically speaking, abstract theoretical frameworks are neither useless nor irrelevant – quite the contrary. But these frameworks (e.g., institutional theory, being perhaps the most prestigious and widely used analytical framework in organization studies) need to be accompanied by conceptual frameworks recognizing the day-to-day practices of actors. Organization is constituted both 'top-down' and 'bottom-up', but in many cases either perspective dominates over the other. In the theoretical framework outlined in Chapter 2, institutional theory and theories pertaining to material practices were examined. Institutional theory is capable of explaining how social organization is determined by relatively stable ideologies and norms and how organizations are shaped by influences from outside. Still, there is in many cases a gap between institutional theory perspective and the actual practices in organizations. Complementing the institutional theory by analytical frameworks that examine the situated practices of, for example, health care workers arguably enables a more detailed understanding of how local and situated practices are influenced by both institutionalized beliefs and previous actions. The situated action has been examined from a variety of perspectives including science and technology studies, actor-network theory, sociomaterial practices and theories of practice (following practice theorists such as Bourdieu and de Certeau). The concept of materiality, used as a broad term including technologies, tools, biological specimens and epistemic objects (e.g., genes or quarks) is here emphasized as that which plays a key role in everyday organizing. Technology, present in most moments in modern everyday life, is

for instance frequently ignored or taken for granted in organization and management studies, further emphasizing the need for a dual perspective ('top-down'/'bottom-up') on not just health care organizations but on all categories of organizations. As suggested by the philosopher of science Ian Hacking, the sciences – and this goes for the social sciences, too – are advanced by the dynamic interchange between processes of 'representing' (i.e., theory formulation) and 'intervening' (i.e., empirical research in the form of experimental practices or observations); without the one, the other would not subsist. At times the two domains are separated (as in the case of theoretical and experimental physics; see Galison [1997]), but there are always meeting points and exchanges between the two.

Similar to Lounsbury's (2008) plea for a stronger emphasis on empirical studies in the field of institutional theory and Barley and Kunda's (2001) insistence on 'bringing back work' into organization and management studies, we believe that the study of organizations benefits from balancing theoretical rigour and empirically grounded contributions. The classic studies of, for example, Philip Selznick (1949), Alvin Gouldner (1954), Melvin Dalton (1959) and others published during the 'golden age of industrial sociology' have been frequently referenced by proponents of a more empirically oriented field of organization studies as role models for future research. However, while these pioneers of organization studies formulated theories on the basis of their studies (e.g., Selznick's concept of 'infusion of values' and 'co-optation', Gouldner's 'mock-bureaucracy' and Dalton's 'informal rewards'), today being staple references in organization and management studies, today's researchers are facing an entirely different situation wherein they can already take advantage of more than a century of previous studies providing analytical frameworks and concepts. Organizations, in health care work and elsewhere, are always and of necessity studied in fragments, as procedures or routines that are merely a drop in the ocean of the totality of organizational practices *in situ*. Making claims to study General Motors, the EU administration or a university hospital is therefore primarily a metonymic signalling of ongoing pursuits, an attempt at anchoring ongoing research in existing organizations. Still, this is the way organization studies need to be conducted, as the study of situated practices that may appear piecemeal and disjointed but nevertheless are part of the everyday work life of the organizations studied. Empirical work is thus always occurring *in media res*, in the middle of things, yet researchers (as Law [1994: 43–44] confesses) rarely experience that they are in the right place at the right time; the overwhelming

details of everyday work encountering the researcher overshadow the sense of being in the eye of the storm. This is a predicament and ennui the practising organization researcher has to endure; history is always written in hindsight, but empirical data are collected within the horizon and dullness of everyday duration.

In summary then, the studies reported in this volume have three implications pertaining to organization studies:

(i) combine 'top-down' and 'bottom-up' perspectives on the object of analysis;
(ii) collect and report data derived from situated practices accommodating both abstract instituted professional norms and ideologies and the use of tangible, material resources ranging from the seemingly trivial and insignificant (e.g., paper clips and plastic containers) to the advanced and sophisticated (e.g., infusion pumps and defibrillators); and
(iii) conceive of organization as what is in an ongoing state of being assembled, of being reconfigured and restructured as new conditions and facts emerge (e.g., pay attention to Czarniawska's [2004: 780] recommendation to 'minimize that which is taken for granted prior to the analysis').

These implications are not based on solid, indisputable evidence but rather on the analytical framework that has been formulated to inscribe the empirical with meaning and the research findings that have been reported. Regardless of their epistemological status, these are implications that may enable fruitful and theoretically intriguing studies of organization and situated practices.

Summary and conclusions

The social world, we learn from actor-network theorists such as Bruno Latour and Michel Callon, is built from the bottom up. At the same time, this building process rapidly became subject to various beliefs and norms. The history of the development of the sciences – one domain of 'world building' among many others – shows that not only theories and theological doctrines shaped the research work but also the institutional setting where it was developed – the court societies and in bourgeois amateurism circles and, eventually, in industry and finally the university system. In addition, the sciences, at first speculative endeavours and later on, beginning with astronomy and thereafter chemistry,

experimental activities, were co-produced with the material resources mobilized and the epistemic objects (e.g., cells or quarks) they defined for themselves. The sciences were, in other words, contrary to their somewhat pompous and grandiose self-image, born, in the middle of things, into a world of practices and tinkering. A similar view is possible on health care. Centuries of folk belief and relatively impotent medical practices have dominated health care, but not until the end of the eighteenth century when the smallpox vaccine was developed were the first steps taken towards today's advanced health care system. In the course of the nineteenth century, medicine took centre stage as an experimental science capable of producing socially beneficial effects. In today's late modern welfare state, constituted by technoscientific innovations and contributions, health care work is in many ways the jewel in the crown of human accomplishments, in terms of both sheer know-how and expertise in intervening in biological systems (as in the case of human reproduction; for instance, see Cussins [1996]; Watkins [2001]; Oudshoorn [2003]; Nishizaka [2011]) and in terms of the capacity to democratize the access to such expertise. In many ways, the health care sector is a deeply fascinating and intriguing domain.

Studying health care work is a matter of recognizing both abstract systems of beliefs and ideologies and the nitty-gritty 'stuff' (Miller, 2010) being mobilized. In this volume, we have tried to demonstrate the need for such a 'dual' view by both referencing what we regard as relevant literature and reporting empirical studies of health care work practices. In many ways, the syncretism we propose necessary to fully accommodate the complexities of health care work may be at odds with the recent shift in emphasis in the university system from academic rigour to 'excellence' (i.e., the high valuation placed on the capacity to publish in prestigious journals regardless of the content of such articles; see Karpik, 2011). Regardless of these institutional difficulties, remaining true to the object of study (e.g., health care work) is a scholarly virtue that in the future may prove to be credited or, on the contrary, become totally antiquated. Therefore, we call for more scholarly work in the domain of health care studies that recognizes a theoretically diverse perspective.

Appendix: Research Methods

The studies reported in this book are all based on in-depth longitudinal case studies, and they have in common that from the beginning the focus has been on what happens, in practice, in health care organizations. The view taken in these studies is that practices consist of recognizable arrangements of things, people and actions, all of them being interconnected. This calls for studying organizational activities in terms of what is actually done 'here-and-now' (Miettinen et al., 2009) while also paying attention to the 'situatedness' of work and practices, which requires research methods that can access what people actually do in organizations (Yanow, 2006). The studies are based on case study research (Eisenhardt, 1989; Gillham, 2000; Foreman, 2006) and inspired by ethnographic methodologies (Schwartzman, 1993; Atkinson et al., 2007; Czarniawska, 2007). They are all located in the Swedish health care sector and combine interviewing, direct observations and shadowing as sources to collect data and to construct and understand health care work. Both case study methodology and ethnographic approaches are recognized as useful research methodologies in cases where there is a complexity in the work or/and where few formal theories have been developed.

The study reported in Chapter 4 featured a description and analysis of the so-called Högsbo Project (1999/2000), which was aimed at creating coordination between care units. About 40 persons participated in the project: people from the local hospital, primary care units and municipally run care centres. In order to obtain a rich source of field material, ethnographic fieldwork techniques were used – interviews, observations, document analysis and shadowing (Czarniawska, 2007). Interviews and observations were conducted repeatedly. In the beginning, interviews with the project group members were carried out in order to understand the background and future aim of the project. We obtained copies of the different reports, PowerPoint presentations made in order to present the project to managers at different levels, and other documents connected with the project or the National Institute for Working Life. Twelve of the participants in the network were interviewed on two occasions. One of the authors also monitored the project over the course of one year, observing project meetings, network meetings and other events arranged by the project.

The field material was thus textual, consisting of interview notes, other observations (fieldnotes) and documents. This material was categorized according to observed similarities (e.g., repeated actions, recurrent themes) and observed differences (actions or statements diverging from the pattern). Any data source is subject to a variety of interpretations, with people expressing their beliefs and being influenced by loyalties and preferences. Therefore, it was necessary to take a critical perspective on the statements given by the interviewees and to compare the statements from the interviews with observations and the shadowing of day-to-day work. Next, the categories derived from the field were related to concepts stemming from the sociology of translation and Actor Network Theory (Callon, 1986; Latour, 1986; Czarniawska, 1997) and to theories concerning

boundary objects (e.g., Star and Griesemer, 1989). From this, a modest grounded theory of organizing across organizational borders has emerged.

Chapter 5 reports on the Swedish Government's initiative to change the treatment of drug abusers. The question was: What happens in practice when an idea, in this case, standardized assessment methods, is promoted, spread and adopted in local practice? Thus, we have studied both the organizations that acted as distributors and carriers of such ideas and the organizations that were supposed to use them.

The fieldwork for this study began in winter 2004/2005 and ended in autumn 2007. Ethnographic fieldwork techniques, such as interviews, observations and document analysis, were used in order to obtain a rich body of field material. The interviews were carried by one of the authors and three other colleagues. We interviewed representatives from the two government agencies, Mobilization against Narcotics (MOB) and the Institute for Evidence-Based Social Work Practice (IMS), the local project managers and personnel participating in the projects. The interviews, lasting from 45 minutes to 2 hours, were recorded and transcribed.

In the interviews with government agency representatives, two interviewees from MOB and one from the IMS talked about their work, the results they wanted to achieve and their opinion of drug abuse treatment in Sweden in general. During the three-year period of the research, we interviewed and re-interviewed project managers (total interviews, 10) and members from four local projects (total interviews, 74). The project members were politicians, unit managers and professionals working in the field of drug abuse treatment. The interviews focused on the actors' experiences in collaboration with other units or organizations and their experiences in working with standardized assessment methods. We also observed meetings of the government agencies and the local projects – for example, meetings where representatives from the IMS presented the standardized assessment method. Much of our field material came from pertinent website reviews (for MOB and the IMS) and documents provided by MOB, the IMS and the participating projects.

The field material was analysed in several steps. In the first step, we prepared a summary of the field material from each role model municipality project, containing a chronological description of each project's participation in the government initiative to change the drug treatment (the Role Model Municipality Programme): its origin, people involved, activities and results. We also summarized MOB's work: their goals and initiatives, their appointments within the projects and their expectations about results. From these summaries, first-order descriptions were advanced (Van Maanen, 1988) based on the initial interview questions concerning the results when ideas, such as ASI and collaboration, were promoted, distributed and adopted in local practice. In 2007, we conducted the follow-up interviews: the project managers and four participants in each role model municipality were interviewed (total interviews, 20). In the second step, the field material was linked to the relevant theoretical and practical research. Categories and patterns in the field material that emerged were identified as indications of a standardized, transparent and accountable practice.

The fieldwork collecting the data presented in Chapters 6 and 7 began as early as 2000 and ended in 2007; however, most of the data material presented and analysed in these two chapters were collected during 2006/2007 and were

collated by one of the authors. From the beginning, the focus was on what happens, in practice, on a medical ward, using a performative perspective on day-to-day work at a hospital. In order to be in close contact with the day-to-day experience of work on this ward, and to obtain sufficient field material, ethnographic fieldwork techniques were used (e.g. interviews, observations, shadowing and document analysis). In total, 21 interviews were conducted together with more than 80 hours of participant observation, shadowing nurses, doctors and assistant nurses on the ward.

The fieldwork was organized in sequence, with an initial phase of a small number of orienting interviews and a number of presentations of the study and its goals, and a second phase of participant observation and shadowing activities. The shadowing involved the close following, monitoring and reporting on the everyday activities, interactions and structures of a working day of one specific member of staff. The type of fieldwork was mainly focused on the group of nurses working on the ward, but some assistant nurses, physicians and the ward managers also become the subject of shadowing and interviewing. The direct observations were conducted in situations judged to be potentiality relevant for the study, such as staff meetings, ward rounds, consultations, etc. The hospital staff interviewed included both permanent and temporary nurses, nursing students on work experience and training, assistant nurses, ward mangers, assistant ward mangers, auxiliary personnel and physicians. The interviews were thematically organized around each respondent's function, roles and everyday activities at work, and were much informed by the experience and understanding developed during the phase of participant observation and shadowing preceding the interview phase.

The field material has been analysed in different stages. First, the material was summarized chronologically. This summary first-order description (Van Maanen, 1979) was an attempt to answer initial queries about what happened in practice. The description showed how it came about, who was involved and the expected outcomes. Based on this initial analysis, two themes emerged as significant, one concerning the organizing of nurses' everyday work and the second one about the organization in the event of a critical incident. Each of the cases was presented to the staff of the medical ward in order to check whether we had understood events correctly. From this first-order description, new queries emerged. The second step of the analysis consisted of coding and categorizing the field material in a process similar to that recommended by grounded theory (Glaser and Strauss, 1967), especially as described by Martin and Turner (1986). The material was categorized as closely as possible to the staff's own descriptions.

Notes

5 Standardizing: The Introduction of Evidence-Based Methods into Drug Abuse Treatment

1. http://www.socialstyrelsen.se/IMS/english/about_IMS/M_Johansson_speech_Oct04.htm.
2. http://www.socialstyrelsen.se/missbrukochberoende/asi-intervjun, accessed 02 September 2011.

6 Crossing and Constructing Boundaries: A Case of an Infusion Pump

1. As Annemarie Mol (2002) convincingly showed, hospitals in Western countries are constructed upon and operate along the same principles.
2. For an extensive overview of the issue of organizational boundaries, see Hernes (2004).

Bibliography

Abbott, A. (1988), *The system of professions: An essay on the division of expert labor*, Chicago: University of Chicago Press.

Ackroyd, S. (1996), Organization contra organizations: Professional and organizational change in the United Kingdom, *Organization Studies*, 17(4): 599–621.

Ackroyd, S., Kirkpatrik, I. and Walker, R.M. (2007), Public management reform in the UK and its consequences for professional organization: A comparative analysis, *Public Administration*, 85(1): 9–26.

Allport, G.W. (1954), *The nature of prejudice*, Cambridge: Addison-Wesley.

Angell, M. (2004), *The Truth about the Drug Companies*, New York: Random House.

Arvidsson, G. and Och Jönsson, B. (1997), *Politik och marknad i framtidens sjukvård*, Stockholm: SNS Förlag.

Åsberg, C. and Johnson, E. (2009), Viagra selfhood: Pharmaceutical advertising and the visual formation of Swedish masculinity, *Health Care Analysis*, 17(2): 144–159.

Atkinson, P.A., Delamont, S., Coffey, A.J. and Lofland, J. (eds) (2007), *Handbook of ethnography*, London: Sage, pp. 220–233.

Atlan, H. (1974), On a formal definition of organization, *Journal of Theoretical Biology*, 45: 295–304.

Bach, S. (2003), International mobility of health workers: Labour and social issues, Working Paper, Geneva: International Labour Office.

Bach, S., Kessler, I. and Heron, P. (2007), The consequences of assistant roles in public services: Degradation or empowerment? *Human Relations*, 60(9): 1267–1292.

Barley, S. and Kunda, G. (2001), Bringing work back in, *Organization Science*, 12(1): 76–95.

Barley, S.R. and Bechky, B. (1994), In the backroom of science: The work of technicians in science labs, *Work and Occupations*, 21(1): 85–126.

Barley, S.R. and Kunda, G. (2006), Contracting: A new form of professional practice, *Acdemy of Management Perspectives*, 20(1): 45–66.

Baron, J.N., Dobbin, F.R. and Jennings, P.D. (1986), War and peace: The evolution of modern personnel administration in U.S. industry, *American Journal of Sociology*, 92: 350–383.

Barry, A. (2001), *Political machines: Governing a technological society*, London: Athlone.

Bateson, G. (1972), *Steps to an ecology of mind*, Chicago: Chicago University Press.

Battilana, J. (2006), Agency and institutions: The enabling role of individuals' social position, *Organization*, 13(5): 653–675.

Baum, J.A.C. and Oliver, C. (1991), Institutional linkages and organizational mortality, *Administrative Science Quarterly*, 36(2): 187–218.

Bechky, B.A. (2003a), Object lessons: Workplace artifacts as representations of occupational jurisdiction, *American Journal of Sociology*, 109(3): 720–752.

Bechky, B.A. (2003b), Sharing meaning across occupational communities: The transformation of understanding on a production floor, *Organization Science*, 14(3): 312–330.

Benner, P. (1984), *From novice to expert: Excellence and power in clinical nursing practice*, San Francisco: Addison-Wesley.

Bennett, J. (2010), *Vibrant matter: A political ecology of things*, Durham: Duke University Press.

Bensaude-Vincent, B. and Stengers, I. ([1993] 1996), *A history of chemistry*, trans. by Deborah van Dam, Cambridge: Harvard University Press.

Berg, M. (1997), Problems and promises of the protocol, *Social Science and Medicine*, 44(8): 1081–1088.

Berg, M. (1998), The politics of technology: On bringing social theory into technological design, *Science, Technology & Human Values*, 23(4): 456–490.

Berman, P.C. (2001), Mobility of Health Professionals, Paper prepared for delivery at the conference on European Integration and Health Care Systems: A challenge for social policy, A conference organized during the Belgian Presidency of the European Union, 7–8 December, 2001.

Bertalanffy, L. (1968), *General system theory*, New York: George Braziller.

Beunza, D. and Stark, D. (2004), Tools of the trade: The socio-technology of arbitrage in a Wall Street trading room, *Industrial and Corporate Change*, 13(2): 369–400.

Beunza, D., Hardie, I. and Mackenzie, D. (2006), A price is a social thing: Toward a material sociology of arbitrage, *Organization Studies*, 27: 721–745.

Bevan, G., Helderman, J.K. and Wilsford, D. (2010), Changing choices in health care: Implications of equity, efficiency and cost, *Health Economics, Policy and Law*, 5: 251–267.

Bijker, W.E., Hughes, T.P. and Pinch, T.J. (eds) (1987), *The social construction of technological systems: New directions in the sociology and history of technology*, Cambridge: The MIT Press.

Blomgren, M. (2003), Ordering a profession: Swedish nurses encounter new public management reforms, *Financial Accountability and Management*, 19(1): 45–71.

Blomgren, M. (2007), The drive for transparency: Organizational field transformations in Swedish healthcare, *Public Administration*, 85(1): 67–82.

Blomgren, M. and Sahlin, K. (2007), Quests for transparency: Signs of a new institutional era in the health care field, in Christensen, T. and P. Laegrid (eds), *Transcending new public management: The transformation of public sector reform*, Aldershot: Ashgate, pp. 155–178.

Blomgren, M. and Sundén, E. (2008), Constructing a European healthcare market: The private healthcare company Capio and the strategic aspect of the drive for transparency, *Social Science and Medicine*, 67: 1512–1520.

Blum, V.L. (2005), *Flesh wounds: The culture of cosmetic surgery*, Berkeley: University of California Press.

Bohlin, I. and Sager, M. (2011), *Evidensens många ansikten. Evidensbaserad praktik i praktiken*, Lund: Arkiv.

Boin, A. and Christensen, T. (2008), The development of public institutions: Reconciling the role of Leadership administration and society, *Administration & Society*, 40(3): 271–297.

Bolton, S.C. (2004), A simple matter of control? NHS hospital nurses and new management, *Journal of Management Studies*, 41(2): 317–333.
Borges, J.L. (1999). John Wilkin's analytical language, in *Selected non-fiction*, London: Penguin.
Bourdieu, P. (1977), *Outline of a theory of practice*, Cambridge: Cambridge University Press.
Bourdieu, P. and Wacquant, L.J.D. (1992), *An invitation to reflexive sociology*, Chicago: University of Chicago Press.
Braidotti, R. (2008), In spite of the times: The postsecular turn in feminism, *Theory, Culture & Society*, 25(6): 1–24.
Broadbent, J. and Laughlin, R. (1998), Resisting the 'New Public Management' absorption and absorbing groups in schools and GP practices in the UK, *Accounting, Auditing and Accountability Journal*, 11(4): 403–435.
Brin, S. and Page, L. (1998), The anatomy of a large-scale hypertextual Web search engine, *Computer Networks and ISDN Systems*, 30: 107–117.
Brody, H. (2007), *Hooked: Ethics, the medical profession, and the pharmaceutical industry*, Lanham: Rowman & Littlefield.
Brown, B. (2010), Objects, others, and us (the refabrication of things), *Critical Inquiry*, 36: 183–216.
Brown, J.S. and Duguid, P. (1991), Organizational learning and communities of practice: Toward a unified view of working, learning and innovation, *Organization Science*, 2: 40–57.
Brunsson, N. (1985), *The irrational organization: Irrationality as a basis for organizational action and change*, New York: Wiley.
Brunsson, N. and Jacobsson, B. (2000), *A world of standards*, Oxford: Oxford University Press.
Bryan, D. and Rafferty, M. (2007), Financial derivatives and the theory of money, *Economy and Society*, 36(1): 134–158.
Buchanan, D., Jordan, S., Preston, D. and Smith, A. (1997), Doctors in the process – The engagement of clinical directors in hospital management, *Journal of Management in Medicine*, 11(3): 132–156.
Bucher, R. and Strauss, A. (1961), Professions in process, *American Journal of Sociology*, 66: 325–334.
Burawoy, M. (1979), *Manufacturing consent: Changes in the labour process under monopoly capitalism*, Chicago: University of Chicago Press.
Burri, R.V. (2008), Doing distinctions: Boundary work and symbolic capital in radiology, *Social Studies of Science*, 38: 35–62.
Burwick, F. and Douglass, P. (eds) (1992), *The crisis in modernism: Bergson and the vitalist controversy*, Cambridge: Cambridge University Press.
Byrkjeflot, H. and Neby, S. (2008), The end of the decentralized model of healthcare governance? Comparing developments in the Scandinavian hospital sectors, *Journal of Health Organization and Management*, 22(4): 331–349.
Callon, M. (1986), Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St Brieu Bay, in J. Law (ed.), *Power action and belief*, London: Routledge and Kegan Paul, pp. 196–233.
Callon, M. (2007), What does it mean to say that economics is performative? in Mackenzie, D.A., Muniesa, F. and Siu, L. (eds), *Do economists make markets? On the performativity of economics*, Princeton: Princeton University Press, pp. 311–357.

Callon, M. (2008), Economic markets and the rise of interactive agencement: From prosthetic agencies to habilitated agencies, in Pinch, T. and Swedberg, R. (eds), *Living in a material world: Economic sociology meets science and technology studies*, Cambridge: The MIT Press, pp. 29–56.

Callon, M. and Latour, B. (1981), Unscrewing the Big Leviathan, in Knorr-Cetina, K. and Cicourel, A.V. (eds), *Advances in social theory and methodology: Toward an integration of micro and macro sociologies*, London: Routledge and Kegan Paul, pp. 277–303.

Canguilhem, G. (1991), *The normal and the pathological*, New York: Zone Books.

Canguilhem, G. (2008), *Knowledge of life*, trans. by Stefano Geroulanos and Daniela Ginsburg, New York: Fordham University Press.

Carlile, P.R. (2002), A pragmatic view of knowledge and boundaries: Boundary objects in new product development, *Organization Science*, 13(4): 442–455.

Carlile, P.R. (2004), Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries, *Organization Science*, 15(5): 555–568.

Carolan, M.S. (2010), The mutability of biotechnology patents: From unwieldedly products of nature to independent 'objects/s', *Theory, Culture & Society*, 27(1): 110–129.

Carruthers, B. and Babb, S. (1996), The color of money and the nature of value: Greenbacks and gold in postbellum America, *American Journal of Sociology*, 101(6): 1556–1591.

Chia, R. and Holt, R. (2006), Strategy as practical coping: A heideggerian perspective, *Organization Studies*, 27(5): 635–655.

Christensen, T. and Lægreid P. (eds) (2001), *New public management: The transformation of ideas and practice*, Aldershot: Ashgate.

Christensen, T. and Lægreid, P. (2007), Introduction – Theoretical approach and research questions: Transcending new public management, in Christensen, T. and Lægreid, P. (eds), *New public management: The transformation of public sector reforms*, Aldershot: Ashgate, pp. 1–16.

Clarke, A.E., Mamo, L., Fishman, J.R., Shim, J.K. and Fosket, J.R. (2003), Biomedichalization. Technocientific transformations of health, illness, and U.S. biomedicine, *American Sociological Review*, 68: 161–194.

Cochoy, F. (2009), Driving a shopping cart from STS to business, and the other way around: On the introduction of shopping carts in American grocery stores (1936–1959), *Organization*, 16(1): 31–55.

Collins, R. (1979), *The credential society*, New York: Academic Press.

Conrad, P. (2007), *The medicalization of society*, Baltimore: Johns Hopkins University Press.

Coole, D. and Frost, S. (eds) (2010), *New materialisms: Ontology, agency, and politics*, Durham: Duke University Press.

Coupland, C., Currie, G. and Boyett, I. (2008), New public management and a modernization agenda: Implications for school leadership, *International Journal of Public Administration*, 31: 1079–1094.

Currie, G., Koteyko, N. and Nerlich, B. (2009), The dynamics of professions and development of new roles in public services organizations: The case of modern matrons in the English NHS, *Public Administration*, 87(2): 295–311.

Cussins, C. (1996), Ontological choreography: Agency through objectification in infertility clinics, *Social Studies of Science*, 26: 575–610.

Cyert, R.M. and March, J.G. (1963), *A behavioral theory the firm*, Englewood Cliffs: Prentice-Hall.
Czarniawska, B. (1997), *Narrating the organization: Dramas of institutional identity*, Chicago & London: The University of Chicago Press.
Czarniawska, B. (2002a), *A tale of three cities. Or the glocalization of city management*, Oxford: Oxford University Press.
Czarniawska, B. (2002b), Organizing, process, in Sorge, A. (ed.), *Organization*, London: Thomson Learning, pp. 314–333.
Czarniawska, B. (2004), On space, time, and action nets, *Organization*, 11(6): 773–791.
Czarniawska, B. (2007), *Shadowing and other techniques for doing fieldwork in modern societies*, Malmö: Liber.
Czarniawska, B. (2009), Emerging institution: Pyramids or anthills? *Organization Studies*, 30(4): 423–441.
Czarniawska, B. and Joerges, B. (1996), Travels of ideas, in Czarniawska, B. and Sevón, G. (eds), *Translating organizational change*, Berlin: de Gruyter, pp. 13–48.
Czarniawska-Joerges, B. (1996), Changing times and accounts: Tales from an organization field, in Munro, R. and Mouritsen, J. (eds), *Accountability: Power, ethos and technologies of managing*, London: International Thomson Business Press, pp. 307–328.
Dalton, M. (1959), *Men who manage: Fusion of feeling and theory in administration*, New York: Wiley.
Danermark, B. (2004), *Samverkan – en fråga om makt*, Örebro: Läromedia.
Daston, L. (2008), On scientific observation, *Isis*, 99: 97–110.
Davies, C. (2007), Rewriting nursing history again, *Nursing History Review*, 15: 11–28.
Davis, M.S. (1971), That's interesting! Towards a phenomenology of sociology and a sociology of phenomenology, *Philosophy of Social Sciences*, 1: 309–344.
Dent, M. (2003), Managing doctors and saving hospital: Irony, rhetoric and actor networks, *Organization*, 10(1): 107–127.
Desrosière, A. (1998), *The politics of large numbers: A history of statistical reasoning*, trans. by Camille Naish, Boston: Harvard University Press.
Diedrich, A. (2004), *Engineering knowledge. How engineers and managers practice knowledge management*, Göteborg: BAS.
DiMaggio, P. and Powell, W.W. (1983), The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, 48(2): 147–160.
DiMaggio, P.J. (1991), Constructing an organizational field as a professional project: U.S. Art Museums, 1920–1940, in Powell, W.W. and DiMaggio, P.J. (eds), *The new institutionalism in organizational analysis*, Chicago: University of Chicago Press, pp. 63–82.
DiMaggio, P.J. and Powell, W.W. (1991), *The new institutionalism in organizational analysis*, Chicago: University of Chicago Press.
Donahue, J. (1989), *The privatization decision: Public ends, private means*, New York: Basic Books.
Doolin, B. (2002), Discourse, technology and organizational control of hospital clinics, *Organization Studies*, 23(3): 369–390.
Doolin, B. (2003), Narrative of change discourse, technology and organizational control, *Organization*, 10(4): 751–770.

Douglas, M. (1986), *How institutions think*, London: Routledge & Kegan Paul.
Dunn, M.R. and Jones, C. (2010), Institutional logics and institutional pluralism: The contestation of care and science logics in medical education, 1967–2005, *Administrative Science Quarterly*, 55: 114–149.
Durkheim, É. ([1893] 1933), *The division of labour in society*, New York: Free Press.
Durkheim, É. ([1912] 1995), *The elementary form of religious life*, New York: Free Press.
Eisenhardt, K.N. (1989), Building theories from case study research, *Academy of Management Review*, 14(4): 532–550.
Eliassen, K.A. and Sitter, N. (2008), *Understanding public management*, London: Sage.
Elsbach, K.D. and Pratt, M.G. (2007), The physical environment of organizations, *The Academy of Management Annals*, 1(1): 181–224.
Engström, C. and Armelius, B.-Å. (2002), Klienters acceptans av strukturerade intervjuer i socialtjänsten, *Nordiskt Socialt Arbete*, 22(4): 210–216.
Erlingsdottir, G. and Lindberg, K. (2005), Isomorhism, isopraxism and isonymism: Complimentary or competing processes? in Czarniawska, B. and Sevón, G. (eds), *Global ideas: How ideas, objects and practices travel in the global economy*, Malmö: Liber, pp. 47–70.
Esposito, R. (2008), *Bíos: Biopolitics and philosophy*, trans. by Timothy Campbell, Minneapolis: University of Minnesota Press.
European Health Policy Forum (2003), *Recommendations on Health and EU Social Policy*, Brussels: European Health Policy Forum.
Farrell, C. and Morris, J. (2003), The neo-bureaucratic state: Professionals, Managers, and professional managers in schools, general practices and social work, *Organization*, 10(1): 129–156.
Feldman, M. (2000), Organizational routines as a source of continuous change, *Organization Science*, 11(6): 611–629.
Ferlie, E., Ashburner, L., Fitzgerald, L. and Pettigrew, A. (1996), *The new public management in action the new public management in action*, New York: Oxford University Press.
Ferlie, E., Dopson, S., Fitzgerald, L. and Locock, L. (2009), Renewing policy to support evidence-based health care, *Public Administration*, 87(4): 837–852.
Ferlie, E. and Steane, P. (2002), Changing development in NPM, *International Journal of Public Administration*, 25(12): 1459–1469.
Fishman, J.R. (2004), Manufacturing desire. The commodification of female sexual dysfunction, *Social Studies of Science*, 34(2): 187–218.
Fleck, L. (1979), *Genesis and development of a scientific fact*, Chicago: Chicago University Press.
Foreman, P.B. (2006), The theory of case studies, in David, M. (ed.), *Case study research*, Vol. 1, London: Sage, pp. 143–164.
Fotaki, M. (2010), Why do public policies fail so often? Exploring health policy-making as imaginary and symbolic construction, *Organization*, 17(6): 703–720.
Foucault, M. (1970), *The order of things*, London & New York: Routledge.
Foucault, M. (1972), *An archaelogy of knowledge*, London: Routledge.
Foucault, M. (1997), *Ethics, subectivity and truth: Essential works of michel foucault*, Vol. 1, New York: The New Press.
Fourcade, M. (2009), *Economists and societies: Discipline and profession in the United States, Britain, and France, 1890s to 1990s*, Princeton: Princeton University Press.

Franklin, S. (2001), Culturing biology: Cell lines for the second millennium, *Health*, 5(3): 335–354.
Franklin, S. (2007), *Dolly mixtures: The remaking of genealogy*, Durham: Duke University Press.
Franklin, S. and Roberts, C. (2006), *Born and made: An ethnography of preimplantation genetic diagnosis*, Princeton: Princeton University Press.
Freidson, E. ([1970] 2007), *Professional dominance. The social structure of medical care*, New Jersey: Transaction Publisher.
Freidson, E. (1986), *Professional powers: A study of the institutionalization of formal knowledge*, Chicago: University of Chicago Press.
Freidson, E. (1994), *Professionalism reborn: Theory, prophecy and policy*, Oxford: Polity Press.
Freidson, E. and Lorber, J. ([1972] 2009), *Medical professionals and the organization of knowledge*, New Jersey: Transaction Publisher.
Freud, S. ([1940] 2003), *An outline of psychoanalysis*, London: Penguin.
Frowe, I. (2005), Professional trust, *British Journal of Educational Studies*, 53(1): 34–53.
Fuchs, S. (1992), *The professional quest for truth: A social theory of science and knowledge*, Albany: State University of New York Press.
Fuchs, V. (1974), *Who shall live? Health, economics, and social choice*, New York: Basic Books.
Galambos, L. and Sturchio, J. (1998), Pharmaceutical firms and the transition to biotechnology: A study in strategic innovation, *Business History Review*, 72(Summer): 250–278.
Galison, P. (1994), The ontology of the enemy: Norbert Wiener and the cybernetic vision, *Critical Inquiry*, 21: 228–266.
Galison, P. (1997), *Image and logic: A material culture of microphysics*, Chicago: University of Chicago Press.
Gammon, E. (2010), Nature as adversary: The rise of the modern economic conception of nature, *Economy and Society*, 39(2): 218–246.
Gay, P. (1984), *The bourgeois experience: Victoria to Freud: Vol. 1: Education of the senses*, New York: Oxford University Press.
Giddens, A. (1990), *The consequences of modernity*, Cambridge: Polity Press.
Gillham, B. (2000), *Case study methods*, London: Continuum.
Glaser, B.G. and Strauss, A. (1967), *The discovery of grounded theory. Strategies for qualitative research*, Chicago: Aldine.
Goff, Le. ([1985] 1993), *Intellectuals in the middle ages*, Oxford: Blackwell.
Goodrick, E. and Reay, T. (2010), Florence Nightingale endures: Legitimazing a new professional role identity, *Journal of Management Studies*, 47(1): 55–84.
Goodrick, E. and Reay, T. (2011), Constellations of institutional logics: Change in the professional work of pharmacists, *Work and Occupation*, 38: 372–416.
Gouldner, A.W. (1954), *Patterns of industrial bureaucracy*, Glencoe: The Free Press.
Greene, J. (2006), *Prescribing by numbers: Drugs and the definition of disease*, Baltimore: Johns Hopkins University Press.
Greenwood, R., Suddaby, R. and Hinings, C.R. (2002), Theorizing change: The role of professional associations in the transformation of organizational fields, *Academy of Management Journal*, 45(1): 58–80.
Hacking, I. (1983), *Representing and intervening*, Cambridge: Cambridge University Press.

Hacking, I. (1990), *The taming of chance*, Cambridge: Cambridge University Press.
Haigh, E. (1984), *Xavier Bichat and the medical theory of the eighteenth century*, London: The Wellcome Institute for the History of Medicine.
Hasselbladh, H. and Bejerot, E. (2007), Webs of knowledge and circuits of communication: Constructing rationalized agency on Swedish health care, *Organization*, 14(2): 175–200.
Hasselbladh, H., Bejerot, E. and Gustavsson, Å. (2008), *Bortom new public management: Institutionell transformation i svensk sjukvård*, Lund: Academia Adacta.
Hedmo, T. (2009), Skapandet av en gemensam folkhälsopolitik I EU. En öppen process i gränslandet mellan offentligt och privat, in Lindberg, K. and Blomgren, M. (eds), *Mellan offentligt och privat. Om styrning, praktik och intressen i hälso- och sjukvården*, Stockholm: Santérus Academic Press, pp. 103–120.
Hernes, T. (2004), *The spatial construction of organization*, Amsterdam: John Benjamin Publishing Company.
Hernes, T. and Maitlis, S. (eds) (2010), *Process, sensemaking, and organizing*, New York: Oxford University Press.
Hernes, T. and Paulsen, N. (2003), Introduction – Boundaries and organization, in Paulsen, N. and Hernes, T. (eds), *Managing boundaries in organizations – Multiple perspectives*, Houndmills: Palgrave Macmillan, pp. 1–13.
Hirschauer, S. (1991), The manufacture of bodies in surgery, *Social Studies of Science*, 21(2): 279–319.
Hobsbawm, E.J. (1975), *The age of capital, 1848–1875,* London: Weidenfeld and Nicolson.
Hood, C. (1991), A public management for all seasons? *Public Administration*, 69: 3–19.
Hood, C. and Jackson, M. (1991), *Administrative argument*, Dartmouth: Aldershot.
Hopkins, M.M., Martin, P.A., Nightingale, P., Kraft, A. and Mahdi, S. (2007), The myth of of a biotech relvolution: An assessment of technological, clinical and organizational change, *Research Policy*, 36(4): 566–589.
Hughes, E.C. (1958), *Men and their work*, Glencoe: The Free Press.
Hult, E. (2006), Vetenskap i paketerad form: Framväxten av evidensbaserad medicin, in I Levay C. and Waks, C. (eds), *Strävan efter transparens: Granskning, styrning och reglering i sjukvårdens nätverk*, Stockholm: SNS Förlag, pp. 77–100.
Huxham, C. (2000), The challenge of collaborative governance, *Public Management*, 2(3): 337–357.
Ingram, P. and Baum, J.A.C. (1997), Chain affilitation and the failure of Manhattan Hotels, 1989–1980, *Administrative Science Quartely*, 42: 68–102.
Introna, L.D. and Hayes, N. (2011), On sociomaterial imbrications: What plagiarism detection systems reveal and why it matter, *Information and Organization*, 21: 107–122.
James, W. (1996), *A pluralistic universe*, Lincoln: University of Nebraska Press.
Jasanoff, S. (2005), The idiom of co-production, in Jasanoff, S. (ed.), *States of knowledge: The co-production of science and social order*, London: Routledge, pp. 1–12.
Joyce, K.A. (2008), *Magnetic appeal: MRI and the myth of transparency*, New York: Cornell University Press.
Karpik, L. (2011), What's the price of a scientific paper? in Beckert, J. and Aspers, P. (eds), *The worth of goods. Valuation and pricing in the economy*, Princeton: Princeton University Press, pp. 63–85.

Katz, D. and Kahn, R.L. ([1966] 1978), *The social psychology of organizations*, New York: Wiley.
Kellogg, K.C., Orlikowski, W.J. and Yates, J. (2006), Life in the trading zone: Structuring coordination across boundaries in postbureaucratic organizations, *Organization Science*, 17(1): 22–44.
Kevles, B. (1997), *Naked to the bone: Medical imaging in the Twentieth century*, New Brunswick: Rutgers University Press.
Kitchener, M. (2000), The 'Bureaucratization' of professional roles: The case of clinical directors in UK Hospitals, *Organization*, 7(1): 129–154.
Kitchener, M. (2002), Mobilizing the logic of managerialism in professional fields: The case of academic health centre mergers, *Organization Studies*, 23(3): 391–420.
Kittler, F. (2009), Towards an ontology of media, *Theory, Culture & Society*, 26(2–3): 23–31.
Knorr-Cetina, K. (2001), Objectual practice, in Schatzki, T.R., Knorr-Cetina, K. and E. von Savigny (eds), *The practice turn in contemporary theory*, London: Routledge, pp. 175–188.
Knorr-Cetina, K. and Bruegger, U. (2001), Transparency regimes and management by content in global organizations, *Journal of Knowledge Management*, 2: 180–194.
Kollberg, B. and Dahlgaard, J. (2005), Measuring lean initiatives in health care services: Issues and findings, *International Journal of Productivity and Performance Management*, 56(1): 7–24.
Kollmeyer, C. (2009), Explaning deindustrialization: How affluence, productivity growth, and globalization diminish manufacturing employment, *American Journal of Sociology*, 114(6): 1644–1674.
Korica, M. and Molloy, E. (2010), Making sense of professional identities: Stories of medical professionals and new technologies, *Human Relations*, 63(12): 1879–1901.
Koyré, A. (1959), *From the closed world to the infinite universe*, New York: Harper Torchbooks.
Koyré, A. (1992), *Metaphysics and measurement*, Reading: Gordon and Breach Science Publishers.
Kragh Jespersen, P. (2005), *Mellem profession og management*, Köpenhamn: Handelshøjskolens Forlag.
Kroes, P. (2010), Engineering and the dual nature of technical artefacts, *Cambridge Journal of Economics*, 34: 51–62.
Kula, W. (1986), *Measures and men*, Princeton: Princeton University Press.
Kurunmäki, L. (1999), Professionals vs financial capital in the field of health care – struggles for the redistribution of power and control, *Accounting, Organizations and Society*, 24: 95–124.
Kusterer, K.C. (1978), *Know-how on the job: The important working knowledge of 'unskilled workers*, Boulder: Westview Press.
Lambert, H., Gordon, E.J. and Bogdan-Lovis, E.A. (2006), Introduction: Gift horse or Trojan horse? Social science perspectives on evidence-based health care, *Social Science and Medicine*, 62: 2613–2620.
Lamont, M. and Molnár, V. (2002), The study of boundaries in social sciences, *Annual Review of Sociology*, 28: 167–195.

Lane, N. (2000), The management implications of women's employment disadvantage in a female-dominated profession: A study of NHS nursing, *Journal of Management Studies*, 37(5): 705–731.
Larson, M.S. (1977), *The rise of professionalism: A sociological analysis*, Berkeley: University of California Press.
Latour, B. (1986), The powers of association, in Law, J. (ed.), *Power, action and belief*, London: Routledge and Kegan Paul, pp. 264–280.
Latour, B. (1987), *Science in Action: How to Follow Scientists and Engineers through Society*, Cambridge: Harvard University Press.
Latour, B. (1991), Technology is society made durable, in Law, J. (ed.), *A sociology of monsters: Essays on power, technology and domination*, London: Routledge, pp. 103–130.
Latour, B. (2005), *Assembling the social: An introduction to actor-network theory*, Oxford: Oxford University Press.
Law, J. (1994), *Organizing modernity*, Oxford: Blackwell.
Lawrence, P.R. and Lorsch, J.W. (1967), *Organization and environment*, Boston: Graduate School of Business administration, Harvard University.
Lawrence, T.B., Suddaby, R. and Leca, B. (2009), *Institutional work: Actors and agency in institutional studies of organization*, Cambridge: Cambridge University Press.
Learmonth, M. and Harding, N. (2006), Evidence-based management: The very idea, *Public Administration*, 84(2): 245–266.
Leonardi, P.M. (2011), When flexible routines meet flexible technologies: Affordances, constraints, and the imbrications of human and material agencies, *MIS Quarterly*, 35(1): 147–167.
Leonardi, P.M. and Barley, S.R. (2010), What's under construction here? Social action, materiality, and power in constructivist studies of technology and organizing, *The Academy of Management Annals*, 4(1): 1–51.
Levay, C. and Waks, C. (eds) (2006), *Strävan efter transparens*, Stockholm: SNS-förlag.
Levay, L. and Waks, C. (2009), Professions and the pursuit of transparency in healthcare: Two cases of soft autonomy, *Organization Studies*, 30(5): 509–527.
Levina, N. (2005), Collaborating on multiparty information systems development projects: A collective reflection in action view, *Information System Research*, 16(2): 109–130.
Lindberg, K. (2002), *Kopplandets kraft: Om organisering mellan organisationer*, Göteborg: BAS.
Lindberg, K. and Blomgren, M. (eds) (2009), *Mellan offentligt och privat. Om styrning, praktik och intressen i hälso- och sjukvården*, Stockholm: Santérus Academic Press.
Lindberg, K. and Czarniawska, B. (2006), Knotting the action net, or organizing between organizations, *Scandinavian Journal of Management*, 22(4): 292–306.
Llewellyn, S. (1998), Boundary work: Costing and caring in the UK social services, *Accounting, Organizations and Society*, 23: 23–48.
Llewellyn, S. (2001), 'Two-way windows': Clinicians as medical managers, *Organization Studies*, 22(4): 593–623.
Lok, J. (2011), Institutional logics as identity projects, *Academy of Management Journal*, 53(6): 1305–1335.

Lounsbury, M. (2001), Institutional sources of practice variation: Staffing university and college recycling programs, *Administrative Science Quarterly*, 46: 29–56.
Lounsbury, M. (2008), Institutional rationality and practice variation: New directions in the institutional analysis of practice, *Accounting, Organization and Society*, 33: 349–361.
Luhmann, N. (1979), *Trust and power*, Wiley: New York.
Lyotard, J.-F. (1984), *The postmodern condition: A report on knowledge*, Manchester: Manchester University Press.
Maarse, H. (2006), The privatization of health care in Europe: An eight-country analysis, *Journal of Health, Policy and Law*, 31(5): 981–1014.
Mackenzie, D. (1993), Negotiating arithmetic, constructing proof: The sociology of mathematics and information technology, *Social Studies of Science*, 23: 37–65.
Mackenzie, D. (2009), *Material markets: How economic agents are constructed*, Oxford: Oxford University Press.
Mamo, L. and Fishman, J.R. (2001), Potency in all the right places: Viagra as a technology of the gendered body, *Body & Society*, 7(4): 13–37.
Marks, J. (2006), Biopolitics, *Theory, Culture and Society*, 23(2–3): 333–335.
Marshall, B.L. (2009), Sexual medicine, sexual bodies and the pharmceutcial imagination, *Science as Culture*, 18(2): 133–149.
Martin, P.Y. and Turner, B.A. (1986), Grounded theory and organizational research, *The Journal of Applied Behavioural Science*, 22(2): 141–157.
McAfee, K. (2003), Neoliberalims on the molecular scale. Economic and genetic reductionism in the biotechnology battles, *Geoforum*, 34(2): 203–219.
Mcdonald, R., Harrison, S. and Checkland, K. (2008), Identity, contract and enterprise in a primary care setting: An english general practice case study, *Organization*, 15(3): 335–370.
McGivern, G. and Ferlie, E. (2007), Playing tick-box games: Interrelating defences in professional appraisal, *Human Relations*, 60(9): 1361–1385.
McNay, L. (2009), Self as enterprise: Dilemmas of control and resistance in Foucault's The birth of biopolitics, *Theory, Culture & Society*, 26(6): 55–77.
Meyer, J.W. and Rowan, B. (1977), Institutionalizing organizations: Formal structure as myth and ceremony, *American Journal of Sociology*, 83(2): 340–363.
Meyer, R.E. and Hammerschmid, G. (2006), Changing institutional logics and executive identities: A managerial challenge to public administration in Austria, *American Behavioral Scientist*, 49(7): 1000–1014.
Miettinen, R., Samra-Fredericks, D. and Yanow, D. (2009), Re-Turn to Practice: An introductory essay, *Organization Studies*, 30(12): 1309–1327.
Miller, D. (ed.) (2005), *Materiality*, Durham: Duke University Press.
Miller, D. (2010), *Stuff*, Cambridge: Polity.
Mills, C.W. (1959), *The sociological imagination*, Oxford: Oxford University Press.
Mirowski, P. and Van Horn, R. (2005), The contract research organization and the commercialization of scientific research, *Social Studies of Science*, 35(4): 503–548.
Mol, A. (2002), *The body multiple: Ontology in medical practice*, Durham: Duke University Press.
Monaghan, L.F., Hollands, R. and Pritchard, G. (2010), Obesity epidemic entrepreneurs: Types, practices and interests, *Body & Society*, 16(2): 13–71.
Mowery, D.C. and Ziedonis, A.A. (2002), Academic patent quality before and after the Bayh-Dole act in the United States, *Research Policy*, 31: 399–418.

Muniesa, F., Millo, Y. and Callon, M. (2007), An introduction to market devices, in Callon, M., Millo, Y. and Muniesa, F. (eds), *Market devices*, Oxford: Blackwell, pp. 1–12.

National Action Plan (2006) *Nationel handlingsplan mot narkotika*, Stockholm: Mobilisering mot narkotika.

Nightingale, P. and Mahdi, S. (2006), The evolution of the pharmaceutical innovation, in Mazzucati, M. and Dose, G. (eds), *Knowledge accumulation and industry evolution: The case of pharma-biotech*, Cambridge: Cambridge University Press, pp. 73–111.

Nippet-Eng, C. (2003), 'Drawing the line – Organizations and the boundary work of "home" and "work" ', in Paulsen, N. and Hernes, T. (eds), *Managing boundaries in organizations – Multiple perspectives*, Houndmills: Palgrave Macmillan, pp. 262–280.

Nishizaka, A. (2011), The embodied organization of a real-time fetus: The visible and the invisible in prenatal ultrasound examinations, *Social Studies of Science*, 41(3): 309–336.

Noordegraaf, M. and van der Meulen, M. (2008), Professional power play: Organizing management in health care, *Public Administration*, 86(4): 1055–1069.

Nutch, F. (1996), Gadgets, gizmos, and instruments: Science for the tinkering, *Science, Technology & Human Values*, 21(2): 214–228.

Nyström, S. (2003), *Metoder för missbrukarvården*, Stockholm: CUS.

Nyström, S., Sallmén, B. and Öberg, D. (2005), *Beslut på bättre grunder – en handbok för ASI-användare*, Stockholm: IMS.

Oakes, L.S., Townley, B. and Cooper, D.J. (1998), Business planning as pedagogy: Language and control in a changing institutional field, *Administrative Science Quarterly*, 43: 257–292.

OECD (2007), *International migration outlook*: *SPEMI 2007 edition*, France: OECD.

Öfverström, H. (2008), *Steget till chefskap*. *Om läkare som verksamhetschefer*, Göteborg: BAS.

Olson, O., Guthrie, J. and Humphrey, C. (1998), Introduction, in Olson, O., Guthrie, J. and Humphrey, C. (eds), *Global warning*. *Debating international developments in new public financial management*, Oslo: Cappelen Akademisk Forlag, pp. 17–48.

O'Mahoney, S. and Bechky, B.A. (2008), Boundary organizations: Enabling collaboration among unexpected Allies, *Administrative Science Quarterly*, 53: 422–459.

O'Reilly, D. and Reed, M. (2011), The grit in the oyster: Professionalism, managerialism and leaderism as discourses of UK public services modernization, *Organization Studies*, 32(8): 1079–1101.

Orlikowski, W.J. (2007), Sociomaterial practices: Exploring technology at work, *Organization Studies*, 28(9): 1435–1448.

Orlikowski, W.J. (2010), The sociomateriality of organizational life: Considering technology in management research, *Cambridge Journal of Economics*, 34: 125–141.

Orlikowski, W.J. and Scott, S.V. (2008), Sociomateriality: Challenging the separation of technology, work, and organization, *The Academy of Management Annals*, 2(1): 433–474.

Ortmann, G. (2010), On drifting rules and standards, *Scandinavian Journal of Management*, 26: 204–214.

Oudshoorn, N. (2003), *The male pill: A biography of a technology in the making*, Durham: Duke University Press.
Övreveit, J. (2000), Total quality management in European healthcare, *International Journal of Health Care Quality Assurance*, 13(2): 74–79.
Parsons, T. (1956), Suggestions for a sociological approach to the theory of organizations-I, *Administrative Science Quarterly*, 1: 63–85.
Peckham, S., Exworthy, M., Powell, M. and Greener, I. (2008), Decentralizing health services in the UK: A new conceptual framework, *Public Administration*, 86(2): 559–580.
Peirce, C.S. (1992), *The essential peirce: Selected philosophical writings*, Houser, N. and Kloesel, C. (eds), Bloomington: Indiana University Press.
Perrow, C. and Guillén, M.F. (1990), *The AIDS disaster: The failure of organizations in New York and the nation*, New Haven: Yale University Press.
Pettigrew, A., Ferlie, E. and McKee, L. (1992), *Shaping strategic change*, London: Sage.
Pfaffenberg, B. (1988), Fetishised objects and humanized nature: Towards an anthropology of technology, *Man*, 23: 236–252.
Pfeffer, J. and Salancik, G.R. (1978), *The external control of organizations: A resource dependence perspective*, New York: Harper & Row.
Phillips, N., Lawrence, T.B. and Hardy, C. (2000), Inter-organizational collaboration and the dynamics of institutional fields, *Journal of Management Studies*, 37(1): 23–43.
Pickering, A. (2010), *The cybernetic brain: Sketches of another future*, Chicago: University of Chicago Press.
Pinch, T. (2008), Technology and insititutions: Living in a material world, *Theory and Society*, 37: 461–483.
Pisano, G.O. (2006), *Science business: The promise, the reality and the future of biotech*, Boston: Harvard Business School Press.
Pitts-Taylor, V. (2007), *Surgery junkies: Wellness and pathology in cosmetic culture*, New Brunswick: Rutgers University Press.
Pollitt, C. (1993), *Managerialism and the public services: Cuts or cultural changes in the 1990s?* Oxford: Blackwell.
Popper, K.R. (1959), *The logic of scientific discovery*, London: Hutchinson.
Porter, T.M. (2009), How science became technical, *Isis*, 100: 292–309.
Powell, W.W. and Colyvas, J.A. (2008), Microfoundations of institutional theory, in Greenwood, R., Oliver, C., Sahlin, K. and Suddaby, R. (eds), *The Sage handbook of organizational institutionalism,* London: Sage, pp. 276–298.
Power, M. (1997), *The audit society: Rituals of verification*, New York: Oxford University Press.
Proudlove, N., Moxhma, C. and Boaden, R. (2008), Lessons for lean in healthcare from using six sigma, *Public Money & Management*, 28(1): 27–34.
Purdy, J.M. and Grey, B. (2009), Conflicting logics, mechanisms of diffusion, and multilevel dynamics in emerging institutional fields, *Academy of Management Journal*, 52(2): 355–380.
Rafferty, M. (2008), The Bayh-Dole act and university research and development, *Research Policy*, 37: 29–40.
Rao, H., Monin, P. and Durand, R. (2003), Institutional change in Toque Ville: Novelle cuisine as an identity movement in French gastronomy, *American Journal of Sociology*, 108: 795–843.

Reay, T. and Hinings, C.R. (2005), The recomposition of an organizational field: Health care in Alberta, *Organization Studies*, 26(3): 351–384.
Reay, T. and Hinings, C.R. (2009), Managing the rivalry of competing institutional logics, *Organization Studies*, 30(6): 629–652.
Rheinberger, H.-J. (1999), Experimental systems, graphematic spaces, in Lenoir, T. (ed.), *Inscribing science: Scientific texts and the materiality of communication*, Stanford: Stanford University Press, pp. 285–303.
Rorty, R. (1980), *Philosophy and the mirror of nature*, Cambridge: Cambridge University Press.
Roth, W.-M. (2005), Making classifications (at) work: Ordering practices in science, *Social Studies of Science*, 35(4): 581–621.
Roy, D. (1952), Quote restriction and goldbricking in a machine shop, *American Journal of Sociology*, 57(5): 427–442.
Roy, D. (1954), Efficiency and 'the fix': Informational intergroup relations in a piecework machine shop, *American Journal of Sociology*, 60(4): 255–266.
Ryle, G. (1949), *The concept of mind*, Harmondsworth: Penguin.
Sackett, D.L., Haynes, R.B., Guyatt, G.H. and Tugwell, P. (1985), *Clinical epidemiology: A basic science for clinical medicine*, Boston: Little, Brown and Company.
Sahlin-Andersson, K. (2006), Transparensens former, in Levay, C. and Waks, C. (eds), *Strävan efter transparens: Granskning, styrning och organisering i sjukvårdens närverk*, Stockholm: SNS, pp. 19–50.
Saltman, R.B. and Figueras, J. (1998), Analyzing the evidence on European health care reforms, *Health Affairs*, 17(2): 85–108.
Samuel, S., Dirsmith, M.W. and McElroy, B. (2005), Monetized medicine: From the physical to the fiscal, *Accounting, Organization and Society*, 30: 249–278.
Santos, F.M. and Eisenhardt, K.M. (2005), Organizational boundaries and theories of organization, *Organization Science*, 16(5): 491–508.
Sapsed, J. and Salter, A. (2004), Postcards from the edge: Local communities a, global programs and boundary objects, *Organization Studies*, 25(9): 1515–1534.
Schatzki, T.R. (2002), *The site of the social: A philosophical account of the constitution of social life and change*, University Park: The Pennsylvania State University Press.
Schatzki, T.R. (2005), Peripheral vision: The sites of organizations, *Organization Studies*, 26: 465–484.
Schatzki, T.R. Knorr-Cetina, K. and Savigny, E. (eds) (2001), *The practice turn in contemporary theory*, London: Routledge.
Schubert, C. (2007), Risk and safety in the operating theatre: An ethnography study of sociotechnical practices, in Burri, R.V. and Dumit, J. (eds), *Biomedicine as culture: Instrumental practices, technoscientidfic knowledge, and new modes of life*, New York: Routledge, pp. 123–138.
Schulten, T. (2006), Liberalisation, privatisation and regulation in the German healthcare sector/hospitals privatisation of public services and the impact on quality, employment and productivity (PIQUE): http://www.boeckler.de/pdf/wsi_pj_piq_sekkrankh.pdf, accessed 29 October 2007.
Schutz, A. (1962), *Collected papers, Vol I: The problem of social reailty*, The Hague: Martinus Nijhoff.
Schwartzman, H.B. (1993), *Ethnography in organization*, London: Sage.

Scott, B. (2001), Cybernetics and the social science, *Systems Research and Behavioral Science*, 18: 411–420.
Scott, R.W., Ruef, M., Mendel, P.J. and Caronna, C.A. (2000), *Institutional change and healthcare organizations*, Chicago: University of Chicago.
Selznick, P. (1949), *TVA and the grassroots*, Berkeley: University of California Press.
Shapin, S. (1994), *A social history of truth: Civility and science in seventeenth-century England*, Chicago: The Chicago of University Press.
Sharp, L.A. (2003), *Strange harvest: Organ transplants, denatured bodies, and the transformed self*, Berkeley: University of California Press.
Sharp, L.A. (2011), The invisible woman: The bioaestetics of engineered bodies, *Body & Society*, 17(1): 1–30.
Shore, C. and Wright, S. (2000), Coercive accountability, in Strathern, M. (ed.), *Audit culture: Anthropological studies in accountability, ethics and the academy*, London: Routledge, pp. 57–89.
Shostak, S. and Conrad, P. (2008), Sequencing and its consequences: Path dependence and the relationships between genetics and medicalization, *American Journal of Sociology*, 114: S287–S316.
Silverman, D. (1970), *The theory of organizations: A sociological framework*, London: Heineman.
Simmel, G. (1978), *The philosophy of money*, London: Routledge and Kegan Paul.
Simon, H.A. ([1947] 1976), *Administrative behavior*, 3rd ed., New York: Free Press.
Simon, H.A. (1957), *Models of man*, New York: Wiley.
Smith Hughes, S. (2001), Making dollars out of DNA: The first major patent in biotechnology and the commercialization of molecular biology, 1974–1980, *Isis*, 92(3): 541–575.
Solli, R., Demediuk, P. and Sims, R. (2005), The namesake: On best value and other reforms, in Czarniawska, B. and Sevón, G. (eds), *Global ideas: How ideas, objects and practices travel in the global economy*, Malmö: Liber, pp. 30–46.
Sommerlund, J. (2006), Classifying microorganisms: The multiplicity of classifications and research practices in molecular microbial ecology, *Social Studies of Science*, 36(6): 909–928.
Star, S.L. (1999), The ethnography of infrastructure, *American Behavioral Scientist*, 43(3): 377–391.
Star, S.L. (2010), This is not a boundary object: Reflections on the origin of a concept, *Science, Technology and Human Values*, 35(5): 601–617.
Star, S.L. and Griesemer, J.R. (1989), Insitutional ecology, 'translation' and bondary objects: Amateurs and professionals in Berlely's Museum of Vertebrate Zoology, 1907–1039, *Social Studies of Science*, 19(3): 387–420.
Star, S.L. and Lampland, M. (2009), Reckning with standards, in Lampland, M. and Star, S.L. (eds), *Standards and their stories: How quantifying, classifying, and formalizing practices shape everyday life*, Ithaca: Cornell University Press, pp. 3–24.
Stering, B. (2005), *Shaping things*, Cambridge: The MIT Press.
Stevens, S. (2004), Reform Strategies for the English NHS, *Health Affairs*, 23(3): 37–44.
Stuart, T.E. and Ding, W.W. (2006), When do scientists become entrepreneurs? The social structural antecedents of commercial activity in the academic life sciences, *American Journal of Sociology*, 112(1): 97–114.

Sturdy, A., Clark, T., Finchman, R. and Handley, K. (2009), Between innovation and legitimation – Boundaries and knowledge flow in management consultancy, *Organization*, 16(5): 627–653.
Styhre, A. (2008), The aesthetics of rock construction work: The beauty of sprayed concrete, rock reinforcement and roof bolting, *Culture and Organization*, 14(4): 401–410.
Suchman, L.A. (2007), *Human-machine reconfigurations: Plans and situated actions*, Cambridge: Cambridge University Press.
Sunder, R.K. (2006), *Biocapital: The constitution of postgenomic life*, Durham: Duke University Press.
Swann, J.P. (1988), *Academic scientists and the pharmaceutical industry*, Baltimore: Johns Hopkins University Press.
Tailby, S. and Walter, L. (2001), Temporary employment in European healthcare: An analysis of common trends and scattered practices, paper presented at EGOS 2001, Barcelona.
Thornton, P.H. (2002), The rise of the corporation in a craft industry: Conflict and conformity in institutional logics, *Academy of Management Journal*, 45: 81–101.
Thornton, P.H. and Ocasio, W. (2008), Institutional logics, in Greenwood, R., Oliver, C., Sahlin, K. and Suddaby, R. (eds), *The Sage handbook of organizational institutionalism*, London: Sage, pp. 99–129.
Trägårdh, B. and Lindberg, K. (2004), Curing skinny health care with lean methods – Managing 'chains of care' in the Swedish health care sector, *International Journal of Health Planning and Management*, 19(4): 383–398.
Van Maanen, J. (1979), The fact of fiction in organizational ethnography, *Administrative Science Quarterly*, 24: 539–550.
Van Maanen, J. (1988), *Tales from the field. On writing ethnography*, Chicago: University of Chicago Press.
Waldby, C. and Cooper, M. (2007), The biopolitics of reproduction: Post-fordist biotechnology and women's clinical labour, *Australian Feminist Studies*, 23(55): 57–73.
Waring, J. and Currie, G. (2009), Managing expert knowledge: Organizational challenges and managerial futures for the UK medical profession, *Organization Studies*, 30(7): 755–778.
Watkins, E.S. (2001), *On the pill: A social history of oral contraceptives, 1950–1970,* Baltimore: Johns Hopkins University Press.
Weber, M. (1962), *Basic concepts in sociology*, London: Citadel Press.
Weick, K.E. (1979), *The social psychology of organizing*, 2nd ed., New York: McGraw-Hill.
Weick, K.E., Sutcliffe, K.M. and Obstfeld, D. (2005), Organizing and the process of sensemaking, *Organization Science*, 16(4): 409–421.
Wiener, N. (1948), *Cybernetics, or control and communication in the animal machine*, New York: John Wiley.
Wiener, N. (1950), *The human use of human beings*, London: Eyre and Spottiswoode.
Wilkinson, A., Graham, G. and Marchington, M. (1997), Bouquets, brickbats and blinkers: Total quality management and employees involvement in practice, *Organization Studies*, 18(5): 799–819.
Wittgenstein, L. (1953), *Philosophical investigations*, Oxford: Blackwell.

Yanow, D. (2006), Talking about practices: On Julian Orr's talking about machines, *Organization Studies*, 27(12): 1743–1756.
Young, M. and McClean, S. (2008), A critical look at lean healthcare, *Quality and Safety in Health Care*, 17: 382–386.
Yuen, P.P. and Hayllar, M.R. (1999), Health care reforms: Recent developments, *International Journal of Public Administration*, 22(3–4): 381–284.
Zajac, E.J. and Westphal, J.D. (2004), The social construction of stock market value: Institutionalization and learning perspectives on stock market reactions, *American Sociological Review*, 69: 433–457.
Zald, M.N. and Lounsbury, M. (2010), The wizards of OZ: Towards an institutional approach to elites, expertise, and command posts, *Organization Studies*, 31(7): 963–996.
Zaloom, C. (2003), Ambiguous numbers: Trading technologies and interpretation in financial markets, *American Ethnologist*, 30: 258–272.
Zelizer, V.A. (1989), The social meaning of money, *American Journal of Sociology*, 95(2): 342–377.
Zelizer, V.A. (2000), Finetuning the Zelizer view, *Economy and Society*, 29(3): 383–389.
Zerubavel, E. (1982), The standardization of time: A sociohistorical perspective, *American Journal of Sociology*, 88: 1–29.

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