Enlightened Common Sense I: Clarifying and Developing the Concepts of Depth, Emergence, and Transfactuality

DOMINIC HOLLAND

Nottingham Trent University, UK

Enlightened Common Sense: The Philosophy of Critical Realism. By ROY BHASKAR. Edited by Mervyn Hartwig. London: Routledge, 2016. Pp. 226, ISBN 9780415583794, £24.79 (pbk)

Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity. By ROY BHASKAR, BERTH DANERMARK AND LEIGH PRICE. London: Routledge, 2017. Pp. 174, ISBN 978-0-415-49666-7, £21.59 (pbk)

In this article, the first of a series of four articles that engage critically with the arguments of two recent and significant additions to the literature on critical realism, namely 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*. 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 depth, emergence and transfactuality. 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

Enlightened Common Sense: The Philosophy of Critical Realism (hereafter *ECS*) and *Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity* (hereafter *IW*) constitute two recent and significant additions to an expanding corpus of academic work that both develops and draws on the philosophy of critical realism. Although the focus and scope of the arguments of the two books differ, taken together they may be seen as complementary in the sense of reflecting (approximately) the relationship between (philosophical) theory and (scientific) practice. Thus, whereas *ECS* is a contribution to the development of critical realism considered as a body of theory, *IW* is concerned primarily with demonstrating the value of the application of critical realist theory to the development of a genuinely interdisciplinary approach to scientific research on human wellbeing. Indeed, there is a considerable amount of overlap between the two books: for example, Chapters 4 to 8 of *IW* constitute a summary of the core categories of original and dialectical critical realism, which is also the focus of Chapters 1 to 5 (original critical realism) and Chapters 6 to 7 (dialectical critical realism) of *ECS*, while Chapter 4 of *ECS* is concerned with the application of critical realism to scientific inquiry and with developing an ontological justification for interdisciplinary scientific research, which is also the focus of the second and third parts of *IW*.[1]

It is the existence of this degree of overlap between the two books that justifies their joint consideration in this article, the first of a series of four distinct, yet connected, articles that engage critically with the philosophy of critical realism, both as a body of theory and in application to scientific practice. In the first and second articles in this series, my focus is on the arguments of *ECS*, as the intended outcome of my critical engagement is the clarification and development of some of the theoretical categories of original critical realism (depth, emergence, transfactuality, intransitivity and domains of reality). By contrast, in the third and fourth articles, my focus moves from the arguments of *ECS* to the arguments of *IW*, as the intended outcome is the clarification and development of the concepts of theoretical and applied critical realism, and interdisciplinarity, in the third article, and the clarification and development of a critical realist approach to interdisciplinary research on human wellbeing, in the fourth. However, given the degree of overlap between the two books, I consider, where appropriate, arguments from both *ECS* and *IW* in each of the four articles in this series. I also bring into consideration, where appropriate, relevant arguments from other works in the field of critical realism – for example, the work of Hartwig (2007).

What is significant about *ECS* and thus of value to those who are new to the philosophy of critical realism is that, to the best of my knowledge, it is the only work in which Roy Bhaskar, the originator of critical realism, presents a 'lucid distillation' of the three, core elements of this philosophy: original or basic critical realism, dialectical critical realism and the philosophy of metaReality (xii). Indeed, the way in which Bhaskar has communicated his system of philosophy in the writing of *ECS* – 'achieving a high level of simplicity and clarity without sacrificing profundity' – must surely give this book a wide appeal (xii). As Hartwig points out in the Preface, given the personal circumstances of Bhaskar's writing, this was a remarkable achievement. However, as Hartwig also explains, *ECS* is not a simple 'summary' of the

philosophy of critical realism; rather, it is a 'summative' work – that is, it 'adds to and enhances' an existing body of theoretical work at the same time as (necessarily) 'recapitulating it' (xiv, fn. 3); and it is because *ECS* is a work of theoretical development as well as a recapitulation that the title of the manuscript was changed from *Critical Realism in a Nutshell: An Introduction to the Philosophy of Critical Realism* to *Enlightened Common Sense: The Philosophy of Critical Realism* (xiv, fn. 3). However, it is for this reason, I suggest, that *ECS* will also be of interest to more experienced critical realists.

As Hartwig acknowledges in the Preface to *ECS*, the phrase 'enlightened common sense' appears at the start of Chapter 1 of *Reclaiming Reality*, a book that was first published in 1989 and that, in its own way, may be regarded as a summative contribution to the philosophy of critical realism (xiv, fn. 5). Bhaskar's message in Chapter 1 of that earlier work was a political one: he called for 'the building of a movement for socialism … so that it becomes the enlightened common-sense of our age' (2011, 1). However, in my view, if socialism is to become hegemonic politically, critical realism must also become 'the enlightened common-sense of our age' not least because, by virtue of its role 'as an underlabourer for science and projects of human emancipation', critical realism enables us to ensure that our social theorizing is in line with our social practices and to ensure that our political positions, and the policies that flow from them, are in line with our scientific understanding of society (Bhaskar 2011, 2). In other words, an understanding of critical realism can help us to distinguish genuine social science and genuine 'projects of human emancipation' from those which are not. Therefore, in my view, it is entirely appropriate that, in *ECS*, Bhaskar should refer to the philosophy of critical realism as 'enlightened common sense' and as 'an agent of emancipatory change' (5).

However, if critical realism is to be an effective underlabourer – if, as Bhaskar writes in Chapter 2 of *ECS*, it is to 'demystify and enlighten common sense' by revealing inconsistencies between theory and practice (amongst other things) – it must be as coherent an account of reality and hence, in its own way, as consistent with practice as it can be (38). Indeed, given that *ECS* is a 'distillation' of critical realism as a system of philosophy, it is surely important that we ensure that it is a coherent system and that the content of each of the three, core elements is consistent, if we want to avoid the possibility of conceptual and theoretical confusion arising in the minds of (for example) scientists who are engaging with critical realism in an effort to understand and resolve a problem with their practice.[2]

Therefore, my aim in this article is to resolve a range of conceptual problems – for example, illicit conceptual identification and split, 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.[3] 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 some of the categories of original critical realism might be clarified but also how this understanding might be developed. Moreover, 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.[4] If the latter presuppose the former, as the editor points out in the Preface to *ECS*, the theory of original critical realism must be consistent with the theory of dialectical critical realism, if critical realism as a whole is to make sense (xii).[5]

Therefore, I have organized my argument as follows. In Section 2, I clarify the distinctions between, as well as the connections of, the concepts of depth, stratification, structuration and emergence, and the principle of non-identity, in light of the arguments that Bhaskar presents in Chapters 1 to 3 of *ECS* and the authors of *IW* present in Chapter 4. In Section 3, my aim is more ambitious: I attempt, not only to clarify the understanding of emergence that is summarized in Chapter 2 of *ECS* and Chapter 7 of *IW* but also to develop our understanding of this concept. Hence, I present a more thorough diffraction of the concept of emergence, defending distinctions between (a) ontic and epistemic emergence, (b) ontological and epistemological emergence, (c) synchronic and diachronic emergence, (d) material, conceptual, and semiotic emergence, (e) functional and compositional emergence, and (f) super-impositional and intra-positional emergence. In Section 4, I discuss the principle of transfactuality, taking Bhaskar's discussion of the criteria for emergence in Chapters 2 and 3 of *ECS* as my starting point. I argue that the causal criteria for compositional and functional emergence must include, respectively, the concepts of causal and functional interdependence. In the final section of the article, I summarize my argument.[6]

2. Depth, Stratification, Structuration, Emergence, and Non-Identity

In Chapter 3.2 of *ECS*, Bhaskar elaborates 'three new kinds of ontological distance or depth in transcendental realism', which are 'Intransitivity', 'Transfactuality', and 'Stratification', and, in doing so, refers to the content of Chapter 2 (47-51). I have three points to make about this (internal) reference as well as the argument of Chapter 3.2.

My first point has to do with the concept of depth. I suggest that we should be careful not to confuse the concept of depth with the concept of stratification because the latter is a specific

type of the former (that is, vertical depth) and, as such, should not be treated as synonymous with it. Hence, Bhaskar's reference to the content of Chapter 2 at this point in the text of *ECS* may be confusing to those who are less familiar with the categories of original critical realism because, in Chapter 2.4, Bhaskar defines, not 'three new kinds of ontological distance or depth' but '[t]hree senses of stratification' and, in doing so, leaves the reader with the impression that the concepts of depth and stratification are synonymous (31-2). My first point, then, is that we should make a clear analytical distinction between the concept of depth and the concept of stratification. Because these concepts are not synonymous, they should not be identified with one another; the relationship between them is one of 'constellational identity' and not one of simple identity (Bhaskar 2008b, 114-15).

My second point concerns the principle of non-identity and the concepts of stratification and structuration. In Chapter 1.2 of *ECS*, Bhaskar refers to 'the simple stratification implied by the distinction between structures (generative mechanisms and so forth) and the patterns of events (or the domains of the real and the actual)' (7); in Chapter 2.4 of *ECS*, he tells us, similarly, that the 'first sense of stratification turns … on the distinction between *structures* and *events* or between the domains of the real and the actual' (32); and, in Chapter 3.2, he refers, once again, to the concept of stratification in passing:

> A transcendental argument from the conditions of possibility of experimentation in science thus establishes at once the irreducibility of ontology … to epistemology and a novel non-empiricist but non-rationalist, non-actualist stratified and differentiated ontology; that is, an ontology characterized by the existence of structures as well as events (stratification) and open systems as well as closed ones (differentiation). (46)

However, it seems to me that to speak of 'the distinction between structures … and the patterns of events' and to compare this distinction to the distinction between 'the domains of the real and the actual' is to presuppose, not the concept of stratification, which refers to emergence of entities at distinct, yet connected, levels of reality, but the principle of *non-identity* or *difference* that is constitutive of the First Moment (1M) of dialectical critical realism. After all, one of Bhaskar's aims in *A Realist Theory of Science* (2008a) was to establish, against both empiricism and actualism, that we can identify neither the domain of the empirical with the domain of the real nor the domain of the actual with the domain of the real. Instead he suggests that there is a constellational identity of the domain of the empirical with the domain of the actual; and a constellational identity of the domain of the actual with the domain of the real.

However, I suggest that, in these passages Bhaskar is presupposing, not only the principle of non-identity but also the concept of structuration – that is, the process through which reality becomes structured.[7] This interpretation is consistent, both with Bhaskar's frequent references in *ECS* to the structuring of reality and to the 'substantive content' (which includes the concept of structuration) of the First Moment of dialectical critical realism (Hartwig 2007, 297, Table 29). For example, in Chapter 1.4 of *ECS*, Bhaskar tells us that he is arguing 'for the development of a new ontology, in which structure, differentiation and change move to the fore' (4); in Chapter 2.1, he tells us that his aim is 'to establish a new non-Humean ontology, committed to the reality of structure, difference and change against actualism' (25); and, in Chapter 2.3, he tells us that 'the critical realist ontology is structured, differentiated and … susceptible to change' (27).[8]

Moreover, in Chapter 4 of *IW*, the authors present a similar argument, under a different sub-heading ('Three senses in which reality is structured'), but confuse the concept of structuration

with (a) the concept of the three domains of reality and (b) the concept of stratification. For example, they write:

> Up to this point, we have isolated two senses in which critical realism describes reality as being structured. First, there is a sense in which you need a distinction between the real and the actual. The necessity of this is the existence of real structures and mechanisms that are irreducible to the actual patterns of events. Second, there is the sense in which reality has a multi-tiered stratification. (30)

Once again, the problem here is that the concept of structuration has a meaning that is distinct from that of (a) the concept of domains of reality and (b) the concept of stratification. If we confuse these concepts, we will be in danger of not understanding, first, that the stratification of reality *depends on* the process of structuration (and superstructuration) because, as we shall see in Section 3, the entities that emerge at distinct levels of reality are structures (and superstructures); and, second, that the real and the actual are *overlapping* domains in the sense that the domain of the real *constellationally contains* both structures and events and so that the distinction between structures and events is not synonymous, and thus should not be identified, with the distinction between the domain of the real and the domain of the actual.

In short, my second point is that it is important that we distinguish clearly between (a) the principle of non-identity, (b) the concept of stratification, and (c) the concept of structuration. We cannot treat these categories of thought as being synonymous because they have distinct meanings.

My third point has to do with the concept of emergence. Both Bhaskar, in *ECS*, and the authors of *IW* confuse the concept of emergence with the concept of stratification. For example, in Chapter 2.4 of *ECS*, Bhaskar defines a 'third sense of stratification', which is a 'special case of this multi-tiered stratification that consists in *emergence*' (32); similarly, in Chapter 4 of *IW*, the authors refer to 'a third fundamental kind of stratification, or inflection to the idea of stratification, which is *emergence*' (30). However, as we shall see in Section 3, the concept of emergence has a meaning that is distinct from that of stratification; indeed, the latter *depends on* the former because it is through the process of emergence and, by implication, the processes of structuration (and superstructuration), transformative negation, and causal (and functional) interdependence, that material (and ideational) entities lying at distinct levels of reality become connected. (Moreover, if causal objects are emergent at distinct levels of reality, and if causal objects emergent at the same level of reality may be distinguished by function – as we shall also see in Section 3 – not only the stratification but also the differentiation of reality is dependent on the process of emergence.)

In short, my third point is that we should make a clear analytical distinction between the concept of stratification and the concept of emergence, whilst recognizing the connection between the two. Hence, only the 'second sense' of stratification that Bhaskar defines in Chapter 2.4 of *ECS* – that which 'consists in the kind of multi-tiered stratification of reality revealed in the development of science' – corresponds to the elaborated definition of stratification that Bhaskar sets out in Chapter 3.2 (48-51).

Therefore, to avoid any danger of conceptual confusion, we should respect the principle of non-identity that is constitutive of the First Moment of dialectical critical realism and make clear analytical distinctions between

(a) the concept of depth and the concept of stratification, since stratification is a specific type of depth;

(b) the concept of structuration and the concept of stratification, since the stratification of reality depends on the structuring of reality;

(c) the concept of emergence and the concept of stratification, since the stratification of reality depends on the emergence of structured entities at distinct levels of reality;

(d) the concept of domains of reality and the concepts of stratification and structuration, since the division of reality into three overlapping domains is an instantiation of the principle of non-identity, whereas the concept of stratification refers to the emergence of structures (and superstructures) at distinct levels of reality and thus depends on the concept of structuration (and superstructuration).

3. Emergence

In Chapter 2.4 of *ECS*, Bhaskar introduces a distinction between '*ontological*' and '*epistemic*' emergence and tells us that 'it is important to distinguish synchronic from diachronic emergence' (32). These conceptual distinctions raise the question of whether or not 'ontological' emergence can be paired with 'epistemic' emergence, given the meaning of the terms 'ontological' and 'epistemic' that we find in Bhaskar's earlier work, and of whether or not, by using the term 'synchronic' and 'diachronic' in relation to emergence, Bhaskar is referring to distinct types of emergence. These are just some of the questions that I attempt to answer in this section, as I unravel the different meanings of emergence.

3.1 Ontic and epistemic emergence

As Bhaskar implies in Chapter 1 of *Scientific Realism and Human Emancipation*, the term 'epistemic' refers to knowledge (2009, 36-8). However, we can refine the meaning of this term further, as Hartwig has done, and distinguish between *epistemic$_1$* – 'whatever pertains to knowledge generally' – and *epistemic$_2$* – 'the transitive process or product of some specific, historically determinate, scientific or other empirically based investigation' (2007, 178). For example, scientific theory, in general, is an epistemic$_1$ entity, whereas a specific theory – such as Marx's theory of value – that is the product of the scientific process is an epistemic$_2$ entity. Hence, epistemic$_1$ emergence ought to refer to the process by which knowledge of reality, in general, emerges, whereas epistemic$_2$ emergence ought to refer to the process by which a specific form of knowledge emerges. For example, the development of new scientific theory (epistemic$_1$ emergence) depends (in part) on the immanent critique of existing scientific theory, while it is arguable that the development of Marx's theory of value (an example of epstemic$_2$ emergence) depended (in part) on Marx's immanent critique of theories of classical political economy.[9]

By contrast, the term 'ontic' refers to that which exists (Bhaskar 2009, 36-8). However, once again, we can refine the meaning of this term further, as Hartwig has done, and distinguish between *ontic$_1$* – 'whatever pertains to being generally' – and *ontic$_2$* – 'the INTRANSITIVE object of some specific, historically determinate, scientific or other empirically based investigation' (2007, 178). For example, a structure is an ontic$_1$ entity because it 'pertains to being generally', whereas the capitalist system of production is an ontic$_2$ entity because it is 'the intransitive object of … [social] scientific … investigation.' Hence, ontic$_1$ emergence ought to refer to the process by which real objects, in general, (such as structures) emerge, while ontic$_2$ emergence

ought to refer to the process by which a specific real object that is under scientific investigation (such as the capitalist system of production) emerged.

Therefore, just as we can distinguish between $epistemic_1$ and $epistemic_2$ entities and between $ontic_1$ and $ontic_2$ entities, so we can distinguish between the corresponding processes of $epistemic_1$ and $epistemic_2$ emergence and $ontic_1$ and $ontic_2$ emergence. Now, if knowledge is constellationally contained within reality, it follows that both $epistemic_1$ and $epistemic_2$ entities fall within the domain of $ontic_1$ (but not $ontic_2$) entities and that both $epistemic_1$ and $epistemic_2$ emergence fall within the domain of $ontic_1$ (but not $ontic_2$) emergence.[10] In short, the first point that I want to make is that epistemic emergence must be paired with ontic, not ontological, emergence because the epistemic is constellationally contained within, and therefore logically associated with, the ontic.

However, the second point that I want to make about the concept of epistemic emergence is that it reminds us that, in addition to recognizing the possibility of *material* emergence, we must recognize the possibility of *conceptual* emergence because the development of knowledge ($epistemic_1$ emergence) depends (in part) on the formation and re-formation of (scientific and philosophical) *concepts* and their higher-order derivatives – principles, theories, and paradigms. Furthermore, I suggest that a distinction between material and conceptual emergence is valuable, if it helps us to avoid committing, what I call (in the second article in this series) the *epistemological fallacy*; for, we are in danger of committing this fallacy, if, in our explanations of emergence, we assume that material emergence and, by implication, compositional emergence, is the only type of emergence. As we shall see below, this is an untenable assumption because reality is characterized, not only by material but also by ideational

(conceptual and semiotic) emergence and not only by compositional but also by functional emergence.

3.2 Ontological and epistemological emergence

Just as we can distinguish between ontic and epistemic emergence, so we can distinguish between ontological and epistemological emergence and their refined meanings. When we are considering emergence as a principle or proposition within a theory of being, we should refer to ontological emergence. More precisely, we should distinguish between $ontological_1$ emergence, when we are referring to emergence as a proposition 'in the general (philosophical) theory of being, or what pertains to it', and $ontological_2$ emergence, when we are referring to emergence as a proposition 'in the transcendental theory [of reality] constituted by reflection on the presuppositions of scientific activities, or what pertains to it' (Bhaskar 2009, 36). Likewise, when we are considering emergence as a principle or proposition within a theory of knowledge, we should refer to epistemological emergence. More precisely, we should distinguish between $epistemological_1$ emergence, when we are referring to emergence as a proposition 'in the general theory of KNOWLEDGE', and $epistemological_2$ emergence, when we are referring to emergence as a proposition 'in the transcendental theory of knowledge constituted by reflection on the presuppositions of scientific and other activities' (Hartwig 2007, 178).

Now, if epistemology is constellationally contained within ontology, $epistemological_1$ and $epistemological_2$ emergence fall within the domain of $ontological_1$ (but not $ontological_2$) emergence. In short, the point that I am making here is that ontological emergence must be

paired with epistemological, not epistemic, emergence because the epistemological is constellationally contained within, and therefore logically associated with, the ontological.

3.3 Synchronic and diachronic emergence

So far, I have distinguished between different types of emergence (ontic and epistemic) and between different propositional orders of emergence (the ontological and epistemological). However, in Chapter 2.4 of *ECS*, Bhaskar also distinguishes between 'synchronic' and 'diachronic' emergence. He writes:

> In order to get a good handle on ontological emergence, it is important to distinguish synchronic from diachronic emergence, and focus on the former; that is, to look at the relationship between the emergent or higher-order and the lower-order levels of reality once the emergent level has been constituted. (32)

But, in defending this distinction in this way, Bhaskar is presupposing that the terms synchronic and diachronic refer to distinct types of emergence. But do they?

Emergence is a process through which new entities come into being; as such, it presupposes absence. As Bhaskar argues in Chapter 6.2 of *ECS*,

> in the case of emergent entities … change, involving a transformation or rupture at that level cannot be accounted for/explained totally in terms of an internal redistribution or external events, but must be explained at least in part by internal novelty or transformation, that is, as involving absenting … (118)

For example, the emergence of a new system of production of goods and services would involve (amongst other things) the establishment of a new relationship between parts (social structures) and whole (social system). Similarly, what Bhaskar calls the 'ontogenetic emergence of persons', in Chapter 3.5 of *ECS*, is a process that depends on a relationship between parts (persons) and whole (society) (69). Therefore, to look at *how* something new has emerged is to examine the process of emergence from its *synchronic* aspect. However, this argument presupposes that emergence must be a continuous process because, to look at how something new comes to be, is to look at it at a specific point in time. Hence, the *continuity* of emergence – the fact that, as a process, it is ongoing – is its *diachronic* aspect.

Of course, it is true that, in the case of social reality, structures can still exist, even if the properties that constitute them as causal objects have not been realized through the exercise of human agency. For example, during a strike of labour, capitalist relations of production continue to exist, even though the mechanisms with which they are associated (production of commodities, appropriation and distribution of surplus value, etc.) have not been activated. However, we know these relations still exist because their pre-existence (as products of the exercise of human agency in the past) is the condition for, and in this sense explains, the decision made by labourers in the present *not* to go to work and the decision made by capitalists in the present *not* to pay a wage to labourers who go on strike. (This is why social structures must be activity-dependent, as well as concept-dependent, and why there is a distinction to be made between social practice, or the way of working of a structure as it is reproduced through the exercise of human agency, and human activity.[11] In other words, social practices are structured human activities but, since not all human activities are structured, social practices must be distinguished from human activities.) By contrast, the existence of other types of causal object does depend on the continuous activation of the object's properties. For example, the

existence of water depends on an ongoing process of bonding of oxygen and hydrogen atoms. In short, with respect to the social realm, the continuity of emergence as a process has to be distinguished from the continuity of the process by which the properties that are constitutive of causal objects are realized.

To distinguish between the synchronic and diachronic aspects of emergence, then, is to look at emergence from two different perspectives. To focus on its diachronic aspect is to consider it as a process that is embodied in a product, whereas to focus on its synchronic aspect is to consider it as a product that is embodied in a process. Hence, to focus on both aspects is to consider it as a '*process-in-product-in-process*' (Bhaskar 2008b, 220). It follows that, to distinguish between synchronic and diachronic emergence is to make an analytical distinction and not to assume an ontological separation: it is to distinguish between two *aspects* of the same process. However, although these aspects are distinct, they are interdependent because one cannot exist without the other. In short, the terms synchronic and diachronic, when they are applied to the concept of emergence, refer to *internally related aspects of emergence*.

Treating the synchronic and diachronic as internally related aspects of emergence enables us to resolve a problem in Bhaskar's argument concerning the emergence of ideas, which he published in an article for the *Journal for the Theory of Social Behaviour*. In this article, Bhaskar conceives ideas

> as explicably efficacious, dependent upon materially embodied intentional causal agency … [as] emergent parts of the natural world system and constituted within and contained by all four planes of naturalised social being … [as] capable of acting back on the materials out of which they are diachronically formed … [and as] causally and

taxonomically irreducible modes of manifestation of matter, more generally nature (or let us say being). (1997, 143)

However, what is problematic about this argument is Bhaskar's second point – that is, his explanation of ideas as '*efficacious* parts of the natural world':

Just as a stratified world-view sustains the reality of ideas in virtue of their causal efficacy, so a processual world-view allows us to sustain the emergent reality of ideational forms without denying their diachronic emergence from nature. (1997, 143)

Now, by the phrase 'diachronic emergence from nature', Bhaskar appears to be referring to the course of human evolution rather than the process of generating ideas through the exercise of the powers of the human mind (subjectivity) since the latter appears to be the meaning of the phrase 'processual world-view' – that is, 'the naturalised process of thought (ideation)' (1997, 143). However, to presuppose that the emergence of 'ideational forms' is akin to an evolutionary process is to overlook the fact that the emergence of 'ideational forms' in the course of human evolution was dependent on the development of the human mind: its states (such as consciousness) and its inter-related, lower-order properties (realized as processes such as emotion, sensation, perception, cognition, imagination, recognition, attention, appreciation, and so on) and higher-order properties (for example, intentionality, reflexivity, intelligence, sentience, and sapience) by virtue of which human beings became able to organize the ideas that they produce.[12] In short, to presuppose that the development of ideas is a self-determining process is to reify ideas and to contradict the alternative meaning of 'diachronic emergence from nature' that is consistent with the concept of *ideation* ('The naturalised process of thought').

Therefore, to avoid the danger of reifying ideas, we should distinguish carefully between the emergence of ideas by virtue of the exercise of human subjectivity and agency on the one hand and the evolutionary emergence of subjectivity and agency as properties of human beings on the other, whilst at the same time recognizing that both the emergence of ideas and the emergence of the capacity to develop and organize ideas have a synchronic and a diachronic aspect. I suggest that it is because Bhaskar has assumed that diachronic emergence is a distinct *type* of process that he has fallen into the trap of reifying 'ideational forms'.

3.4 Material, conceptual, and semiotic emergence

I indicated above that the development of knowledge ($epistemic_1$ emergence) presupposes the possibility of conceptual, in addition to material, emergence. I want to justify this claim by arguing that we can also differentiate the process of emergence by type of function and that, in this respect, we can identify the material, the conceptual, and the semiotic as three distinct forms of emergence.

As Bhaskar argued in Chapter 3 of *A Realist Theory of Science*, the development of natural science presupposes that natural structures and their higher-order derivatives (for example, natural systems) emerge at a series of interconnected levels of reality (2008a, 163-85). Although natural causal objects have different properties, so that we can distinguish (for example) between physical, chemical, and biological causes, what they have in common, I suggest, is a material function; and it is their possession of this function that licenses our classification of them as *material emergent entities*.

However, social causal objects are different from natural causal objects. Unlike the latter, the former depend for their existence on people, and people are capable of forming ideas about reality through exercising their powers of subjectivity and agency. Now, the crucial implication of this difference, I suggest, is that social causal objects differ from natural causal objects with respect to the types of function that they possess. For example, some types of social entity have a material function, to the extent that they facilitate our interventions in material reality; however, other types of social entity have a conceptual rather than a material function, to the extent that they enable us to interpret and comprehend reality. I refer to social entities that have a material function as social *structures* and I refer to social entities that have a conceptual function as social *superstructures*. Examples of social structures include marriage, parenting, private ownership, markers, hierarchies, and the division of labour; examples of social superstructures include cultures (racism and sexism), ideologies (liberalism and neo-liberalism), religions (Christianity and Islam), sciences (social and natural), and philosophies (positivism and interpretivism). However, since the development of concepts (and theories etc.) presupposes the making of meaning, and since we cannot make meanings without a signifier of some sort, we must also acknowledge the reality of social superstructures that have a *semiotic* function – for example, a language such as English – and that enable us to *represent* our conceptions of reality as concepts. Hence, social superstructures are social entities that have either a conceptual or a semiotic function.

Now, Hartwig also distinguishes between the conceptual and the semiotic, when he tells us that 'concepts and signs may be incorporated in emergent conceptual and semiotic structures and are themselves structurally generated' (2007, 401). However, if a concept is a *form* of sign, because it is both *signifier* (a word) and *signified* (that is, it embodies meaning), a semiotic superstructure must be, not an organized set of signs but an organized set of ideas about how to

make meaning.[13] A language such as English, for example, is constituted by ideas about how to construct words (morphology), how to pronounce words (phonology), how to arrange words into phrases and sentences (syntax), and about what words, phrases, and sentences mean (semantics) – ideas that are often summarized as rules of grammar, spelling, and punctuation. Therefore, as organized sets of ideas about how to make meaning, semiotic superstructures, like conceptual superstructures, have an *ideational* function.

I am arguing, then, that social structures may be differentiated from social superstructures on the basis of the type of function that they possess. In fact, both the material function of social structures (and their higher-order derivatives such as social systems and social formations) and the conceptual and semiotic functions of social superstructures may be differentiated further. Thus, the material function of a social system of production of goods and services is different from the material function of a social system of reproduction of labour power; the conceptual function of a cultural form such as sexism is different from the conceptual function of a philosophy such as positivism; and the semiotic function of a language such as English is different from the semiotic function of a system of mathematical symbols.

However, we must remember that, although we may classify social structural forms as material emergent entities, by virtue of their material function, their existence is still dependent on the represented conceptions of them that people develop – that is, on concepts – and on the activities of people when they engage or transact with material reality – in short, on the exercise of human subjectivity and agency.[14] Therefore, we should not make the mistake that crude materialists make: that is, of treating social structural forms as disconnected from the concepts and activities on which their existence depends and thus of reifying them. If we were to reify social structural forms, we would be guilty of 'de-agentification', one of Bhaskar's 'four modes of illicit

abstraction' (2008b, 131) and, in consequence, we would be eliminating them from consideration as possible objects of transformation via human praxis.

Similarly, we must remember that, although we may classify social superstructures as ideational emergent entities, by virtue of their conceptual and semiotic functions, their existence is still dependent on people's engagement with material reality, via the exercise of human subjectivity and agency, which is structured and through which both superstructural and structural forms are reproduced and transformed. Therefore, we should not make the mistake that idealists make: that is, of severing superstructural forms from their connection to the material reality on which their existence depends. If we were to treat superstructural forms in this way, we would be guilty of 'detotalization', another one of Bhaskar's 'four modes of illicit abstraction' (2008b, 131) and, in consequence, we would be supposing that reality can be transformed simply by re-conceptualizing it.

My explication of the nature of conceptual emergence enables us to resolve two other problems in Bhaskar's argument about the reality of ideas, which I introduced above. In his article, Bhaskar claims that '[p]aradigmatically ideas are *social products* or transforms' (1997, 144). However, once again, there is more to be said here, not least if we want to avoid the danger of reification. Because people generate ideas through exercising their powers of subjectivity and agency (the condition for which is a natural and social context of structures and superstructures), if we say that ideas are *social* products, we are in danger, I think, of suggesting that the development of ideas is *not* dependent on the exercise of human subjectivity and agency; that is, we are in danger of assuming, once again, that ideas develop of their own accord ('de-agentification'). Therefore, in order to avoid this problem, I suggest that we should say

that ideas are not social products but the *product of the dialectical relationship between people and society*.

Moreover, we ought to recognize that the ideas that people produce through exercising their powers of subjectivity and agency constitute (fallible) understandings of the world that are unique to them since each human being, as Bhaskar has argued, is a 'concrete universal=singular' (2008b, 178); and it is on the basis of such understandings that people develop their own knowledge of the world. But the knowledge of each person has to be distinguished from the pre-existing, organized sets of ideas (that is, from pre-existing conceptual and semiotic superstructures) on which they draw, in order to exercise their powers of subjectivity and agency and thereby generate their own understanding and knowledge. In other words, ideas are not only the products of, but also the conditions for, the exercise of human subjectivity and agency.

Finally, Bhaskar claims that ideas 'are *parts* of nature or the universe, in all kinds of relations to other parts and the whole, neither of which can synchronically be defined independently of them' (1997, 144). But, to be more precise and to avoid naturalising ideas – that is, treating them as if they are non-human and thus natural entities – we ought to say that ideas are embedded in, yet at the same time disembedded from (because they are emergent from), nature. As social conditions, ideas are embedded in nature because their existence depends ultimately on human praxis – on the conscious *production* of ideas through the exercise of human subjectivity and agency, activities by which ideas (as social conditions) are reproduced and transformed. However, ideas are also disembedded from nature because, as I argued above, *social* reality is characterized, not only by the existence of material emergent entities (that is,

structural forms) but also by the existence of ideational emergent entities (that is, superstructural forms).

3.5 Functional and compositional emergence

I argued above that the terms 'material', 'conceptual', and 'semiotic' may be used to differentiate emergent entities by type of function. I argued that, whereas material emergence is characteristic of the natural domain, conceptual and semiotic emergence, as well as material emergence, is characteristic of the social domain. In making this argument, I presupposed a further distinction between two types of emergence, and it is this distinction that I must justify.

What is essential to the process of emergence in general, as Bhaskar puts it in *ECS*, is that something new develops – 'by internal novelty or transformation' – out of something that already exists so that the existence of the new entity cannot be reduced to, or explained in terms of, the entities in which it is rooted; that is, the emergence of the new entity has to be explained in terms of the 'absenting' of an 'absence' (118). However, reflection on the practice and results of scientific inquiry reveals that the nature of this process may vary and that it is necessary to distinguish between compositional emergence and functional emergence. My claim in this sub-section is that the emergence of structural entities and their higher-order derivatives is compositional, whereas the emergence of superstructural entities is functional.[15]

Compositional emergence, which, by implication, is characteristic of both the natural and social domains of reality, has the following characteristics.

First, the entity that emerges is a whole that constitutes a level of reality that is distinct from the level of reality that is constituted by its parts. What this means is that the whole exists at a higher level of reality than the level at which the parts exist but that the two levels are adjacent since, if the whole is to emerge from the parts, it must be rooted in them.[16] For example, a social structure (a whole) exists at a higher level of reality than its parts (people), a social system (a whole) exists at a higher level of reality than its parts (social structures), and so on.[17]

Second, the existence of the whole is dependent on dialectical relations between the parts – that is, on material entities that are distinct from, yet connected to, each other. For example, it is arguable that Marx's analysis of the capitalist system of production presupposes that the production and distribution of surplus value depends on, at a minimum, dialectical relations between private ownership of the means of production, market-based exchange of goods, services, and money, hierarchical control of the labour process, and the re-division of labour.

Third, the emergence of the whole depends on a process of 'transformative negation' in the sense that either (a) pre-existing wholes become the parts of a new whole or (b) the parts of a pre-existing whole become the parts of a new whole (Bhaskar 2008b, 23). Whether (a) or (b) applies, the content of the entity that becomes the part is modified. For example, the social structure of common ownership of the means of production in land, which existed as an emergent whole during the era of feudalism, became part of the capitalist system of production and, in doing so, was transformed into the social structure of *private* ownership of the means of production in land.

Note that the process of transformative negation may be (amongst other things) 'total or partial' (Bhaskar 2008b, 5-6).[18] For example, the transformation of the feudal system of production into

the capitalist system of production was partial because, although the content of the mechanisms at the level of the system changed (and, by implication, the content of the mechanisms at the levels of social structure and social formation), the mode of production, which depended on one class (the minority of a population) oppressing and exploiting another class (the majority), did not. By contrast, total social transformation of a class-based system of production would involve, not only a change in the content of the mechanisms at the levels of social structure, system, and formation (and beyond) but also the elimination of a mode of production that depends on the oppression and exploitation of one class by another.

Fourth, the emergence of the whole depends on a process of *causal interdependence* in the sense that (a) whole and parts are distinct, irreducible, causal objects and (b) the whole cannot exist without the parts – that is, the parts 'causally codetermine each other, and so causally … codetermine the whole' – and the parts cannot exist without the whole – that is, the 'form or structure of the combination, causally determines the elements'; in other words, there is '*holistic causality*' (Bhaskar 2008b, 127). For example, it is arguable that under capitalism the production and distribution of surplus value are mechanisms pertaining to the systemic level of social reality; and that, as such, they are distinct from, and therefore irreducible to, the mechanisms pertaining to the social structures of ownership, exchange, control, and work on which their existence depends. It is only through the transformative negation of these social structures (amongst others), and through their dialectical relations, that the classes of capitalist and worker emerge and thus the production and distribution of surplus value on a capitalist basis becomes possible.

Fifth, it follows that the emergence of the whole is dependent on a process of structuration – that is, the formation of structures and their higher-order derivatives at distinct levels of reality.

For example, within the social domain, structuration might involve the organization of different people into social structures (marriage, civil partnership, etc.), the organization of different social structures into social systems (the system of reproduction of labour power, the system of government, etc.), the organization of different social systems into social formations (capitalist, etc.), and so on. In short, the structuration of reality is intrinsic to both the stratification and differentiation of reality.

Reflection on the nature of compositional emergence enables us to clarify the argument that Bhaskar makes in Chapter 3.5 of *ECS* concerning the distinction between human beings and human agents. There Bhaskar writes:

> the distinction between the person and the agent … is an ontological distinction, but it reflects the real ontological distinction between a thing and its circumstances such that we explain the behaviour of the thing by reference to its nature and the conditions in which it finds itself. (69)

What is confusing about this passage is that, although 'the person and the agent' are analytically distinct, this distinction is not a reflection of 'the real ontological distinction between a thing and its circumstances'; rather, it is a reflection of the existential distinction between a laminated system or 'laminated structuratum' – that is, a person – and the emergent property that is (in part) defining of that system or 'structuratum' – that is, *human agency* (Bhaskar 2008b, 404).[19]

Now, it is vital to understand that a system and its essential property are *internally related* so that, when we speak of the existential distinction between them, we do so in recognition of the difference that exists between a system and its essential properties, which we can identify

analytically, but in full acknowledgement that a system and its properties are inseparable.[20] In fact, the point that Bhaskar is making here, which is about distinguishing 'between a thing and its circumstances' and which he appears to confuse with the distinction between a system and its properties, is surely more relevant to the argument of Chapter 3.5 (ii) of *ECS* ('The ontological asymmetry between societies and persons'). For example, Bhaskar goes on to write that 'we can imagine the same person in different social orders' (69). We can do; but we can also imagine *different* people in the *same* social order. Either way, we are making an *analytical* distinction between a specific social role (for example, secondary school teacher) and the specific persons who occupy that role *in respect of an existential distinction*. Yet it is our experience of negotiating social reality through interacting with different people in 'different social orders' that reminds us that society and people are inseparable. Hence, existential *distinction* is not the same as existential *separation*. In short, to define a 'social actor', as Bhaskar does in Chapter 3.4 of *ECS*, is to presuppose both the existential distinction and the connection of the social and the personal (67).

Now, *functional* emergence, which, by implication, is characteristic only of the social domain of reality, has the following characteristics.

First, the entity that emerges is a whole that constitutes a level of reality that is functional to the specific material entities over which it imposes itself and which emerge at a lower level of reality. For example, the cultures of sexism and racism are conceptual superstructural forms that are functional, respectively, to the contingently embedded social structures of gender and ethnicity; as such, sexism and racism exist at a level of reality that is higher than the level at which the (more general) social structures of gender and ethnicity, and the (more specific) social structures in which they are contingently embedded, emerge.[21]

Second, because the parts of a functionally emergent whole are ideas, the existence of the whole is dependent on logical relations between its parts. For example, it is arguable that Marxist political economy (another type of conceptual superstructure) is constituted by concepts (parts) that are organized, by means of logical relations, into theories (wholes) which, in turn, become the parts of a new whole (a social scientific paradigm).

Third, the emergence of the whole depends on a process of 'transformative negation' that may be 'partial or total' (Bhaskar 2008b, 5-6). For example, to the extent that, for at least part of human history, the content but not the function of culture, religion and ideology has changed (as the class-based system of production to which they are functionally related has changed from one type to another), the transformation of culture, religion and ideology has been partial, and they have remained oppressive superstructural forms. By contrast, their transformation would be total, if both their content and their function were to change. Thus, the total transformation of oppressive superstructural forms would involve, for example, the replacement of cultures that legitimise, and the replacement of religions that compensate for, material disadvantage with ones that facilitate human emancipation; it would also involve the replacement of ideology, which obscures the truth about social reality, with social science, which would provide an explanatory critique of oppressive and exploitative social structural and superstructural forms, and with philosophy, which would underlabour for explanatory and critical social theorizing. By contrast, the total transformation of science and philosophy would be a response to the absenting of a conceptual or theoretical absence, involving the re-structuring of the scientific or philosophical field – that is, the expansion of a scientific or philosophical form;[22] and, given that the function of semiotic superstructural forms is to facilitate the representation of conceptions of reality, partial transformation of a semiotic superstructure such as the English language might involve changes to the rule of grammar,

alongside the introduction of new word forms (as with the dialects of English), whereas total transformation would involve a change in how meaning is conveyed – that is, a change in the means of representation (which would of course entail a change in the system of representation).

Fourth, the emergence of the whole depends on a process of functional interdependence. For example, it is arguable that the function of the structure of gender is dependent on the culture of sexism, whose function is to provide a rationale or justification for material inequality on the basis of gender difference. But, at the same time, there would be no need for this rationale or justification, and therefore no need for a culture of sexism, if there were no structuring of gender and hence the material function of the structure of gender were absent.

Fifth, it follows that the emergence of the whole is dependent on a process of superstructuration – that is, the formation of superstructures at a distinct level of *social* reality. Hence, superstructuration is associated with the emergence of a range of functionally differentiated, geo-historically specific, ideational entities.[23] For example, we may distinguish

- *cultures* (such as sexism and racism) that emerged in line with the development of specific types of social structure (gender and ethnicity) and that provide a rationale or justification for material inequality (the more favourable treatment of men over women, of white over black persons, etc.);[24]

- *religions* (such as Christianity) that emerged in line with the development of a specific type of social formation (that is, class-based) and that offer compensation (the forgiveness of sins etc.) for the effects of the oppression and exploitation of one class by another;[25]

- *ideologies* (such as classical liberalism and neo-liberalism) that emerged in line with the development of a specific type of social system (the capitalist system of production) and that promote a distorted understanding of this system (as a realm of individual freedom), concealing its real nature as a system of political oppression (via the state) and economic exploitation (via the circuit of capital);[26]

- *social sciences* (such as Marxist political economy) that emerged in response to the oppressive effects of culture, religion and ideology, and that attempt to express the truth about society – about how it works, its laws of development, etc.;

- *languages* (such as English) that have developed as society has developed and that enable conceptions of reality to be represented and thus meaning to be made.

In short, the superstructuration of reality is intrinsic to the stratification and differentiation of *social* reality.

Summarizing the difference between compositional and functional emergence, then, we might say that the crucial difference between them is that, in the former case, the entity is emergent by virtue of its *composition*, whereas, in the latter case, the entity is emergent by virtue of its *function*. In both cases, the emergent entity is an irreducible whole that constitutes a distinct level of reality. However, in the case of compositional emergence, the whole is a *material* entity that is emergent by virtue of dialectical relations between its parts and has properties that are distinct from, and thus irreducible to, the properties of its parts. By contrast, in the case of functional emergence, the whole is an ideational entity that is emergent by virtue of its functional relationship to a specific material context, it is constituted by logical relations between its parts, and its ideational function is irreducible to the material function of the entities

over which it imposes itself. However, it is still a causal object because, as an emergent, pre-existing whole, it makes a difference to the exercise of human subjectivity and agency and thus to the realization of the properties of the material entities to which it is functionally related. For example, pre-existing superstructural forms such as sexism and racism are the conditions for, and thus the cause of, the social practice of organizing the division of labour on the basis of gender and ethnic difference; and, of course, it is through such practices that (a) the structures of gender and ethnicity, (b) the division of labour in which they are contingently embedded, and (c) the superstructural forms justifying the unequal treatment of people on the basis of gender and ethnic difference – that is, sexism and racism – are reproduced.

What all this means is that, in the case of compositional emergence, the parts exist at a lower level of reality than the whole, whereas, in the case of functional emergence, parts and whole exist at the same level of reality, a difference that is explained by the material nature of compositionally emergent entities and the ideational nature of functionally emergent entities. This difference also explains why the emergence of material entities depends on causal interdependence, whereas the emergence of ideational entities depends on functional interdependence. However, despite these differences and in both cases, the emergence (or disemergence) of the whole depends on a process of transformative negation, which (amongst other things) may be partial or total, according to which elements of the whole are transformed. In short, functional emergence is defined by a relationship between entities that have distinct, irreducible functions, whereas compositional emergence is defined by a relationship of parts to whole, where the existence of the whole is dependent on, yet irreducible to, the parts.

3.6 Super-impositional and intra-positional emergence

In their discussion of the process of emergence in Chapter 7 of *IW*, the authors distinguish between 'two forms of emergence', one of which they identify as 'superimposition emergence' and which they argue is 'the idea that the emergent level is the superstructure' (60). In doing so, the authors appear to be drawing on Bhaskar's understanding of emergence. For example, in Chapter 2 of *Dialectic*, Bhaskar defines '*superstructuration*' as 'the superimposition … of the emergent level *on* … the pre-existing one' (2008b, 49).

However, both the authors' definition of 'superimposition emergence' and Bhaskar's definition of '*superstructuration*' are problematic. The problem with the former is the tacit assumption that what is superimposed can be only a superstructure. This assumption is unjustifiable because, as my analysis of compositional and functional emergence demonstrates, what is superimposed can be *either* a structural *or* a superstructural form. Hence, the problem with the latter definition is that the 'superimposition' of an emergent level of reality is associated not only with superstructuration but also with structuration. In short, in both cases the definition is too restrictive: it is the product of an illicit assumption of identity between superimposition emergence and superstructuration.

The second form of emergence that the authors of *IW* identify is 'intra-position emergence', which they conceive as 'the idea that the emergent level is formed within the more basic level' (60). Once again, in doing so, the authors appear to be drawing on Bhaskar's understanding of emergence. For example, in Chapter 2 of *Dialectic*, Bhaskar defines '*intrastructuration*' as 'the intra-position … of the emergent level … *within* the pre-existing one' (2008b, 49).

However, once again, both the authors' definition of 'intra-position emergence' and Bhaskar's definition of '*intrastructuration*' are problematic. The problem with the former is the explicit assumption that what is formed *within* a 'more basic level' is an emergent level. This is problematic because, as the authors admit in their discussion of the essential requirements for emergence, an emergent *level* of reality must be a *higher* level of reality than the level from which it emerges.[27] As my analysis of compositional and functional emergence demonstrates, this is the case whether the emergent entity is material or ideational. Moreover, what is problematic about Bhaskar's definition of '*intrastructuration*' and, by implication, the authors' definition of 'intra-position emergence', is that it fails to distinguish between structuration and superstructuration. As we have seen, these are distinct processes, pertaining to distinct types of emergent entity. In short, these definitions are problematic to the extent that (a) they are conceptually incoherent – that is, they depend on a misunderstanding of what is essential to the process of emergence – and (b) they presuppose an illicit identity between intra-position emergence and intrastructuration.

The solution to the problem of defining 'intra-position emergence', I suggest, is to think, not of the emergence of a specific level but of the emergence of a specific *entity* within a pre-existing level of reality – that is, to think of 'intra-position emergence' as entailing the nesting or embedding of emergent entities. For example, the authors of *IW* refer to Parker's 'conception of ecological emergence', which they summarize in Table 6.1 (49).[28] Re-conceptualizing Parker's argument as the nesting of emergent entities rather than the emergence of levels, we might say that 'life-support systems' are nested within 'cosmological systems' (such as the solar system) because not all such systems are capable of sustaining life and we might also say that 'human material systems' are nested within life-support systems since human beings are only a subset of all forms of life on planet earth. However, we cannot say that 'human social

systems' are nested within human material systems because social (structural) systems exist at a higher level of reality than human beings do. Similarly, we cannot say that 'human cultural systems' are nested within human social systems because, once again, cultural systems exist at a higher level of reality than social (structural) systems do. However, we can say that human social systems are nested within the social *domain* of reality because not everything that is social is a system; and we can say that *subsidiary* cultures, such as hetero-sexism, are nested within *primary* cultures, such as sexism, in acknowledgement of the existence of different varieties of sexism.

Therefore, 'intra-position emergence' ought to be understood as the emergence of material and ideational entities *within* a pre-existing *level* or *domain* of reality. Hence, 'intra-position emergence' entails the *differentiation* of a pre-existing level or domain of reality; and since it is material and ideational emergent entities that are intra-posed, it may be seen as depending on the processes of both structuration and superstructuration (as I have defined these terms above). Moreover, if structuration is the condition for the emergence of material entities and superstructuration is the condition for the emergence of ideational entities, I suggest that we should understand the emergence of material and ideational entities within a pre-existing level or domain of reality as dependent on a process of *intra*structuration. In other words, 'superstructuration and intrastructuration' are not, as Hartwig claims, 'aspects of the same process of emergence' (2007, 257); rather, superstructuration and, by implication, structuration should be seen as constellationally contained within intrastructuration.

4. Transfactuality: causation

In Chapter 2.4 of *ECS*, Bhaskar discusses the concept of emergence, and states that 'three criteria' must be satisfied for a situation to be considered as constituting synchronic emergence (32). The first criterion is the 'unilateral dependence of the higher-order or emergent level on the lower level'; the second is the 'taxonomic and causal irreducibility of higher-order properties or powers to lower-order ones in the domain of the higher order'; and the third is the 'causal irreducibility of higher-order powers in the domain of the lower order. This is top-down causation' (32).

Now, whereas the first and second criteria are perfectly plausible, the third criterion, which touches on the question of causation and hence presupposes the concept of transfactuality (since causal objects have effects in both closed and open systems), is more problematic. The first point to make in this respect is that, given what Bhaskar says in support of the third criterion, it would make more sense to revise his statement of it and replace 'causal irreducibility' with 'causal effectivity' because here it seems that Bhaskar is thinking of the possibility of a higher-order entity having effects on entities lying at lower levels of reality; indeed, one of the examples that Bhaskar offers in the accompanying text, of human intervention in nature via 'agriculture and industry', is entirely appropriate in this respect (32). However, the other example that Bhaskar gives, of the effects of climate change, points to the converse causal relationship – that is, where properties at lower levels of reality have effects (through precipitation and flooding, for example) on entities (persons, for example) at higher levels of reality (32); and one can envisage a third possibility, where properties of entities lying within the same level of reality have effects on each other. In short, in addition to 'top-down causation' we also ought to recognize the possibility of 'bottom-up causation' and 'sideways causation'.

Whether the direction of the causal process is 'top-down', 'bottom-up' or 'sideways', each is a type of causation that, elsewhere, I have defined as causal influence (or interaction, if the process if two-way).[29] Now, the possibility of causal interaction involving entities lying either at the same or at different levels of reality presupposes that reality is characterized by both compositional and functional emergence because both the material entities that emerge through compositional emergence and the ideational entities that emerge through functional emergence are *causal* objects. For example, at the social systemic level, the operation of the system of government can affect, through the passing of legislation, the operation of the systems of production of goods and services and the reproduction of labour power, while a conceptual system such as ideology can interact with a conceptual system such as social science to produce confusion at the level of personal understanding. In the former example, causal interaction depends on the exercise of human agency; in the latter example, it depends on the exercise of human subjectivity.

However, the crucial point that I want to make here is that, if causal influence *presupposes* compositional and functional emergence, we cannot use this concept in our definitions of emergence. As I argued in Section 3, what is essential to compositional emergence is (amongst other things) causal interdependence – that is, causal dependence between structures and their higher-order derivatives – while what is essential to functional emergence is (amongst other things) functional interdependence – that is, the dependence of the ideational function of a superstructural form (such as sexism) on the material function of a structural form (gender difference), and vice versa. In short, by referring to 'top-down causation' in the third criterion for emergence, Bhaskar mis-specifies the type of causal relationship that is the condition for compositional emergence and overlooks the type of functional relationship that is the condition for functional emergence.

It is important, therefore, that we are mindful of the distinction between compositional and functional emergence, when we engage with Bhaskar's definition of 'dual, multiple, complex and open control' in Chapter 2 of *Dialectic*. According to Bhaskar, a situation of 'dual, multiple, complex and open control' is one in which the 'higher-order agencies set the boundary conditions for the operation of lower-order laws' and the lower level 'provides the framework principles for, or conditions of possibility of, the "higher" level' (2008b, 53). We should remember, for example, that the 'higher-order agencies' may be either superstructural forms, such as cultures, or higher-level structural forms, such as social systems, while the lower-level entities, in both cases, must be structural forms. That said, the distinction between compositional and functional emergence is still consistent with the fact that 'dual, multiple, complex and open control' depends on what Hartwig calls 'multi-level determination', which is distinct from, although at the same time the condition for, '[m]ultiple determination' – that is, 'the totality of causal forces co-operating to produce a result' – so that the multiple determination of events constellationally embraces multiple control (2007, 122-23). It is still consistent with the multiple *determination* of events because, to repeat the point that I made above, both structural and superstructural forms are causal objects and thus distinct forms of determination.

Note that causal dependence between entities lying at adjacent levels of reality is the presupposition of Bhaskar's ontological argument, in Chapter 3.5 of *ECS*, that 'societies and persons' are asymmetrical. In making this argument, Bhaskar refers to the first criterion for emergence that he introduces in Chapter 2.4, as well as to a fourth criterion:

> In section 3.3 I argued that there is an ontological asymmetry between the personal
>
> and the social, such that the social is existentially dependent upon the personal, just as

the personal is existentially or emergently dependent upon the biological, *whereas the social is not existentially, but rather only contextually and developmentally dependent on the personal*. This existential dependence reflects criterion (i) of emergence, the bottom-up unilateral existential dependence of higher-order properties and strata upon lower-order ones, while the contextual and developmental dependence reflects criterion (iv), that is, *the causal irreducibility, or top-down or downwards causation, of the higher upon the lower* … (68-9; my emphasis)

However, once again, Bhaskar's argument at this point is somewhat problematic. If 'the social is existentially dependent upon the personal', it cannot also be the case that 'the social is not existentially, but rather only contextually and developmentally dependent on the personal.' Given the necessity for the causal interdependence of entities at adjacent levels of reality (in this case, persons at one level and society at another), it must be the case that the personal is contextually and developmentally dependent on the social. The personal is *contextually* dependent in the sense that a person is subject, typically, to determination by multiple social forces so that the context of a person's decision making tends to vary; and it is *developmentally* dependent in the sense that a person learns about society typically through making mistakes and in this way develops an understanding of the social constraints on the fulfilment of human needs – the 'proactive ontogenetic emergence of persons', as Bhaskar puts it (69).

The second problem with the extract above concerns the reference to the criteria for emergence. Bhaskar tells us that 'contextual and developmental dependence reflects criterion (iv), that is, the causal irreducibility, or top-down or downwards causation, of the higher upon the lower'. In Chapter 2.4 of *ECS*, Bhaskar specifies this criterion as criterion (iii), not criterion (iv), since the latter is concerned with something else – that is, the enfolding of a higher level of reality

within a lower level (its unfolding, in the right conditions, being the emergence of the higher level, one presumes). However, criterion (iii) is not the relevant criterion to invoke at this point because, as I have just argued, criterion (iii) is concerned with the causal effectivity of a higher-order entity on a lower-order entity – that is, 'top-down causation'. Therefore, if the idea of the contextual and developmental dependence of the personal upon the social is to make sense, the relevant form of causation to which we should refer is the *causal dependence* of the personal upon the social.

It should also be acknowledged that, although Bhaskar refers to 'downwards causation' in Chapter 3.6, he uses this term in the sense that I have defined – that is, as presupposing causal dependence between adjacent levels of reality – not in the sense of criterion (iii) in Chapter 2.4. That said, Bhaskar's explanation of 'downwards causation' at this point is also confusing.[30] He tells us that 'one can think of it as the higher-order level affecting the initial and boundary conditions for the operation of lower-order laws' (73). However, it would make more sense in my view to replace 'affecting' with 'setting' – as is Bhaskar's way of explaining the concept of multiple control in *Dialectic* – because 'affecting' (in this context) is more suggestive of causal effectivity or influence, whereas the relevant mode of causation under consideration at this point in the text of *ECS* is causal dependence.

What all this entails is the need to reformulate criterion (iii) so that it takes into account the difference between compositional and functional emergence – for example,

> (iii) the causal or functional dependence of the higher-order level on the lower-order level and, vice versa, the causal or functional dependence of the lower-order level on the higher-order level.

Having re-formulated this criterion, we would be in a stronger position to argue that an emergent reality is the condition for the multiple determination of events and states of affairs and that this necessitates, within the practice of scientific inquiry, both theoretical or abstract explanation, to uncover the reality of causal objects at different levels, and applied or concrete explanation, to understand precisely which of these objects is involved in generating an event or state of affairs of interest.

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 Chapters 1 to 3 of *ECS* and Chapter 4 of *IW*, a problem of confusion stemming from the illicit identification of the concept of stratification with the concepts of depth, structuration and emergence, and the principle of non-identity. I suggested that we might avoid this problem by making a clear analytical distinction between these concepts and this principle, whilst at the same time recognizing (where necessary) the connections between them.

In Section 3, I identified a problem of confusion concerning the concept of emergence that Bhaskar discusses in Chapter 2 of *ECS* and that the authors of *IW* discuss in Chapter 7. I argued that this problem stems from (a) the absence of the terms epistemological and ontic, which should be paired with ontological emergence and epistemic emergence, respectively, and (b) the illicit split of the diachronic from the synchronic. In other words, I argued that, whereas the terms ontological and epistemological qualify the *concept* of emergence and the terms ontic

and epistemic refer to distinct, yet connected, *types* of emergence, the terms synchronic and diachronic refer to distinct, yet interdependent, *aspects* of emergence.

I also argued that the problem of confusion concerning the concept of emergence stems from an absence of the concept of *functional* emergence (and the associated concepts of functional interdependence and superstructuration), which should be distinguished from *compositional* emergence (and the associated concepts of causal interdependence and structuration) and which entails the emergence of ideational (conceptual and semiotic) rather than material entities. Moreover, I suggested that an understanding of the difference between compositional and functional emergence can help us to resolve the confusion in Bhaskar's argument in Chapter 3 of *ECS* about the difference between human beings and human agents.

In the final part of Section 3, I argued that the problem of confusion concerning the concept of emergence stems from the illicit identification of super-impositional emergence with superstructuration and of intra-positional emergence with intrastructuration, alongside a misunderstanding of what is essential to the process of emergence. I suggested that these problems might be avoided, if we were to re-conceptualize intra-positional emergence as the emergence of material and ideational entities within a pre-existing level or domain of reality and, as such, dependent on a process of intrastructuration that constellationally contains both structuration and superstructuration.

In Section 4, I identified a problem of confusion that stems from the absence of a relevant causal criterion for emergence. I argued, contrary to the argument that Bhaskar presents in Chapter 2 of *ECS*, that causal influence (or interaction) is not a relevant criterion to use because (a) compositional emergence depends on causal interdependence, not causal influence, and (b) the

emergence of causal objects, whether this is functional or compositional, is the condition for the causal interaction of entities emergent at the same or at different levels of reality. Furthermore, I suggested that the absence of the criterion of causal interdependence may explain the confusion in Bhaskar's argument concerning the relationship between people and society that he presents in Chapter 3 of *ECS*. Thus, I argued, contra Bhaskar, that, whereas the social is existentially dependent on the personal, the personal is both contextually and developmentally dependent on the social so that, once again, the relevant causal criterion for emergence that applies to this relationship is causal interdependence and not causal interaction.

In short, in the first article in this series, I have identified a range of conceptual problems – illicit conceptual identification and split, conceptual absence, and contradictory conceptual definition – that generate confusion at the level of philosophical argument. By identifying these problems, I hope to have confirmed 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. Chapters 4 to 8 of *IW*, as the authors acknowledge in their introduction, are based on a series of lectures that Roy Bhaskar delivered in 2009 at Örebro University in Sweden (4).

2. As one of the reviewers of this article pointed out, more experienced critical realists may have already identified and resolved in their own minds the conceptual problems that I discuss.

However, it would not be fair to assume that all have done so and, even if they had, there would still be a need for them to communicate a revised understanding to those on behalf of whom they are underlabouring – for example, scientists looking for solutions to problems with their theorizing.

3. Bhaskar defines the method of immanent critique, in Chapter 4 of *The Possibility of Naturalism*, in relation to scientific theory: '[c]riticism of an account of science on theoretical grounds seeks either to show that the account is internally inconsistent or, if it is consistent, that it produces problems insuperable in its own terms' (1998, 120). However, application of the method of immanent critique need not be limited to 'accounts of science' since it can just as easily be applied to accounts of the nature of reality – as Bhaskar acknowledges in Chapter 1 of *ECS*, where he presents a broader definition of immanent critique. Therefore, I use this method as the starting point for my argument. Indeed, it is an appropriate way of identifying theoretical problems not least because, as Hartwig recognizes, it does not generate the problem of '"bad circularity" or arbitrariness' that arises when one judges an account against 'external criteria of knowledge' (2007, 106); and it is for this reason that it is known as *immanent* critique, as its starting point is always '*within* the accounts it seeks to situate, correct or replace' (2007, 106).

4. By the term 'original critical realism', I mean the first phase of development of Bhaskar's system of philosophy, which, as Bhaskar tells us in Chapter 1 of *ECS*, 'is itself subdivided into *transcendental realism* or critical realist philosophy of science, *critical naturalism* or critical realist philosophy of social science, and the *theory of explanatory critique*, which forms part of critical realist ethics' (9). By the term 'dialectical critical realism', I mean the second phase of development of Bhaskar's system of philosophy, the dialecticisation of original critical realism, which was necessary to make sense of the reality of change, something that Bhaskar had taken

for granted in the development of the first phase. Of crucial importance to the development of this second phase was Bhaskar's conceptualization of absence as having ontological priority over presence. (See Norrie 2010.)

Note that Bhaskar acknowledges in Chapter 1 of *ECS* that the term 'critical realism' is used to refer to the first phase of development as well as to the whole system of philosophy but that 'content determines which meaning is intended' (9). One might ask why scholars refer to the system as 'critical realism', given that this term also refers to the combination of transcendental realism and critical naturalism that are parts of the first phase of development of the system. One possible explanation for this, I suggest, is that scholars are recognizing, implicitly, that it was from this combination that a whole system of philosophy emerged, with the development of each new phase preserving what had been essential to the development of the previous phase – that is, sublation that is essentially preservative (to use Hegelian terminology).

5. Since the third phase of development of Bhaskar's system is the philosophy of metaReality, it may be argued that the categories of thought that constitute both the first and second phases should be consistent with the categories of thought that constitute the third phase. However, identifying and resolving any such inconsistencies is beyond the scope of the first and second articles in this series, which focus on identifying and resolving problems within the theory of original critical realism from the vantage point of dialectical critical realism.

6. I acknowledge that my argument depends on a specific interpretation of selected statements that Bhaskar has made in *ECS* and other works and that the authors of *IW* have made. Of course, both my selection and my interpretation may be challenged. Other scholars, for example, may determine that I have provided insufficient textual evidence in support of my claim to have identified conceptual problems in *ECS* and *IW* and/or that I have misinterpreted the intended

meaning of the statements that the authors of these works have made. But that sort of challenge is to be expected, at least if one accepts the principles of epistemic relativism and fallibilism.

7. Note that the critical realist concept of structuration should not be confused with the concept of structuration that is to be found in the work of Anthony Giddens, which Archer (1995) has argued is an example of central conflationism and to which Bhaskar refers in Chapter 3.3 of *ECS* (53).

8. The last of these three statements is somewhat problematic, I suggest, because, surely, what Bhaskar means here is that *reality* 'is structured, differentiated and … susceptible to change' since ontology is a *theory* of reality. That said, the organization of Bhaskar's system of philosophy into three distinct yet connected phases (original critical realism, dialectical critical realism, and the philosophy of metaReality) and the subsequent development of this system of thought by means of immanent critique demonstrates that it could also be regarded as being 'structured, differentiated and … susceptible to change.'

9. See, for example, the result of Marx's critical analysis of works of classical political economy that was published as *Theories of Surplus Value*.

10. Note that, although $epistemic_1$ and $epistemic_2$ entities cannot fall within the domain of $ontic_2$ entities, they would be $ontic_2$ entities, if they were objects of scientific inquiry – for example, in the sociology of science, where the process of scientific inquiry (an $epistemic_2$ entity) is a legitimate object of sociological investigation.

11. As Bhaskar puts it in Chapter 2 of *Scientific Realism and Human Emancipation*,

[a] "practice" cannot be identified either with a "structure" or with the "agency" which reproduces or transforms it; it is rather, as it were, the structure at work in praxis – or, to employ a Kantian analogy, the schema of the structure. (2009, 129)

12. In Chapter 7 of *IW*, the authors refer to some of these powers in their discussion of 'being as incorporating reflexivity' (70-1). However, in my view, they confuse what they call 'self-conscious reflexivity' with 'agential intentionality', even though these are distinct, connected powers of the mind. Intentionality, for example, is the ability that we have to form intentions regarding goals and courses of action on the basis of beliefs and drives (motivations); it is realized through such processes as goal setting and action planning. However, what informs the setting of goals and the planning of actions are the results of the exercise of reflexivity. For example, by comparing the actual outcomes of our praxis with what we expected to happen, we may identify either problems with the beliefs that (in part) motivated us to choose some courses of action over others or problems with the actions that we chose in relation to our beliefs and drives. Hence, the exercise of the power of reflexivity may prompt us to change either our beliefs or our chosen courses of action; it may also prompt us to change our goals. But, if intentionality depends on reflexivity, reflexivity depends on intentionality because we would have nothing to be reflexive about, if we were unable to form intentions. Therefore, 'contradictions between our theory and practice' are what we identify *through* exercising our power of reflexivity; they are not, as the authors of *IW* seem to think they are, reflexivity as such.

13. Hence, signifiers (words, symbols, pictures, gestures, etc.) are conveyors of meaning and, as such, should not be confused with that which is being signified. See Sayer (2000b, 35-40).

14. I discuss the concept of human subjectivity further in the second article in this series.

15. Hitherto, critical realists have tended to reduce the meaning of emergence to that of compositional emergence. This reduction is a pervasive feature of, for example, Collier's explanation of emergence and stratification in *Scientific Realism and Socialist Thought*, including in Chapter 2:

> There is one more relation between strata which must be mentioned: the relation of structuration or composition. Entities inhabiting one stratum will be composed of entities inhabiting a lower one. Societies are composed (in part, at least) of people; living cells are composed of molecules, and so on. (1989, 51)

16. It is necessary to include the qualification 'adjacent' here because one level of reality may be higher (or lower) than another but the two levels need not be next to one another. In the case of compositional emergence, the level of the whole and the level of the parts must be next to one another.

17. Some critical realists may be uncomfortable with the conceptualization of reality in terms of levels or layers. However, it is important to remember that the intention behind the use of metaphorical language in theory construction, whether this is in science or philosophy, is to try to express a truth about reality. Metaphorical language helps us in this respect because through using metaphors we say something novel about reality from the perspective of something that we already know (Lewis 1999). In this way, a 'logic of analogy and metaphor' helps us to make sense of the reality of the new object of interest (Bhaskar 1998, 12). Hence, my use of terms such as 'level' and 'higher' and 'lower' is intended to facilitate an understanding of the articulation of reality; it is not intended to suggest that reality is articulated just as a multi-storey building would be – that is, it is not intended to have a literal application. To assume that this is the intention would be to commit the linguistic fallacy: it would be to assume that there is a

simple identity between reality and the language that we use to describe it. Of course, from a critical realist perspective this is an illicit assumption because, as the history of natural science demonstrates, our theories about the natural world and the language in which we have communicated them have changed, while reality has stayed the same. If this entails that some metaphors are more appropriate ways of conveying meaning than others, it is for other scholars to propose and justify the use of alternative metaphors for describing the articulation of reality.

18. In Chapter 1 of *Dialectic*, Bhaskar treats 'transformative negation' as a species of 'real negation' that involves 'the transformation of some thing, property or state of affairs.' He also writes: 'Such a transformation may be essential or inessential, total or partial, endogenously and/or exogenously effected' (2008b, 5-6).

19. Human agency is of course a specific type of agency since an agent is anything that can bring about change in the world.

20. Of course, none of this obviates the need to explain the 'behaviour' of people 'by reference to … the conditions' or 'circumstances' in which people make decisions; for, as we have seen, the personal is contextually dependent on the social.

21. The concept of contingent embeddedness is a development of the work of Sayer (2000a).

22. In Chapter 4.3 of *ECS*, Bhaskar refers to the development of knowledge via the remedying of a conceptual absence as the continual re-development – and thus expansion – of a 'totality' (91).

23. Note that my intention at this point is two-fold: to suggest that ideational entities be re-categorized as types of superstructure and to set out one way in which such entities might be differentiated. I am not suggesting that this is an exhaustive list and I am not suggesting that

one can reduce the complex process of social reproduction to the effect of any one of these entities. All I am claiming here is that concepts that (Marxist) social scientists have used to explain how societies are reproduced (such as culture, religion and ideology) refer to a higher-order social reality (that is, to a superstructural reality), although I acknowledge that there is much more to say about these concepts, whether from a Marxist perspective or not. (Archer [1996], for example, has attempted to define the concept of culture, and to specify its distinction from and connection to social structure and human agency, from a realist perspective.)

That said, my argument about the nature of social reality in this section may be interpreted as a contribution to the re-working of the traditional concept of superstructure that is found in Marx's Preface to *A Contribution to the Critique of Political Economy* of 1859. There Marx defines the superstructure of reality as (in part) political. However, as I have argued elsewhere, it is in the *structural* domain of social reality that the political is to be found (Holland 2017).

24. I am not arguing that cultural forms such as sexism and racism are functionally emergent entities because they provide a justification for unequal material rewards; that is, I am not trying to claim that they exist to justify a specific distribution of material resources. All I am claiming is that sexism and racism are distinct forms of superstructure and that, as such, they are functional to the continuing existence of a society that is divided into classes, where one class dominates (or rules over) other classes. In short, my argument here is functional and not functionalist.

25. Again, I am not claiming that Christianity is functionally emergent because it offers compensation for the effects of oppression and exploitation. I am claiming that Christianity, as a distinct form of religion, is a distinct type of superstructure, whose existence is functional to the continuing existence of class-based society.

26. Again, I am not claiming that ideology is functionally emergent because it promotes a distorted understanding of social reality – just that ideology, as a distinct type of superstructure, is also functional to the continuing existence of a society that is divided into classes.

27. As the authors of *IW* put it in Chapter 7,

[i]n terms of emergence, one level of being will be qualitatively different from a more basic level. While the higher level is unilaterally dependent on the more basic one, it is nevertheless taxonomically irreducible to it. The higher level if being is also causally irreducible to the basic level in the sense that it has the capacity to act back on the more basic level. (60)

28. See Parker (2010, 208-09).

29. See Holland (2013, 59-62).

30. What is also confusing about the argument in Chapter 3.6 is the relationship that Bhaskar specifies between 'individualism', 'reductionism' and 'actualism' (73). For example, on the one hand Bhaskar tells us that 'individualism, abstracting from the social context in which we act, appears as a tacit condition of reductionism'; on the other hand he tells us that 'sociological individualism is rooted in the epistemic fallacy' (73). However, it makes more sense in my view (and in light of Bhaskar's reference to Cartesian rationalism in his explanation of these concepts) to see reductionism as the *consequence* of committing the epistemic fallacy and sociological individualism as a specific *form* of reductionism. Bhaskar also tells us that, '[i]f sociological individualism is rooted in the epistemic fallacy, reductionism is a legacy of actualism, which tends always to a monodisciplinary or a one-dimensional approach' (73).

However, once again, it makes more sense in my view to treat reductionism as the presupposition of actualism since what is presupposed by the meaning of actualism, as Bhaskar argued for the first time in Chapter 2 of *A Realist Theory of Science*, is the *reduction* of reality to an actuality of events and states of affairs, which is also to say that an actualist ontology assumes that the properties of causal objects are always realized.

References

Archer, Margaret. 1995. *Realist Social Theory: The Morphogenetic Approach*. Cambridge: Cambridge University Press.

Archer, Margaret. 1996. *Culture and Agency: The Place of Culture in Social Theory*. Cambridge: Cambridge University Press.

Bhaskar, Roy. 1997. "On the Ontological Status of Ideas." *Journal for the Theory of Social Behaviour* 27 (2/3): 139-147.

Bhaskar, Roy. 1998. *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*. London: Routledge.

Bhaskar, Roy. 2008a. *A Realist Theory of Science*. London: Routledge.

Bhaskar, Roy. 2008b. *Dialectic: The Pulse of Freedom*. London: Routledge.

Bhaskar, Roy. 2009. *Scientific Realism and Human Emancipation*. London: Routledge.

Bhaskar, Roy. 2011. *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*. London: Routledge.

Collier, Andrew. 1989. *Scientific Realism and Socialist Thought*. Hemel Hempstead: Harvester Wheatsheaf.

Hartwig, Mervyn. 2007. *Dictionary of Critical Realism*. London: Routledge.

Holland, Dominic. 2013. *Integrating Knowledge Through Interdisciplinary Research: Problems of Theory and Practice*. London: Routledge.

Holland, Dominic. 2017. "The Nature of the Political Reconsidered." *Journal for the Theory of Social Behaviour* 47(1): 32-57.

Lewis, Paul. 1999. "Metaphor and Critical Realism." In *Critical Realism in Economics: Development and Debate*, edited by Steve Fleetwood, 83-101. London: Routledge.

Norrie, Alan. 2010. *Dialectic and Difference: Dialectical Critical Realism and the Grounds of Justice*. London: Routledge.

Parker, Jenneth. 2010. "Towards a Dialectics of Knowledge and Care in the Global System." In *Interdisciplinarity and Climate Change: Transforming Knowledge and Practice for Our Global Future*, edited by Roy Bhaskar, Cheryl Frank, Karl Georg Høyer, Petter Næss and Jenneth Parker, 205-226. London: Routledge.

Sayer, Andrew. 2000a. "System, Lifeworld and Gender: Associational Versus Counterfactual Thinking." *Sociology* 34(4): 707-725.

Sayer, Andrew. 2000b. *Realism and Social Science*. London: Sage.