Enlightened Common Sense II: Clarifying and Developing the Concepts of Intransitivity and Domains of Reality

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In this article, the second of a series of four articles that engage critically with the arguments of two recent and significant additions to the literature on critical realism (Bhaskar's *Enlightened Common Sense: The Philosophy of Critical Realism* and Bhaskar et al.'s *Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity*), I present the results of a critical engagement with other categories of original or basic critical realism. Using the method of immanent critique and focusing mainly, but not exclusively, on the arguments of *Enlightened Common Sense*, I identify, and propose solutions to, a range of problems pertaining to the concepts of intransitivity, the domains of the real and the subjective, and the domain of the actual. In identifying

and resolving these problems, my aim is to clarify and develop the categories of original critical realism and thereby ensure that critical realism as a whole is as effective an underlabourer for science as it can be.

1. Introduction

This is the second article in a series of four distinct, yet connected, articles that engage critically with the arguments of two recent and significant additions to an expanding corpus of academic work that both develops and draws on the philosophy of critical realism: *Enlightened Common Sense: The Philosophy of Critical Realism* (hereafter *ECS*) and *Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity* (hereafter *IW*). In the introduction to the first article in this series, I commented on the degree of overlap between these two books, their value for those who are interested in studying the philosophy of critical realism, and the importance of resolving the conceptual problems that I have identified in them and, by implication, in some of Bhaskar's earlier works. I argued that there is enough overlap, with respect to their content, to justify their joint consideration in the same article, despite the focus of *ECS* being the theory of critical realism and the focus of *IW* being the application of this theory to scientific practice. I argued, further, that the clarity and simplicity of *ECS* will be of value to those who are new to the philosophy of critical realism, while its enhancement of our understanding of the three core elements of this philosophy – original or basic critical realism, dialectical critical realism, and the philosophy of metaReality – will be of value to

more experienced scholars. Finally, I argued that, if critical realism as a whole is to be an effective underlabourer for science, we must ensure that we resolve any conceptual problems that we find within it.

My aim in this article is the same as it was in the first article in this series: that is, to resolve a range of conceptual problems – for example, illicit conceptual identification, conceptual absence, and contradictory conceptual definition – that I have detected, using the method of immanent critique, in the arguments of *ECS* and *IW* and, by implication, in the arguments of Bhaskar's earlier works.[1] Again, by suggesting how these conceptual problems might be resolved (through, for example, taxonomic statement and re-statement of the relations between concepts, which involves both conceptual differentiation and conceptual integration), I show not only how our understanding of other categories of original critical realism might be clarified but also how this understanding might be developed.[2] Again, I approach the question of identifying and resolving such problems from the perspective of dialectical critical realism to ensure that there is a coherent relationship between the categories of original and the categories of dialectical critical realism.[3]

I emphasize that my aim in this article is to clarify and develop the core categories of original critical realism; it is not to reconstruct them.[4] My argument does not amount to reconstruction because, in my view, reconstruction would involve transforming the ontological basis of critical realism. On the contrary, I accept as legitimate the ontological position of critical realism but try to strengthen that position by removing what I think is problematic about it. In this way, I attempt to remain in sympathy with Bhaskar's approach to philosophical inquiry and the overall aim of his philosophical project, which, as I indicated in the introduction to the first article, is

to underlabour for science and, more generally, 'projects of human emancipation' (Bhaskar 2011, 2).

I have organized my argument as follows. In Section 2, I clarify the distinctions between, as well as the connections of, the concepts of intransitivity and transitivity, ontology and epistemology, and being and knowledge, taking the discussion of intransitivity in Chapter 3 of *ECS* and Chapter 4 of *IW* as my starting point. I argue that these conceptual pairings should not be identified with each other in a simple way. At the same time, I introduce, and defend, a distinction between the epistemic fallacy and the epistemological fallacy. In Sections 3 and 4, I present, not only a clarification but also an expansion of our understanding of the three domains of reality. Thus, in Section 3, I argue that the domain of the real should be expanded to encompass the reality of superstructures as well as structures and that this necessitates a reconceptualization of the content of the domain of the real and, by implication, the content of the domain of the subjective. In Section 4, I turn to the domain of the actual, arguing that it is a mistake to assume that an event is only an effect and not also a type of cause. I argue that events are triggering causes, as well as the effects of causal objects in operation, and that, in the social world, they are both triggering and modifying causes to the extent that they are experienced and thus mediated by human subjectivity. I argue, further, that we can use this understanding of events to make sense of the definition of the concept of '"*nexus*"' that Bhaskar introduced in Chapter 2 of *Scientific Realism and Human Emancipation* and, by implication, the four cases of determination of events that are reproduced in Chapter 4 of *ECS*. In the final section of the article, I summarize my argument.

2. Intransitivity

In Chapter 3.2 of *ECS*, Bhaskar writes that 'there are thus three new kinds of ontological distance or depth in transcendental realism, which I now explicate more fully' (47). I want to comment on Bhaskar's explication of one of these kinds of depth – intransitivity – and also bring into consideration the discussion of it that is to be found in Chapter 4 of *IW*.

In relation to science, intransitivity is the idea that the objects of scientific inquiry exist independently of scientists. From a philosophical perspective, it entails that questions about the nature of reality (ontology) cannot be reduced to questions about the nature and limits of our knowledge of reality (epistemology), and enables us to make sense of the reality of 'scientific discontinuity and change' (Bhaskar 2009, 51). Now, in Chapter 3.2 of *ECS* Bhaskar tells us that the 'Western philosophical tradition has mistakenly and anthropocentrically reduced the question of *what is* to the question of *what we can know*. This is the *epistemic fallacy*, epitomised by concepts like *the empirical world*' (47). Similarly, in Chapter 4 of *IW* the authors write:

> In terms of the first objective ['that we want to be able to say something about the world, i.e. that we want to be able to "do" a philosophical ontology'], this argument [about the conditions of possibility of scientific experiment] suggests a critique of the *epistemic fallacy*, that is, the reduction of being to knowledge, or the reduction of ontological to epistemological questions. The epistemic fallacy is the assumption that you can always analyse "being" in terms of "our knowledge of being". (28)

I want to propose that 'the reduction of being to knowledge' is distinct from, although still connected to, 'the reduction of ontological to epistemological questions' or the reduction of 'the question of *what is* to the question of *what we can know*.' Both the former and latter are usually treated by critical realists as alternative definitions of the epistemic fallacy. However, if it is accepted that the term *epistemic* refers to knowledge (considered as an entity) and the term *epistemological* refers to the study of the nature and limits of knowledge, the former statement ('the reduction of being to knowledge') ought to be treated as defining the *epistemic fallacy* and the latter statement ('the reduction of ontological to epistemological questions') ought to be treated as defining what I am going to call the *epistemological fallacy*. Although the epistemic fallacy is distinct from the epistemological fallacy, the two are connected in the sense that the study of the nature and limits of knowledge must, by definition, include some sort of conception of the nature and limits of knowledge. It follows that to commit the epistemological fallacy is to commit, at the same time, the epistemic fallacy. The close relationship between these two fallacies may explain why hitherto critical realists have not distinguished between them clearly.[5]

It is important that we distinguish between the epistemological and the epistemic fallacy because, if we do not, we may conclude that only philosophers, who ask questions about the nature and limits of knowledge (amongst other things), commit the epistemic fallacy. This is an untenable conclusion because, although the arguments of philosophers may presuppose the reduction of ontology to epistemology and, by implication, the reduction of being to knowledge, scientists may also advance arguments that presuppose the reduction of being to knowledge – for example, those scientists who assume that social reality is constituted by how we talk and who thereby erase the distinction between reality and the language that we use to describe it. (This is the linguistic fallacy, a specific form of the epistemic fallacy.)

Re-consideration of the epistemic fallacy takes me to the distinction between the concepts of transitivity and intransitivity, which Bhaskar first proposed in *A Realist Theory of Science* as a way of avoiding committing the epistemic fallacy (2008a, 17). Now, in Chapter 3.2 of *ECS* Bhaskar tells us that 'the most important distinction is between the intransitive and transitive dimensions as such, ontology and epistemology' (47). Hartwig, similarly, tells us that 'the ID [Intransitive Dimension] is synonymous with ONTOLOGY' and that '[t]he TD [Transitive Dimension] … is synonymous with the epistemological process of any inquiry' (2007, 264); and the authors of *IW*, in Chapter 13, refer to one of the advantages of critical realism as 'its layered version of (intransitive) ontology' and write that 'because critical realism acknowledges that ontology is distinct from epistemology, it also creates a space for the social component of knowledge (the transitive dimension)' (135). However, I want to raise a note of caution here. In relation to science, the terms 'transitive' and 'intransitive' refer to two distinct, yet connected, dimensions of scientific inquiry in the sense that anything within the transitive dimension 'may, by valid PERSPECTIVAL SWITCH, be seen as continually passing over into the intransitive, without annulling the distinction' (Hartwig 2007, 265). (In other words, taken together the intransitive and transitive dimensions constitute a constellational identity.) However, the transitive and intransitive dimensions cannot be synonymous with ontology and epistemology, as Bhaskar, Hartwig, and the authors of *IW* suggest, because the latter pair of concepts refer, on the one hand, to different branches of philosophical inquiry (the study of the nature of reality and the study of the nature and limits of knowledge, respectively) and, on the other hand, to a specific conception of reality (for example, empirical realist) and of knowledge (for example, empiricist), respectively.[6]

It is important, I think, to distinguish clearly between the intransitive and transitive dimensions of science on the one hand and ontology and epistemology on the other because, if the former

pair of concepts are treated as synonymous with the latter, there is a danger of confusing the intransitive and transitive dimensions of science with the intransitive and transitive dimensions of reality, given that one of the meanings of ontology is the study of reality. Hartwig, for example, does not distinguish clearly, in his discussion of the principles of intransitivity and transitivity, between the intransitive and transitive dimensions of science and of reality. Certainly, this distinction is presupposed by his claim that the transitive dimension 'logically must be extended to incorporate everything currently being affected by human praxis' and by his claim that it 'is synonymous … with the epistemological *process*, encompassing everything imbricated with human praxis and currently being affected by it' (2007, 264). However, if the transitive dimension of reality is to encompass 'everything imbricated with human praxis and currently being affected by it', it cannot be limited to the social and epistemic processes of scientific inquiry, which Hartwig alludes to in his second claim, but must be extended to include all types of social and epistemic process, as well as the structures and superstructures that are their pre-conditions.[7]

In short, the concepts of scientific intransitivity and transitivity, which are established through an act of referential detachment pertaining to science, are more specific instances of the general principles of intransitivity and transitivity than are the concepts of existential intransitivity and transitivity, which are established through *any* act of referential detachment (such as making a cup of tea). In other words, existential intransitivity and transitivity constellationally contain scientific intransitivity and transitivity. Bhaskar writes, in Chapter 3.2 of *ECS*, that the objects of scientific inquiry exist 'independently of their discovery; this is existential intransitivity' (47). A more accurate statement would be that this is a definition of scientific intransitivity, which is a specific instance of existential intransitivity.

Moreover, just as I would urge caution about using the concepts of ontology and epistemology as synonyms for the intransitive and transitive dimensions of science, respectively, so I would urge caution about using the concepts of being and knowledge as synonyms for the intransitive and transitive dimensions of science, respectively. In his explication of the principle of intransitivity, in Chapter 3.2 of *ECS*, Bhaskar comes close to treating being and knowledge as synonyms for the intransitive and transitive dimensions of science. However, in my view, knowledge ought not to be treated as a synonym for the transitive dimension of science because, although knowledge is part of the transitive dimension of scientific inquiry, in the sense that it is one of the conditions for scientific inquiry (whose other conditions include social structures of knowledge production), it is also the outcome of scientific inquiry. Hence, the consequence of treating the transitive dimension of science as synonymous with *knowledge* is to reduce a *social* to an *epistemic* process and to beg further questions about the conditions in which our knowledge of reality develops.[8]

Moreover, in his explication of the principles of intransitivity and transitivity, Hartwig appears to conflate the concept of knowledge with the concept of transitivity, distinguishing, for example, between 'transitive and intransitive objects of knowledge' (2007, 265). This is problematic because, to re-describe a 'cognitive object (existing knowledge, theories, models, etc.)' as a transitive object of *knowledge* is tautological (Hartwig 2007, 265). A cognitive object is a transitive object because it is something that changes but, since it changes only through the process of scientific inquiry, and since it is one of the conditions for, as well as being the outcome, of scientific inquiry, it makes more sense to re-describe a cognitive object as a transitive object of *science* and to distinguish it from an intransitive object of *science*.

Hartwig, following Bhaskar's argument in *A Realist Theory of Science*, also describes a 'cognitive object' as 'the relatively changing … MATERIAL CAUSE of knowledge' (2007, 265).[9] However, if the argument of Section 3 of the first article in this series is accepted, a cognitive object can be a type of superstructural form, having a material root or base to which it is irreducible (the natural or social objects that fall into the intransitive domain of scientific inquiry) but being, essentially, conceptual. Since superstructural forms are causal objects, we may re-describe a cognitive object that is a superstructural form as the *conceptual cause* of scientific inquiry, with social structures (and their higher-order derivatives) as the *material cause* of scientific inquiry.

It follows that, if knowledge ought not to be treated as synonymous with the transitive dimension of science, being ought not to be treated as synonymous with the intransitive dimension of science. By definition, being includes both that which falls into the transitive dimension and that which falls into the intransitive dimension whereas, by definition, the intransitive dimension of science excludes that part of reality which falls into the transitive dimension. In short, if the distinction between the transitive and intransitive dimensions of science presupposes the non-identity of being and knowledge, we cannot treat the concept of being as synonymous with the concept of intransitivity.

Finally, we must remember that ontology should not be treated as synonymous with being and that epistemology should not be treated as synonymous with knowledge. However, in his explication of the principle of intransitivity, in Chapter 3.2 of *ECS*, Bhaskar comes close to treating being and knowledge as synonyms, not only for the intransitive and transitive dimensions of science but also for ontology and epistemology, respectively:[10]

But the most important distinction is between the intransitive and transitive dimensions as such, ontology and epistemology. Failure to distinguish them results among other things in the reification of the fallible products of science. Of course, being contains, but it is not reducible to knowledge, experience or any other human attribute or product. The domain of the real is distinct from, and greater than the domain of the empirical. (47)

Treating the concepts of ontology and reality as synonymous is a mistake that the authors of *IW* occasionally make. In Chapter 7, for example, where they discuss the concept of alethic truth, they argue 'that the alethic truth of green grass is that grass contains chlorophyll, which reflects the green component of the light spectrum. This more basic structure is part of *ontology*; it is what makes *ontology* stratified' (58; my emphasis). Furthermore, commenting on the possibility of contradictions between philosophical theory and scientific practice, the authors of *IW* conclude that

the empirical scientist who happens to be an empiricist will understand that empiricism must give way to a more adequate philosophy of science along the lines of the critical realist analysis of laws based on an understanding of *ontology* as structured and differentiated. (59; my emphasis)

I suggest that, in both passages, 'ontology' should be replaced with 'reality' because the context indicates that the authors are thinking, not of our *theory* of reality as being 'stratified' and 'structured and differentiated' but *reality* itself. (Likewise, epistemology refers to our *theory* of knowledge and therefore must not be confused with the intransitive object of a branch of philosophical inquiry – that is, knowledge.) By referring to ontology, rather than reality, the

authors are in danger of committing the epistemic fallacy – that is, of reducing reality to our (philosophical) theories of it.

The confusion of the concepts of ontology and reality is also evident in the discussion of 'being as totality', in Chapter 7 of *IW*, where the authors tell us that '[n]ormic statements … are about the *ontological* non-empirical level of reality, and they assume that reality is *ontologically* structured' (66; my emphasis). Here, the addition of 'ontological' and 'ontologically' is superfluous and obscures the distinction between the (intransitive) object of philosophical inquiry – that is, the nature of reality – and the (transitive) product of that inquiry (an ontology or theory of reality). Likewise, when they discuss 'being as incorporating reflexivity', the authors of *IW* write that 'mismatches between theory and praxis simply are *ontological*; they are not just subjective or only in the mind. They would exist even if there were no human beings to see them' (71; my emphasis). However, although 'theory' and 'praxis', considered only as concepts, may be described as 'ontological', their function as concepts is to refer to, and express the truth of, something real. Hence, it makes more sense, given the context of this passage, to say that such 'mismatches' are *real*. Similarly, in Chapter 8, the authors of *IW* discuss neo-Kantianism and the 'problem of induction' and conclude that '[o]nce it is clear that reality is *ontologically* structured in this manner, then the problem of induction falls away' (79; my emphasis). Once again, the inclusion of 'ontologically' confuses ontology with reality. Finally, in Chapter 13, where the authors discuss the hierarchy of research methods and the reason for the assumption 'that qualitative methods do not generate valid knowledge', they refer to 'ignorance about ontology, i.e. ontological ignorance (*ontology* is not exhausted by the empirical level of reality, and knowledge about real, non-empirical *ontological* structures and mechanisms can only be grasped via qualitative methods)' (131; my emphasis). Yet, in this context, it is *reality*, not 'ontology', that is 'not exhausted by the empirical level'; and, in this

context, 'structures and mechanisms' are not 'ontological' – they just are *real*, 'non-empirical' objects.

We may summarize the preceding argument as a series of relations of non-equivalence or non-identity, as in Figure 1 below.

[Insert Figure 1 here]

The crucial point is that, although each conceptual pairing is a constellational identity, each one must be distinguished clearly from, and thus must not be treated as synonymous or identified simply with, the others.

By thinking of the relations between these conceptual pairings in this way, we can resolve a problem with the argument of Chapter 4 of *IW*. In their discussion of the epistemic fallacy, the authors tell us that the

> transitive dimension is that aspect of knowledge that involves people and their beliefs, or scientists and their theories. From the point of view of the transitive dimension, the scientist's work proceeds by the critique and transformation of pre-existing social products. Science is therefore a commodity, and like other commodities, it is part of the social world. (28)

Now, this definition of transitivity in relation to science is problematic for at least four reasons. First, it confuses science, a historically specific and contextually dependent form of human inquiry, with its product and one of its conditions – that is, knowledge. Hence, second, it is

knowledge, not science, that is a commodity. However, third, the commodification of knowledge is a historically specific, not a universal, phenomenon: it is necessary within the context of a capitalist system of production since this sort of system is governed by a logic of commodification, but it would not be necessary, if the system of production were governed by a logic of satisfying human needs. Fourth, since the intransitive dimension of science is constituted through an act of referential detachment, it may also be said to involve people. However, what distinguishes the transitive from the intransitive dimension of science is what people do: transforming pre-existing knowledge in the former dimension and referentially detaching part of reality, which becomes the object of inquiry, in the latter. Finally, the authors define the intransitive dimension as the 'world which exists independently of people and their beliefs' (28). However, their definition of (existential) intransitivity is problematic because what they have defined here is the principle of transcendental realism, which is the condition for the act of referential detachment; it is through this act that scientists determine the content of the intransitive dimension of their inquiry.

3. The domains of the real and the subjective

In Section 3 of the first article in this series, I argued that superstructural forms are functionally emergent, ideational entities. I argued, further, that, because superstructural forms make a difference to the exercise of human subjectivity and agency, they must be recognized as causal objects in their own right, just as social structures and their higher-order derivatives must be. It follows from this argument that the domain of the real ought to be expanded to include, not only entities that have a material function but also entities that have a conceptual and semiotic function. Let me justify this conclusion.

An expansion of the domain of the real is necessary because, hitherto, critical realists have conceived this domain, implicitly, as populated by only one type of causal object – that is, structures.[11] This is not surprising, given the way in which critical realism emerged: first, from a transcendental inquiry into the conditions of possibility of scientific experiment, which established that the natural world must be structured (Bhaskar 2008a); and, second, from a similar sort of inquiry into the properties that social objects must possess for them to be possible objects of knowledge (Bhaskar 1998). The latter form of enquiry established that social reality must also be structured and that, as causal objects, social structures are distinct from (although still connected to) people, who are, in turn, causal objects, possessing the properties of human agency and subjectivity.

Now, it is true that 'Bhaskar later changed the domain of the empirical to that of "the subjective", to embrace concepts as well as the empirical' (Hartwig 2007, 401); since the domain of the subjective is a subset of the domain of the real, it may be argued, then, that the domain of the real already encompasses the conceptual.[12] However, to introduce the conceptual into the domain of the real via the concept of human subjectivity is to include the conceptual only in so far as it pertains to the ideas that people generate through the exercise of their subjectivity and agency (beliefs, understandings, etc.). Hence, if it is accepted that superstructural forms constitute a transcendentally necessary domain of social reality, these forms (some of which are conceptual entities) must be included, as a type of causal object, in the domain of the real, alongside structures.

Of course, none of this is to deny the necessity of re-categorizing the domain of the empirical as the domain of the subjective. This is long overdue not least because, within the original conceptualization of the domains of reality, human experience was confined within the domain

of the empirical.[13] However, if our experiences of events include the detection, via the process of sensation, not only of external but also of internal stimuli, we should not classify human experience as 'empirical'. Of course, we can understand why Bhaskar should have adopted this classification because it was against empiricism and the doctrine of '*esse est percipi*' that he was arguing in his earlier works (Bhaskar 1998, 2). However, if I am right and there is more to human experience than that which empiricism presupposes, we should re-categorize the domain of the empirical as the domain of the subjective and include within it, for example, not only our interpretation of sensory information (the perceptual) but also what we think about (the cognitive), what we feel (the emotive), what we desire (the conative), as well as the meanings that we convey to others (the linguistic). These are just some of the different dimensions of human subjectivity that determine how we experience reality.

One implication of re-categorizing the domain of the empirical as the domain of the subjective, then, is that we should include, within the latter domain, *thoughts* rather than concepts since it is through cognition, one of the lower-order processes of the mind and thus one of the dimensions of human subjectivity, that we generate thoughts. Of course, we cannot think without concepts but that is why I argued, in Section 3 of the first article, that conceptual emergent entities are part of the conditions for the exercise of human subjectivity and agency. Therefore, I suggest that we reserve application of the term 'conceptual' for the analytical differentiation of causal objects within the domain of the real and for the analytical distinction between a (type of) superstructural form (a conceptual emergent entity) and what this superstructural form generates in people – that is, the content of their thoughts – when they exercise their lower-order powers of mind, such as cognition.

That Bhaskar should have included concepts within the domain of the subjective is not surprising because rationalist philosophy, which presupposes the ontology of conceptual realism, has been an object of immanent critique in his work, just as empiricist philosophy, which presupposes the ontology of empirical realism, has been. Indeed, we can now see that, with rationalism and empiricism, not only is reality reduced to human experience, whether this is one of thinking (rationalism) or perceiving (empiricism), but it is also reduced to specific dimensions of human subjectivity – to the cognitive and the perceptual, respectively.[14]

A second implication of re-categorizing the domain of the empirical as the domain of the subjective is that we should include within it (alongside thoughts) *meanings* rather than signs since it is through exercising our higher-order powers of mind, such as intelligence, that we produce meanings.[15] However, we cannot *convey* meanings without using a signifier of some sort, and that is why I argued, in Section 3 of the first article, that semiotic emergent entities are also part of the conditions for the exercise of human subjectivity and agency. In short, if we draw on pre-existing concepts to give content to our thoughts, we draw on pre-existing means of representation (that is, signifiers) to express what we are thinking about as signs.

A third implication of re-categorizing the domain of the empirical as the domain of the subjective is that, as with the term *conceptual* (and, by implication, the terms *semiotic* and *material*), we should reserve application of the term *empirical* for the analytical differentiation of the real – that is, when referring to the difference between real objects that we can detect through our senses and objects that we cannot detect through our senses but that are still real by virtue of the effect that they have on us when we are exercising our higher-order powers of mind. In other words, if what is empirical is something that is external to us, we should not include the empirical within the domain of the subjective, which is the province of the detection

(via sensation) of stimuli (whether external or internal) and the interpretation of sensory information (via perception), but should include it within the domain of the real on the grounds that our experiences of reality depend (in part) on the existence of external stimuli – that is, objects that exist apart from us. We can then make the distinction between the empirical part of reality, which we can detect through our senses, and the non-empirical part, which we cannot.

In short, the differentiation of the domain of the real, by application of the terms *material*, *conceptual*, *semiotic*, and *empirical*, has a different rationale from, and therefore should not be confused with, the differentiation of reality into the domains of the real and the subjective. Our use of the terms *material*, *conceptual*, *semiotic*, and *empirical*, with respect to the differentiation of the domain of the real, enables us to distinguish between (a) different types of causal object and (b) parts of reality that can be detected via the senses and parts that cannot be; while our differentiation of reality into domains of the real and the subjective enables us to acknowledge that reality encompasses, but cannot be reduced to, human subjectivity.

4. The domain of the actual

The presupposition of my argument concerning the relationship between the domains of the real and subjective is that, because human subjectivity is only a part of reality, the domain of the subjective is a subset of the domain of the real. However, to follow the logic of Bhaskar's argument and to take into account the possibility that an event may not be experienced, we should say that the domain of the subjective is a subset of the domain of the actual, which, in turn, is a subset of the domain of the real. Hence, it is to the domain of the actual, and its relationship to the domain of the real, that I turn because, just as there is more to be said about

the content of the domain of the subjective, so there is more to be said about the content of the domain of the actual.

Hartwig reminds us 'that events and experiences are no less real than mechanisms and experiences no less actual than events' (2007, 401). Now, this statement begs the question of in what respect events and experiences are real. In Hartwig's view, '[e]vents and experiences are embraced by the real in so far as they function as mechanisms, e.g. a war may contribute to the formation of a psychic structure generative of post-traumatic stress disorder' (2007, 401). I want to call into question this claim because it seems to me that it presupposes the reduction of the content of the domain of the real to mechanisms. Hartwig repeats this mistake, when he tells us that '[t]he distinction between the domains of events and experiences, on the one hand, and mechanisms on the other does not coincide with that between the transitive (epistemological) and INTRANSITIVE (ONTOLOGICAL) dimensions of reality' (2007, 401).[16] Here, Hartwig is identifying the distinction between (a) events and experiences and (b) mechanisms with the distinction between (a) the domain of the actual and (b) the domain of the real. However, if the domain of the actual is a subset of the domain of the real and if events and our experiences of them are not the same as the mechanisms that generate them, we cannot identify the distinction between (a) events and experiences and (b) mechanisms with the distinction between (a) the domain of the actual and (b) the domain of the real.

I want to propose that events and our experiences of them are real, not because 'they function as mechanisms' but because (a) they are effects – that is, outcomes of the operation of mechanisms or the ways of working of structures (and their higher-order derivatives) and of superstructures and because (b) they can be causes, *even though they are not mechanisms*. In other words, it is a mistake in my view to assume that (i) an event is only an effect and not also

a type of cause and (ii) only mechanisms are causal.[17] That critical realists should have made these assumptions is understandable, given the way in which Bhaskar developed the ontology of transcendental realism – that is, by means of transcendental investigation into the conditions of possibility of scientific experiment. However, as we shall see, maintaining these assumptions not only inhibits our understanding of reality and causation but also is inconsistent with arguments that Bhaskar made in later work – for example, his examination of the concrete in Chapter 2 of *Scientific Realism and Human Emancipation*.

How, then, can events be causes? In the natural world, for example, a sudden drop in temperature overnight is an event that, ceteris paribus, leads to the formation of ice on a road that is covered in water. Similarly, in the social world, an arsonist striking a match is an event that, ceteris paribus, leads to the combustion of materials constituting the match and the appearance of a naked flame. In other words, events can be causes in the sense of being triggers for the activation of mechanisms: in the former example, the crystallization of water molecules; in the latter example, an exothermic and chemiluminescent reaction. However, it is important to remember that, although an event can be a triggering cause, it is also an effect because it is itself caused. Hence, in the former example, the sudden drop in air temperature is the result of the operation of mechanisms in the atmosphere, while, in the latter example, the striking of the match by the arsonist is the result of the operation of mechanisms pertaining to the human body, the human mind, and the social context of the human agent, all of which enable a person to form an intention to commit arson and to realize that intention.

However, I suggest that there is a significant difference between events in the natural world and events in the social world, with respect to the possibility of their becoming triggering causes. In the social world, unlike in the natural world, an event can be a triggering cause, only if it is

experienced by a person. What I mean by the experiencing of an event in the social world is a complex process of (intersubjective) mediation involving, at a minimum, the activation of lower-order powers of the mind, which enable people to perceive and interpret an event in relation to their knowledge (however fallible) of the social context of the event and the activation of higher-order powers (such as intentionality) which enable them to decide how to respond. Moreover, for an event in the social world to become a triggering cause, it must be the effect of an action undertaken by a person who is different from the person who perceives and interprets it and whose response may, in turn, become a triggering condition.

Hence, in social scientific analysis, it is possible to identify a series or chain of events, where the common element linking the events and turning an effect into a cause is the exercise of human subjectivity. For example, the development of a liquidity problem at Northern Rock (a UK bank) in August 2007 led to the Bank of England setting up a Liquidity Support Facility for Northern Rock in September 2007, public knowledge of which led to fears among the bank's retail depositors that they would lose their money and thenceforth to hasty withdrawals of deposits. The run on Northern Rock, in turn, led to the UK Government (acting via HM Treasury and the Bank of England) offering to guarantee the value of all retail deposits in Northern Rock, the Financial Services Authority (FSA) extending the terms of the Financial Services Compensation Scheme, and the Bank of England injecting liquidity into the financial markets. These policy interventions, in turn, had the effect of restoring confidence among depositors and of helping the bank to resolve its liquidity problem.

Of course, the series of actions that the directors and depositors of Northern Rock and UK financial policy makers took in the autumn of 2007 is not the full causal story because

underlying the decisions that these social actors made was a specific social context comprising, at a minimum

(a) an international capitalist system of production, of which financial markets are an integral part;

(b) a system of government in the UK that includes mechanisms of economic intervention – for example, at that time, the tripartite framework of co-operation between HM Treasury, the Bank of England, and the Financial Services Authority;

(c) superstructures defining the role of government within a capitalist social order (the ideology of neo-liberalism) and enabling policy makers to render meaningful events occurring with a capitalist social order (the discourse of UK financial policy making).

In short, to understand why the directors of Northern Rock found themselves short of liquidity in August 2007, we would have to extend the chain of events backwards to take into account the freezing of international financial markets in August 2007 (which prevented the bank from obtaining the funding that it needed for its operations); developments in the trading of financial assets (otherwise known as securitisation), in which Northern Rock participated; and changes to the regulation of financial market actors (through the passing of the Financial Services and Markets Act 2000), which permitted Northern Rock to implement a high-risk business model.

Therefore, contrary to Hartwig's claim that '[e]vents and experiences … function as mechanisms', it is not an experience of an event that is a mechanism since this experience *depends on* the operation of a conjunction of mechanisms – namely, those pertaining to the person who experiences the event and those pertaining to the context in which that person

exercises higher-order powers of the mind (intentionality, reflexivity, intelligence, sapience, etc.); and it is not an event that is a mechanism because (a) an event is an effect of the operation of a mechanism or conjunction of mechanisms and (b) if it is experienced by a person, it may become the cause of, or trigger for, the activation of other mechanisms.

I want to use my argument about the nature of events and our experiences of them to refine our understanding of the concept of '"*nexus*"' that Bhaskar first introduced in Chapter 2 of *Scientific Realism and Human Emancipation* and that is the correlative of the concept of '"*system*"' that Bhaskar discusses in the same work (2009, 109). Both concepts re-appear in Figure 4.1 in *ECS* (81).[18] Now, Bhaskar's definition of the concept of nexus is somewhat contradictory because, on the one hand, he defines it as 'a combination of aspects (or facets) of an event, etc.' and, on the other hand, he tells us that '[i]n general the determination of events within a system will result in their constitution as a nexus' (2009, 109). In other words, on the one hand a nexus is supposed to be a re-description of a *single* event and on the other hand a nexus is supposed to be a description of the mutual relations between *multiple* events. I suggest that we adopt the latter rather than the former definition of the concept of nexus because Bhaskar's intention, it seems, at least in this part of *Scientific Realism and Human Emancipation*, is to acknowledge the possibility that the effects of different mechanisms, whether these mechanisms are organized into a system or not, will be modified relationally; and such an argument presupposes that (a) the effect of a mechanism is an event and (b) this event can be a triggering condition for, and modifying cause of, the operation of a different mechanism whose effect may, in turn, become a modifying cause.[19]

The specific way in which the crisis at Northern Rock unfolded in 2007, as a sequence of events (Figure 2), demonstrates how events within a nexus can modify the operation of mechanisms that are part of a social system (in this case the capitalist system of production).

[Insert Figure 2 here]

In the early stages of the crisis (August 2007), the lack of liquidity (E_1), which was the effect of the freezing of the mechanisms of international financial trading and lending and borrowing (M_1), especially within the markets for securitised financial assets and wholesale money (two of Northern Rock's four funding streams), triggered a change in the content of the mechanism of UK financial policy making (M_2), from a policy of regulating financial markets to a policy of both regulating and intervening in financial markets. However, when this change in financial policy became public knowledge (September 2007), it had the effect of triggering multiple withdrawals of money by Northern Rock's retail depositors, who were fearful that, if the bank were to collapse, they would lose their money (E_2). The run on Northern Rock, in turn, triggered the activation of the Liquidity Support Facility by the Bank of England (M_3), the implementation of a retail deposit scheme by HM Treasury (M_4), the injection of extra liquidity into the financial markets by the Bank of England (M_5), and an extension to the terms of the Financial Services Compensation Scheme by the FSA (M_6). The effect of the operation of these mechanisms (M_3 to M_6) was to resolve the liquidity problem at Northern Rock, at least temporarily.[20]

Therefore, we can see that

- E_1 (the lack of liquidity) was a modifying cause because experience of this event, by UK financial policy makers, led to a modification of the content of the mechanism of financial policy making;

- E_2 (the bank run) was a modifying cause because experience of this event, by UK financial officials, triggered activation of a specific form of lending of last resort by the Bank of England (a Liquidity Support Facility), the implementation of a specific form of guarantee scheme by HM Treasury and the Bank of England (one tailored to retail bank depositors), the injection of extra liquidity into the financial markets via modification of the Bank of England's standard open market operations, and the modification of the terms of the Financial Services Compensation Scheme by the FSA.[21]

We should note from this example that an event in the social world becomes a modifying cause, only when it is mediated by human subjectivity; thus, it is the interpretation of an event, such as the lack of liquidity at Northern Rock, by the relevant social actors that turns the effect of the operation of one mechanism (M_1) into a cause that modifies the operation and therefore the effects of other mechanisms (M_3 to M_6). Bhaskar does not make this clear, either in Chapter 2 of *Scientific Realism and Human Emancipation* or in Chapter 4 of *ECS*. However, it is vital that we understand this because, if we fail to acknowledge the role of human subjectivity, we will be in danger of reifying social mechanisms and their effects and, in consequence, of assuming a regular relationship of cause and effect between events. In the case of Northern Rock, if these relationships had been regular, the chain of events that unfolded would have been pre-determined. However, as a reading of the House of Commons Treasury Committee's report on the crisis reveals, the actors involved had decisions to make about what course(s) of actions to take as events unfolded and could have acted differently.[22] For example,

- the directors of Northern Rock had decisions to make about how to resolve the problem of liquidity at the bank (before this led to a problem of insolvency) – in particular, whether or not to securitise the bank's debt, whether or not to sell the business, and whether or not to use the Bank of England as lender of last resort, given their understanding of their legal obligations to the bank's shareholders;

- Bank of England officials had decisions to make, following the request for financial support by the directors of Northern Rock, about how to maintain the stability of the UK financial system – in particular, whether or not to act as lender of last resort to Northern Rock and whether or not to modify the Bank's open market operations to inject extra liquidity into the financial markets, given their understanding of the potential for adverse consequences to arise in the financial markets ('moral hazard');

- HM Treasury officials had decisions to make, following the request for financial support from the Bank of England by the directors of Northern Rock, about how to maintain the stability of the UK financial system – in particular, whether or not to authorise the Bank of England to act as lender of last resort and whether or not to offer a guarantee to Northern Rock's retail depositors, given their understanding of the potential risk to the taxpayer and the potential for adverse consequences to arise in the financial markets ('moral hazard');

- FSA officials had a decision to make, following the implementation of the retail deposit guarantee scheme by HM Treasury, about how to maintain the stability of the UK financial system – in particular, whether or not to modify the terms of the Financial Services Compensation Scheme, given their understanding of the potential for adverse consequences to arise in the financial markets ('moral hazard');

- Northern Rock's retail depositors had a decision to make, when the establishment of the Bank of England's Liquidity Support Facility became public knowledge, about whether or not to withdraw their money from the bank, given their understanding of the risk of the bank collapsing.

In short, there were real, alternative courses of action that each group of actors could have taken. Government officials could have, for example, refused support for Northern Rock, leaving it at risk of collapse. But the fact that they did not take this course of action does not mean that they had no choice in the matter. In other words, the chain of events unfolded in a certain way, but it did not have to unfold that way: if the actors involved had made different decisions, there would have been a different chain of events with different outcomes.

Note that my discussion of causation in relation to the crisis at Northern Rock constitutes an implicit critique of much of the research that social scientists (mainly political economists) undertook in the aftermath of the financial crisis of 2007-08. To the extent that this work analysed the causes of the crisis, it tended to focus on structural conditions (especially financial markets and regulation), superstructural conditions (such as discourses of financial policy making) and personal conditions (such as the competencies of social actors); see, for example, Foster and Magdoff (2009) and Friedman (2011). Now the implication of my argument about causation is that, in the case of the financial crisis of 2007-08 (which, it is arguable, was just one aspect of a much wider crisis of capitalism), this phenomenon ought to be conceived, not as a single event, but as a chain of events, where the events are recognized as being not only the effects of the operation of mechanisms but also causes that modified the operation of those mechanisms. Because it is the exercise of human subjectivity that turns an event in the social realm into a modifying cause and because the exercise of human subjectivity is a condition for

the exercise of human agency, understanding how events in the social realm can become causes ought to help social scientists to understand the interplay of social context and social action and to avoid problematic explanations – that is, ones that consider only the impact of the structural and/or superstructural context and ones that consider only the impacts of social actors. Of course, some accounts of the crisis of 2007-08 treat both structural context and the qualities of social actors as causes of the crisis. Posner, for example, argues that the 'two main causes' of the crisis were (a) the way in which financial markets were regulated (structural context) and (b) the lack of competency of policy makers (qualities of social actors) (2011, 279). But what is missing from Posner's account – and what is often missing from other literature on the crisis – is an explicit understanding of the way in which the events constituting the crisis were also part of the causal story and so help to explain the decisions that social actors made. In short, the clearer our understanding of what happened and why, the more able we will be to make the changes that are required to prevent such a crisis from re-occurring.[23]

Where does all this leave Bhaskar's alternative definition of the concept of nexus as 'a combination of aspects (or facets) of an event, etc.'? I suggest that Bhaskar was thinking – perhaps unconsciously – of the model of applied or concrete explanation in science, when defining the concept of nexus in this way, because this model of explanation, which he introduced in Chapter 1 of *Scientific Realism and Human Emancipation*, involves, as its first and second moments (respectively), the '*resolution* of a complex event (situation, etc.) into its components' and '*redescription* of these components in theoretically significant terms' (Bhaskar 2009, 68). Now, we might ask why we cannot have it both ways: that is, why we cannot use the concept of nexus to refer to both a chain of events and 'a combination of aspects (or facets) of an event, etc.' However, we cannot have it both ways because, when we resolve an event into its components and re-describe them theoretically, we are identifying the

conjunction of mechanisms that generated that event. These mechanisms may be dialectically related such that 'the form of the combination causally codetermines the elements' and 'the elements causally codetermine (mutually mediate or condition) each other, and so causally codetermine the form' (Bhaskar 2009, 109). But, if this is the case, we will have 'a combination of structures' – that is, a '"*system*"' and not a '"*nexus*"' (Bhaskar 2009, 109).

This is an appropriate point at which to comment further on the content of Diagrams 2.1 and 2.2 from Chapter 2 of *Scientific Realism and Human Emancipation*, which Bhaskar reproduces as Figure 4.1 in *ECS*. Bhaskar offers little in the way of explanation of the four cases of determination of events in Chapter 4 of *ECS*, and in Chapter 2 of *Scientific Realism and Human Emancipation* he tells us only that '[i]n Case II the mechanisms and in Case IV their effects are modified. Clearly both may hold simultaneously' (2009, 109). Now, in my view the crisis at Northern Rock is an example of Case IV but it is also an example of Case II because underpinning the mechanisms involved are various social structures and systems: for example, M_1 (international financial trading and lending and borrowing) is the way of working of international financial markets, which (it is arguable) are parts of a (capitalist) system of dialectically related social structures, and it was the freezing of these markets that disrupted the circuit of capital and thereby precipitated a major capitalist crisis of overproduction.

However, the question that arises from examination of Diagrams 2.1 and 2.2 is what Bhaskar is attempting to depict in Case I ('Determination of Events in an Open System') and Case III ('Multiple Determination of Events'). I suggest that, in Case I, Bhaskar is attempting to depict a conjunction of causal mechanisms – that is, the joint determination of events by different mechanisms, which is indeed a possibility in an *open* system; whereas, in Case III, Bhaskar is attempting to depict the determination of events in a *closed* system – that is, the activation of a

mechanism that has been isolated from its causal context. Indeed, if this is what Bhaskar was attempting to depict in Case II, it might explain the absence of the words 'Open System', which appear in the description of Cases I, II, and IV.

Moreover, given that, in Case II, Bhaskar depicts a system of mechanisms, which he also refers to as an '"organic"' totality in the text, I suggest that, in Case I and Case IV, mechanisms M_1 to M_3 are externally related, constituting what Bhaskar refers to in the text as a '"mechanical"' complex, the difference between the two being that Case I must be an example of joint determination by 'interacting' mechanisms in the natural world, whereas Case IV just be an example of joint determination by 'interacting' mechanisms in the social world (Bhaskar 2009, 110). I suggest, furthermore, that the addition of M_4, in Case IV, indicates that a particular event within a nexus of events may be jointly determined and that the dotted line indicates that the additional mechanism (M_4) does not have the same causal weight as other mechanisms that are responsible for determining the same event (M_1 in Case IV). Hence, the dotted line from M_4 to E_0, in Case II, indicates the presence of an externally related mechanism, whose effect in the joint determination of E_0 is less than the effect of the system of 'intra-acting mechanisms (M_1 to M_3) (Bhaskar 2009, 110). This interpretation of Cases II and IV is consistent with Bhaskar's claim in the text that '[p]ervasive internality in a system is compatible with differentiated, and highly specific, causal roles within it' (Bhaskar 2009, 111).

5. Conclusion

In this article, I have proposed solutions to a range of conceptual problems that I have detected, using the method of immanent critique, in the arguments of *ECS*, *IW*, and associated works. Let me summarize the nature of these problems and how I have attempted to resolve them.

In Section 2, I identified, in Chapter 3 of *ECS* and Chapter 4 of *IW*, a problem of confusion stemming from the illicit identification of the epistemic fallacy with the epistemological fallacy. I argued that the former, the reduction of the concept of being to the concept of knowledge, should be distinguished from the latter, the reduction of ontological to epistemological questions, but that the latter may be seen as constellationally containing the former. I also identified a problem of conceptual confusion stemming from the illicit identification of the conceptual pairings intransitivity–transitivity, ontology–epistemology, and being–knowledge, in Chapter 3 of *ECS* and in Chapters 7, 8, and 13 of *IW*. I argued that, although each pairing is a constellational identity, each one should be distinguished from, and thus not identified simply with, the others.

In Sections 3 and 4, I identified, in Chapter 1 of *ECS*, Chapter 4 of *IW*, and in Hartwig's work, a problem of confusion concerning the conceptualization of the domains of the real, the actual, and the subjective. Thus, in Section 3, I argued that confusion concerning the conceptualization of the domain of the real stems from the absence of (a) the concept of superstructure, which must be distinguished clearly from the concept of structure, and (b) the terms 'material', 'conceptual', 'semiotic', and 'empirical', which allow us to distinguish between, on the one hand, different types of causal object and, on the other hand, parts of reality that we can detect through the senses and parts that we cannot. I also argued that confusion concerning the conceptualization of the domain of the subjective stems from an absence of terms such as perceptual, cognitive, emotive, conative, and linguistic, which allow us to distinguish between (lower-order) processes of the mind.

In Section 4, I argued that confusion concerning the conceptualization of the domain of the actual stems from Hartwig's illicit identification of the distinction between events and

experiences and mechanisms with the distinction between the domains of the actual and the real. Contra Hartwig, I argued, first, that events are real to the extent that (a) they are outcomes of the realization of the properties constituting structures and superstructures and (b) they are triggering causes, even though they are not mechanisms; and, second, that events in the social world are both triggering and modifying causes to the extent that they are experienced and thus mediated by the exercise of human subjectivity. Finally, I argued that the confusion pertaining to Bhaskar's concept of nexus stems from the contradictory definition of it that he presents in Chapter 2 of *Scientific Realism and Human Emancipation* and that resolving this contradiction helps us to make sense of the four cases of determination of events that are reproduced as Figure 4.1 in *ECS*.

In short, in the second article in this series, I have identified, once again, a range of conceptual problems – illicit conceptual identification, conceptual absence, and contradictory conceptual definition – that generate confusion at the level of philosophical argument. By identifying these problems, I hope to have confirmed, once again, Bhaskar's view, which he states in *ECS*, that 'the development of … critical realism is … a process of continuing self-critique (or metacritique)' (11); and, by proposing solutions to these problems, I hope not only to have clarified but also to have developed the categories of original critical realism, so that critical realism as a whole can 'demystify and enlighten common sense' and thus be a more effective underlabourer for science.

Notes

1. I justify the use of immanent critique, as the starting point for my argument, in endnote 3 in the first article in this series. Of course, as one of the reviewers of this article pointed out, my

own argument may be subjected to immanent critique so that it too may be found to be problematic. But that is to be expected, if one accepts the fallibility of all forms of knowledge, including philosophy.

2. One of the reviewers of this article asked whether or not I would have identified the problems that I discuss in it, were I to have selected a different set of texts. This is a possibility that I must acknowledge. However, the question of which materials to select raises the question of what the starting point for my article should be. In my view, the starting point for any immanent critique should be one that is justifiable; that is, one should be able to give clear reasons for starting at that point. As I pointed out in the introduction to the first article, it is because *ECS* is a 'summative' text, bringing together all three of the core elements of the philosophy of critical realism, that it is an appropriate starting point for an immanent critique. With all three core elements summarized in one place, we can more easily determine whether or not the three component parts are coherent, which they must be, if we are to call critical realism a *system* of philosophy with any degree of legitimacy; and I suggest that, determining whether or not they are coherent means determining, not only whether or not the individual contents of each core element, considered as a whole, are consistent but also whether or not each core element, considered as a different component part of the system, is consistent with the others.

In my view, this is a more rigorous way of arguing than the approach that one of the reviewers proposed, which is to 'start by looking at material in context, considering what the whole is intended to convey and considering why something might have been phrased in a particular way in particular places'. The problem with the latter approach is that meanings are 'phrased in a particular way' for a reason – one that pertains to our understanding of an object of interest. We may try to express that understanding using words, but it is quite possible, if that

understanding is underdeveloped, for us to express it in a way that is problematic. The reviewer accepts that 'errors or problems' can occur in the making of a philosophical argument (just as these can occur in the making of a scientific argument) but claims (without justification) that 'this is different … [from] attributing fallacies … to the authors.' However, a fallacy *is* a type of intellectual error – one that we should eliminate from our thinking, if we accept Bhaskar's claim that 'truth *is* a good (*ceteris paribus*)' (1998, 63).

3. I define the terms 'original critical realism' and 'dialectical critical realism' in endnote 4 in the first article in this series.

4. One of the reviewers of this article seemed to think that my aim is to reconstruct critical realism. On the contrary, my aim is much more modest than that – quite simply because a reconstruction of critical realism is not required to solve the problems that I have identified using the method of immanent critique.

5. Note that, just as it is possible to confuse the terms 'epistemic' and 'epistemological', so it is possible to confuse the terms 'ontic' and 'ontological'. For example, in Chapter 7 of *IW* the authors make the valid point that 'illusions and false beliefs' are still real because they have an effect on us. As they put it,

> illusions and false beliefs are part of the world; thus, we can say that they are ontological. As such, they have the power to affect us. For instance, if someone believes in vampires, they might have certain rituals to protect themselves from vampires, or try to avoid places where they think that vampires reside. (56)

However, 'illusions and false beliefs' are ontic, not ontological, entities: more precisely, they are ontic$_1$ entities since they are part of 'whatever pertains to being generally' (Bhaskar 2009, 37). As we saw in Section 2, to describe something as ontological$_1$ is to say that it falls within 'the general (philosophical) *theory* of being', whereas to describe something as ontological$_2$ is to say that it applies to 'the transcendental *theory* constituted by reflection on the presuppositions of scientific activities' (Bhaskar 2009, 36-7; my emphasis). Thus, we might refer to the ontological$_1$ concepts of presence and absence and the ontological$_2$ concepts of empirical realism and actualism.

6. In Figure 12.1 ('Phases in the achievement of interdisciplinarity') of *IW*, the authors once again appear to treat ontology and epistemology as synonymous with the intransitive and transitive domains of science, respectively (124). Similarly, in Chapter 1 of *Scientific Realism and Human Emancipation*, Bhaskar links ontology and epistemology to the intransitive and transitive dimensions of science, claiming that the

> distinction between … ontology and epistemology, implies a distinction between the
> intransitive, normally knowledge-independent, real objects of scientific knowledge
> and the transitive, socio-historical, processes of the production of the knowledge of
> such objects, and accordingly between what I have termed the intransitive dimension
> [ID] and the transitive dimension [TD] in the philosophy of science. (2009, 24)

However, it is *specific positions* in ontology and epistemology – namely, transcendental realism in ontology and relativism in epistemology – that imply the distinction between the intransitive and transitive dimensions of science, not the distinction between ontology and epistemology, which is a distinction within the philosophy of science. It has to be the specific positions of

transcendental realism and relativism because other positions associated with other philosophies – for example, empiricism and idealism – cannot sustain a distinction between an intransitive and transitive dimension.

7. Notice that, in his second claim, Hartwig refers to 'epistemological *process*'; however, for reasons that should be apparent from the argument of Section 3 of the first article in this series, it makes more sense to refer to *epistemic* process, as well as to social process, when defining the transitive dimension of science.

8. One of the reviewers of this article claimed that a 'sympathetic reading in toto' would reveal 'that both Bhaskar and Hartwig are quite aware and have conveyed that science is a social practice subject to social reproduction, and so do not endorse knowledge as science, as only an epistemological process'. Both Bhaskar and Hartwig do indeed demonstrate this understanding of science. For example,

- in the introduction to *A Realist Theory of Science*, Bhaskar tells us that his 'overall argument' is 'that knowledge must be viewed as a produced means of production and science as an ongoing social activity in a continuing process of transformation' (2008a, 17) – a conception of science that is echoed by Hartwig, who writes that 'the TD … refers to the ongoing social process of production of knowledge by means of knowledge in any practice or field of inquiry, a process to which the TMSA – as to any social activity – applies' (2007, 264);
- when justifying use of the method of transcendental reasoning in *The Possibility of Naturalism*, Bhaskar refers to 'the possibility … of posing transcendental questions of the form "what must be the case for ϕ to be possible?" for social practices other than science' (1998, 7);

- in *Scientific Realism and Human Emancipation*, Bhaskar refers to one of 'two essential theorems of the transcendental realist account of science' as 'the social production of knowledge (TD continuity)' (2009, 92);

- and in *Dialectic*, Bhaskar writes that 'the concept of the transitive dimension should be metacritically extended to incorporate the whole material and cultural infra-/intra-superstructure of society' (2008b, 218) – a conception of science that presupposes that its conditions of possibility are not limited to social structures but include social superstructures (as I defined these in the third section of the first article in this series).

However, the point I am making is that the understanding that science cannot be reduced to an epistemic process is implicit in the understanding that it is a social practice – since knowledge is a property of a person and social practices depend for their existence on people – but that this understanding is contradicted by use of the term 'knowledge' as a synonym for the transitive dimension of science – since this usage presupposes that the process of scientific inquiry is only epistemic.

In fact, the conception of knowledge that Bhaskar expresses in *A Realist Theory of Science* and *The Possibility of Naturalism* is at times contradictory. In the former work, as we have seen, Bhaskar tells us that knowledge is 'a produced means of production'; however, in the latter work he tells us that 'knowledge … must be viewed as a social process irreducible to a purely individual acquisition' (1998, 114). Now, following the logic of the Transformational Model of Social Activity, we ought to say that it is the *production* of knowledge, not knowledge per se, that is a social (and epistemic) process, the outcome of which is new knowledge and one of the conditions for which is pre-existing knowledge.

9. In the Introduction to *A Realist Theory of Science*, Bhaskar refers to 'a transitive dimension, in which the object is the material cause or antecedently established knowledge which is used to generate the new knowledge' (2008a, 17).

10. I say that Bhaskar 'comes close to treating being and knowledge as synonyms' because the sequence of sentences in the relevant passage is such that one cannot make this interpretation with full confidence. One can say, at most, that Bhaskar does not distinguish clearly between the conceptual pairings 'intransitive–transitive', 'ontology–epistemology' and 'being–knowledge'.

By contrast, at one point in *The Formation of Critical Realism*, Bhaskar does use the terms 'ontology' and 'being' and 'reality' synonymously. In Chapter 6, he tells us that 'there is the level of ontology as such, the whole domain of ontology, of being and reality' (Bhaskar and Hartwig 2010, 130). If Bhaskar had referred to the whole *theory* of being and reality, he would have avoided making this mistake.

From a comparison of these two examples, we may conclude that, whether the conceptual pairings in question are treated synonymously or not, there is always a real *possibility* that they will be treated in this way, at least if we have not understood how they differ in meaning.

11. For example, in Chapter 1 of *ECS* Bhaskar refers to 'the substantive ontological distinctions between (i) *open* and *closed* systems and (ii) *structures* and *events* or what I call the *domain of the real* and the *domain of the actual*' (7). Likewise, in Chapter 4 of *IW* the authors write:

> It is only possible to make sense of experimental activity if one assumes that the structures and mechanisms identified *inside* the laboratory nevertheless continue to exist and act *outside* the laboratory. This means that real structures and mechanisms

cannot be reduced to actual patterns of events and constant conjunctions as measured inside the laboratory. Therefore, one has to differentiate between the domain of the real and the domain of the actual' (29).

12. In *ECS*, Bhaskar continues to refer to the domain of the empirical – for example, in Table 1.1 (7). He also refers to it, when explaining the principle of 'Intransitivity' in Chapter 3, where his intention is to establish the non-identity of reality and 'knowledge, experience or any other human attribute or product' (47). However, as we shall see, it makes more sense to refer to the domain of the subjective rather than the domain of the empirical because the term 'empirical' has a more limited meaning than the term 'subjective' and knowledge and experience are properties of a person (47).

13. See Table 1.1 in Bhaskar (2008a, 56).

14. Hence, both rationalism and empiricism presuppose the ontology of 'anthroporealism' (Bhaskar 2008b, 394). See also the entry 'anthropism' in Hartwig (2007, 40-1).

15. See Table 37 in Hartwig (2007, 401). Again, it is not surprising that Hartwig should have included signs within the domain of the subjective because the philosophy of social constructivism, according to which social reality is constituted through language, has been another object of immanent critique in the work of critical realists. (See, for example, Sayer [2000].) Including signs within the domain of the subjective demonstrates, by virtue of the distinction between the domains of the real and the subjective, that social reality encompasses more than just language.

16. Note that, given the argument of Section 2 (about the non-identity of the conceptual pairings ontology–epistemology and intransitivity–transitivity), 'epistemological' should not be treated

as synonymous with 'transitive' and 'ontological' should not be treated as synonymous with 'intransitive'.

17. One of the reviewers of this article pointed out that thinking of events as causes is 'implicit … in any process view of the world'. Indeed, it is; and in thinking about process, and by implication change, we enter the realm of dialectical critical realism. However, to the extent that this understanding of causation is taken for granted in dialectical critical realism and to the extent that it is a development of original critical realism – preserving what are the essential ideas of original critical realism – logic compels us to revise the explicit (that is, expressed) understanding of causation that we find in works of original critical realism to ensure that these are consistent with that which we find in works of dialectical critical realism. As I pointed out in the first article, it would not be fair to assume that all critical realists have either identified this inconsistency or resolved it. (See endnote 2 in the first article.)

18. Figure 4.1 in *ECS* is an amalgamation of Diagrams 2.1 and 2.2 in *Scientific Realism and Human Emancipation*. (See Bhaskar 2009, 110.)

19. As Bhaskar puts it in the first section of Chapter 2 of *Scientific Realism and Human Emancipation*, 'the modulation of effects within a nexus may affect the modus operandi of the mechanisms themselves' (2009, 109).

20. In February 2008, given the lack of interest from the private sector in buying the bank, Northern Rock was nationalized.

21. The Financial Services Authority announced, during the crisis, that 100 per cent of retail deposits up to a value of £35,000 would be eligible for compensation, later increasing the compensation limit to £50,000.

22. See House of Commons Treasury Committee (2008).

23. I make this point because one of the reviewers of this article asked me to draw out the implications of my argument for the practice of social science. However, the implications of an understanding of the principles of original and dialectical critical realism for the practice of social science will also be addressed in the fourth article in this series, which is concerned with developing a critical realist approach to interdisciplinary research on human wellbeing.

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