

## 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

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.<sup>1</sup> 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.

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<sup>1</sup>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 *Described*; secondly some explanatory mechanism is *Retroduced*, antecedently available cognitive resources are used to make plausible models of unknown mechanisms; [...] third, competing explanations are elaborated and some are *Eliminated* on the grounds of their inferior empirical adequacy [...]; so that fourth, the *Identification* of the causal mechanism at work is hopefully achieved, whereupon the latter becomes the phenomenon to be explained and the initial theory is *Corrected* 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 *Resolved* into its separate components, i.e. into the effects of its separate determinants; second, these components are then *Redescribed* in theoretically significant terms; third, a knowledge of independently validated tendency statements is utilised in the *Retrodiction* 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 *Eliminated* on evidential grounds. This may be followed by *Identification* and *Correction* 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 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 multidisciplinary, 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.<sup>2</sup>**

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<sup>2</sup>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 on to 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.<sup>3</sup> 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 neuro-physiological 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

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<sup>3</sup>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.

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A Theory of Education

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2015, IX, 82 p., Softcover

ISBN: 978-3-319-19835-4