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.

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

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 sentential 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 break-through, 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 spontane-ously, 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 hap-pens. 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 some-thing in the world, which perfectly reflects your intentionality. You can drive flaw-lessly 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 cri-tique 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 inter-ested 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 dif-ferent 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 trajec-tory, they would still differ by being irreducibly unique. This is the concrete singu-lar. 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 possibil-ity of changing knowledge of an unchanging world. One of the basic motivations behind critical realism, transcendental realism and critical naturalism was to situ-ate 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 understand-ing 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 some-thing 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 bet-ter 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.