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David Scott with
Roy Bhaskar

Roy Bhaskar
A Theory of Education

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The author Roy Bhaskar is deceased.

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This book is dedicated to the memory of Ram Roy Bhaskar (1944–2014).

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Contents

Chapter 1
Roy Bhaskar—A Short Biography

Roy Bhaskar died on 19 November 2014. He was a social philosopher best known for his work on the philosophy of Critical Realism and metaReality. His last academic appointment was as a World Scholar at the University College London, Institute of Education. Whilst there, he set up the International Centre for Critical Realism. A good account of his life and work is contained in his auto-ethnography, *The Formation of Critical Realism: A Personal Perspective* (Bhaskar with Hartwig 2013).

Ram Roy Bhaskar, generally known as Roy throughout his life, was born in London on 15 May 1944. His father was an Indian doctor who had come to London at the beginning of the Second World War to qualify for his Fellowship of the Royal College of Surgeons (FRCS). His mother was English but had spent most of her childhood in South Africa. He had, in many respects, an unhappy childhood, experiencing a struggle to come into, what he called, his dharma or vocation:

> The whole issue was closely connected to two concerns. One was a concern with freedom, and the root of this was a concern for my own freedom. The concept of dharma, I think, goes particularly well with such a conception of freedom, in which freedom is as much about who you are and what you can become as it is about what you can do or what you have. The other concern was for social justice, because where there is a difference that cannot be grounded this is a form of injustice. […] If the sort of life I was leading, certainly from the age of seven or eight was a split life, what then was the contrast? Well it was a life of wholeness or unity. I understood that being aware of possibilities meant that I could play. I could be whole in fantasy. But the notion of being whole in physical actuality was also of course very important. […] obviously I had a notion that one could be whole all the time and not just in play and occasional moments of fulfilling activity. So alongside the criteria for what it is to be a good person, there was a criterion of integrity, of wholeness. This was what I really wanted. I wanted not just to be a good person but to be whole, and that meant that I had to fulfil my dharma,

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> I had to be doing what came naturally to me, what I was best at doing, what I had a bent for. (Bhaskar with Hartwig 2010: 5)

Here he sets out the wellspring of his life and work.

He went to St Paul's private school in West London and then to university at Balliol College, Oxford, where he obtained a first-class honours degree in Philosophy, Politics and Economics in 1966. Offered a choice between these three subjects, he decided to work in economics, because as he suggested later,

> (d)espite my passion for philosophy, at the end of my finals I eventually opted for economics. This was really because I thought that economics was the most important, or rather the most serious of the PPE disciplines. While I was good at solving the puzzles that were posed in philosophy, and I found that the experience very rewarding, they were often in themselves totally trivial, such as: Is there another mind in the world? Does this table exist? or Do you have two hands? […….] The topics in politics and economics by contrast were intrinsically about something, the answer wasn't obvious, with the only challenge being about how you arrive at the answer. [However] the biggest problems in the world were I thought economic ones, and that is the reason why I went into doing a DPhil in Economics. (*ibid*., 2010: 23–4)

He became a lecturer in economics at Pembroke College, Oxford and starting work on a thesis on 'the relevance of economic theory for underdeveloped countries' at Nuffield College, Oxford. However, the lack of reference to the real world in this work persuaded him to switch back to philosophy. As a result, he began work as a research fellow at Linacre College, Oxford, on the project of reinstating the importance of ontology in philosophical discourse (the philosophical study of being) and developing a new non-empiricist and non-positivist ontology, characterised by stratification, differentiation and emergence. This work eventually resulted in his first book, *A Realist Theory of Science*, published in 1975 while he was a lecturer in philosophy at the University of Edinburgh.

A Realist Theory of Science (1975), which focused on the natural world, was soon followed by its counterpart, *The Possibility of Naturalism* (1979), which focused on the social world. The theories put forward in these books, initially called transcendental realism and critical naturalism, came to be combined, somewhat controversially, as 'critical realism' in a new philosophy of science and social science. Shortly after, he published a third book, *Scientific Realism and Human Emancipation* (1987), and here he argued for a strong programme of explanatory critique and ontological realism combining ethical naturalism and ideology-critique. Together, these three books laid the basis for what he called 'basic (or original) critical realism'. In turn, this development of basic critical realism was supported by two further books: *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy* (1989) and *Philosophy and the Idea of Freedom* (1991).

In 1993 a new phase in critical realism, known as dialectical critical realism, was initiated by the publication of his *Dialectic: The Pulse of Freedom* (1993) and, a year later, by that of *Plato, etc.: The Problems of Philosophy and Their Resolution* (1994). These books developed the ontology and conceptual framework of dialectical critical realism, whilst at the same time offering a critique of

the whole trajectory of Western philosophy. In 2000 he inaugurated a new, initially very contentious, phase of critical realist philosophy in what has become known as the 'spiritual turn' with the publication of *From East to West* (2000). This was quickly followed in 2002 by *Reflections on metaReality*, *From Science to Emancipation* and *The Philosophy of metaReality*, which together provided the foundations for a third phase of critical realism, metaReality, a phase which combines a strong critique of modernity with a radically new account of the self, social structuring and the universe, oriented, as is dialectical and basic critical realism, to the survival of the planet and universal wellbeing and flourishing.

The Life

This book has a highly unusual form. The first and last chapters bracket the main body of the text, which consists of transcriptions of two interviews with Roy, the text of a research proposal that we jointly worked on, and a transcription of a lecture Roy gave in India in 2002 specifically about education. The original intention was that the major part of the book would consist of four long interviews with Roy, but his death intervened before the interviews could be completed. And thus a new structure, contents and order of the book was needed. The idea of an introductory chapter remained as it was. What this opening chapter attempts to do is position his theory of critical realism in the context of his life, and more importantly, in the context of those social forces, discourses and events which shaped his thinking:

> Any adequate philosophy of science must find a way of grappling with this central paradox of science: that men in their social activity produce knowledge which is a social product much like any other, which is no more independent of its production and the men who produce it than motor cars, armchairs or books, which has its own craftsmen, technicians, publicists, standards and skills and which is no less subject to change than any other commodity. This is one side of 'knowledge'. The other is that knowledge is '*of*' things which are not produced by men at all: the specific gravity of mercury, the process of electrolysis, the mechanism of light propagation. None of these 'objects of knowledge' depend on human activity. If men ceased to exist sound would continue to travel and heavy bodies fall to the earth in exactly the same way, though *ex hypothesi* there would be no one to know it. (Bhaskar 2008: 4)

This is the kernel of the argument he reproduced in many different forms in papers, books and talks throughout the rest of his life.

Central to the ontology of the life-history method is the notion of *narrative*. This refers to underlying discourses, usually in story form, that permeate individual experiences. There is a hermeneutic process at work in the collection of life-history material, for both biographer and biographee—this book is above all an account of the life and work of a particular person. The biographical method is an attempt to overcome the divide between structure and agency and in the process to mediate between the structural and the phenomenological. It does this by focusing

on the individual life, lived in terms of social narratives, institutional mores and those relatively enduring institutional, structural and discursive structures that constitute the social.

The central building block of the biographical method is the text, whether spoken or written, by the person or other persons. Texts are situated in history, and this historical dimension has implications for how they are constructed and understood. The life history focuses on the individual and is particularistic. It does this through narrative analysis, but always with the understanding that these narratives are public, even if formed and reformed at different points of time by the actions of individuals and groups of individuals. Central to narrative analysis is the notion of time. Time is understood as experienced through social narratives and provides a cohering character to that life.

The individual 'life' is continuously made and remade by the person in the present to achieve narrative coherence. Since narratives are embedded in history, the life is always being transformed. It is never enough to understand the process as one of remembering, or of course not remembering (given the frailty of memory), the past, and then representing that account as truthful. Roy Bhaskar, here in this book, literally reconstructed his past with reference to how he understood the present. Indeed, that understanding is a reconceptualisation of previous reconceptualisations. The nearer in time the event or activity being recalled, the fewer representations there are. Indeed, the process is wave-like, as successive accounts are re-formed in relation to present understandings. It is further complicated by memories of overlapping reconstructions and how the event or activity was understood in the past. This meta-process of reflection has a focus and a frame. It refers to the past, but it also refers to the way in which the past was, but is no longer, framed.

The second element of 'the life' is that it is fragmentary. This is not just because memory is fragile, but also because original and subsequent reconstructions of events, sources of ideas, and the formation and interpretation of those ideas, are complex and particularistic. The person whose life it is does not, and cannot, have full knowledge of the events and activities to which they refer in their autobiographical accounts. They cannot know (indeed, if they could, they would have a God's-eye view of what happened) the consequences of projects that they initiated. These are unforeseen. Furthermore, they may have a limited view of why they actually did what they did, and of how they subsequently understood these events. Tacitly, they may be 'skilled knowers' and may have a store of knowledge from which they draw in their everyday lives, but are unable to articulate it to themselves and in the course of a life-history interview. Indeed, these relatively enduring structures are understood by them, whether tacitly or otherwise, idiomatically. They interpret them in ways that others would not.

This has implications for the biographer. The latter is complicit in the account, which always offers a different perspective on 'the life', and indeed always goes beyond it. The biographer has their own biography, which comprises a set of presuppositions and is presently constituted. They are therefore positioned both biographically and in terms of those discursive frameworks through which they

come to know the world. The interpreted account is therefore only one of many interpretations that could have been made; and furthermore it involves at some point a closure of the series of interpretations that are being made during the course of the process. Though this implies that the biographer and the biographee are unequally positioned in relation to this closure, this is to simplify a complex process. Biographers usually consult and negotiate about the completed account—sadly because of Roy's death, this was not possible. Furthermore, they are generally in sympathy with the project of the person whose life it is, and therefore the closure they mediate is in accord with this. Indeed, if the life-history interview is to be understood as the reconstruction of a 'life', then a measure of agreement is generally reached. The account, as a result, conforms, to a greater or lesser extent, to a particular agenda, and this agenda always make reference to the pasts of both biographer and biographee. This is why commentators such as Erben (1996) frequently refer to the biographical method as autobiographical. The interpretive or hermeneutic procedure implicit in the biographical act is replicative of the process undertaken by the autobiographer.

The second problem for the biographical researcher is the precise relationship between the agency of the individual and those relatively enduring structures within which they are positioned. I have already suggested that the agency of the individual is constructed and reconstructed by them, both in the course of their life and by the autobiographical process. I also suggested that those structural relations, including the way in which texts are produced, are in history and therefore also subject to change. However, the most fundamental insight of the hermeneuticist is that these structural relations can only be known in the first instance through their reconstruction by the person. The biographical interview is therefore central to an understanding of the way the individual is positioned in relation to those relatively enduring structures, which are characteristic of human relations.

Four possible viewpoints can be identified. The first of these suggests that structural influences may be understood without reference to the way they are conceptualised by individuals. Biographical researchers therefore need to employ methods that accord with this position. In contrast, a second position suggests that those structures and mechanisms, which underpin social life, are competently reflected in actors' descriptions. In other words, social actors can give adequate accounts of their skilled performances under the right conditions, and these reflect what actually happened. A third position seeks to reconcile the first two positions. Agency and structure operate as a duality. Human beings are neither determined by external and influential forces nor are they free unconstrained agents, who operate separately from those sets of relations and conjunctions that constitute society. Actors continually draw upon sets of 'rules and resources', which, once substantiated, allow social life to continue as they become routinized. Human beings make the world in the context of previous attempts by them and other people (this creates structural properties), and at the same time transform those structures and change those conditions that influence subsequent reconstructions of the world. Furthermore, whilst agency is responsible for structural transformation, it is also

being simultaneously transformed itself. Structures therefore only have substance, and then only fleetingly, in the skilled performances of actors within society.

Giddens' (1984) 'tendential voluntarism' has been criticised by Margaret Archer (1996), among others, because it suggests too close a relationship between agency and structure; indeed, this is a duality. For Archer, social structures and systems always have a relative independence from the activities and beliefs of social agents. Her sophisticated dualism therefore suggests a problem for the biographer. If structures are to be understood as relatively independent of the way in which particular individuals and sets of individuals live their lives (and subsequently understand their performances), then the biographical account is always incomplete. However, if the biographical account is understood as only one part of the mosaic of understanding, then its importance for the biographer is assured.

Textual analysis is central to the biographical/autobiographical method. Indeed, it is possible to go further than this and suggest that all types of educational research have to concern themselves with textual analysis, not least because a text is produced. A number of approaches to reading texts, in particular historical texts, are possible. The first of these is monosemantic. In using an intransitive historical method, the text gives up its meaning and this comprises an unambiguous interpretation. Meaning resides in the text itself and it can only be read in one way. This does not mean that it is always read in this way, since the reader still has to adopt the correct method, i.e. phenomenologically bracketing out their values (the reader is able to put to one side their preconceptions and prejudices during the reading), logically inferring meaning from the text (the one correct way of deriving meaning from the assemblage of words and other paralinguistic forms is applied) and being comprehensive (the reading is not selective in any way). This correct reading doesn't necessarily equate with the intended meaning of the author, as the author may not fully appreciate the meaning of the words that they are setting down on paper. Furthermore, the author may actually change their mind about what a text actually means. However, there is within the text being examined an unequivocal statement of meaning, which can only be captured by an a-historical method.

A second approach is also monosemantic, but here the intentions of the author are foregrounded. The text allows an unequivocal reading because that reading is consistent with the intentions of the author. Again, the reading comprises the use of an a-theoretical method. As Dunne (2009: 108) puts it, '(e)mpathy was possible because in the end the adequate interpreter was "connatural" with his author and real historical understanding, paradoxically, consisted in tearing away the veil of history so that this elemental connaturality could assert itself'. A number of implications follow from this. It is illegitimate to talk about a text being read in a number of different ways, since the author intended it to be read in one particular way. Since the purpose of reading a text is to reconstruct what was in the mind of the author and not to make sense of collections and arrangements of words, the text itself acts only as a piece of evidence, albeit an important piece, with which to reconstruct the intentions of the author. However, there are a number of problems with this. First, the author may not know their own authorial intention with the required degree of certainty. Second, the author may have deliberately created a 'writerly' text, so that

their intention is to allow multiple readings of the text (Barthes 1995). The meaning doesn't, therefore, reside in the text itself, but in the way it is read. As Cherryholmes (1988: 12) argues: 'prior understandings, experiences, codes, beliefs and knowledge brought to a text necessarily condition and mediate what one makes of it'. Furthermore, the form of the text or the way in which the thought processes of the author are translated into textual form, i.e. its textuality, is in history, which complicates the process of inferring authorial intention from the text.

A third approach focuses on reading the text. The text and the way in which it is read are embedded in history. Heidegger (1996: 57) points to the 'fore-structure' of interpretation, and he means by this that an interpretation is never 'a presuppositionless apprehending of something presented to us', but always involves a 'fore-having', 'fore-sight' and 'fore-conception'. Historical texts are therefore read in terms of their pretexts; each society has its own way of organising language, discourses and writing, and thus any historical text has a form, which is unfamiliar to the reader. Furthermore, each text has a sub-text, which operates beneath the text, but which gives it its meaning; those epistemologies and traditions of knowledge which are historical and which permit a particular reading (cf. Usher 1997).

There are a number of solutions to the problems created by the argument that textual reading is immersed in history. The first is that any interpretation that is made is necessarily perspectival, and that is as far as anyone can go. The second possibility is that we can in some way transcend the historicality of our interpretative stance. Gadamer proposes this solution, although it is only partial. Instead of suggesting that an unequivocal reading of a text is possible, he does argue that if we can understand the different contexts and pretexts of a text, then this in itself constitutes a superior way of reading it. For Gadamer, wrestling as he did with the respective claims of authority and tradition, reading a text can be a reasonable activity, provided we understand that he is not advocating an external or objective endorsement of authority. Reason is always subordinated to the claims of tradition, as he makes clear:

> That which has been sanctioned by tradition and custom has an authority that is nameless, and our finite historical being is marked by the fact that always the authority of what has been transmitted—and not only what is clearly grounded—has power over our attitudes and behaviour … tradition has a justification that is outside the arguments of reason and in large measure determines our institutions and our attitudes. (Gadamer 2004: 250)

Heidegger's insistence on the place of the 'fore-structure' in any interpretation we make is in large measure a reassertion of this position.

A life-history text such as this one is constructed in the following way. Central to the text is the process of interpretation, and this comprises an interweaving of two agendas: those of the biographer and the biographee. This 'fusion of horizons' (Gadamer 2004) means that the act of writing about someone or about oneself is exploratory and developmental for both parties. The biographical text or account of the person's life-works is understood in terms of the way it was constructed, and this includes the situated autobiography of the biographer. The past is organised in terms of the present; that is, contemporary discourses, narratives and texts constitute the background to any exploration of the past. It is not that a biography refers

to actual events which are then imperfectly recollected, but rather that past events are interpretations undertaken by the person whose 'life' it is, and these interpretations always have a pretext (Usher 1997). Furthermore, this pretext, comprising as it does the means by which meanings are organised in the present, always makes reference to other pretexts in the past and supersedes them (Scott and Usher 1998). The public and private dimensions of the account are intertwined. Private acts are located in history and carried out in society. The 'life' is fragmentary, comprising parts as opposed to wholes, narratives that never quite come to fruition, disconnected traces, sudden endings and new beginnings.

A Theory of Education

In this book I provide an account of an original educational philosophy, and this philosophy has implications for the way we can understand how the world is structured and in turn how we can transform it to accommodate a desire for a better arrangement of resources for human well-being. It is thus both a theory of mind and world, and, in addition, a theory of education.

What is required for a theory of education? What characterises such a theory? What are its features and the relations between these features? These are, perhaps: a language for understanding the educative process, a capacity for analysing this process (identifying and separating out the various components and the relations between them), an ontology and an epistemology and the relations between them, a way of turning all these into a coherent theory which prescribes what is needed for an educational setting, and a set of educational values. In short, an educational theory, or theory of education, has the following characteristics: a set of basic normative premises about the human being, including their emergent capacities and affordances, and the environment within which the human being is situated; a set of basic normative premises about the relationship between the human being and their environment; a set of basic normative premises about knowledge, learning and change/transformation, both with regard to the individual and the environment in which they are located; conclusions, based on these three sets of premises, about those knowledge sets, skills and dispositions, which includes those values that education should develop; inferences from these premises and conclusions about appropriate pedagogies, curricula, representations and media for representation, and learning environments; and the identification of a set of practical actions that have emanated from these beliefs.

This means that a theory of education, and Roy Bhaskar's theory of education meets these requirements in no small measure, has a view on the following important matters: intentionality, agential capacity, structures of agency, materialism, reflexivity, the possibility of describing and changing the world, progression, education and the lifecourse, essentialism and human nature, pedagogy, knowledge and knowledge-development, truth criteria, the formation of the self, curricular aims and objectives, being with other people, learning (with particular reference

to co-presence and unfolding what already exists in an enfolded state), the self in the learning process, the relationship between the self (or agency) and the environment, stratification, emergence, representation and its different modes, structures and mechanisms, the dialectic, and criticality. In short, what is required for a theory of education is a set of characteristics that constitute a learning environment and the relations between them.

In developing his theory of education, Roy Bhaskar identified a number of influences:

> the anti-monistic tradition in the philosophy of science; the anti-deductivist tradition; what can be called the theorists of the concrete; the sociology of knowledge and the critique of ideologies; Marx and particularly his conception of praxis, which formed the basis of the transformational model of social activity (TMSA); structure and the whole idea of the contrast between structure and events, as you would begin to find in the work of Claude Levi-Strauss and the structuralists, but especially of Noam Chomsky, [….] and Louis Althusser, who was then at the height of his influence; language; the natural philosophers; the metacritical context; [….] [and] perspective: Nietzchean perspectivism, Franz Fanon's theory of revolutionary violence, the theory of crisis generally, Antonio Gramsci and, as a kind of corrective or supplement to Fanon, Gandhi perhaps. (*ibid*.: 34)

The first three of these were opposed to contemporary conceptions of science and in particular, the philosophy of science. The fourth concerned the sociology of knowledge and critiques of ideology:

> By now I had a conception of the transitive and intransitive dimensions and was beginning to see that, not only did scientific knowledge and knowledge generally have to be situated in the social world, [……] but that they had to be situated in the world itself, that is ontologically, as being, and, materially, as (an emergent) part of nature. (*ibid*.: 38)

The fifth was the praxiological turn in the writings of early Marx. This, he argued, required philosophical concepts developed at deeper levels of abstraction to be traced back to their genesis in concrete social conditions. The sixth influence was structuralism; and in particular, this involved a rejection of atomistic events as the sole focus of enquiry and an emphasis on the tendencies and powers of objects, or what he referred to as structures. The seventh influence was a reaction to the idea of the primacy of language and language structures in explanations of and about the world. He made this clear in his notion of the real:

> (i)t seemed to me to be patently obvious that society is constituted by more than just language; that society is about real oppression, real acute poverty, real deaths, real wars, real battles, and that there is a huge distinction between the word "battle" or any number of sentences about a battle and a real battle. (*ibid*.: 39)

Other influences were those of the natural philosophers and the metacritical context.

Roy Bhaskar made three claims about ontology: there are important differences between the transitive realm of knowing and the intransitive realm of being; the social world is an open system; and reality has ontological depth. The first of these then, is a distinction between the intransitive world of being and the transitive world of knowing, with the consequence that if they are conflated, either upwards, resulting in the epistemic fallacy, or downwards, resulting in the ontic fallacy,

some meaning is lost. There are two implications. Social objects, and the relations between them (i.e. networks, confluences and conjunctions), though real, are constantly changing, and it is therefore the changing object which endures, even if that object has been so utterly transformed that it is barely recognisable in relation to its former self. The second implication is that, in certain circumstances and within certain conditions, social objects from the transitive realm can penetrate the intransitive realm and be objectified.

This also suggests that the transitive and intransitive realms may become disconnected. He identified four reasons for this: there are social objects in the world whether they are known or not; knowledge is fallible because any and every epistemic claim is refutable; there are trans-phenomenalist truths which refer to the empirical world and discount deeper levels of social reality, i.e. the work of social mechanisms; and more importantly, there are counter-phenomenalist truths in which those deep structures may actually be in conflict with their appearances.

The second claim he made is that the social world is an open system. Closed systems are characterised by two conditions: objects operate in consistent ways, and they do not change their essential nature. Neither of these conditions pertains to open systems. In closed systems measured regularities are synonymous with causal mechanisms. Experimentation is therefore unnecessary because experimental characteristics are naturally present. There are two alternatives: artificial closure and the use of methods and strategies that fit with systemic openness, including, but not exclusively, inferential judgements from the analysis of indirect evidence. The first of these alternatives, artificial closure, makes a number of unsubstantiated assumptions: transferences can be made even if the original knowledge is constructed in artificial conditions; and this original knowledge is correctly related to the constitution of the object. We are therefore left with those methods and strategies that conform to the principle of systemic openness.

The third claim he made is that social reality has ontological depth. Social objects are the real manifestations of the idealised types used in discourse and are the focus for any enquiry. They are structured in various ways, and because of this, they possess powers (cf. Brown et al. 2002). The powers that these structures (or mechanisms) exert can be one of three types. Powers can be possessed, exercised or actualised. Powers possessed are powers that objects have whether they are triggered by the circumstances or not. Their effect may not be evident in any observable phenomena. Powers exercised have been triggered and are having an effect in an open system, and as a result they are interacting with other powers of other mechanisms within their sphere of influence. These exercised powers may still not give rise to any observable phenomena as these other powers may be acting against them. Powers that have been actualised are generating their effects; within the open system they are working together with other powers, but in this case they have not been suppressed or counteracted. Embodied, institutional or discursive structures can be possessed and not exercised or actualised, possessed and exercised, or possessed and actualised. As a result, a causal model based on constant

conjunctions is rejected and replaced by a generative-productive one, and objects and relations between objects have emergent properties.

Three propositions follow from this perspective. The first is that any descriptions we make of human agency and learning practices are dependent upon 'intentional causality or the causality of reason' (Bhaskar et al. 2010: 14). Second, these descriptions need to take account of 'synchronic emergent powers materialism' (ibid.), that is, time-sequenced and stratificational changes to the powers of objects, whether discursive or embodied; and thirdly, there is a need to acknowledge 'the *evaluative and critical* implication(s) of factual discourse' (ibid., my italics). However, critical realism is an indirect realist theory and therefore employs processes of modelling and retroduction to provide accounts of learning and other practices and the relations between them over time.

The second phase of critical realism, as Roy Bhaskar understood it, is the dialectic. He provided a formal description of the dialectic as a 'process of conceptual or social … conflict, interconnection and change' (Bhaskar 2008: 32). The dialectic results in a real process of human flourishing because it allows the removal of obstacles that can effect and change the conditions of existence. Such obstacles are conceived of as absences that must in turn be absented in a real, contingent dialectical process of emancipatory critique. 'Ontological dialectics is concerned with reality, epistemological dialectics is concerned with what is known about reality, and relational dialectics metacritically situates our knowledge in relation to what is known' (ibid.: 3). Roy Bhaskar understood humanity as having a core human nature (which fundamentally is subject to change) and this manifests itself in different ways under different conditions.

The third phase of critical realism is metaReality. In his *Reflections on metaReality* (2010: 1), Roy Bhaskar suggested that: '(t)his book articulates the difference between critical realism in its development and a new philosophical standpoint which I am in the process of developing, which I have called the philosophy of metaReality'. The main departure is an emphasis on the shift away from Western dualism to a non-dual model in which emancipation entails 'a breakdown, an overcoming, of the duality and separateness between things' (ibid.: 45).

MetaReality moves the logic of Dialectical Critical Realism from *thinking being*, to *being being* including (in its ethical form) *becoming our being* (realising the potential of being of emancipation). Re-enchantment comes from the collapse of the subject-object duality, and with it the collapse of the semiotic triangle. Here we have an immediate unmediated identity of being and meaning, that is, reality is seen as meaningful in itself, entailing, among other things, that we can learn from it. The world is seen to have been a meaningful text, which speaks to us. Likewise, values, such as peace, love and creativity, are no longer seen as subjective classifications of the mind, but rather, they are already constitutive of reality itself.

The issues of knowledge, learning and change are addressed in this book from the perspectives of foundational critical realism, dialectical critical realism and metaReality. An accepted, but not uncontested, view of learning is to theorise it as a process, with a range of characteristics. It has a set of pedagogic relations, that is, it incorporates a relationship between a learner and a catalyst, which could be a person,

a text, an object in nature, a particular array of resources, an artefact, an allocation of a role or function to a person, or a sensory object. A change process is required, either internal to the learner or external to the community of which this learner is a member. In any learning episode, there are temporal and spatial arrangements, and these can be understood in two ways, first, that learning is internally structured, and second, that learning episodes are externally located in time and space.

Further to this, and as an element of a general meta-theory, learning is conditioned by an arrangement of resources, including spatial and temporal features. These arrangements are embodied, discursive, institutional, systemic or agential, and this has implications for the types of learning that can take place. Each learning episode has socio-historical roots. What is learnt in the first place is formed in society and outside the individual. It is shaped by the life that the person is leading. It is thus both externally and internally mediated, and the form taken is determined by whether the process is cognitive, affective, meta-cognitive, conative or expressive. Finally, learning has an internalisation element, where what is formally external to the learner is interiorized by the learner, and a performative element, where what is formally internal to the learner is exteriorized by the learner in the world.

Learning then, is an epistemic or knowledge-producing activity. Knowledge is therefore central to the three types of learning that have been identified: cognitive, skill-based and dispositional. Cognition comprises the manipulation of those symbolic resources (words, numbers, pictures, etc.) that point to (though not necessarily in a mirroring or isomorphic sense) something outside itself, though the referent might also be construed as internally-related. Skill-based knowledge is different from cognition because it is procedural and not declarative. Distinguishing between knowledge of how to do something and knowledge of something is important but both are in essence knowledge-making activities. Dispositional knowledge refers to relatively stable habits of mind and body, sensitivities to occasion and participation repertoires. These three types of knowledge therefore have different forms in their original states and as a result different pedagogic structures, and different expressive or performative modes; and can only be assessed functionally in relation to their different internal relations; that is, there have to be different ways of assessing or evaluating them.

Knowledge (whether we are referring here to its essence, its legitimacy or its genealogy) is contested and thus requires choices to be made between these different formulations, conceptions and arrangements. This in turn has implications for the types of pedagogy that can be employed and the types of evaluative procedures that can be adopted. This is predicated on an assumption that learning per se is always about learning something which we might want to call knowledge; binding knowledge and learning closely together then is an acknowledgement that knowledge can be declarative, procedural *or* embodied and that in its production it can be construed as a learning activity. Roy Bhaskar's theory of learning takes us one step further, referring as it does to notions of co-presence and unfolding what already exists in an enfolded state.

Roy Bhaskar, in one of the interviews with me, suggested that the metatheory of critical realism incorporates three phases of learning:

> In basic critical realism what is said about learning is very much in terms of the development of beliefs. With dialectical critical realism, it is clear that learning is involved in all the components of action, so there is learning at the level of values, learning at the level of wants, and of course, more generally. This means that we have to take into consideration not just the development of beliefs in education and in life, but of course the development of skills and dispositions. In the *Philosophy of metaReality* (2002) there is a model of learning, which is called the unfolding of the enfolded. So basically the model of the unfolding of the enfolded allows us to look at learning not so much as learning of something outside, but as the unfolding of an implicit potential that human beings have. The outside is still very important. The teacher is a catalyst; the teacher provides the conditions and means whereby the unfolding process occurs, but the changing emphasis is to see the human being blessed from the outset with infinite potential. And what happens in life is that we realise or fail to realise some of our potentials. Most of the others are ignored or not called upon.
>
> However, if you don't pay attention to the external elements, then it is going to be one-sided. The model of the unfolding of the enfolded goes like this. Imagine you are learning a skill or a language like French. You are learning how to ride a bike or you are learning French, then one can map five stages. In the first stage you are falling off the bike. You have the will or intention to learn how to ride or learn French or to learn how to drive a car. But you are pretty hopeless at it. And then at a second stage, something magical happens. You manage to stay on the bike for 5 or 10 seconds and this is rather like in the cognitive domain, and Wittgenstein (2001) [1953], Wittgenstein, along with some other philosophers, realised that you can't see it. If you see it you might lose it. But if you see it, the eureka moment, you kind of believe that you will be able to develop it. You will be able to learn the skill or you will be able to achieve the conceptual breakthrough. The first phase might be called or has been called the cycle of courting, the will to do it. The second phase was traditionally called the cycle of creativity. It is the moment of breakthrough. And the third phase is very important. This has been called the phase of formation. And this is when you are riding a bike, you can ride it now for 10 or 20 seconds, but you ride it on different surfaces, you practice cornering. You are driving a car, reversing and you have to consciously bring to mind what it is you are supposed to do when you reverse a car.
>
> Then in the fourth stage, the stage of making, the wonderful thing happens, you can actually speak in French a bit, you can drive a car or bicycle spontaneously, without thinking about it, the way we do when we speak English. We don't have to have anything in our mind to do it; we just do it. And speaking English, for example, is a basic act, something we can do without thinking about it, it just happens. And this is the phase of making when we have acquired the knowledge or skill. And the fifth is when you become so expert at it, that you can produce something in the world, which perfectly reflects your intentionality. You can drive flawlessly from Calais to the South of France; or you can compose a letter in French, and this is a cycle of reflection. So it does seem to me that these five phases do develop the way we have developed mastery over a particular domain of knowledge, and not just things that are skills generally or dispositions. So it seems like a pretty good heuristic to have. And of course it's not denying the role of the teacher, it's not denying the role of the catalyst. Knowledge is something you are trying to develop. Knowledge always pre-exists you.

His Work

Perhaps the best account of his life and his educational philosophy is the considerable resource Roy left behind when he died. Here is the work.

Bhaskar, R. (1997) [1975] *A Realist Theory of Science*, London: Routledge.
Bhaskar, R. (1998) [1979] *The Possibility of Naturalism* (3rd edition), London: Routledge.
Bhaskar, R. (2010) [1987] *Scientific Realism and Human Emancipation*, London: Routledge.
Bhaskar, R. (2011) [1989] *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*, London: Routledge.
Bhaskar, R. (ed.) (1990) *Harre and his critics: Essays in honour of Rom Harre with his commentary on them*, Oxford: Blackwell.
Bhaskar, R. (2011) [1991] *Philosophy and the Idea of Freedom*, London: Blackwell.
Bhaskar, R. and Edgley, R. (eds.) (1991) *A meeting of minds: Socialists discuss philosophy*, London: Socialist Society.
Bhaskar, R. (2008) [1993] *Dialectic: The Pulse of Freedom*, London: Routledge.
Bhaskar, R. (2009) [1994] *Plato, etc.: The Problems of Philosophy and Their Resolution*, London: Routledge.
Bhaskar, R. (2000) *From East to West: odyssey of a soul*, London: Routledge.
Bhaskar, R. (2002) *Reflections On Meta-Reality: A Philosophy for the Present*, New Delhi/London Sage.
Bhaskar, R. (2002) *From Science to Emancipation: alienation and the actuality of enlightenment*, London: Sage Publications.
Bhaskar, R. (2002) *MetaReality: creativity, love and freedom*, New Delhi: Sage Publications.
Bhaskar, R. (2002) *Reflections on MetaReality: transcendence, enlightenment, and everyday life*, Thousand Oaks, California: Sage Publications.
Bhaskar, R. (2002) *Beyond East and West: spirituality and comparative religion in an age of global crisis*, New Delhi and Thousand Oaks, California: Sage Publications.
Bhaskar, R. (2006) *Understanding Peace and Security*, London and New York: Routledge.
Bhaskar, R. and Danermark, B. (2007) *Interdisciplinary and Health*, London: Routledge.
Bhaskar, R. (2005) *Fathoming the Depths of Reality*, London: Routledge.
Bhaskar, R. with Hartwig, M. (2008) *The Formation of Critical Realism: A Personal Perspective*, London and New York: Routledge.
Bhaskar, R., Frank, C., Hoyer, K-G., Naess, P. and Parker, J. (eds.) (2010) *Interdisciplinarity and climate change: transforming knowledge and practice for our global future*, Abingdon, Oxon and New York: Routledge.

In Chaps. 2, 3, 4 and 5 the focus is very much on Roy's own account of his work, given in a series of interviews with me before he died, and from other sources.

Chapter 2
Being and Knowing

Chapters 2, 3, 4 and 5 are fragments of fragments, collected together in the last 3 months of Roy's life. In the first of the interviews we discussed the three phases of critical realism, ethics, predetermination, four-planar social being, epistemic relativism, ontological realism, judgemental rationality, emergence, mind and the world. My words are in bold and Roy's are in plain type.

Can you talk about the basics of your three phases of critical realism, basic critical realism, dialectical critical realism and metaReality, and how they fold into each other.

The simplest way is if I clarify the areas they cover and suggest a way in which they are related. As you know, basic critical realism consists of transcendental realism, critical naturalism and a theory of explanatory critique; that is, a philosophy of science, a philosophy of social science and a development towards ethics. Now dialectical critical realism ends up by being a critique of western philosophy. I should say a little here about the main themes of basic critical realism, and in particular transcendental realism. It starts off with an argument for ontology, for ontology against its reduction to epistemology, and an argument for a new ontology. And that theme of ontology is probably the single most important theme in basic critical realism, but along the way at the level of science and at the level of social science, and proto-ethics, it seeks to resolve certain long-standing philosophical problems. So in the philosophy of science, transcendental realism seeks to resolve, for example, the problem of induction; and in the philosophy of social science transcendental realism seeks to resolve the problem of structure and agency, or the problem of the role of conceptuality in social life; and the theory of explanatory critique seeks to show how you can derive value judgements or value implications from factual statements. And that fits into the orthodox curricula of philosophy in a relatively straightforward way.

Dialectical critical realism started off for me as being an attempt to solve the riddle of why people who were impressed by the dialectic thought that it was so

D. Scott with R. Bhaskar, *Roy Bhaskar*, SpringerBriefs on Key Thinkers in Education,
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important. Karl Marx, for instance, said at one point when he wrote to Engels (cf. Engels 1888), that Hegel had discovered the secret of all science in his dialectic. At another point, he talked about a rational kernel; he talked about separating out all the mysticism, the mystical shell, and he also said he would explain to everyone what it was all about. It started as an attempt to try to answer this question as to what the dialectic was all about, and I think that it does that. What it does is that it diffracts the concept of the dialectic, and in particular, with the epistemological dialectic, it shows what is exciting and critical about transcendental realism in the idea of the dialectic. But when you marry dialectic with ontology, then dialectical critical realism becomes ontological.

It engages with a long-standing belief of Western Philosophy—that you can't say anything about negative qualities in reality or that they don't exist in reality. Change is always a redistribution, so there is no real change going on in reality, and in particular, the world is positive and present—there are no absences, gaps, holes or contradictions in it. I think that it does explode that myth, and in doing so, it provides an analysis of change that underpins the possibility of change, which is signalled by the new ontology. And that is very important for the development of critical realism, I think. Now, the doctrine of ontological monovalence, as I sought to show in the *Dialectics: the Pulse of Freedom* (Bhaskar (2008 [1993]) and *Plato, etc.: The Problems of Philosophy and Their Resolution* (Bhaskar 2009 [1994]), is absolutely fundamental to the whole trajectory of Western Philosophy. It demands a critique of Western Philosophy. If there was a single theme for basic critical realism it would be ontology, and if there was a single theme for dialectical critical realism, it would be the deepening of ontology to include absence, change and the negative.

And then, as you know, metaReality began with, or it was preceded immediately by, the notorious spiritual turn. And what it seeks to do is to suggest in the human and social world that there is a deeper level, which for the most part has passed unnoticed by sociologists, or has been regarded as trivial, and this would be the level, at which, if I wanted to buy a newspaper from you, and I don't reach for my wallet, or you don't give me one of your newspapers, then the transaction won't happen, which indicates the way trust, basic human trust, underlies all commercial transactions. And so the argument was that there was a deeper level, which could be identified as a spiritual level that is present in human social life. And the net result was to deepen the dialectic of freedom that one was engaged in with dialectical critical realism and to a lesser extent with basic critical realism. And also to provide some positive possibilities for the hope of human survival in the present day, which is threatened at the moment. It has been called a global polycrisis. The philosophy of metaReality took the form of a further deepening of ontology. So spirituality and absence might be the keynotes of dialectical critical realism, but they are very much within the territory, and with many of the same aspirations that basic critical realism had. But they provide a deepening of it.

So, is it fair to say that your theory has a strong ethical basis? Could you say a little more about the ethical basis of your theory?

A metaphor that I have used in relation to basic critical realism, that of underlabouring, is very strongly there, and that is what I conceive myself as doing—clearing

the ground from the rubbish that lay there. Science, and social science, insofar as the latter includes the possibility of making value statements, are about the world. That's a fundamental theme that runs through basic critical realism and it is retained in the other phases.

The other thing that I would argue precedes the ethical dimension, and the ethics follows from this, is the idea of seriousness. And that's the idea of producing a philosophy that you can act on. Good examples of unserious philosophical statements might be for me David Hume's statement that you can't give a better reason to go out of a building than by the second floor window, and that raises the question as to why does he always do it by going through the front door, and of course, he's got a very good reason because he knows about gravity. But he doesn't want to introduce gravity into his epistemological system, because it doesn't really allow the legitimacy of theoretical entities of that sort. That's an unserious philosophy.

The aim of basic critical realism, the ethical aim, the pre-ethical aim, is that something is fundamentally wrong with accounts of the world implicitly produced by epistemological doctrines, which were dominant in the day. If you take David Hume's theory of causal laws, constant conjunctions of atomistic events (cf. Hume (2000) [1738]), this proposes that the world is flat, i.e. it hasn't got depth. The world is the same in India or Zimbabwe as it is in the United Kingdom, or in the United States, and there is no differentiation, and context is unimportant, and it presupposes that the world is repetitive.

So it was those kinds of assumptions about the world that I particularly objected to. And I saw those assumptions about the world as undergirding epistemological theories, which made radical change or progressive developments impossible. So that's where the ethics came in. You couldn't have what most reasonable people might want to have, as long as you accepted them, and if you go into philosophical theory deeply enough, you can't have change. What you have is some sort of redistribution of unchanging elements of platonic forms. I have opinions and I have ethical values, but critical realism doesn't really presuppose them, they are developed from that basis.

In other words, a correct way of looking at the world presupposes a correct way of behaving in the world?

A correct way of looking at the world unfreezes the blocks on what we might think of as progressive action. So what I have argued against at the level of explanatory critique, for instance, is that if you have a depth praxis that looks at a structural constraint at a deep level such as Marx and Engels (2003) and Freud (1997) posited, then certain things would happen. It was more that it made way for a whole lot of possibilities, which were blocked. And it is true that in dialectical critical realism I give arguments as to why there must be a certain movement tendentially towards a society in which, to take the lovely statement of Marx about what communism would be, "the free development of each was the free development of all" (Marx and Engels 2003). And that presupposes that we lose our ego or sense of self being opposed to everyone else. We are so far away from this; but if there were good arguments for this, they must tend in that direction. Then we

can eventually see that what humanity, in order to be true to itself, must eventually come to is a society that satisfies that.

This is not a predetermined state of affairs?

No. It can't be predetermined because it is far more likely that we will destroy ourselves; but there is a possibility that we will actually develop, what I am calling, the eudaimonistic society. And it does try to trace out a path in which freedom could develop to that level.

But we have to work at it?

Yes, we have to work at it. The work, and this is crucial, the work has to be done on all four planes of social being. These are material transactions with nature, social interactions between people, social structure, and the stratification of the embodied personality. When you have the understanding that you can't get real or good social change that we might like without acting on all these four planes, then you can see why experiments like soviet communism, and many attempts at social democracy, have fallen short or have failed completely. The plane of the stratification of the embodied personality takes up the famous statement of Marx, in the *Third Thesis on Feuerbach* (Engels 1888), that is, who will educate the educator? Which means who will transform the transformer? Who will revolutionise the revolutionary? And if you think about the ideal of the free development of each being a condition of the free development of all, that means that human flourishing and happiness is as important to me as my own, then we would have to become fundamentally different types of human being. We all have this sense of selfless altruism within us and we call it selfless altruism when it comes to the family, or our partner, but it doesn't extend much further. Sometimes we make tremendous sacrifices for our community or society, but these are normally in situations of war when we are very busy killing others. So this is the sort of thing which is analysed in metaReality through the idea of co-presence, which is the very radical idea that the other is a part of oneself, just a part of oneself that hasn't been recognised.

Can I go back to the trinity of ontological realism, epistemic relativism, and judgemental rationality, which are central elements in the first phase of critical realism?

The first thing I would say is that the order is crucial, and the order is ontological realism, epistemic relativism and judgemental rationality. So epistemic relativism is situated in the context of ontological realism, and judgemental rationality is a device for choosing between different epistemically-relative theories. The notion of ontological realism is developed right at the beginning of *A Realist View of Science* (1975), and basically you *have* to be an ontological realist because implicitly you are going to be talking about something other than yourself, something other than the statements you are making about the world, and of course, this is what I have called the intransitive dimension in science. Another way of looking at this intransitive dimension is through the semiotic triangle, which is the idea that meaning always involves three elements: the signifier, which is the word or text,

the signified and the referent, and what social constructivists and poststructuralist philosophers leave out of course is the referent. It is interesting that de Saussure (1916) left out the referent as well. And they followed him in that.

Why are they so stubborn about the fact that you don't need to address the referent?

I think that the reason is this. There is no way of getting at the world independently of your descriptions; and arguments for ontology that have historically been made in the past were shown, they think, by Hume (2000) [1738], Kant (2007) [1781] and others, to be false. So you can't argue for the world. However, the way I argue for the world is not at a common sense level on its own, but fundamentally through the device of transcendental arguments. This is to take an epistemic practice, particularly in the field of natural science, which is heavily valorised in epistemology, and take a practice within natural science such as experimental activity, and ask what does that presuppose. And the answer is that it presupposes a pre-existent and structured world, and it presupposes a world in which there is a fundamental difference between the object of investigation, which will also be the object you apply in the open systemic world, and empirical regularities and patterns of events. So there is a fundamental distinction in reality that is pre-supposed by experimental activity, and that at least presupposes that there is something there. And then you can develop its characteristics even further. But you have to take the bull by the horns and make out an argument for ontology.

It seems to me curious that they don't want to address ontology or the issue of ontology because they are not convinced by the arguments put forward so far.

I suppose that in pre-critical metaphysics no one really doubted the existence of an external world. What the arguments were about was whether you could prove that god existed or something else. It proved very difficult, as you know, to prove that god existed, and there were lots of very dubious arguments put forward. You can say that the arguments that Kant (ibid.) attacked were all false, but he didn't answer the ontological question, or the transcendental question about science or knowledge itself. Rather, he counterposed science and knowledge to a world, which was the object of German metaphysicians, and this was largely a world in which god was the supreme being. Whereas the sort of world that I am talking about is things like Ohm's law or gravity or scientific objects, and the importance of this is that when Kant (ibid.) was disproving ontology, he thought that it therefore followed that you couldn't say anything about things in themselves, and all you could talk about were appearances, where things were restricted to the phenomenal world, which he described in exactly the same way as Hume (op.cit.). He swallowed completely a Humean or positivist conception of the world of scientific investigation, so there was no structure there. Kant (op.cit.) bought into an idea that there was an epistemological structure for the investigation of the phenomenal world. The whole result was disastrous. You have to be very specific about what it is that you are proving.

I want to come to some of the attributes of the real world, and obviously notions of stratification and emergence are very important in that. Before we do that, can I just go back to the other two elements, which are epistemic relativism and judgemental rationality?

So you have the idea of an intransitive dimension, or in more familiar philosophical jargon, ontology, and then what is essential to an understanding of science is the idea of what scientists produce. And they produce fallible relative beliefs about that intransitive world in a historically socially given language, in which language is always changing, and that is the transitive dimension. Now around the 1970s, there were people who talked about the relativity of scientific knowledge. There was Kuhn (1962) and Feyerabend (1975), and there were people who talked about the fallible and changing nature of scientific knowledge, like Karl Popper (1959), but they abstained from talking about the transitive dimension, and there were also people who talked about reality, assuming an isomorphic relationship between language or beliefs and the world, and they were the positivists.

And that whole dispute was getting nowhere. Once you have a transitive dimension, which isn't positivist, then you can resolve a lot of the aporia that arose within the tradition of those who pointed to the relative and socially changing nature of beliefs. At one point Kuhn (op.cit.) suggests that with Einsteinian physics you are living in a different world from the Newtonian mechanists; however, in some ways it was the same world, but he doesn't make sense of this. He leaves it as a paradox. And the paradox is resolved when you say that they have the same intransitive object. We do compare Newton and Einstein, in a way that we don't compare Einstein and cricket because the intransitive objects are different, and clearly you get rid of the paradoxical problematic picture of talking about changing belief when you express it like this: changing beliefs or different beliefs about an unchanging world. And then there isn't a paradox.

And you can even allow, as people like Feyerabend (op.cit.) wanted to insist, that the terms of theories are incommensurable; that you can't translate them or at least translate them perfectly into each other. You can say that the Einsteinian theory describes the world in one way and the Newtonian theory describes the world in another way. Now judgemental rationality comes in when you posit a criterion, which refers to the real world—the ontological realism that allows you to differentiate between conflicting beliefs about the world. And you have this criterion in the case of the dispute about Einstein's theory of relativity, in about seven or eight or nine real-world situations, like the measurement of mercury in Perihellium. Mostly the Einsteinian theory gets it right in its own terms, and the Newtonian theory gets it right in its terms, but there are test situations in which the Einsteinian theory gets it right and the Newtonian theory gets it wrong. It is therefore quite rational for scientists to prefer the Einsteinian system to the Newtonian one. You can do a similar type of analysis between other systems and the pre-existing largely Newtonian system, though, of course, it has been developed a lot since the time of Newton and quantum mechanics. When it comes to the social sciences it is more difficult to make those judgements, but it still in principle possible to make them.

So in principle, it is possible to make a judgement between a Marxist and non-Marxist viewpoint in relation to the interpretation of a particular phenomenon in the world?

Yes, definitely. What you might want to say is that if you gave an account of the origins of the First World War, which didn't refer to the differential interests of corporations, then it might not be as deep as if you referred to the different material interests of the colonial powers at the time. On the other hand, if you wanted to give an account of Thatcherism, you would have to make reference to phenomena that Marx didn't analyse.

So you can always judge one theory against another?

Yes, and this is because social science is dealing almost exclusively with open system. What you will always need is a number of theories in practice; you will always have to refer to a number of different structures or mechanisms. And in general where these theories talk about an emergent level, then there will be qualitative differences. I don't see any problem in a theory about some historical event, such as the origins of the first world war referring to classes and referring to the unconscious and referring to a lot of other things, such as ideology, for example. What you have to do when you think about an open systemic phenomenon is always to think in terms of complexity, and if the phenomenon is in the human world, or the human world effects it, then the emergent elements are foregrounded.

They are the properties of the ontological phenomenon—properties that work within the ontological realm. I wonder if you could say something more now about these properties. I do think that there is a very real and important issue with judgemental rationality, which you perhaps haven't covered fully.

There are two basic features of the new ontology that was established by the same sorts of arguments that established the necessity of ontology itself. There were two ontological characteristics of the greatest importance. Well, let's say two concepts. The first concept is that of an open system, and this is an index of the differentiation of the world, and the second concept is that of ontological stratification, or a distinction between, what I call, the real and actual, bearing in mind that the actual is also real, the real level then signifies the non-actual real, and of course this was part of a triple distinction between the real, the actual and empirical. And so the key feature of this is stratification, and if I could just go into stratification a little bit. There are three senses that can be given to stratification, which I think it is important to differentiate, all of which are in critical realism. So the first is the idea of the distinction between structure or mechanisms and the events they generate, or the distinction between the real and the actual, or the distinction between powers and their exercise or between powers and their realisation in actuality. That is the first basic distinction.

And the second is the idea of the multi-tiered stratification of reality, and this is opposed to the idea that there is just one level or stratum, where there isn't even one level of difference. The distinction between structures and events is in principle infinitely repeatable in reality. So, for example, here we have a table, and the table is constituted by molecules in motion, and the molecules in motion are constituted by

atoms, which in turn are constituted by electrons, which are to be explained in turn by quantum fields of singularity. In the history of modern physics, we have identified these five levels of structure, and critical realism has a very nice schema to show how science gets from one level to another. This I call the D-R-E-I-C schema and it basically tells you what happens in any round of scientific discovery and development.

You are at the first stage when you are describing the phenomenon and that's the D. And then what you have to do is retroduce. You imagine a structure or mechanism, which if it were real would account for the phenomenon in question. And then activating the role of the creative imagination, you could posit a large number of mechanisms or structures, and an infinite number could be imagined. So you eliminate them on the grounds of coherence, and especially in the natural sciences you use experimental tests, and this is the E stage. Then you come to this wonderful moment, when you can identify a new structure. Once you have identified a new structure, the reason why emeralds are green or appear green is because emeralds have a crystalline structure of a certain kind, or they have a molecular structure of this sort, then you can deduce the property of appearing green from that structure. So the problem of induction is rationally resolved. What this I level does is to allow you to correct the large number of your results, so that's why you have this C. When you get to this level, this new level of structure, you start all over again. So you obviously want to describe that level in as much empirical detail as possible. And then you want to know why that level of structure appears to be as it is.[1] So science is a continual process of movement from manifold phenomena to explanatory structure. So that is the multi-tiered structure of science. And then the third form of stratification is emergence. Do you want me to say a little bit about emergence here.

[1]Pratten in Hartwig (2007, pp. 195–196) gives an account of two basic modes or broad schema of explanation of phenomena in a structured and differentiated world: 'The first, referred to as pure (or theoretical or abstract) explanation or the DREI(C) proceeds in a few basic steps. First, a regularity in some phenomenon, typically anomalous for existing theory (e.g. the invariance of an experimental result), is *D*escribed; secondly some explanatory mechanism is *R*etroduced, antecedently available cognitive resources are used to make plausible models of unknown mechanisms; […] third, competing explanations are elaborated and some are *E*liminated on the grounds of their inferior empirical adequacy […]; so that fourth, the *I*dentification of the causal mechanism at work is hopefully achieved, whereupon the latter becomes the phenomenon to be explained and the initial theory is *C*orrected in the light of the new knowledge. In that the statements of the tendencies producing the phenomenon are retrospectively deducible from the explanatory structure, which may itself come to be defined as a natural kind, this model gives us the best possible grounds for attributing natural necessity and necessary truth.'
Pratten in Hartwig (2007, p. 196) goes on to provide a second model of explanation: 'referred to as applied (or practical or concrete) explanation, or the RRREI(C) model—a form that is essential when conditions are fundamentally open—proceeds in a manner that is somewhat different. First, a complex event or situation of interest is *R*esolved into its separate components, i.e. into the effects of its separate determinants; second, these components are then *R*edescribed in theoretically significant terms; third, a knowledge of independently validated tendency statements is utilised in the *R*etrodiction of possible antecedent conditions, which involves working out the way in which known causes may have been triggered and interacted with one another such as to give rise to the concrete phenomenon under investigation; whereupon, fourth, alternative accounts of possible causes are *E*liminated on evidential grounds. This may be followed by *I*dentification and *C*orrection as in the pure model.'

Yes, if you wouldn't mind, because I think that it is a very important concept.

Yes, it is. It is tremendously important. The best way to think about emergence initially is to think about a level of emergence, or what appears to be an emergent level. And mind and body are good examples of this. I always like to fix on something. So I might say to someone, could you raise your arm, and then (this is an example of Wittgenstein's (2001) [1953]) and the raising of the arm is in response to my request, and it is not done in response to a neuro-physiological determination going on within the body. It is a response to a request coming from outside, and, of course, the person who raises their arm has a reason for doing this. They want to comply with my request. It might be in a philosophy class, and if I said to Rebecca there, could you bring my jersey from that room, then she will walk there and bring it back, and there will be a material displacement as a result.

So, if you give an example of this, then you can see, or it is easy to understand that there are three criteria involved in emergence. The first is the unilateral dependence of the emergent level on the more basic level. Human beings don't have minds as far as we know without bodies. So the body, the neuro-physiology, is a necessary condition for the mind. The second criterion is the taxonomic irreducibility of the emergent level. So, it turns out that you can't really give adequate explanations of what people do in the human and social worlds by reference to their neuro-physiology. Their neuro-physiology is such that they can do it, but whether they do do it and how they do it and when they do it depends on social and human causes, causes which can't be reduced in practice, and, I would argue, in principle to any neuro-physiological level. So we need to talk in terms of motives, reasons, social rules, social conventions and social structures and mechanisms.

Then the third criterion is very important. It is not just the taxonomic irreducibility of the emergent level, it is the causal irreducibility of the emergent level for phenomena to the level from which it is emergent. So once you have mind, and once you have human beings, then you have the possibility of them acting in the way to change the climate, for example. This is the logical structure of climate change. But it is also the logical structure of industry and agriculture. But when you think about it, it is the logical structure for any human action. This is because every human action that we know consists in a material movement or a displacement of some sort. It involves material action. It involves neuro-physiology and other phenomena, and we appear to be and are the causal agent. So the theory of intentional causality is, I think, a very important part of critical realism, and this says that when an action is intentional, then an agent is producing a change, which is manifesting in the material world as a result of having a reason for it. And there is no other philosophical system that I know of which can sustain that in a coherent way. And it does presuppose a fully developed theory of emergence.

Now, you can argue about whether something is really emergent, whether chemistry is really emergent from physics, for example, but I don't think that you can argue against life being emergent from inorganic matter. And I don't think that you can argue that mind is not emergent from neuro-physiology, and also that the social level is emergent from the human level. At least, these are three very clear levels of emergence and they are arguments for extending it even further. But that is the third

sense of stratification. So, the distinction between structures and events, the multi-tiered structure of reality, and the third type of emergence, which stems from this idea of reality being stratified, are all important. And the idea of open systems, which is the idea of reality being differentiated, also has some interesting consequences, and the immediate consequence of that is that you can't in an open system explain what happens by referring to a single mechanism or structure. You are always talking about a multiplicity. So you are talking about a world, which is complex.

When different levels, emergent levels, are involved, then you have to refer to different taxonomies, and you are talking about at least multidisciplinary taxonomies, and normally at least interdisciplinary ones. The difference is that in the case of multidisciplinarity, you are just making reference to several disciplines. But in the case of interdisciplinarity, you are making reference to the objects of several disciplines, which act together in an organic way. And in a novel way which couldn't have been predicted from those disciplines. This has given way to the theory of what I call laminated systems. And it has given rise to the concept of laminated systems, which I developed with my colleague, Berth Danermark (cf. Bhaskar and Danermark 2006). Shall I speak a little about that.

Yes, do. I was going to ask a question before you do that, but we mustn't forget that particular idea. Your solution to the mind–body problem, which is central to your general theory, is at odds with most thinking in the academic world.[2]

[2]Morgan in Hartwig (2007) identifies Critical Realism's major contribution to the mind–body problematic: 'which shares with Searle's biological naturalism (1998) a refusal of the basic terms of the debate set out by dualism and reductionism, on the basis that both are rooted in an ontological idealist-materialist dichotomy. Dualism leaves consciousness as a mysterious non-corrigible intangible, whilst reductionism, in the name of materialism, puts aside the totality of a conscious being, which is the very property that gives rise to questioning the nature of mind in the first place. Synchronic Emergent Powers Materialism argues that consciousness is an emergent non-reducible property of the material brain. The term *synchronic* is used to differentiate the use of the term emergence from its diachronic application to the evolution of the species and their capacities. Thus consciousness is concurrent with a given form of material brain. But this does not in itself indicate a hard claim about the temporal relationships of conscious action and brain materiality. […] … from a philosophical standpoint Critical Realists tend to argue that it won't make conceptual sense to talk about it in the language of idealism or materialism.'.
Morgan (2007) goes onto argue that ' The emergent power of mind that reasons can be causes is an important aspect of this. In common sense terms it is relatively unproblematic to assert that beliefs and desires result in intentional actions and thus consciousness informs individual behaviour, and through the Transformational Model of Social Activity affects natural and social structures. Denials of this are less about rejecting the idea that consciousness is interactive and more about preserving the integrity of different philosophical positions' understanding of causation and freedom. Postmodernism, forms of strong social constructionism, and many political philosophers reject the idea that reasons are causes because they associate causation with Humean constant conjunction. Since consciousness entails choice and the outcome of reasoned action is multi-realised, it is not causal under this definition, and to apply this definition is to open the way for forms of reduction of behaviour to either genetic determinations or behaviouristic stimulus-response to the detriment of cherished notions of free will, choice and so on. […] Since Critical Realism focuses attention on the generation of the possibility of reason and on the subsequent generative mechanisms of reason, this false choice between causation and reason, reductive materialism and defensive idealism, is avoided.'

Would you agree with that? Certainly, most thinking in education is in disagreement with you?

Yes, I agree. When I wrote *Scientific Reason and Human Emancipation* (1987), the publishers arranged for me to meet someone else, whose name I won't reveal, whose job was to tell me that emergence was not a scientific concept. It was completely disreputable then. But nowadays emergence is accepted, but is regarded as a way of redescribing the world. So the standard theory is that everything that happens happens at a physical level, but when we are talking about phenomena at the psychological level, we are redescribing those elements, and I think that this is patently inadequate. Let me give you an example. (This is an example I gave in the *Possibility of Naturalism* (1979).) If we are having a meal and you have the salt and pepper in front of you, and I ask you to pass the salt and pepper, and you pass the salt and pepper, then this is a physical action you perform, and it is nothing to do with your body. The reason, i.e. the cause, is my request. And all these models are actually presupposing that you have a tacit closed system of a body, acting alone and separate from the environment. They leave out our social interaction. Let us try to understand it in terms of it raining on me. So if I go and walk outside the building, I will get wet. And there will be a causal interaction between the rain and me. Which will result in me getting wet, and in anticipation of this, I will take my umbrella, and the explanation will be in terms of the rain, and not in terms of anything that happened within me. So our neuro-physiology has to be right, but the way neuro-physiology responds in intentional action to reasons or motives is rather like the way a machine can reset itself or what happens when you get into your car and drive it.

So what is happening with all the time, effort and resources which have been put into these studies of the brain, especially in education, because we are just about to spend five million pounds on a number of studies, studies of the way the brain works. These are going to be conducted at a superficial level. It is not going to go deeper than the physiological level.

Yes, I agree. It might show interesting things, but what you can't do is access the workings of the mind.

You were talking about studying the brain.

Something happens at the level of what I would call the mind, and then there is a response in the brain. It is an instantaneous response. Once you factor in the intentional level, then brain research can be very coherent.

But it is limited. It won't give a full explanation of the workings of the mind.

And I think that some brain scientists are moving towards factoring in the intentional level. Ultimately the brain is not a closed system. The state of our brains is determined in part by what has been happening at the level of intentional agency, and social causality. I mean we are talking here as a result of plans that we made for this book, to have these sessions together in order for you to produce a book.

And there is nothing within your body that predetermined this. Of course your body must be in the right state to do it.

I just think that this is a very important observation, which is that all this money is going to be spent on examining a phenomenon at a superficial level.

As a side note, I would love it if critical realists or critical realism could make more critiques of interventions into these kinds of studies; but we are so pressurised in the academic world now to get in monies, we don't have the time to do it.

Ok, lamination. Would you explain the theory of lamination, which is a more recent theory that you have developed?

This developed out of an article I wrote in 2005.[3] I was invited by Berth Danermark to come as a visiting professor to Orebje for a term, and he was very interested in the whole topic of interdisciplinarity. We started off by doing a literature review of writings on interdisciplinarity, which was very much in vogue at the time. To our astonishment we discovered that there was nothing about the ontology of interdisciplinarity. There was nothing about what it was in the world that made interdisciplinarity necessary or fruitful. It was all at an epistemological level. It showed that the level of epistemic fallacy or the reduction of ontology to epistemology is still there. That was our first observation.

Our second observation was that in turning our attention to disability studies, the whole history of disability studies from the 1960s had been characterised by successive phases of reductionism. At the first phase of reductionism, disability was explained and talked about in terms of what was called the clinical model. Disabilities were regarded as matters of physical impairment. So it was a neurophysiological level or biological level. Then there arose a critique of this in the 1970s or 1980s, and the idea now was that disabilities were a result of resources, or rather an insufficiency of resources. I mean if you have sufficient resources—if all rooms were wheelchair accessible—then there wouldn't be a problem. This was largely an economic question at a socio-economic level. However, it was still essentially reductionist. They didn't say impairments and that. This is what explained impairment. Then in the 1980s, going into the 1990s, there was a third wave of reductionism, which was a social constructionist one. Here they said disabilities were all a question of language. If I referred to two people, one of whom I would normally call disabled, then if I only called them differently abled, then there wouldn't be a problem. And they pointed out the psychological correlates of using a language, for example, stigmatisation.

Now we liked all the three critiques. The obvious idea is that there is a level of truth in all three of them, but why not combine them, and the reason why they didn't combine them was the heavy influence of actualism, the idea of closed system determination and the idea of there being one level of causality, one moment of causality for explaining a phenomena. And of course this is not the case in open

[3]Bhaskar and Danermark (2006).

systems. If you want to explain an accident you are always involved with four or five different mechanisms, structures or agencies. If you want to explain the origins of the First World War, then you are talking about several different levels of determination, and several different types of mechanisms. And so we thought that it would be a good idea to borrow and use a concept—the idea that in open systems you were frequently dealing with what was in effect a laminated system.

And a laminated system was a system in which it was necessary to refer to all the levels of it for a full understanding of the causation of an event or its treatment. So we took some cases of actual disabilities. There were no fixed levels of differentiation; but a typical one we argued involved a physical level, for example, providing access to wheel chairs, a physiological level, or biological level, which might be impairments, and then a psychological level, and then a socio-economic level, which the economic or social level had stressed, then a socio-cultural level, in which language would be very important in meaning, and then a normative level. We argued that you couldn't really refer to or talk sensibly about phenomena of disabilities without referring to all those six or seven levels—it would be patently incomplete.

When we made this point, it immediately resonated with people, mainly critical realists working in other fields, which were openly systemic, for example, climate change. Gordon Brown (2009) produced an article, 'The Ontological Turn in Education' in *the Journal of Critical Realism*, which referred to laminated systems. Our book, a book I wrote with some Norwegian critical realists, *Interdisciplinarity and Climate Change* (Bhaskar et al. 2010), came out. And then there was another one, *Nordic Eco-Philosophy in an Age of Crisis* (2008). Those two books had lots of examples of people using laminated systems; and then it became clear to me that there were different types of laminated systems.

So, besides a laminated system constituted by these different levels, there was also the model of four-planar social being, and in general you need to make reference to all these planes, that is, material transactions with nature, social interactions with people, social structure and the stratification of the embodied personality. Another model was constituted by different levels of scale. So it occurred to me that in the social world, while I initially said that characteristically what we were talking about was persistent relations and not behaviour and things in the social world, nevertheless, I didn't want to be over-pure about this. I developed this model of seven levels of scale. The first was the sub-level of scale, motives and consciousness, and this would come into the level of social explanation. And then there is the level of the individual. The biography of the agents is also very important and this is stressed in novels. Then there is the micro-level of social interaction, which Goffman (1959) and Garfinkle (1984) talk about and you can't rule that out. Then there is the meso-level of classical sociology. Durkheim (1982) [1895] and Weber (2002) [1905] and also Marx (op.cit.) referred to this. And then there is the macro-level, at which you might want to talk about society as a whole, or the sector as a whole, e.g. the Norwegian economy. And then there is the mega-level, at which you might want to talk about whole geographical or geo-historical swathes or trajectories, for example, capitalism, or high-modernism.

And then there is the planetary level, at which you might want to talk about causation at the level of the globe—this is the global level. Wallerstein (1984) is an example of that. And then you can extend that back in time—a popular genre of that is to refer to world history and seek out transient tendencies. My colleague, Leigh Price, has done studies of gender-based violence in South Africa, using these seven levels of scale, and showing how much better a theory it is if you choose to use the seven levels in an explanation of gender-based violence in South Africa, than if you just use two or three as the United Nations does or as most explanations do. In other words, colonialism or the history of apartheid did, and they might also play a role at the unconscious level. So you might have to refer to them at the level of the mega and the unconscious. Normal accounts of gender-based violence don't do that.

So that is the model of lamination concerning scale and then there is a fourth model which is very interesting, involving different spatio-temporalities including emergence. So you might look at a street in New Delhi, and what you can see is different historical epochs present there. So you might see a jaguar car alongside a tut–tut vehicle with a cycle, with a bullet-car, and an elephant, and then overhead there might be a rocket, and critical realists have used this model to explain, for example, social work practice in mental health, arguing that social workers in mental health have different models. There is the neo-liberal model of mental health—basically it is all your fault—and underneath this is the older social welfare model. And then there is a more primitive model underneath that, older in time still, where people were locked up in mental hospitals, isolated from the community. When they are dealing with practice today, they switch between these different levels. He calls this the *pendimental model* because it is like if you look at an old Masters you will often see the painting of the Master which is preserved painted over a pre-existing one, and that is the origin of the term 'pendimental model'. So these are four models of laminated systems, which have all proved to be very useful devices in the explanation of open systemic phenomena, including educational phenomena, where you can't reduce the explanation to a single level, and you need to look at the dynamic between the different levels. So I think that the idea of a laminated model is a useful critical realist way of dealing with the irreducibility of different mechanisms in an open system.

By this stage, Roy's voice was cracking with exhaustion, so we finished. We were to meet for the last time 1 month later and the transcription of our conversation forms the main part of the next chapter.

Chapter 3
Knowledge, Learning and Change

In the second of the interviews we discussed issues of representation, knowledge, learning, change, reductionism, meta-reflection, the possibility of universals, dialectical critical realism, complexity, actualism, the epistemic fallacy, metaReality and agency. My words are in bold and Roy's are in plain type.

Would you mind talking about representation and critical realism?

Yes, of course. The idea of representation is very important in critical realism, as are notions of knowledge, learning and change. I want to say a little bit about those three and how these conceptions are deepened, I think, through the three phases of critical realism. I'll start with knowledge. In terms of basic critical realism, there is a fundamental distinction between the transitive and the intransitive dimensions, but when we move on to dialectical critical realism, then knowledge is seen as part of being, so the concept here that one might want to use is constellationality,[1] which is a dialectical critical realist concept and the idea is that a being englobes ontology and ontology englobes epistemology. Epistemology and beliefs become part of ontology.

Now the idea of existential intransitivity as being necessary for any scientific investigation is retained, but it does mean that at any moment of time a scientist has an object which he or she doesn't create and it exists independently of him or her, and it allows for the fact that the processes of knowledge and the processes of being, generally social being, are interdependent. So, the idea by the time of dialectical critical realism is very much that ontology is all inclusive; it includes not just beliefs but also false beliefs, delusions; in fact it includes anything which happens that has a causal effect. And then by the time of the philosophy of metaReality, the emphasis changes again a bit to the idea of some kind of identity, at least in moments of discovery, between the cognitive breakthrough and the object in the world.

[1] cf. Hartwig (2007: 78).

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Now the important concept, I think, is that articulated in dialectical critical realism, the dialectic of truth. This is really to lead into saying a bit about representation. I will briefly sketch this out. Truth is a rather complex notion, which has four distinct senses, which can be related in some way to characteristic dialectical progression. So the first sense that can be given to truth is what I call the fiduciary sense, and this is the sense that if I say that something is true, I am saying trust me. You can act on it. And then the second sense of truth is the evidential one [This is the one which has been talked about most by critical realists.], and this is the sense that if you say something is true what you mean by it is that it is well-grounded and there is a good body of evidence for it. Now the first two senses are clearly in the transitive realm, the first sense, the fiduciary sense, might be called the subjective or intrinsic aspect of it. And then we move onto the third sense of truth, which has something of the flavour of Tarski's (1983) redundancy theory. In this sense, truth straddles the transitive and intransitive dimensions. The sense here is where you might want to say that the sentence of 'the grass is green' is the best, most perfect, representation or expression of greenness of grass. To say that 'the grass is green' expresses that perfectly in language. That's truth as expressive, or, we might want to call it, the expressive referential.

And then the fourth sense of truth is a sense of truth in which to talk about truth is to talk about the truth of things, meaning the explanation, or the reason why they are the way they are. So you might want to say the truth or explanation for this water boiling at a 100 °C is that it has a molecular constitution of H_2O. And here truth is the ground for things and in this sense truth is ontological. I think this understanding of truth as a complex notion can resolve some of the difficulties that philosophers have had with it.

Can we now turn to representation and in particular the various forms of representation: virtual, graphic, enumerative, enactive, symbolic or oral. I suppose what concerns me is the relationship that you have referred to already, that is, the relationship between knowledge and the world or knowledge and being.

Yes, it is a relationship between knowledge and the world. I think that philosophers have, particularly in the empiricist tradition, conceived this in a rather crude way, as being isomorphic reflection. And of course when you talk about a graphic representation or an enactive representation, then you are talking about something that isn't isomorphic. When you go into aspects of physics or quantum mechanics, you are not even talking about a one-to-one relationship because you are talking about a distribution. And I think that the way to understand this is to see our representations of the world as part of our process of understanding it, explaining it and potentially changing it. So it has to be put into the context of the development of knowledge.

So Richard Rorty's straw man is literally false? We are not dealing here with a mirror to nature.

We are not really concerned with mirroring nature. We are concerned with understanding it and, to the extent that we can, modifying it. And this relates to a question you posed about the relationship between the human being and the environment, which I have to say, is very important.

As you know, Lev Vygotsky talked about various mediating forms that are in between ourselves and the world, and I wondered what you felt about that—these mediations. We might mediate the world through words; we might mediate the world through language; we might mediate the world through speech.

We do of course. The models as developed in the philosophy of science in the 1970s or 1980s by people like Rom Harre (for example, Harre (1993)) are significant here, because it was very clear to them that modelling the world was not just a question of having a sentence which was in an isomorphic relation with the world, as positivists and paradoxically Rorty (1990) tended to presuppose. For someone like Rom Harre (op.cit.), it involved an iconic component as well, so the picture was very important—it was more about sententional or iconic modelling. If you go back to the Newtonian model, then the world was fundamentally pictured in terms of billiard balls, and I think it was William Tyndall, though I can't be sure, who said that he was not satisfied with a scientific explanation of the world unless he could imagine it in terms of red or black billiard balls hitting each other, and that proved to be a tremendously fertile model. But at the end it proved to be inadequate in dealing with elements at the sub-atomic level, and I argue in *A Realist Theory of Science* (1997) that the model itself at the end of the day is incoherent—that the notion of an atom doesn't make sense as a finite smallest particle, because in so far as it has interactions with things of a similar kind it must have an internal structure, because it can't be atomic without structure. So there are a variety of ways of mediating the world.

Can we make a judgement, as lots of people want to do, between these different forms of representation? Can we say that one is better than another? Or that one is more appropriate than another?

I am not sure that we can.

What I mean by this is that some people want to argue that a non-mathematical view of the world, for example, is superior to a mathematical view of the world because the latter is reductive and thus distorting.

It might be good to come back to this after I have said something about learning and change, because one of the real problems with what has been called the ideology of physics is that sadly it is inherently reductive. It tends to see the world very much in terms of a redistribution of basic or foundational elements, and effectively denies emergence or novelty. So it denies the early moments or formation at the beginning of the universe, because in those moments there weren't unchanging elements. Those were the moments in which the so-called unchanging elements

were produced. And of course it denies and cannot reflexively sustain itself, because the acts of creation exist in themselves as emergent and novel discoveries about the world.

I can say here a little bit about learning and change. Just as knowledge, learning and change—the three themes of this chapter—just as understanding of knowledge develops in the course of the progression of critical realism during the three phases, so I think there are three progressive versions of learning. In basic critical realism what is said about learning is very much in terms of the development of beliefs. But by the time we get to dialectical critical realism, it is clear that learning is involved in all the components of action, so there is learning at the level of values, learning at the level of wants, and of course, more generally. This means that we have to take into consideration not just the development of beliefs in education and in life, but of course the development of skills and dispositions as you have made clear. And I think that learning is involved in all of the different components of action.

Although I didn't refer very much specifically to education in the phases of basic and critical realism, nevertheless a lot of critical realism is about or depends on changing consciousness. And there is a resonance with themes and issues in education and in the philosophy of education. But in the philosophy of metaReality, I did sketch a model of learning, which is called the unfolding of the enfolded. So this model works best for skills and possibly dispositions, such as riding a bike. But of course it has a role in the cognitive sphere as well. A lot of the development of academic knowledge studies involves understanding a new technique or new way of looking at the world. When you learn calculus, you learn to do different things and it's largely a question of mastery of a technique. So basically the model of the unfolding of the enfolded allows us to look at learning not so much as learning of something outside, but of the unfolding of an implicit potential that you have. I think that this produces a real progressive problem-shift. Of course, the outside is still very important. The teacher is a catalyst; the teacher provides the conditions and means whereby the unfolding process occurs, but the changing emphasis is to see the person being blessed from the outset with infinite potential. And what happens in life is that we realise or fail to realise some of our potentials. Most of the others are ignored or not called upon. A good example of this would be learning a language. We all have the potential to learn any language when we are born—the Chomskian thesis (cf. Chomsky, 1965).

It has been criticised

Yes, however, if you don't pay attention to the external elements, then it is going to be one-sided. Anyway the model of the unfolding of the enfolded goes like this. Imagine you are learning a skill or a language like French. You are learning how to ride a bike or you are learning French, then one can map five stages. In the first stage you are falling off the bike. You have the will or intention to learn how to ride a bicycle or learn French or to learn how to drive a car. But you are pretty hopeless at it. And then at a second stage, something magical happens. You manage to stay on the bike for 5 or 10 seconds, and this is rather like in the cognitive domain, and Wittgenstein (op.cit.), along with some other philosophers, realised

that you can't see it. If you see it you might lose it. But if you see it, the eureka moment, you kind of believe that you will be able to develop it. That you will be able to learn the skill or that you will be able to achieve the conceptual breakthrough, and in terms of the comparison I drew with cosmology generally, then the first phase might be called or has been called the cycle of courting, the will to do it. The second phase was traditionally called the cycle of creativity. It is the moment of breakthrough. And the third phase is very important. This has been called the phase of formation. And this is when you are riding a bike, you can ride it now for 10 or 20 seconds, but you ride it on different surfaces, you practice cornering. If you are driving a car, reversing and you have to consciously bring to mind what it is you are supposed to do when you reverse a car.

This is a meta-reflective process?

Yes. Then in the fourth stage, the stage of making, the wonderful thing happens, you can actually speak in French a bit, you can drive a car or bicycle spontaneously, without thinking about it, the way we do when we speak English. We don't have to have anything in our mind to do it; we just do it. And speaking English, for example, is a basic act, something we can do without thinking about it, it just happens. And this is the phase of making when we have acquired the knowledge or skill. And the fifth is when you become so expert at it, that you can produce something in the world, which perfectly reflects your intentionality. You can drive flawlessly from Calais to the South of France; or you can compose a letter in French, and this is a cycle of reflection. So it does seem to me that these five phases do reflect the way we have developed mastery over a particular domain of knowledge, and not just things that are skills generally or dispositions. It seems like a pretty good heuristic to have. And of course it's not denying the role of the teacher, it's not denying the role of the catalyst. Knowledge is something you are trying to develop. Knowledge always pre-exists you. I would emphasise very strongly the importance of knowledge, rather than it being something subjective.

These are universals, I presume. They are universal phases of the learning process. What would you say to a social relativist, who argues that there is always an historical and social context in learning. In other words, people learn differently in fourteenth century Britain than they do now. Does that fit in with your conception of the relationship between the environment and the person?

Yes, that's fair enough. If you look at the content of knowledge, that's clearly the case, because we can know different things. We can develop different skills. I would say that the critical realist concept of the concrete universal here is very important because of course it is a universal aspect, but I make a very strong critique of abstract universals. An abstract universal attempts to make a statement about everything at all times. In fact I don't know a single abstract universal about all people; you can't make an unqualified statement about anything. Whatever it is, it always comes with qualifications. Let's take the universal of all women, so every particular women is either married or not, has children, has parents, is a

teacher or a student, is a trade unionist, belongs to a political party or is not interested in politics. And there is a whole range of particular mediations. If you took two universals with exactly the same mediations, then they would still differ in general, because they had a different timeline, a different spatial timeline, and a different trajectory. They were coming from a different place or were born at a different time. So this is the third element of differentiation. And then if you took the same universal with the same set of mediations, and the same space-time trajectory, they would still differ by being irreducibly unique. This is the concrete singular. Everything that exists has these four aspects. So, of course, there will be these geo-historical aspects, but there will also be the particular aspects in the learning process. I am very sympathetic to that. It is very important.

I was going to say a bit about change. I think that these three overall themes—knowledge, learning and change—are essential elements of a theory of education. A virtue of basic critical realism is that it situates the possibility of change. So by clearly separating transitive and intransitive dimensions, you have the possibility of changing knowledge of an unchanging world. One of the basic motivations behind critical realism, transcendental realism and critical naturalism was to situate the world as a place where change was possible, rather than this other world, which was unstructured and undifferentiated and unchanging.

Now what basic critical realism did was to establish that the world had to be structured and differentiated, and when we move on to the social world, the key model there was the transformational model of social activity, which argues that society is essentially a process of transformation. But what it didn't contain was an analysis of change—that's what critical dialectical realism did. So in dialectical critical realism I provided an analysis of change, which was a critique of Platonic theory, which was that change can always be explained in terms of rationalised parts, in terms of difference. Now looking at it ontologically, there wasn't change in the world. What happened was that it appeared to change, what was happening was a redistribution of unchanging elements, and I argued that we need to focus on the concept of absence, because change in terms of our ordinary understanding of absence involves absence. When you say that something has changed, what you mean is that something that was there that passed out of existence or something new has come into being. So something that was previously there has been absented, or something that was absent has now appeared. Absence is crucial for the understanding of change, and I argue that absence was essential for being, and it was essential for change, and it was also essential for human intentionality in action; that when you did something intentionally you did it to remedy an absence. And so I do think that this is tremendously important. If we are concerned with education, our orientation is very much towards making a better society. For a better society there has to be change, so it is very important for the sake of a coherent attempt to change the world that we do have an ontology, which makes change possible. And one of the things I was saying about change is the need for an understanding of emergence of something new.

I would love to have the time to say a lot more about change and in particular about the dialectic. However, I think that we need to spend some time thinking

about emergence: what it was that excited many people about the idea of dialectic and why Marx thought that it was the rational kernel at the heart of Hegelian dialectic and it was the secret of all science. This of course has proved to be very difficult to explicate. Marx (op.cit.) tried but failed. By the time I was writing *Dialectics and the Pulse of Freedom* (2008), no one had done it clearly enough to explain why it was such an important notion. What I would say in relation to the essence of epistemological dialectics is that it is a process of incompleteness in a pre-existent situation and this was rectified.

What the incompleteness was doing was causing problems, generating inconsistencies and contradictions. So you can have a Kuhnian model, for example, of the development of science—remember how Kuhn (op.cit.) argued that we move from a situation of normal science in which basically it is the scientific theories which are being tested, to a process of revolutionary fiat in which contradictions are unresolved, to the moment when a revolution is achieved, to the process of transformation, and a new concept is introduced which reorganises the conceptual field. In terms of a dialectical critical realist ontology this is all readily understandable—to go back to the beginning at Time T_0, a theory will leave something out. And that is essential for any description. What the theorist always tries to do is to include all the causally relevant things. But let's suppose he or she hasn't done that, so the theory is incomplete, then sooner or later this incompleteness will generate inconsistencies and contradictions. The things that have been left out will start to produce problems for you. These contradictions and inconsistencies can be regarded as a signalling device, so that you have to expand your conceptual field. You do this by discovery.

So to put it in a very crude way and I am thinking here of complexity theory, which is becoming very important in the education field, there is a sense in which because the world is so complex and that there is an ever-present process of change—it is there all the time—what this means is that our theories are always out of date, that they can never capture the fullness or completeness of what they are attempting to describe.

Yes, potentially, I think that is right. I mean if you apply it to the social world, and think about social reality, you can see the same sort of process going on. I like to give the example of the first couple of decades of the twentieth century in which you had the suffragette movement as a protest against women not being included in the body politic, and not having the vote, and it produced all sorts of problems and difficulties. After the First World War women got the vote. So you have a situation of initial incompleteness, a situation of contradiction and inconsistency, and then a more conclusive totality. But this totality was itself incomplete, because of course the colonies weren't included—the imperial powers still occupied countries where citizens didn't have the vote, and so sooner or later there had to be a process of decolonisation. And so you can interpret history in this way. Of course there is no guarantee if you have an incompleteness, or if you have left something out, or there are a range of inconsistencies, that you will have a positive resolution. The alternative is where those contradictions proliferate and you have

increased entrophy, and you don't have a more inclusive totality. And this is one way of describing our failure to deal with climate change; or our failure to deal with many other problems in the *world* today. So, the progressive dialectical resolution is only one possible response.

I just wondered where this was leading to. What are the consequences? For example, an interpretation of Hegel is that it is leading towards some form of completeness in thought and in reality, a totalising scenario.

There is no doubt that Hegel (1975) [1855] understood the dialectical process as having come to an end in his day, and as having produced a very nice kind of unity and harmony. I don't think that this is correct. Now if you take the case of Marx (op.cit.) and Marx's development of a dialectical way of looking at the world, there are residues of this. There were three things that he criticised Hegel for—this is a critical realist interpretation of him—the first was his critique of the principle of identity, which is what we would call the epistemic fallacy, and together with that actualism. There is in Marx an awful lot of actualist elements there.

Then the second thing that he criticised Hegel for was what he called logical mysticism, which was an accentuation of the ideal of conceptuality, language, etc. But you can argue that Marx and Marxists have not given sufficient attention to the conceptual, to consciousness—after all class consciousness is tremendously important—and it systematically downplayed the role, disastrously for consciousness in relation to material factors. So, it was a different kind of mistake. It was not doing the same thing as Hegel had done, but in this case doing the opposite, but in an equally extreme and reductionist way. And then the third way he criticised Hegel for was his triumphalism. However, there are many passages in which Marx is triumphalist about the state of being. For example, soviet communism was a triumphalist thing. I think that you cannot possibly interpret society in terms of a single dimension. We are dealing with a systematically connected totality of differentiated elements. Class and the sorts of things Marxists like to foreground is only one of them.

The concept of four-planar social being helps here because it helps you to situate everything in the context of a natural environment. You remember the four planes of social being: material transactions with nature, so that once you have that conception you see that ecology is important, and if you want to think about a crisis today, then climate change and ecological problems need to be mentioned. Even talking about Ebola, for instance, one is talking about material transactions with nature. Then there are social interactions between people, social structure and the stratification of the embodied personality. Now one thing that this does, it makes it easier to see that radical social change involves action at all four levels and on all four planes. And most attempts, certainly the attempt of soviet communism, was an attempt to transform society at one level—so, this was just at the level of the social structure. You can't do that with unchanged people. The people have to change, as Marx (op.cit.) explained in the third thesis on Feurabach—who will educate the educators? That means who will transform the revolutionaries? This resulted in fundamentally different people, fundamentally different relations

between people and with nature. And we are learning this in a painful way. We are living in a world of crisis on all these four levels or planes. And I think metaReality has some interesting things to say about these crises, and indicates possible ways of conceptualising them, and resolving them.

Where does metaReality take us with this theme?

If you go to metaReality, one of the first things you would have is a differentiation between growth and development, and I think it is arguable that we have to have deeper growth with a radical redistribution of wealth, of resources, of income and opportunities. This would mean a distribution from the rich to the poor. This is the only way we can sustain life on our planet. The distinction between growth and development is very important, because you can have development alongside degrowth. And another thing that metaReality suggests, another perspective, is that a lot of development proceeds by shedding, by losing things, and this has a long tradition in emancipatory thought.

In Marx (op.cit.) and Rousseau (1979), there is at some level a notion that human beings are all right. If you take the case of Marx, human beings work, working is very important to human beings and they work and they improve their existence. But of course in the Marxian model, the productive forces are constrained by the class structure, and so what you have to do to liberate these productive forces is to transform the class structure, that is you have to get rid of classes. So, what's involved is a dis-emergence, a shedding. This seems to be an important thing that we have to do generally in life. We might start smoking at one stage and then we have to give up smoking to improve our existence.

So what the model of the human being in metaReality suggests is that at one level, the level at what I call the ground state, we are absolutely fine. The trouble is that, in addition to our ground state, the embodied personalities that we are, we have an ego which wants to understand ourselves as separate and different from everyone else, and this ego comes together with greed, self-centredness, etc., and of course in our embodied personality we have a lot of characteristic traits which are very antithetical to the ground state. At the physical level we have addictions of one sort or another. At an emotional level we have jealousies and hatreds. At a mental level we have prejudices of one type or another. And what is involved in all these cases is a shedding or losing of these, a dis-emergence. So, we seem to have lost this perspective. And I think that it is an important perspective to have. And this is something which metaReality would foreground.

So this is a crisis of the human being, what some people might want to call a crisis of agency. And I just wondered if you were happy with this transposition of the human being to agency and what you make of the notion of agency, and in addition, if there is a crisis of agency, is there also a crisis of the way agents interact with the world?

The notion of agency is tremendously important. In a way if we go back to basic critical realism, and we talk about it at the level of the philosophy of science, critical naturalism and what is foregrounded there, there is a conception of agency,

as in the first instance there is a conception of structure and agency, and it differs from most conceptions in that both are regarded as necessary and both are regarded as irreducible. In other words, you can't explain agency in terms of structure or the other way round, and the heart of the transformational model of social activity is to see that agency at any one moment of time always presupposes an existent notion of structure. So structure has to be there. It is transcendentally necessary and it is prior to agency.

What is the role of agency then? What agency does from the point of view of structure is to reproduce or transform it. Without agency it wouldn't happen. It wouldn't be reproduced or transformed. It would be a like a language such as Latin which is dead, and where nothing is being done with it. But of course if we look at agency itself this is a most marvellous thing. It depends on a process of intentional causality and agency occurs typically when we intend to do something for a reason. What we have when we are trying to understand social life in the first moment of stratification is to see action in terms of reasons. And then the second moment of stratification is to see how structures and structural change give agents reasons for doing things. That is a typical stratification of action moment.

Now in terms of basic critical realism that is absolutely fine; in terms of critical dialectical reasoning, we need it to understand the role of negativity conceptually. We need to be able to talk about the transformation of structure in terms of real change, and the concept includes the idea of contradiction in structures. So you might want to say that there is a contradiction between our desire for a sustainable planet and our present use of fossil fuels—that would be a strong contradiction that would be outlawed by existing monovalent philosophy. And why do you need metaReality then? You would have a situation of conflict—metaReality provides a model of conflict resolution. So, you start with that simple model of stratification in the social world, because seeing human action as being characteristically human action done for a reason, and seeing the reasons being formed in relation to structures of various kinds, some producing opportunities, others producing constraints, one needs to see the structures in contradiction and one needs to understand real change. We have a situation in which people are in conflict, and we are involved in the case of a conflict between real alternatives. So these are two ways, the dialectical and metaReality, of dealing with it. However, we can have a full understanding of action at the level of basic critical realism.

What about transformations of the self? Or transformations of agency? I am thinking of someone like Charles Taylor, and he of course traces the structures of the self or agency through various time periods. I wondered what you thought about transformations of agency? And in particular, how this fits in with the rest of your philosophy.

It would be completely consistent with it. I can explain this by going into the model of the self at the level of metaReality. The basic model is that there is a three-fold notion of the self. The first of these is the sense of the self as an ego, which means the sense of the self as separate and different from everyone else,

and this in a sense is an illusion, but it is at the centre of our civilisation. It is at the heart of capitalism. Modernity itself embodies that assumption. And we all have a conception of ourselves as an embodied personality. I think that that is correct. We are embodied personalities. The problem with it is that it is a highly volatile concept and changes from context to context, and it changes as we grow older.

And then there is the third sense of self that we have. There are different ways of approaching it. First, there is the idea of ourself on a good day, and some people might identify it with our higher self. It is ourself when everything is going swimmingly, or ourself at our most merciful, at our kindest or most generous. Then there is a more philosophical take on it, which is to see that there must be a transcendentally real self. When David Hume (op.cit.) or Nietzsche (1966) [1886] tells us that they search everywhere for the self but they can't find it, then I would say to them fine, absolutely, but who is saying that, and who is saying that is the transcendentally real self. So we begin to get a purchase on the self as an embodied personality with a ground state, and also with an ego. It is always concretely singularised. So we are hugely formed by geography and history, sociology and culture. It will be relative.

There are no pure abstract universals. It is a concrete universal. But there might be an aspiration that people in all societies might have, because you could argue that the only thing you can actually say from the point of view of this perspective is a position of unity of consistency with your ground state, because if your ground state or if your embodied personality contains characteristics which are at variance with your ground state or your transcendentally real self, then your intentionality will be conflicted. Then the only state at which you can actually achieve your objectives—the only objectives you can really achieve as a human being are to come into unity or consistency with your ground state or your transcendentally real self, your higher self. And this of course for most people would be an anathema. We would regard the inconsistent or bad part of ourself as being what we really enjoy in life, but it suggests a dialectic of improvement or self perfection, which was an aspiration of Buddha, for example. You could argue that if the model is right, then what we should always do is to try to come into unity with those bits of ourselves, which we can't lose. And you could also argue that this bit of yourself, of your transcendentally real self, that you can't lose has to be understood in the context of four-planar social being. So, such a person who was in such a state of self-consistency would also be acting consistently on all the other planes of social being. They would be acting in terms of social structure and producing a more egalitarian society, or a more just society. So, you could imagine that we might have a universal aspiration for the species.

So, you would have nothing to do with post-human theories of learning and of course post-human theories of learning are basically theories of materiality, where the human and the non-human elements are given equal standing.

I am familiar with a variant of that in terms of actor network theories.

They go beyond these theories of learning.

There are many interesting things that these people say. They point to the reality of interaction between what for us is different parts of the world, social and natural interaction in science, for example. However, there are a number of problems with these theories.

Some of which you have alluded to already.

These are the absence of a very clear intransitive dimension. The most important is the absence of differentiation between the components. And the collapse of these components, the collapse of the human being to human action, and the collapse of different aspects of the material world to a level of events. There is a kind of actualism which is there, and it is glossed by the idea of being anti-essentialist, but if anti-essentialism means that there are no important differences between different parts of the world, then I think that it is clearly wrong. I think that there are clearly differences between human beings and other animals, and differences between animals and inorganic things. So we do have to have an understanding of the different components of the material world as being stratified, and in each case the critical realist will search for the most important mechanisms, which are generating the behaviour. And these mechanisms will be profoundly different, so I don't see the collapse of everything to universal interaction is helpful at all.

Yes, I would agree with that

The problem with complexity theories is a bit like the problem with cultural-historical activity theories, which is that there is, in the case of complexity theories, a more Kantian (op.cit.) formulation, and in the case of cultural-historical activity theories it is more a residue of what Hegel (op.cit.) and Marx (op.cit.) didn't do, which is that they didn't critique empirical realism—they didn't critique the empirical realism they inherited from Kant; and in the neo-Kantian version it is a straightforward version from Kant without coming through Hegel or Marx. So, a lot of social theory, which isn't critical realist, has been formed in the context of legacies from the past of empirical realism. And sometimes this is very much in the present.

If you look at Habermas' (1981a, b) theory, you can see that there is a neo-Kantian epistemology. There is a refusal to do ontology, and it is assumed that the natural world and therefore natural science is as positivism describes it. As a result there can't be interaction between the natural world and the human world, so the many beautiful things he says about the life world versus the system are pretty impotent. The lifeworld can't transform the system. Our situation is reduced to one of defending it against further encroachments. And that seems to be totally unsatisfactory.

Could I just situate this in relation to the model of four-planar social being. Because we have material transactions with nature this is not to say that we can affect or influence all of nature; a fuller understanding of this would see four-planar social being in nature. In nature there will be natural laws, there will be

physical laws, and there will be chemical laws, even if we do destroy ourselves and our civilisations. There is no way we are ever going to win against nature, and I think that when we understand that we are a fundamental part of nature, then we can see that what we have been doing with the climate is effectively suicidal. There is a non-athropocity within critical realism, including metaReality, which is a very important perspective for us today, and its non-anthropocity is there in critical realism from the beginning—the epistemic fallacy, the linguistic fallacy—but it does mean that we are always going to be dependent human beings.

But it also means that at very level, there is a separation between (not in an ethical sense, but in an analytical sense) agency and structure.

Yes, and some people would want to say that human beings have to lose their sense of nature and not be dominated by nature. I think that this is absolutely absurd; that is our starting point. Our starting point is to remember that we are natural beings and we depend on the sun. And this anti-naturalist perspective is an implicit tendency in a lot of Western thought. Society arises out of nature, and the more we differentiate ourselves from it, the more problems we have.

This was as far as we got. Roy died the day before our next appointment.

Chapter 4
Interdisciplinarity and Laminated Systems

Two years before Roy's death, we met to prepare a proposal to a funding agency to conduct an empirical piece of research and we recorded the conversation. This conversation touched on a number of important issues relating to critical realism and its applications in real life. In particular, we focused on the possibility of doing empirical work in the field. The text below is an account of the conceptual framework that we eventually adopted, and it is focused on issues central to the development of a theory of education: interdisciplinarity, laminated systems, anti-reductionism, and the possibility of providing a bridge to allow us to make a connection between knowing and being. The proposal was unsuccessful.

The existing literature on interdisciplinary research is overwhelmingly epistemologically slanted. Typically absent from it is any discussion about what there is in and about the world that makes interdisciplinarity possible and necessary. The innovation of the approach adopted in this study is that it is informed by the theory of interdisciplinarity developed by Bhaskar and Danermark (2006), which explicitly focuses on ontological as well as epistemological considerations. On the basis of a much fuller and more comprehensive account of interdisciplinarity than has hitherto been available, this study is able to disambiguate and identify barriers or inhibitors on interdisciplinarity which stem from ontological, as well as epistemological, features of the context of interdisciplinary research teams. Accordingly we are able to identify the sites of barriers or inhibitors which have hitherto been unidentified, or misdescribed, in existing studies of interdisciplinary research. It follows also that we are able to identify barriers or inhibitors which have gone unrecognised by the participants themselves in interdisciplinary research projects, or been experienced at best as 'difficulties' or 'tensions'. The first part of the case for supporting this project is therefore that it involves a more comprehensive account of interdisciplinary research and the conditions for its success, than has been available in the past.

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It also follows from the analysis that almost all applied research, that is, research outside a very few experimentally closed contexts, necessitates interdisciplinarity of one type or another. The formal conditions for this depend on both complexity and emergence, and since emergence is a universal feature of human life, all applied research which is concerned with human being or about any part of the world which is affected by human being, will necessarily be interdisciplinary. Interdisciplinarity is thus not an optional extra or an afterthought; but rather must be understood to be a necessary condition of applied research from the outset. The second part of the case for supporting this project is that the conditions analysed and thematised in this study are not just conditions for a special kind of applied research (or applied research restricted to a few special domains, or conducted in a special kind of way), but are conditions for applied research as such.

Furthermore, the conditions for interdisciplinary research will in general also be (or overlap with) the conditions for inter-professional co-operation; and these conditions will be presupposed by a great variety of other social practices, including, for example, our ordinary material transactions with one another and nature, and by our explanatory activities in everyday life; that is, by our attempts to explain, influence and change the world. Thus, getting clear about the conditions for success in interdisciplinary research is also a precondition for (clarity about) practical rationality. The wide scope of the analysis proposed here enables it to cast light on the conditions for success in a wide range of other (including non-research) activities; and to unify a range of apparently diverse problem-fields, from that of explanation in history, through that of discovery in science, to that of apparent incommensurability in morality or culture.

However, while many have trumpeted the potential benefits of interdisciplinarity research, there has been little attention paid to (i) the conceptual tools (such as the notion of a laminated system) or (ii) the methodical procedures (e.g. the practice of radical hermeneutic encounter) or (iii) the practical skills necessary to make interdisciplinary research possible and effective, or to the educational or research conditions that good interdisciplinary (alongside good disciplinary) research practice requires. Moreover, in so far as the practices of cross-disciplinary understanding and effective epistemic integration mirror the general problems of understanding and reaching agreement with the social ‘other’, we would hope that the research being done here will make a contribution to the problem of conflict resolution in general.

Theoretical Background

The general theory of interdisciplinarity is distinctive for two reasons. First, it focuses on ontological as well as epistemological considerations (and grounds for interdisciplinarity). This is enabled by the critical realist revindication of ontology, and the critique of the reduction of ontological to epistemological

concerns in the *epistemic fallacy* (Bhaskar 2008). Second it brings to the fore a differentiated and stratified, non-Humean and non-reductionist view of the world. This involves a critique of *actualism*, or the reduction of natural laws to their instances or empirical grounds. On this, the move from manifest phenomena to underlying generative mechanisms and structures lies at the heart of scientific discovery and indeed provides the rationale for *disciplinarity* in science. The argument from disciplinarity to interdisciplinarity, and for *interdisciplinarity* involves a series of ratchets or steps.

The ontological case for interdisciplinarity begins with the consideration that, outside a few experimentally (and even fewer naturally occurring) closed contexts, a *multiplicity* of causes, mechanisms and potentially theories is always involved in the explanation of any event or concrete phenomenon. This is an index of the *complexity* of the subject matter.

However to get from multi-mechanismicity to multidisciplinarity, we have to add considerations of *emergence* to those of complexity. Briefly an *emergent* level of reality is: (i) unilaterally dependent on a more basic one; (ii) taxonomically irreducible to the more basic one; and additionally, (iii) causally irreducible in the domain in which the basic one operates (Bhaskar 2009). If such emergence is involved, then the characteristic multi-mechanismicity of open systems will have to be studied in a multidisciplinary way, i.e. by (or from the perspectives of) a multiplicity of disciplines. If in addition to an emergent *level*, a qualitatively new or emergent *outcome* is involved in the causal nexus at work, then the knowledge required can no longer be generated by the additive pooling of the knowledge of the various disciplines concerned, but requires a synthetic integration, or genuine interdisciplinarity.

If in turn the *mechanisms* are themselves emergent, then we have the case of what may be called 'intradisciplinarity'. In critiquing successive reductionist tendencies within disability studies—first biomedical, then socio-economic, then cultural or linguistic—Bhaskar and Danermark (2006) argue that adequate explanation and practice generally in the field of disability studies will require recourse to a *laminated system* constituted by physical, biological (or neurophysiological), psychological, psychosocial, socio-economic, socio-cultural and normative levels. In general, interdisciplinarity (including intradisciplinarity) necessitates the construction of such a laminated system, constituted by a number of irreducible levels. The different levels of a laminated system may need to be studied in a methodologically specific way. The open systems in which human beings act will be characterised not just by complexity and emergence but by some other distinctive features (Bhaskar 1998). These include the irreducibility and mutual implication of social structures and human agency, and the dependence, but non-exhaustion, of social life by its conceptual aspects.

Moving now from ontological to epistemological considerations, the generation of the knowledge of an emergent outcome (or mechanism) will depend upon a species of transdisciplinarity. Typically this involves drawing on the resources of pre-existing knowledge, which may be taken from a whole variety of different cognitive fields, to be exploited in analogies, metaphors and models.

The successful integration of the knowledge of the workings of a laminated system to produce a coherent result will also necessarily depend on cross-disciplinary understanding between the members of the research (or interprofessional) team. It has been argued that the possibility of such cross-disciplinary (or cross-professional) understanding and interdisciplinary (or interprofessional) integration presupposes principles, or are grounded in axioms or postulates, of universal solidarity and axial rationality. However, it should be noted that where the cognitive structures at work in a particular discipline do not permit epistemic integration, then this discipline will need to change (e.g. as a result of some process of immanent critique), in order for such integration to become possible. The order of these processes is: (i) hermeneutic encounter with the practitioners of the other disciplines in a research team, i.e. whose expertise is necessary for the construction of an adequate laminated system; (ii) immanent critique of one or more of the other disciplines involved in the research team, if necessary; (iii) effective epistemic integration.

It follows from this analysis that the conditions for successful interdisciplinary work will include: (i) The disambiguation of ontology from epistemology, and the concomitant acceptance and understanding by practitioners of the tri-unity of ontological realism, epistemological relativism and judgemental rationality; (ii) Anti-reductionism; (iii) The idea of explanation in terms of a laminated system; (iv) What has been termed the 'holy trinity' of interdisciplinary research, consisting in: *metatheoretical unity*, comprising minimally points 1–3 above; *methodological specificity*, as the norm for the different levels of the laminated system; and *theoretical pluralism* and *tolerance*; (v) The achievement of: sufficient and generalised cross-disciplinary understanding and epistemic integration to enable a unified explanation; (vi) The dissolution of career, administrative and financial barriers to interdisciplinary research and (vii) A *dialectic of disciplinarity*, turning on depth, and *interdisciplinarity*, revolving around integration, both in adequate *explanation*, and for the *education* or training of prospective interdisciplinary research workers. We need however, to understand how these are manifested in practice.

Once again, these fragments provide us with some insight into Roy's theory of education. The next chapter provides an account, in Roy's words, of where all these insights could lead: to a fully developed educational philosophy.

Chapter 5
A Theory of Education, Enlightenment, and Universal Self-Realisation

In a talk Roy gave to a group of students in India in 2002, we can discern some elements of his theory of education. This is a transcription of it and it is reproduced from Chap. 11, Bhaskar (2002) *From Science to Emancipation: Alienation and the Actuality of Enlightenment*, New Delhi, Thousand Oaks, London, Sage.

I suppose you could say what I am going to try to do now is to talk about education and my experiences and your experiences. I want to bear in mind this thought, a very timely thought, that Marx had when he asked—in his third thesis on Feuerbach—who is going to educate the educators, who is going to empower them, who is going to transform them? And when you look at the practice of actually existing communist parties we can see that the leadership had not transformed themselves, that the educators, the so-called educators or the would-be transformers had not educated, transformed and changed themselves. So in a way this is a very good lead into my own talk today because what I want to talk about is a kind of dialectic between self-change, self-transformation which you can say is a typical eastern approach, if you like a typically spiritual approach, in which the emphasis is on self-change, self-development and self-improvement (or perfection), and the western approach, in which the emphasis is on change outside the self, transformation in the rest of the world. It is typically this-worldly rather than other-worldly; it is at its best altruistic, outward going, concerned with doing things for other people rather than the self which remains unexamined and so unchanged.

Now actually I think there is no inconsistency between these two approaches. I think that if you are truly spiritual, if you really have no ego, if you really love other people, then you must be engaged in activities of practical transformation in the world. So real spirituality for me is what I call practical mysticism. That is very down to earth, and that is entirely engaged in putting yourself in the service of the cause of human emancipation, in fact universal self-realisation. That is the only spiritual approach that I can see is truly spiritual, that is of course the

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approach of all the great spiritual teachers. If you look at Jesus, Buddha, it does not matter. But it is also interestingly enough the approach which is implicit in western and secular theories of emancipation. Now if you take the ideal from Mallayana Buddhism of the Bodhisattva, he may be the most realised human being but he will postpone his own enlightenment, his own bliss, his own *nirvana* until the realisation of every other being in the world. That is very similar to the standpoint of Marx—and Marx was all atheist—when he said that in a communist society the free development of each would be the condition of the free development of all. In other words, your well being, your flourishing was the condition for my own. It was as important to me as mine. In other words, it is no good my being free, it is no good my being the most fantastically improved and perfect person, if you are still miserable and unhappy. That is also precisely the standpoint of Buddhism. And if you go into it deeply enough, at some level, this is the standpoint of all great religious and also even political inspirations and aspirations. So that is where I am coming from, that really there is no contradiction between spirituality and radical social change. No contradiction between self-improvement and therefore education in the broad sense and commitment to transformation of social structures and the emancipation of all.

Once you get to that point where you feel that you are really oriented in your life to collective human emancipation, ultimately universal self-realisation, then you want to know, where does this outcome come from, how do we bring it about? The thing is, the really important thing to understand is, that you can never emancipate anyone else. Emancipation cannot be imposed from without, emancipation always comes from within. So you are going to go through a dialectic. How does this exactly work out? Starting say from a spiritual inspiration, you want to have a polite experience, you want to be in this consciousness that will take you to commitment to radical social change. Then when you are committed to radical social change you will ask yourself, how do you change people, and you will find that any attempt to force emancipation from outside is false, it is heteronomous and it will not work. Only individuals themselves can free themselves, emancipation cannot be imposed from without. All the failures of utopian projects, secular projects of emancipation come down to not taking seriously enough the principle of self-referentiality. This is very important for education, to sketch out this dialectic of spiritual development and radical social transformation.

Let us come back to the point that nothing happens without the individual. We are all involved in education, most of you are teachers or counsellors, so how do you actually teach someone something. Have you thought about this? Supposing I write a proof in logic or mathematics on the board and I say, well, you see it implies q and p therefore q, do people understand that? If you do not understand that then you have to invoke a meta-theory, all you have to deduce that theory from another theory: if you do not understand what I am saying then my effort at teaching is hopeless, useless. At the end of the day teaching, which is a dialogical relationship, always depends on the subject gaining a new perspective, just at the point he/she gets it, ‘ah, now I see how you do it’. This is true even of applied skills like learning to drive a car. A lot of people who start to drive do not know

how to reverse, they do not know which way to turn the wheel. It is difficult, but suddenly you get the hang of it, or suddenly you get the hang of how you speak French. If you are looking at a painting, ah now, I thought it was a duck now I can see it as a rabbit. This is the gestalt involved in all acts of learning and education. Without that you cannot teach anyone anything at all. So it is always the self, the subject who has to understand. You cannot impose understanding on them, they have to bring from within.

You have to say for example, if P implies Q, and P then Q; and P therefore (because if P implies Q and P then Q) Q. Does this help? So what is the condition of this, it is an extraordinary condition. The condition is it means they must already know it. Because if it comes from within they must already have the knowledge and this is in fact nothing other than Plato's theory that all education is anamnesis, that what you are doing is bringing out something that was implicit, enfolded, potential within them, you are actualising it, making it explicit, but unless it was there, you could not have that 'ah', that 'I see it', that *coming together* when the pupil understands what the teacher is trying to say. So the primacy of the standpoint of self-referentiality is not only important for emancipation, it is just as important for education, which is our main theme today.

Once you see how important it is, then you can say how do I get these people who are just where they are, who are maybe concerned with the little things, nothing to do with collective emancipation, nothing to do with making the world a better place, how do we get them there. So we come to another level of our dialectic, at this level you can see that any objective, it does not matter how stuck a person is in life, if they want to fulfil that objective there is only one route. The one route is single-pointedness or clarity; coherence and purity. Most failures in life at any level stem from confusion, stem from not being clear about what you want. So supposing a robber wants to rob a bank, and you are his counsellor. The first thing to tell him is to be clear about what he wants to do; tell me, what do you want to do; rob a bank, then if he is single-minded about it, fine; but then you might want to say to him, why do you want to rob a bank, do you think it will really make you rich. Then you can take it back a step further, at whatever point you take it to, the criterion for successful action, the criterion for achieving your goal in life is single-pointedness, clarity, coherence and purity.

Now wherever you start, as you become more coherent, dear, pure in your mental, emotional and physical being, then you will find you start to manifest some beautiful qualities. These are the qualities that Lakshmi referred to, which I call the ground state qualities of human beings. These are qualities of freedom, qualities of endless creativity, these are qualities of love, right action, these are qualities that fulfil intentionality and with these qualities the extraordinary thing is that we *could* not do anything at all. And you might say this is very extraordinary: arc you telling me that under all this mess, and tremendous confusion, all this sort of bundle of compromises that we are, there is nothing other than pure creativity; pure energy, love, freedom and even knowingness? Yes, that is what I am claiming.

Let us first of all make this consistent with some themes in secular thought and then let us look at it in our own way. Just to say this is not my idea, if you look

deep enough every theory of emancipation, every theory of realisation makes this claim, that ultimately human beings are fine, they are absolutely fine, there is nothing wrong with them, they are beautiful. Even in their individuality; especially in their individuality-for no two human beings are the same. We all have a unique *dharma*; we are all very special. But we are all absolutely fine. Some people have even said that we are all enlightened already. It is only this mess that we have on top of it which stops us from realising our enlightenment.

Anyway, coming from the west, Rousseau said, we are born free but everywhere are in chains. What he meant was that the human essence is such that we are free, that we imprison ourselves, or rather the society which we sustain (and are ultimately responsible for) imprisons us. Chomsky, the great contemporary linguist, says that we have at birth the innate capacity to learn any language, the capacity to generate an infinite number of sentences, no matter how few sentence most people may actually generate. We have the capacity of endless creativity. If we were sitting here in Japan we would not be talking in English, we would not be talking in Hindi, we would not be talking in Marathi, we would be talking in Japanese. We all have that gift, that capacity at birth. What I would say is you take a social phenomenon, say drudgery in the office or on the shop floor, these are male examples, we will come to typical female examples—on the factory floor, how could a production line, the most uncreative, the most alienating, how could that keep going for a moment without the spontaneous ingenuity of the workers on the production line. Even an office could not keep functioning if you only observed the rules. You have to show spontaneity, ingenuity to keep even the most mechanical systems going. How do you get your computer going? You give it a little kick: if it gets naughty, then you just have to put it in its place.

Or if you take a social development like war, what could be more horrendous then war, but how is a war sustained? At the end of the day, it is sustained by the selfless solidarity of soldiers at the front, the support, sustenance and love of their sisters, wives, daughters, back home. How is even that bank robbed: without that solidarity, that trust between the robbers, the action would not be successful. But there is also a further point. How could you do anything in life unless you did something right. Whatever I am doing, whether I am convincing you of my argument or not, I am at least uttering some words correctly, that is a right action. So what I would do is challenge you to find any human situation which does not repose on these ground state qualities of freedom, creativity, love, right action or fulfilment of intentionality. These are the bedrock qualities of human beings.

What I want to say is that the project of education, the project of enlightenment, and the project of universal self-realisation are the same, or all turn on a single matter, and this turns on eliminating the heteronomy, eliminating everything which is not essentially you. And in that process of eliminating everything which is not essentially you, you will automatically be working towards the elimination of everything which is not essentially everyone else. This is not an individualistic approach, because it presupposes what I call, and this is one of the few technical concepts I will use here, four-planar social being. It presupposes that every

event in social life has to be understood in terms of four dimensions. In terms of our natural exchanges; our material transactions with nature; in terms of our social interactions with others; then in terms of our relationships with the social structure. What is the social structure? Social structures are things like languages, economies, political forms. Clearly we do not create them at birth, we inherit them, but we play a vital role in their reproduction. Because what we do, and what they could not exist without, is our intentional activity. And it is in virtue of our conscious intentional activity that social structures, unwittingly, are more or less reproduced or transformed. For example, take the social structures of capitalism, or commercialism, call it what you like. How could this function for a moment without greed, without desires. You go to the west, to America, go to Europe, England, it is not sufficient to have one car, you have to have one car per person—it is not sufficient to have one car, you have to have two or three, or as many as four, five and six! And the result is that where I live, or mainly live, around England and south-east England the roads are congested. Two people, next-door neighbours, will both drive a car to work, instead of doing the sensible thing which is to share. They may work in next-door offices, and may even park their cars next to each other—though they will have tremendous trouble parking and it will take them a long time.

Now let us consider the impact of the social structure on the fourth dimension of four-planar social being, which is the stratification of our personalities. What is it doing, it is making us irritable, bad tempered, this reproducing of a structure which can only produce more and more of the same. Radical innovation, innovation for qualitative change, innovation which takes into account internal relationships, external economies, qualitative, non-quantitative considerations which pay attention to the environment—this kind of innovation our social system knows nothing about. Then consider its impact on the second dimension of four-planar social being, it is spoiling our relations with each other. Because after you have spent ten or twelve hours in your office and in your car and then go back home and there is your wife or husband whom you immediately have a row with and then your children get upset and then you hit your children or something even worse and then you feel terrible, then you sulk, and then you wake up with a headache and the endless cycle repeats itself. So all these four dimensions of social life interact.

The question really is not where do we start, because what most people who do not really understand this kind of spiritual approach properly think that the spiritual being is not doing anything. Now this may have been appropriate in a different time and age, and perhaps there is still a role for some beings to not be in society, but I would argue that we have to say that today everyone has to be in society because we are globally inter-connected, we are in global crisis. We are fast reaching a point of no return. We are like a car that has lost control and heading towards a cliff, we are 5 feet away from the cliff, we are travelling at 50 mph and we have got 5 seconds to make the change. It is like that. The height of Bangladesh is 4 feet above sea level. This is a terrible thing for in 25–30 years it will not be there, nor will any of the islands in the world and England too will look very different. The

rate at which global warming is proceeding is so rapid that we have to do something about it now. But not just that, take our interactions with each other, and the way we reproduce the surface structure. And without going into rights and wrongs, we now know, after the events of 11 September, how the actions of a few people could destabilise the whole of the world. And then a few actions of politicians and political leaders who accentuate this destabilising. At a political level we are in a terrible state. At an economic level there is chronic debt, chronic Third World debt, chronic crisis, and yet we are living on a planet of abundance. We have potentially everything we need. So whatever the merits of going to a retreat, or going into a monastery the old days, today to be a spiritual being, to be concerned with the realisation of the divine on earth, you have to be a practical being, and you have to participate in society. And that means willy-nilly, that whatever you do, you will be acting on all these four fronts simultaneously. Whether you like it or not you will be engaged in a process of social change, either repetition and reproduction or transformation and change. Because everything that happens in society happens only in virtue of intentional agency. Intentionality is irreducible; agency is irreducible; agency at all these four dimensions of planes and effects is irreducible; so whatever you do is going to affect the world in this multi-dimensional way. But then also, you cannot not act. You must act. If you abstain from acting, that too is an action is it not? That is an action, that is a choice. Also at the end of the day you will have to act spontaneously, at some point you will act spontaneously. This is very important. If you just imagine that you are trying to do something. Supposing I am trying to pick up this glass of water. Well, I might drink what is the most elegant way to do this. I can do it this way or should I pick it up this way, and so on. But at some point I just have to pick it up. And then I think well I wonder how I should follow the argument, I wonder what I should say next, but at some point I just have to say it. It is the same when cooking a meal. This is the spontaneity of human action. At some point we just have to act. When we act spontaneously, our thought does not come into it, we are not thinking. It is something that flows from our innermost being, we do not plan it, we do not premeditate it. Of course we can learn it and acquire it, that is skill, but when it happens it is just spontaneous, it is unconditional, it is a gift. It is a gift, we are not asking for anything.

Now we will move on from men in a way to women. This is a double-edged sword. If we look at women's domestic labour, it is not respected or recognised by the capitalist economy, it is not paid, it is not part of the commodified role; with domestic labour the woman does not sign a contract with her children, it is unconditional, non-contractual, it is a spontaneous gift. In a way that is a beautiful thing. If we are to have this vision, this vision in Buddhism, in Marxism (only of course the best, that is true of everything), if we are to realise this vision, we have got to have these qualities, unconditional spontaneous behaviour, unthought behaviour but effortless behaviour, exhausting but still effortless and joyous. Not only that but holistic as well, because the women typically will know how to balance the interests of one child against another, when the husband is coming home, when the neighbours will pop in. There was a UN report produced a couple of months ago which basically argued that if men carried on 'husbanding' those resources, being

in charge of resources, then there was no future for the planet. It would be down the spout in fifteen to twenty years. But if women took their modes of domestic economy and employed them globally, nationally, in power, then there was a real future. This asymmetry between women's typical, unconditional, spontaneous behaviour, this asymmetry and the reified alienated world of men is, to repeat, a very double-edged one. But the asymmetry is there and in the characteristics of women's domestic labour there is what you could call a kind of punctuated prefiguration of what we must have universally in the future. But it is not only something we must have universally in the future, we also do have and must have it, at least partially, now. And, men to be men must in this respect be as women, and they are women. When the wife is not there, the man will parent spontaneously and joyously and in a well balanced and sharing household, then the male will actually take joy in discovering the women within and being it.

And of course women, for their part, will engage in long chains of mental reasoning. You may think you are not good at arithmetic, but come on, it's fine. You can enjoy it. There is even room for chess. When you think of chess (there is room for chess, and room for what I am talking about in chess; in fact there couldn't be chess without it) or the labour of Newton in working his way towards his great discovery of gravity or of Einstein working his way towards the discovery of spacetime. Well what happens? When it comes, it comes from nowhere, this flash, out of the blue, it is something which cannot be induced or deduced, it comes from the transcendent, from the beyond. Take the most refined, exceptional, take the most quotidian, ordinary, acts. In either case these are spontaneous, these are gifts. The gift of discovering gravity was a gift from nature, which the universe, god (you can call it what you like), the cosmos, gave to Newton. But it was a gift given to a specially prepared mind, because the mind had toiled ardently, arduously, prepared itself exhaustively. You can say that mind, Newton's mind, was so in accordance with the area of gravity, the whole physical field that we now know as gravity, that when the moment came, the moment when the creative inspiration came, he was gravity, he was one, in that 'eureka' he *became* gravity. This was a non-dual or transcendental moment.

Just before we go back to this, let us follow this example of the child who is learning something. So it seems in a way the child must already know it to learn anything. Now when he has this eureka, this, 'I get it, I see it', it is very similar to what the scientists or the artists have when suddenly they know they have done it. Everyone has it. When you have mastered a skill, when you have built the skill into yourself and just clinch it, it is a new gesture. So in all processes of learning or creativity you will find there are four characteristic moments. First the emergence of something out of the blue, somewhere, somehow the child suddenly sees it, or Newton sees it and gets it. Or you understand a picture, or understand how to interpret a book or understand what a philosopher is saying. Now I see what he is doing. That is the basis. Then with this understanding, the knowledge is heteronomous and you have to continually keep it in mind. Actually, as a philosopher, as a poet, or as a writer of any sort, you often find that you get an idea and then it's gone. So the thing is you have got to write it down, externalise it. That is the

second step. And then of course when a child or anyone else is learning something they have to gradually make it part of themselves. And this is an extraordinary arduous process but also a process that can be very enjoyable. This is a process of formation, of shaping, planning, you apply; you get to see how the computer works, what you can do with a car, what you can do with a language, and then at some point you just know it. Then you have in built the knowledge.

So it is a dialectic. The knowledge was there implicitly already. Then it was awakened by something from outside, came to consciousness, but you were not in control of it, so you gradually had to master it, make it one with yourself. Then when it is one with yourself, it is not outside you anymore. At this stage you can be spontaneous. Then you can engage in objectification, that is action, that is making things in the world. So every cycle of creativity has these characteristic moments, the lightning flash, the inspiration; then the creation itself, involving externalisation; then the shaping, formation, the gradual deep re-internalisation; then the making, the production of objectification of something new. The fifth component of the cycle of creation is seeing whether what you have made reflects your intentionality. Does that express the internal impulse that I had, or not. When it reflects your intentionality then the cycle of creation is perfectly complete.

Now this is in fact the cycle of cosmic creation. All cosmologies have the same characteristic formula, from nowhere, out of the blue, there may be seeds, it may be something which comes and goes but something emerges. Then there is the phase of creation, it stabilises. Then the phase of shaping, formation. Then it is objectified. And then it fulfils or fails to fulfil the intentionality of the creator. Every human act mirrors these five phases of the cycle of creation. So every human act, including especially every act of learning, mirrors if you like the creation of the universe. And at the end of the day what we want to do is to fulfil ourselves. Find our reflection in the outside world. When will this be? This will be when we are fulfilled and that will only be when every human being is fulfilled and then that would be finally fulfilling or completing the initial impulse.

So corresponding to these five phases of the cycle of creation, critical realism, or the philosophy that Lakshmi mentioned, has engaged in the re-thematisation with western philosophy of ontology, that is the theory of being. Because I was invited to share my experiences at school and at college, and I will if we have time, I can tell you that when I was an undergraduate you could not say anything about the world as such in western philosophy; it was a prohibited, a taboo subject. That was the first step in critical realism which was just thinking being. The second step was thinking being as a process. The third step was thinking being as a process and as a totality; as a whole, holistically. The fourth step was the linking it as all those things and as incorporating transformative, self-conscious, potentiality, self-conscious transformative human agency and reflexivity—that is our capacity for the unity of theory and practice. And the fifth stage was to think being as in some way fulfilled, as in some way free, as in some way realised. This is the stage that I am now developing, in which I would like to bring in new spiritual concepts, or put them in a slightly different light. But let us see how we can apply them to education. So just going through those five phases in the cycle of creation you can

see that they correspond to five moments of human action, a moment of will, a moment of thought, a moment of feeling, objectification and the moment of finding fulfilment in your objectification or not. They correspond to those five domains of the successive enrichment of being and they correspond to various ground state properties. These are fundamental characteristics of human beings. So the first would be freedom, the second would be creativity, the third would be love, the fourth would be right action and the fifth would be the capacity to fulfil intentionality. Now most people think that the spiritual is something very far removed from ordinary life. And they would associate the spiritual quite rightly with concepts like transcendence with non-duality. What I want to say is transcendence and non-duality is the underpinning, is the ground level of human beings and we are all familiar with it, in fact it is going on here all the time. Philosophers have had a wrong concept of being and of agency, not only materialist philosophers, but even spiritual philosophers have had a wrong concept of non-duality and transcendence.

So let us go into this a little bit because I want to argue that our goal as educators, self-educators, is to be a party to a process of being and creating and helping beings help create themselves to be non-dual beings in a world of duality. Let us look at transcendence. Something which is involved is obviously identification. There are two terms which are separate, so there is me and you, or there is a state of consciousness you are in and a state of consciousness that you seek to get into. In fact these exemplify two very simple paradigms of transcendental identification. One is when you lose your sense of objectivity, you lose the object in a subject-object duality and just become one with yourself, deep into one with yourself, then that lovely bundle of creative energy or bliss or contentment or peace. That is one paradigm. The other is when you lose your sense of subjectivity and go completely into something outside yourself. This is when you become engulfed in a picture, inspired by music, you lose any sense of separation between yourself and the notes.

Now the extraordinary thing is that transcendental identification is essential for any human communication or act at all. Unless you were at one with my words in the simple sense that you understood at some level what I was saying, then I would not be communicating to you. If you say hello how are you, then the other person has to understand 'hello, how are you', and that moment of understanding, there is transcendental identification. If you are watching a film, you lose your self, if you concentrate, focus on the film, you lose your sense of separateness from the film. When you are reading a newspaper, how could you understand a sentence in it unless you were one with that sentence? You couldn't. The moment you cease to be one with the sentence you are not reading it, you are not listening. You become completely one with the act. So this transcendental identification, or transcendence in the sense of breaking down the duality between subject and object, is something we are familiar with in every aspect of our social life.

However, it is not only that; non-duality is not only a characteristic of states of consciousness; it is a characteristic of action because when you spontaneously know how to drive a car you do not think about it you just drive it. When you spontaneously know how to drive or to speak, you just drive or speak, you just

spontaneously express yourself. When a baby is crawling by you just pick it up, you do not think about it, you just do it, in a non-dual way. Everything in life, every action you perform has an element, and is sustained by that element of non-duality. That element you touch something with is your ground state or something which is consistent with it. So we are all very familiar with who we essentially are. Then there is a fourth aspect to transcendence. This fourth form of transcendence is when two people work so perfectly together as a team that there is no sense of separation. You can find two people who cook together, one anticipates the move of the other, or two footballers or two cricket players in perfect unity. Again, a group of musicians must be in this state to produce anything. Have you ever thought how odd it is how so few people actually bump into each other on the streets in India, or anywhere else for that matter. There are so many people, so little space, there is so little calculation. This is magical, the synchronicity that stops people from bumping into each other. So this is the fourth kind of transcendental non-dual state we must be in to do anything. So this state of non-duality that spiritual philosophers have talked so much about is something that we are very familiar with in our everyday experience.

Now a lot of philosophers think that because it is spontaneous it is not structured. Now that is not true. Because when you have unity with a whole, a picture, then of course that unity is structured. When you listen to the music, the music has an holistic structure, you are at one with a whole. Our concept of unity, of oneness, is far too simple, oneness is not punctiform, is not a point. Oneness is a whole. When you have oneness with oneness it is a whole with a whole. It's two wholes, meshed. To have transcendental identification is consistent with do *just come in and everyone just join the whole*—see how nice, how beautiful synchronicitous, coherent, timely nature is because this leads into my second point that transcendental unity is not only consistent with non-punctiform, differentiated wholes, is the way in which a beautiful picture or sequence of music is differentiated, but it is consistent with development, so you can expand and grow. Supposing you are perfectly realised, perfectly enlightened: that does not mean that you know every skill. If no one has taught you Japanese, how are you expected to know it; if you decide to learn it, you might learn it faster than other people or you may not. So you go and acquire it and you build that skill into your unity. In the process of building that skill which is external to you into yourself, you remain whole all the time and you embed, you recursively embed, that new development into yourself and so expand. So we can be non-dual and growing beings. People have always thought that when you reach the absolute then that is the end. Actually the absolute is only the beginning, all the rest is free development, growth, expansion. It is important also to appreciate that saying that I am in a state of non-duality is not to say we are the same; we can have uniquely differentiated properties, this is very important for education. Actually when you approach enlightenment then you have no sense of a personal ego, so this point really does not matter very much to the enlightened being. But it is worth noting that every *avatar* is the most uniquely defined being, every Buddha is different, every enlightened being is uniquely different, the more creative, the more of a

genius you are, the more expanded you are, the more unique you are. But you do not have a sense of your uniqueness because you do not attribute your uniqueness to an ego, you do not 'own' your uniqueness any more than someone can 'own' the truth. Your uniqueness is a manifestation of the cosmos, you are just happy, privileged to be a point at which the cosmos can fulfil itself.

The really important point is that each of us in our ground state is unique. And understanding this uniqueness and respecting difference is consistent with non-duality because I can become one with you. Supposing we are arguing about which team plays better at hockey, you may say Holland I may say Germany. We may understand what the other is saying so we have transcendental identity as a condition for the argument, but he has his point of view and I have my point of view. This is a way in which two people can be non-dual, one can be a gifted artist, the other can be a gifted scientist. One can be and esteem, love their identity as an Indian, as a woman; as a Maarashtrian, as a hockey player, and the other can love their prowess as a basketball player, as Jewish or whatever. And they can both be non-dual beings. So we have non-duality consistent with the holism, differentiation, with development, with identity-in-difference.

The last point to appreciate is that non-duality does not mean that you stop fighting. The best warrior has total identity with the enemy, completely understands the enemy. I know as a philosopher, we could go (as Lakshmi was suggesting) into my battles at school and so on—but I know as a philosopher that I cannot really critique a false and mystified system of beliefs until I totally absorb it, am totally at one with it. So the best general is the one who has done his reconnaissance, the one who completely understands his enemy, he is totally at one with his enemy. But he is not only at one with the enemy because he is going to fight back and kill and remove his enemy. We become one with the other, not in order necessarily to agree with the other or to be the other permanently; but in order to eliminate the other. So we have to understand what are the blocks, the constraints, the checks on our own emancipation, what are the blocks, the constraints, the checks on the emancipation of all people, all beings everywhere. We have to become one with them. We have to totally understand them to eliminate them, that is these blocks, constraints, forces. This means that the spiritual being is also a warrior, but he is a warrior at peace with himself. This is the beautiful thing, and when Krishna said to Arjuna, do not be upset at your *dharma*, what you have to do, for you have to understand the soul is immortal, and it is your *dharma* for you to kill your enemies, you just focus on your action, do not worry about the consequence—he was telling him, you can be a man of god and fight. That is what we have to do. The extraordinary feature of action is that at a first level it is at once a gift from the universe and an offering to the divine or to nature, to our fellow human beings, whatever it is that we love. At a second level, it is a transformation of the world. And at the third, it is a struggle, part of a process, the practice of emancipation.

At this point I will end up and say that all this really is possible because of some very beautiful features of our ground state and our connectedness in it. Which means that in a real sense, a sense which is very difficult for most people to

comprehend, you are not really different from me, but you actually are me. Sure, you are different as an embodied personality from me, but you are also enfolded within me, you are part of me and I am part of you and therefore your pain is as much my pain. When I fully understand this, raise my sensitivity to a level that I can feel it as my pain then your unfreedom is as much a curse, a blight on me as my unfreedom. Then I cannot stop struggling until everyone is free. This is the ideal. The freer I become the more my action will move in the right direction.

I think that experience is a double-edged sword. On the one hand it is a window on the world, so we learn from it. And then at the same time, as and when we learn, we have to let go. It is a very extraordinary thing to have to say but it is true. As long as you cling to something, someone you have had a bad experience with, it will imprison, impede and hurt you. Then what should you do? Imagine that you have a lovely jewel box there and this bad experience is something like a rock coming at you, you pluck the jewel from the rock and put it in that jewel box; that is the learning, the rest you let go of. Suppose someone has done something terrible to you, you just let it go. Of course you will be wary of, you will be sensible about that person. When I say that love is a ground state quality and that we should—and (to an extent) do—love unconditionally, that is not expecting anything in exchange for it, I am not saying that you should go up and embrace everyone. No, you would not go and embrace someone who was going to put a dagger in your heart, so that is the learning, that is the jewel from that person. What you throwaway is that you do not feel that everyone who comes up to you is going to try and throttle or suffocate or abuse you. It is very sensible for women not to go out in the streets in New York at night, or sometimes in London. It is a terrible condition, but it is very sensible. What you do is you learn from that, you do not have a feeling of paranoia haunting you the whole time, you do not dwell on it. You just know it, you build it in, you let go, you are free, you feel it and then you work to transform the situation that makes that action necessary. So you work to get rid not of that rock but the source of all rocks. That is the teaching, the diamond, the jewel that you plucked from that rock, that has been given to you. Everything in life is like a gift, you say thank you, yes, thank you for teaching me, now I have got to be really careful where I go in Brixton, I have got to be really careful and I have got to work very hard to make it safe for women to walk in the streets in New York and London at night. It is terrible, that is the learning but you do not hold it within yourself. Our minds should be completely free. Actually there should be nothing in our minds. If there is something in our minds, then we are not free to do what we need to do, what is best to do. You cannot learn. It is an extraordinary thing but if you have something in your mind you cannot learn. If something is fixed in your mind, if there is anything in fact in your mind, you cannot learn; your mind at the moment of learning has to be a *tabula rasa.* If there is a preconception there, if there is any fixation, if there is an attachment, if there is anything that clings to or binds you, then this imprisons you as someone who can learn, and it imprisons you as an agent because you are always going to act under a fixed idea. Moreover it *karmically* binds you. It binds you because until you have

cleared that, while you have that within yourself, you are never going to be free and you are not going to be a free agent of change.

This is a difficult one. I was talking about war and fighting and us being at peace, this is the really important thing, we are at peace. But actually all the stories of war, in the scriptures, in the Bhagavad Gita, even the Islamic conception of *jihad,* the holy war is another war, when you are at peace with yourself and only when we are at peace with ourselves will we be at peace with each other. And that peace with ourselves means clearing all the rubbish from ourselves. When we have all cleared the rubbish from ourselves we cut off the supply lines to oppression, servitude and unfreedom. Everything in the social world subsists on our love, our creativity, it could not exist for a moment without them. But oppression is real. These are real structures and real systems but we have the capacity to cut off their supply lines. It is a difficult thing to do but we can do it.

Education then is about challenging oppression, servitude and unfreedom. These fragments specifically about education and learning are all that Roy provided us with.

Chapter 6
Notes on a Theory of Education and Learning

What is required for a theory of education? What characterises such a theory? What are its features and the relations between these features? As I suggested in chapter one, these are: a language for understanding the educative process, a capacity for analysing this process (identifying and separating out the various components and the relations between them), an ontology and an epistemology and the relations between them, a way of turning all these into a coherent theory which prescribes what is needed for an educational setting, and a set of educational values.

An educational theory, then, has the following characteristics: basic normative premises about the human being, including their emergent capacities and affordances, and the environment within which the human being is situated; basic normative premises about the relationship between the human being and their environment; basic normative premises about knowledge, learning and change/transformation, both with regard to the individual and the environment in which they are located; conclusions, based on these three sets of premises, about the knowledge sets, skills and dispositions, which includes those values that education should develop; inferences from these premises and conclusions about appropriate pedagogies, curricula, representation and media for representation, and learning environments; and the identification of a set of practical actions that have emanated from these beliefs.

Roy Bhaskar's version of Critical Realism has the following characteristics: 'a re-vindication of ontology, as distinct from' but '(ultimately containing) epistemology' (Bhaskar and Lawton 1998, p. ix); a distinction between the domains of the real, the actual and the empirical; and a belief that objects and generative mechanisms in the world have causal powers which may or may not be exercised, but still exist independently of human cognition or the individual's ability to know them. Further to these, Bhaskar drew a distinction between the transitive world of knowing and the intransitive world of being; arguing that the social world is stratified, and incorporates mechanisms at different levels with elements of these mechanisms irreducible to those of the level from which they emerged. This implies that objects have emergent properties which interact with each other and as a

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result new properties are created or emerge from old combinations of objects. This means that the relation between structure and agency is the key framing device at the ontological level; and furthermore, that all observational or experiential statements are framed by a specific set of conceptual relations, that is, all observational or theoretical statements are in some sense theory-laden. As a consequence, any description of the world is both explanatory within a particular set of conceptual relations and potentially transformative of those relations. In short, educational processes take place in open systems.

Nash (2005) identifies three core elements in critical realism. The first of these is that the empirical world cannot constitute the totality of the social world. The second is that 'the domain of the real is more extensive than the domain of the actual' (Nash 2005, p. 187); and the third is that the social world is stratified, consists of mechanisms at different levels and elements of these mechanisms cannot be reduced to those of the level from which they have emerged. Furthermore, entities have causal powers that may or may not be activated. Thus complete explanations of social events and processes cannot be reduced to the intentions and beliefs of agents without reference to structural forms, or to structural properties without reference to the intentions and beliefs of agents. Both agents and structures then have real causal powers and in part this is what distinguishes realist from empiricist and idealist accounts of social processes, and indeed from methodological individualism.

Bhaskar (1998, p. 231) explained it in the following way:

> 1. The conditions for the phenomena (namely social activities as conceptualised in experience) exist intransitively and may therefore exist independently of their appropriate conceptualisation, and as such be subject to an unacknowledged possibility of historical transformation.
> 2. The phenomena themselves may be false or in an important sense inadequate (for example, superficial or systematically misleading).

There are three implications of this. The first is that appropriate or even inappropriate conceptualisations of the phenomena may, given the presence of a set of relevant conditions, impact on and change those phenomena, and this includes subsequent conceptualisations of them by researchers and other types of observers. Further to this, players in the game, intentionally and consciously, but also in certain circumstances unconsciously, may seek to gain an advantage for themselves by responding to those conditions of existence, as they understand them, and in the process change those conditions of existence (especially as they relate to external structures and structures of agency).

Finally, those conceptualisations are supported by existing power structures, which act independently from the truth or otherwise of those conceptualisations. In other words, there is no direct relationship between the truthfulness of statements and their impact in society; untruthful ideas have as much chance of being influential in society as truthful ideas. In part this is because the transitive world is constantly in a state of flux and thus truthful ideas, because they must logically

have some relation to the intransitive world, rapidly become out of date, or at least the two worlds are not always synchronised. And within this theory of being, there is an implicit theory of learning.

Roy Bhaskar's theory of learning has the following elements. In basic critical realism what is said about learning is very much in terms of the development of beliefs. With dialectical critical realism, learning is understood as involving all the components of action, so there is learning at the level of values, learning at the level of wants, and of course, more generally, at the level of being. In the *Philosophy of metaReality* (2002), Roy Bhaskar provided a model of learning, which he called 'the unfolding of the enfolded'. This model of the unfolding of the enfolded understands learning not so much as learning of something outside, but as the unfolding of an implicit potential that human beings have. The outside is still very important. The teacher is a catalyst; the teacher provides the conditions and means whereby the unfolding process occurs, but the changing emphasis is to see the human being as having from the outset an infinite potential. And what happens in life is that human beings realise or fail to realise some of their potentials. Most of the others are ignored or not called upon.

However, if not enough attention is paid to the external elements, then it is a one-sided model. The model of the unfolding of the enfolded has five elements: the cycle of creativity; the cycle of courting, the phase of formation; the phase of making; and finally, the cycle of reflection. This is not to deny the importance of the teacher, and it is not to deny the role of the catalyst. Knowledge is something the learner is trying to develop. Knowledge always pre-exists the learner, and knowledge and learning are central to any theory of being.

Knowledge

Roy Bhaskar's meta-theory of education includes a range of epistemological and ontological precepts. There is a social dimension to knowledge-construction, but this cannot categorically preclude reference to a world that is separate from the way it is being described. Conceptual framings and sets of descriptors are informed, constrained and enabled in a non-trivial way by the world or reality at the particular moment in time in which they are being used, and in turn the shape and form of the ontological realm is influenced by the types of knowledge that are being developed. Our conceptual frameworks, perspectives on the world, and descriptive languages, interpenetrate what we are calling reality to such an extent that it is impossible to conceive of a pre-schematised world (cf. Putnam 2004). However, this doesn't rule out indirectly conceived references to the structures of the world. Knowledge of the world cannot be a simple representation (expressed as a series of facts) of what is out there in the world because the world is not entirely separate from those mediating devices that human beings have developed to make sense of it. And, as a result, it is important to avoid essentialising knowledge and its divisions and thus neglect

the transitivity inherent in its development (cf. 2010). And finally, any knowledge claim has to be placed within the space of reasons (cf. Brandom 2007), which means that this claim is discourse-specific and positioned within conceptual frameworks that precede it in time and place and have implications for future use. These precepts are implicated in the choices critical realists make about the strategies and methods they use to collect data about the world.

One of the key elements in a critical realist methodology is a particular and specific notion of causality and believing in this generative theory of causation also includes a belief that reasons for actions can be construed as causes. Critical realists draw a distinction between successionist and generative theories of causation (cf. Bhaskar 1998, 2010). Successionist theorists, following David Hume's notion of causality as spatio-temporal contiguity, succession and constant conjunction (Hume [1738] (2000)), argue that causal relations cannot be observed. Researchers can observe successive occurrences, but they can never understand and record the causal mechanism that connects them. Causation, therefore, is external and non-observable, and the key is to distinguish between the causal relationship and any spurious associations. Generative theories of causation are different. Causation acts internally as well as externally, and it describes the transformative potential of phenomena. Causality is understood as a tendency of objects, which may or may not be realised, and this has implications for how social and educational researchers should act, and whether it is possible to use descriptions of current educational settings as a basis for predictions about future ones.

At the ontological level, reality is stratified and the properties of objects, including people, are emergent. Most frequently cited by critical realists is the distinction between the actual, the empirical and the real. The actual refers to things and events in their concrete historical contexts, only some of which will ever be known or experienced by human beings. The empirical is related to the actual, consisting of those phenomena that are experienced by people in the world. The actual and the empirical are both *real*, and consequently, are a part of the third domain. But the domain of the real also includes the *structures* of objects, for example, the relations between their constituent parts and the *emergent properties* to which their structuring gives rise. Since these powers of structures, when exercised, may bring about certain effects, we can describe them as generative mechanisms.

This meta-theory (sometimes referred to as a critical realist meta-theory) can be understood at the levels of strategy and method as a series of steps or action-sets (cf. Bhaskar 1998). The first entails a process of reasoning and analysing causal laws as expressions of the tendencies of natural and social objects. The second is resolving a concrete event occurring in a context into its components. The third is re-describing the components in theoretically significant ways. The fourth is a retroductive move or moving from describing the components of an event to proposing explanations about what produces or are the conditions for the event. The fifth is eliminating alternative possible explanations. The sixth is identifying explanatorily crucial explanations. The seventh is correcting earlier proposed explanations

in the light of the temporarily completed analysis. And finally there is a need to explain the parameters of these subsequent explanations and how they relate to the ontology and epistemology of the world.

In order to understand these processes, careful experimentation has to take place in order to actualize mechanisms; researchers set up a situation in which the three domains coincide. Bhaskar (1998, p. 4) argued that

> we have in science a three-phase schema of development, in which in a continuing dialectic, science identifies a phenomenon (or range of phenomena), constructs explanations for it and empirically tests its explanations, leading to the identification of the generative mechanisms at work, which now becomes the phenomena to be explained, and so on. On this view of science, its essence lies in the move at any one level from manifest phenomena to the structures that generate them.

For Bhaskar, though this procedure more obviously applies in the natural sciences, a unity of method between the natural and social sciences is both possible and desirable. If the purpose of doing the research is to explain regularities between observable phenomena, then the task is essentially one of discovering those mechanisms and structures, which underpin them. These structures and mechanisms are not immediately available to consciousness and therefore the first stage of the process is to construct a possible model of them, drawing on evidence from what is observable. Such modelling is an attempt to explain phenomena causally, i.e. to show that these mechanisms and structures have causal properties. The next stage is to test the model. If the testing is successful, this allows the researcher to believe or at least to have good grounds for believing in the existence of these structures and mechanisms. The whole process may be repeated so that the existence of these structures and mechanisms is confirmed. Clearly, the viability of such a method depends on a belief in realism, albeit of a sophisticated kind. It also depends on a conceptualization of reality that includes unobservable entities. The existence of these mechanisms and structures is inferred from a complicated process of experimentation and testing.

Ontology

Proponents of naive realist approaches to educational research claim that knowledge of the object reflects, corresponds to, or represents, the ontological state, which is characterised as real because it exists separately from the way it is described, theorised about, or made into knowledge; the point of their claim is that it would exist as an object even if no description of it was ever made. This is its essence; however, critical realists suggest this and more, namely an epistemological relativism, while at the same time not giving up on the idea of being able to make true but fallible statements about that reality. Bhaskar (1998, p. xi, *his emphases*) expressed it in the following way:

> However, if the relation between the theories is one of conflict rather than merely difference, this presupposes that they are alternative accounts of the *same* world, and if one theory can explain more significant phenomena in terms of its descriptions than the other can in *its*, then there is a rational criterion for theory choice, and *a fortiori* a positive sense to the idea of scientific development over time. In this sort of way critical realism claims to be able to combine and reconcile *ontological realism*, *epistemological relativism* and *judgmental rationality*.

The most important of these, as Roy Bhaskar made clear in chapter three, is ontological realism. Although theories about the world are produced socially (epistemological relativism) this doesn't and cannot rule out the possibility of judging between rival theories. For example, Bhaskar (1989, p. 43) argued that: '(i)t is clear that if one is to act at all there must be grounds for preferring one belief (about some domain) to another …'. This suggests that every action in the world is arbitrary unless some reason can be found as to why T_c, as long as it is relevant to the situation in hand, is better than T_d, T_e … T_n.

Bhaskar (1998, p. 73, *his italics*) provided two sets of criteria for determining the adequacy of a theory:

> A theory T_c is preferable to a theory T_d, even if they are incommensurable, provided that T_c can explain *under its descriptions*, almost all the phenomena that T_d can explain under its descriptions, plus some significant phenomena that T_d cannot explain.

This explanation has been criticised for its flat ontology. However, he had earlier identified a means for judging the adequacy of two competing theories that takes account of the stratified nature of reality. This explanation is more comprehensive, and states that a theory (T_c) is superior to another (T_d) if it can either:

> identify and/or describe and/or explain a deeper level of reality; and/or achieve a new order of epistemic (explanatory and/or taxonomic) integration, or at least show grounded promise of being able to do so. (Bhaskar 1998, p. 82)

He is suggesting that T_c is a better theory than T_d because it more adequately represents, and/or is better able to provide a convincing account of, an external reality, and in addition, that it is better because it is more coherent. It is therefore possible to argue that a meta-theory should have the following elements: ontological realism, epistemological relativism and judgemental rationality, and that this meta-theory is not internally incoherent.

Learning

Classical or demonstrative conceptions of foundationalism in learning insist that any justification for the truth of an educational proposition rests on identifying those sets of basic principles that underpin subsequent statements about the matter in hand and the relevant inferences that allows the researcher to move from premise to conclusion. These basic principles or beliefs must be self-evident, and not in need of any further justification, if they are to qualify as foundational principles.

This strong foundationalist view therefore comprises a process of identifying self-evident truths, which only those human beings with a defective perceptual apparatus cannot recognise. Note that these fundamental and self-evident truths are not subject to argument, development or agreement, except in so far as those advocating them might choose to exclude those they consider to have a defective sensibility; they literally present themselves to the normal person and provide the means by which a foundational structure can be built.

These intrinsically credible beliefs, central to substantive foundationalism, are of three types. The first type, *cognitive-impressionism*, suggests that an idea is correct in so far as it impresses itself on a person's consciousness with such force and conviction that she cannot doubt it. It is certainly reasonable to assert that an idea is true for this reason (essentially a psychological explanation), but this doesn't provide the person with much certainty because on examination it is usually found that her preference for one idea over another is based on non-universal criteria or subjective preference. Why should another person accept that her idea is true because of the way she has received it? There needs to be a more convincing reason as to why one idea is better than another.

A second type, *cognitive-universality*, suggests that reality, or "the thing in itself", is unknowable but the mind operating in a foundational sense supplies the structuring mechanism for apprehension of the object. A universality of the operation of minds is suggested, thus ruling out a plurality of structures or a plurality of known objects or a plurality of different conceptions of the same object. This neo-Kantian approach assumes that the categories of the world are given to every sentient human being and therefore cannot be forsaken or foresworn. They are intrinsic to the way human beings access the world, and are foundational because they do not need any further justification; they are end-points in arguments. A weaker version of this approach might focus on an aspect of social life, i.e. extant forms of agency, or the way human beings currently access the material world, or the sense of how they now construe logical forms, and proponents might argue that these are givens and thus constitute the essence of a human being, or the essence of how a human being accesses reality, or even, the essential logical forms used in discourse. They are foundational because they serve as terminating points for chains of justification for any beliefs that are held.

A third type is *metaphysical* and therefore refers to transcendental and ontological essentialisms, both of which have epistemic implications. The first of these, transcendental essentialism, is extra-material, since the authority for these beliefs rests on non-material foundations; or, at least, the source of authority for such beliefs resides in a series of inferences which culminates in an extra-material and transcendent being as the terminating point for their justification. The second is ontological, and therefore fits classical definitions of metaphysical beliefs. Bhaskar (2008), Bhaskar and Norrie (1998) later philosophy is the most apposite in this regard, because, as Hostettler and Norrie (2003) suggest, if an ethical theory is grounded in an ahistorical conception of human essence, then it must be foundationalist in an ontological sense. Furthermore, since objects have specific essences, it is these essences which drive the choice of means for knowing them.

This doesn't mean that a singular epistemology can be identified; a method for dealing with all the different types of objects that exist in the world or that have substance; but it does mean, and logically has to mean, that a correct epistemology embraces the idea that different methods are appropriate for understanding different social objects because they are differently constituted. And this applies to discursive objects as well as to embodied, institutional or systemic ones, because discursive objects have ontological presence and are causally efficacious.

Epistemology is understood as a foundationalist enterprise in so far as knowledge of the world (epistemology) can accurately mirror an external reality (ontology). If knowledge is understood as representing an external world then the argument that clarity or strength of impression, for example, improves certainty only works within a representational model. The representational model paints a picture of an external world being passively received and fits a computational model of mind.

The computational or symbol-processing view of mind understands learning (the process by which the social actor gains access to the external world) as inputting coded unambiguous information about the world, which is then sorted, stored, retrieved and managed in the same way that a computer processes data. The mind is a blank screen. Information is inputted into this device, and this information consists of pre-digested facts about the world which map onto the way the world works. The mind, in the act of learning, processes that information, assimilates the new information into the store of facts and theories that it already holds, and then adjusts that worldview in the light of this new information. This is a mechanical process, which has within it an impoverished view of the role interpretation plays in learning. Interpretation is reduced to the assimilation of new information and the subsequent reformulation of the mind-set of the individual. Here, the individual is treated as a passive reflector of the way the world works and correct or incorrect views of the world are understood as a function of the efficiency with which these processes are conducted.

Proponents of symbol-processing approaches treat the learner and the environment as separately constituted; learning takes place within the human mind as the individual processes information they receive through their senses, assimilates that information and creates new ways of understanding. This approach has its origins in the philosophical theory of empiricism, which understands the world as given and then passively received by individual minds. It separates out language from reality, mind from body and the individual from society (cf. Bredo 1999).

The first of these, the separation of language from reality, has a long philosophical lineage. Hacking (1981) suggests that the traditional image of science, i.e. one based on empiricism, can be understood in the following way. There is a real world out there, and it exists regardless of whether the observer is observing it at the time or whether it is being described as such. Furthermore, there is a correct way of describing it. Scientific theories are superior to common sense understandings of the world. Science works by accumulating knowledge; it builds on previous understandings of the world and improves them. The ultimate purpose is to provide a complete understanding of both the natural and social worlds. Science

makes a distinction between observation and theory. Observational statements are theory-less. This leads to the idea that there are facts in the world which can be collected regardless of the belief systems of the observer. Interpretation and theory-building are second-order operations and come out of and do not precede the accumulation of facts about the world. The correct way of conducting research is to test hypotheses developed prior to the data collection phase. Language is treated as a transparent medium; that is, words have fixed meanings and concepts can be defined unambiguously. A distinction is usually drawn between how truthful statements are produced (this involves concept formation, data collection and data analysis procedures) and how they are justified. Different criteria are thought to be appropriate for each. Finally, a claim is made that the methods that are appropriate to the natural sciences are equally appropriate to the social sciences.

The research process that emanates from this is as follows, and is underpinned by four guiding principles. Research is determinate (there is a certain truth that can be known), rational (there are no contradictory and even alternative explanations), impersonal (the more objective and the less subjective the better), and predictive (research is the making of knowledge claims in the form of generalisations from which predictions can be made, and events and phenomena controlled). Researchers follow a pre-specified path or protocol which allows them to access reality. The only domain of inquiry is the empirical one, and therefore empirical verifiability is achieved through measurement of various kinds. Causality is based on associations between covariant variables, and thus causal mechanisms are reduced to associational relationships or correlations established between pre-specified variables. Using experimental and quasi-experimental designs (more suited to closed systems than the open systems which educational phenomena operate within), researchers control reality by isolating certain variables. If as many as possible cause-variables can be shown not to correlate with the effect-variable, researchers can have greater confidence in the relationship they have established between the cause- and effect-variables that have not been isolated, and this allows them to make a claim about a causal relationship, over and above a mere associational one. This produces a model of research which has the following form: research design, conceptualisation, operationalisation, data collection, coding, input and analysis, and then causal conclusions; and a model of learning which comprises: accessing the outside world, receiving sensory inputs into existing conceptual schema, assimilating those external stimuli through processes of selection/negotiation/rearrangement and the like, and in the process creating new conceptual frameworks.

The most important of the points made above is the idea that facts about the world, that are free of the value assumptions of the researcher, can be collected. These facts constitute unequivocal and true statements about the world. Furthermore, learning comprises discovering what they are and developing adequate models to explain them. However, a faithful representation of reality implies that the world is fixed by language, with language acting as a transparent medium. This notion of representational realism then, for Roy Bhaskar, misrepresents the process of how human beings act in relation to stimuli from their environment.

Symbol-processing approaches to cognition also suggest a further dualism, between mind and body. This separation of mind and body locates learning and cognition in the mind, as it passively receives from the bodily senses information, which it then processes. The mind is conceived of as separate from the physical body and from the environment in which the body is located. Learning is understood as a passive process of acquiring information from the environment and thus this view of cognition supports didactic approaches to teaching and learning. Situated-cognitionists argue that learning involves close and interactive contact with the environment, and this contributes to further understanding for the individual, and changes or transforms the environment itself. Knowledge is not understood as a passive body of facts about the environment but as an interactive process of reconstructing meanings.

Finally, it is important to identify a third dualism, which critics of symbol-processing approaches have suggested is problematic. This is the separation of the individual from society. The individual/societal distinction which is central to a symbol-processing view of cognition separates out individual mental operations from the construction of knowledge by communities of people and this leaves it incomplete as a theory of learning, and suggests a partial view of knowledge construction. The symbol-processing or computational view of learning can be compared with learning theories which emphasise cultural aspects which are situated or embedded in society. Symbol-processing or computational models for epistemic construal or for learning then, are deficient as explanations of the relationship between epistemological and ontological matters.

In contrast to symbol processing or computational models of learning, Bhaskar (2008, p. 23) understood the learning process in the following way:

> Dialectic may be seen as the experience of [….] the process of (trans) formation and dissolution [….] of stratified (and differentiated) [….] totalities [….]. In the human field it constitutes a general schema for a LEARNING PROCESS in which absence [….], signifying incompleteness, leads to transcendence and to a greater totality [….], in principle reflexivity [….] capable of situating itself and the process whereby it became.

His focus on learning and any other educative process ultimately rested on a notion of transcendence and the achievement of a greater totality.

Knowledge Forms

By suggesting that work at the epistemological level can influence work at the ontological level, three claims are being made. The first of these is that there is a level of ontological reality separate from how it is described. The second is that most ideas and sets of ideas remain at the epistemic level and have no influence on reality. The third claim is that there are some types of epistemic-to-ontic actions that go against this general rule. Within this third claim, there is also an epistemic level that directly influences a person's perception of the world, indeed is a part of the world, and thus is ontologically real. I want to suggest that it is structured

in a variety of ways, and both this meta-structuring and the forms it produces are relative to time and place. Extant meta-forms refer to constructs such as generality, performativity, reference, value, binary opposition, representation, legitimacy and change.

The first of these is the designation of objects as separate from other objects in the world; in part, this constitutes a naming process and it refers to the relations between singulars and generalities, in other words, what constitutes those items within a general description of a set of objects. A second meta-form concerns the balance in educational statements between denotation and performativity, or between offering an account of something with no intention of changing the world and offering an account which is intended to change an object or create a new one. The latter is performative in so far as the utterer is not intending to merely describe what she thinks is in the world, but in making the statement, she intends to bring something into being. In order for her to perform such an act, the statement she is making serves as an authorisation of the act so designated by the statement and this authorial status allows her to claim legitimacy for the performance she hopes will take place. There is of course no guarantee that performative statements will in fact achieve their purpose. Denotative statements have a different function, in that they seek to describe what currently exists, what might exist in the future and what has happened in the past. The intention of the utterer is not to bring anything into being in the world. The transitive realm is treated as separate from the intransitive realm, though this may not be realised in practice. This distinction between performativity and denotation only makes sense in terms of the intentionality of the maker of the utterance and in terms of the perceived relationship between statement and act; in other words, it implies such a relationship exists even if it does not specify what that relationship is. A performative act may contribute to ontological change even if this is not the intention, but it generally does so as a result of a series of other actions. Educational statements then may be characterised in terms of the balance of performativity and denotation within them.

A third meta-epistemic form concerns the relative value given to an object in comparison with another object. The fourth meta-structuring device relates to the bipolarity of objects, descriptions and dispositions, or hierarchically binary oppositions, for example, objectivity/subjectivity; that is, an object, description or disposition is defined in terms of another object, description or disposition of which it is the mirror opposite. If these bi-polar conceptual terms are used as an example, it is possible to see that the positioning of the two terms as oppositional in meaning, and the subsequent valuing of one (objectivity) and the devaluing of the other (subjectivity) because of their oppositionality, has significant implications for the way the debate about relations between epistemology and ontology can be conducted. Thus certain words/ phrases/descriptors/concepts are understood in bipolar terms which determine how they can be used as a resource for understanding the world.

A fifth meta-principle refers to the referential value of a statement. Making an educational or social statement implies that a particular type of truth-value is being invoked. So, for example, a correspondence theory represents the truth of the matter as to whether the statement mirrors the reality that it seeks to describe.

A number of such theories are in existence, some fairly primitive such as naïve appeals to facts, others more sophisticated so that they avoid mirror imagery and at least take account of sceptical arguments. On the other hand, coherence theories argue that the truth-value of a statement does not lie in its reference to an external world but in whether it fits with a coherent web of knowledge. An educational statement therefore implicitly or explicitly is underpinned by a theory of reference embedded within a theory of truth, and this marks it out as an epistemic form. A sixth epistemic principle refers to the extent to which an educational statement is legitimised within hierarchical or horizontal knowledge structures (cf. Bernstein 2000).

A final epistemic meta-principle refers to the degree to which the driver for change comes from the intransitive or transitive domain, and the degree to which it is embedded in existing structures. Change can therefore occur in four ways: contingent ontological; planned ontological; epistemically-driven ontological; and, in the transitive realm or the realm of knowledge, epistemological. *Contingent ontological* change occurs when social mechanisms with causal powers interact and produce outcomes that could not have been anticipated or were not planned by any human beings or group of human beings. A second form of change, *planned ontological*, occurs when the activation of a mechanism or interacting mechanisms is the result of the planned intentions of an agent or a group of agents, who may also have been central to the workings of that mechanism. A third form of change, *epistemically-driven ontological*, occurs at the meeting point between the transitive and intransitive realms. This is where an individual or a group of individuals is able to give ontological substance to a set of ideas or change the import of those ideas. Ideas in society may simply operate at the cultural level and have no real effects in society. However, some ideas are able to penetrate the ontological level. The last type of change occurs at the *epistemological* level, and happens when an individual or group of individuals is confronted by irregularities, contradictions, aporias, etc. at the cultural level, and seeks to correct them, or because some forms of knowledge are de-emphasised and others given a greater prominence. These concepts then, are those of: generality, balance of performativity and denotation, relative value, hierarchical binary opposition, representation, legitimacy and change. Each of these in turn can vary in relation to any of the others. Societies are different because different valuations are given to each of them.

Critique

So far I have neglected the *critical* element of critical realism, and I now need to provide an explanation as to why accounts of social events, mechanisms and structures ought to be critical. Adopting a critical approach necessarily implies that a state of affairs is flawed or incomplete and therefore needs to be replaced by an alternative that is not flawed or incomplete in the same way. The focus here is on the well-known argument used by Bhaskar (2008) in *Dialectic: The Pulse*

of Freedom. This is that from the premise that people have needs and that these needs are unfulfilled, then we are logically enjoined to meet those needs, and thus we have moved from two factual statements without recourse to the addition of a value statement or even a practically prescriptive statement to a value conclusion. Identifying a need implies that it must be met. We can only conclude that inherent in an explanatory critique there is a statement of value and a means for deciding between correct and incorrect actions; in other words, the argument is practically adequate. What this argument also implies is that in identifying a need we are affirming a belief in an essentialist view of human nature, which in part incorporates a notion of universal need and right. And this applies even more so at the level of identifying educational needs and the means of fulfilling those needs. Such an identification may at best be difficult and at worst impossible.

A further and related argument is as follows: social scientists make truth claims about objects in the world. However, in the social world the objects of knowledge include the ideas that people have about those objects, and further to this, those ideas do not just operate as descriptions or explanations, but may causally effect and thus transform the original objects. Many of these ideas will seek to explain the characteristics of that same society. If social scientists seek to explain society and their explanations differ from those held by people in society, then both cannot be right. All this shows is the possibility of critique. This is different from the natural sciences because physical objects have no conception of themselves and no means of providing an explanation for what they do; in short, they cannot be reflexive.

Social scientists go further than identifying inaccuracies in the accounts that people in society hold about their lives, they also want to explain why these false beliefs are held. What is the false-belief-causing mechanism? Once this is identified, logically and inevitably the next step is a negative evaluation of it. If we say that some institution or structure causes us to misdescribe objects in the world, then necessarily we are criticising it and seeking to ameliorate its harmful effects, and thus change it. Furthermore, even just reporting the results of an evaluation not only criticizes the false-belief-causing mechanism but has the potential to undermine its false-meaning-making powers. Explanation thus has the threefold purpose of describing, explaining and subverting.

Finally, there is the argument from fallibility. Critical realism is critical because educational and social researchers accept the idea that their investigations are fallible; and also because the various ways that the world is ordered, and this includes the categorical distinctions that constitute the social order, are not self-justifying, but are determined by particular decisions made by individuals and groups of individuals stretching back in time, and are therefore always subject to critique and their possible replacement by a different set of categories and relationships. Further to this, there is a notion of internal critique which needs to be applied to both the justification for a critical realist position and those categories and relationships which act to structure the social world.

If it is accepted that picture theories or mirror images of the relationship between the social world and how it can be described are inadequate (see

chapter three for Roy's argument that this is indeed the case), then an alternative is required. However, even here any alternative theory has to be subjected to this internal critique and thus critical realists do not make the claim that it is possible to be certain about the correctness of the ontological framework that is being proposed. Fallibility therefore refers to both the fact that researchers may not for practical and ethical reasons be able to collect data about the causal sequence that concerns them, and also to the way they are positioned whether this is geographical, cultural or epistemological. As a result, fallibility cannot just be equated with inadequacy or insufficiency, but also implies that no epistemic certainty can be guaranteed. This argument rests on a disjuncture between descriptions of the world and the way the world actually works, so that an attempt is made to align the transitive realm with the intransitive realm. However, given that an explanation of the intransitive world has the potentiality to change it, then critique is used here to refer to making what is better by discarding inadequate and outdated notions and ideas. Knowledge, and the way it is constructed, is central to any theory of education, and in particular, Roy Bhaskar's metatheory of knowledge and being.

The journey is over. The 'life' is lived. What we have left is a remarkable body of work.

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