**PROLEGOMENON**

**The consequences of the revindication of philosophical ontology for philosophy and social theory**

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1. **Preamble: Distinctive features of critical realist philosophy**

**(i) Underlabouring**

‘Philosophical under-labouring’ is most characteristically what critical realist philosophy does. The metaphor of ‘under-labouring’ comes from John Locke who said, ‘The commonwealth of learning is not at the this time without master-builders, whose mighty designs, in advancing the sciences will leave lasting monuments to the admiration of posterity: but everyone must not hope to be a Boyle or a Sydenham; and in an age that produced such masters as the great Huygenius and the incomparable Mr Newton, with some others of that strain, it is ambition enough to be employed as an under-labourer in clearing the ground a little, and removing some of the rubbish that lies in the way to knowledge.’[[1]](#endnote-1)

Critical realism underlabours for a) a science and b) practices of human emancipation.

**(ii) Seriousness**

‘Seriousness’, a Hegelian term of art, involves the idea of the unity of theory and practice, being able to walk one’s talk. Most modern, including contemporary, Western philosophy is palpably unserious. When Hume for example suggests there is no better reason to leave the building by the ground floor door than by the second floor window, he cannot be ‘serious’ – for if he really believed it, then he should leave such buildings by their second floor windows on at least 50% of all occasions! Similarly, when he says that there is no better reason to prefer the destruction of one’s little finger to that of the whole world, then again he cannot be ‘serious’ – because if he were to opt for the destruction of the whole world, then surely he would lose his little finger too! What Hume is, of course, tacitly doing is hypostatising, extruding himself (and philosophy) from the totality that is the world, and includes philosophy and social theory.

**(iii) Immanent critique**

Immanent critique is an essential part of the method of critical realist philosophy. It specifies that criticism of an idea or a system should be internal, that is, involving something intrinsic to what is (or the person who is) being criticised. If you say ‘everyone should eat more meat’ and I, being a vegetarian, disagree, what I have to do to begin to be rationally persuasive is to find something within your belief or value system or customary practices, which would be undermined by eating more meat.

**(iv) Categorial realism and the idea of philosophy as explicating presuppositions**

For critical realism, philosophy does not speak about a world apart from the world of science and everyday life. Rather, it speaks about the most abstract features of just such a world. These abstract features are expressed by philosophical categories such as causality, substance, etc. For critical realism, such categories are real. Thus the world contains not only specific causal laws but causality as such. And it is the characteristic task of philosophy to explicate these higher order or abstract features, which are normally not topicalised in, but rather only tacitly presupposed by, our practices. What philosophy typically does, then, is to explicate presuppositions of our activities, which are ‘given’, but as ‘tacit’ and often, ‘confused’.

**(v) Enhanced reflexivity or transformed practice**

Pre-existing philosophy has seriously mis-described the presuppositions of most of our everyday and scientific practices. So it involves a theory/practice disjuncture or incoherence and a performative contradiction, characteristically constituting what I have called a TINA formation, where basically a truth in practice is combined or held in tension with a falsity in theory (see my 1993:116ff).[[2]](#endnote-2) The aim of critical realist philosophy is, when the practice is adequate, to provide a better or more adequate theory of the practice; and, when it is not, to transform the practice in the appropriate way. That is to say the aim of critical realist philosophy is enhanced reflexivity or transformed practice (or both).

**(vi) The principle of hermeticism**

Since there is only one world, the theories and principles of critical realist philosophy should also apply to our everyday life. If they do not, then something is seriously wrong. This means that our theories and explanations should be tested in everyday life, as well as in specialist research contexts.

**2. On the origins of critical realism and the duplex argument for [a new] ontology**

The context of philosophy of science in the 1970s was one in which Humean empiricism provided the baseline for most contemporary discussion. In particular the Humean theory of causal laws, the idea that a constant conjuction of atomistic events was either necessary and sufficient (the empiricist variant) or at least necessary (the neo-Kantian variant) for the attribution of a law underpinned the standard (Popper-Hempel) deductive-nomological model of explanation and almost all the other theories of orthodox philosophy of science.[[3]](#endnote-3)

This theory went alongside a metatheory, championed by Hume and especially Kant, that ontology was impossible, a mistake; that it was sufficient for philosophy, in the words of the early Wittgenstein, ‘to treat only of the network, and not what the network describes.’[[4]](#endnote-4) This metatheory is what critical realism calls the ‘epistemic fallacy’. It is clearly wrong because the Humean theory of causal laws implies that the world is flat and repetitive, undifferentiated, unstructured and unchanging, and it is evident that this is not the case. However, it is one thing to know this and another to establish it in the discourse of philosophy. This set the double task of the work which initiated critical realism, namely to establish that ontology was possible and necessary; and to establish the outlines of a new, non-Humean ontology.

Employing the method of immanent critique, a transcendental argument from experimental activity (which everyone agreed was important in science) produced at once an argument for ontology and an argument for a new ontology. This duplex argument generated:

a) The cardinal distinctions between i) philosophical and scientific ontology and ii) the transitive and the intransitive dimensions of science together with the critique of the epistemic fallacy, or the reduction of ontology to epistemology, and the situation of the mutual compatibility and entailment of ontological realism, epistemological relativism and judgemental rationalism. At the same time the limits of our ‘natural attitude’, in which we do not distinguish ontology and epistemology, but merely talk (in an undifferentiated way) about the known world, a standpoint which Hume and Kant merely reflected, are clearly visible: this attitude breaks down when there are (as in the contemporary social sciences) competing claims about the same world, for in this case we have explicitly to differentiate the relatively or absolutely independently existing (intransitive) world and our (transitive) socially produced and fallible claims to knowledge of it.

b) The distinctions between open and closed systems and structures and events or between what I called the domain of the real and the domain of the actual, together with a corresponding critique of the implicit actualist ontology of empirical realism. Thus we have the theorem of the irreducibility of structures, mechanisms and the like to patterns of events (or the domain of the real to the actual) and of patterns of events to our experiences (or the domain of the actual to that of the empirical).

**3. The immediate implications of the ontological turn in the philosophy of science**

This transcendental argument from experimental activity, together with other arguments from the context of applied and practical science, establishes the inexorability and irreducibility of philosophical ontology and the necessarily stratified and differentiated character of this ontology. It now becomes important to see science as a creative activity, essentially moving from descriptions of events and other phenomena to their causal explanation in terms of the structures and mechanisms which produced them. Moreover the history of science reveals a multi-tiered stratification in nature, which accordingly defines a continually re-iterated dialectic of discovery and development in science. Following on from this, there is the DREIC model of theoretical explanation, in which science moves continually from the description of phenomena to the retroduction of possible explanatory causal mechanisms for them, the elimination of competing explanations, through to the identification of the generative mechanism at work, (followed by the correction of previous results). Science then proceeds to describe this newly identified level of reality and a further round of discovery and development follows. On this new view of science, it is a dynamic social activity, continually opening up deeper and more recondite levels of reality to the curious investigator.

**4. Generalising and developing the core argument**

(i) The original argument of critical realism raises the question as to whether this characteristic retroductive pattern of activity, involving the movement from descriptions of events to that of the explanatory structures producing them, can take place in other sciences, domains and practices. More generally it raises the question of the transapplicability of the results of the philosophy of the experimental natural sciences to the social sciences;[[5]](#endnote-5) or (for example) the biological sciences;[[6]](#endnote-6) and more generally of this kind of ontology to whole new domains, for example, of language [cf. critical discourse analysis], and to the contexts of the variety of human practices (from architecture to archaeology).

However, it is important to note that the method of immanent critique prohibits any simple-minded or unmediated transapplication from one context to another. There must always be an independent analysis of the new domain before the possibility of any transapplication can be considered. Thus, when I turned to investigate the compatibility of the social (and more generally human) sciences with the new transcendental realist ontology, I had first to latch onto something there, which would be of comparable immanent weight to experimental activity in the natural sciences. I found this in the endemic dualism (and dualisms) of contemporary philosophy of social science – an overarching dualism between positivisitic naturalism and antinaturalist hermeneutics, and a plethora of regional or topical dualisms, including: structure/agency, individual/collective (or whole), meaning/behaviour; reason/cause, mind/body, fact/value and theory/practice. The critical realist response to these dualisms is followed up in section 5.

(ii) The original argument can also be developed in a variety of ways. Thus there is its concrete and applied development, which involves the move, not from events to mechanisms, but into the constitution of the particular concrete event itself. Then there is the critical, including metacritical development, which involves exploring the conditions of the possibility of false or otherwise inadequate accounts and the practices they inform. Finally there is the possibility of the theoretical deepening of the ontology to incorporate categories other than structure and difference, such as change and process, or internal as well as external relations etc. It is this further theoretical deepening of the ontology of critical realism in which I personally have been mainly engaged. This is briefly discussed in section 6.

**5. Critical realism and social theory**

The critical realist philosophy of social science is established by the immanent critique and resolution of the dualisms of the contemporary philosophy of social science and social theory. The result is a critical naturalism, which steers a *via media* between positivistic hypernaturalism and hermeneutical anti-naturalism.

The resolution of the antinomy between structure and agency is achieved by the *transformational model of social activity* (TMSA), on which society, and social forms generally, are conceived as pre-existing, but reproduced or transformed by, human agency. This transformational model appears *prima facie* similar to Tony Giddens’ theory of structuration, published in the same year (1979).[[7]](#endnote-7) However Margaret Archer pointed out (in *Realist Social Theory[[8]](#endnote-8)* and elsewhere) that time and tense are intrinsic to the Transformational Model of Social Action (TMSA), but not structuration theory. Thus structure always pre-exists any round of human agency and the heavy weight of the presence of the past precludes voluntarism. The transformational model of social activity can be further deepened by situating it in the context of ‘four planar social being’.[[9]](#endnote-9) On this conception, every social event occurs along each of the following dimensions: material transactions with nature; social interactions between people; social structure proper; and the stratification of the embodied personality.

The antinomy between individualism and collectivism is resolved by an understanding of the subject matter of the social science as paradigmatically, not behaviour, but the enduring relations which govern, condition and circumscribe behaviour (and their transformation). This relational model of the subject matter of the social science is in turn developed through a conception of the subject matter of social science as occurring on any of the following seven levels of scale: a sub-individual level, typified by the unconscious or the play of motives; an individual level, typically invoked by novelists and existentialists, such as Sartre; a micro-level of small scale social interactions, typically studied by ethnomethodologists and the followers of Garfinkel and Gotfman; a meso-level, which is the field of classical sociological analysis, as practiced for example. by Marx, Durkheim and Weber; a macro-level which looks at the properties of whole societies, such as contemporary Norway; a level which looks at whole geo-historical swathes and trajectories, such as the development of medieval Christianity; and a level which takes as its subject matter the global or planetary whole.

In relation to the antinomy between meaning and law, critical realism accepts the hermeneutical thesis of the conceptuality of social life. But it argues that social life, though concept-dependent, is not exhausted by its conceptuality. Thus it has a material as well as a conceptual dimension. War is not just a question of employing a certain concept in the correct way; it is the bloody fighting as well. Homelessness is not only a conceptual question, it is not having a roof over one’s head. Although hermeneutics defines the starting point of social science, conceptualisations are corrigible and subject to critique, a theme which is taken up in the critical realist a theory of explanatory critique.

On this critical naturalist conception, there are important differences between the social and natural sciences. The most significant epistemological differences turn on the unperceivability of social phenomena (which must therefore be detected by their effects); the absence of naturally occurring closed systems and the impossibility of experimentally establishing them; and the importance of context in social life. The most significant ontological differences turn on the activity-dependence, concept-dependence and greater space-time dependence of social structures and forms; together with the internality of social science to its subject matter, which defines a relational limit. However it is just in virtue of these differences, critical realism contends, that social science is possible. The social and natural sciences can both be sciences in the same sense, but not in the same way.

We can now identify the chief defects in pre-existing metatheories of social science. Contra empiricism, empirical regularities can be neither necessary nor sufficient for a causal law. Contra neo-Kantiansim, structure is not only imposed on the empirical manifold by the human mind or the social community, but is a feature of being itself. Contra hermeneutics, although conceptuality is important and hermeneutics defines the starting point of social science, social forms are not exhausted by the conceptuality on which they depend, and conceptualisations are corrigible and subject to critique. Strong social constructionism can be seen to involve either a neo-Kantianism in the transitive dimension or a form of hermeneutics in the intransitive dimension. But from the fact that we have to define, say an illness, linguistically, in order to study it, it does not follow that it is constituted by our definition or that it would not exist apart from it. Similarly, although social agents’ understanding of social reality may be an intrinsic part of the reality, it (a) has an irreducible material dimension to it as well and (b) understandings may be false or otherwise inadequate.

As for critical theory, it is affected by the weaknesses of the neo-Kantianism which informs it. Thus, the absence of ontology means that (as in Habermas’ theory of knowledge constitutive interests) what are in reality ontological mediations are rendered as epistemological divisions. For critical realism, the causality of reasons means that what is described in the metalanguage of hermeneutics is intrinsically part of the very same reality that physical action discourse describes. Indeed human action typically takes the form of the manifestation of intentionality in the physical world.

Furthermore, critical theory, like most pre-existing metatheories of social science, fails to see that factual discourse may and, indeed must, license values. To criticise a belief is *ipso facto* to criticise actions informed by that belief, and if we can also explain the belief in question, it is to criticise whatever it is that explains the belief as well.[[10]](#endnote-10)

**6. Deepening the ontology and expanding the conceptual framework of critical realism**

What I have been recapitulating and describing thus far is what has been called ‘basic’ or ‘original’ critical realism. But in addition we have ‘dialectical critical realism’, introduced by my books, *Dialectic: The Pulse of Freedom* and *Plato Etc.[[11]](#endnote-11)* (to which we now have an excellent introduction in A. Norrie, *Dialectic and Difference[[12]](#endnote-12)*)and ‘the philosophy of metaReality’, introduced by my *Reflections on MetaReality*.[[13]](#endnote-13) These deepen the ontology of critical realism and add enormously to the tools available to the critical realist researcher.

This theoretical deepening of ontology can be understood as proceeding through seven levels, the first four being described by dialectical critical realism (DCR) and the last three by the philosophy of meta-Reality (PMR).

Let us see how this deepening occurs. The argument of *A Realist Theory of Science* establishes that the world is structured and differentiated and that change is possible, but it does not show why change is necessary or how it is to be analysed. Thus the philosophical tradition, when it allows change, has analysed it in terms of redistributions of unchanging elements (e.g. atoms or Platonic forms) or in terms of one or other species of difference. However when we say something has changed, we mean that something which was has passed out of existence or that something which wasn’t, i.e. something new, has come into being. Despite this, Parmenides’ edict that one cannot speak the ‘not’ in relation to being has held firm, and prevented coherent analyses of absence, negativity or change. However it is evident that one can indeed speak the ‘not’, and speak it in at least three distinct kinds of ways. For DCR sharply differentiates the senses in which we might say:

i) ‘Sherlock Holmes did not exist [i.e. he is a purely fictional character] from

ii) ‘phlogiston does not exist [i.e. the supposition that it does is epistemically false]’ from

iii) ‘rain did not fall today or Bob is now homeless [i.e. rain was absent or Bob does not have a home, seen as correctly describing real states of being]’

Establishment that absence as well as presence is ontologically real paves the way for a second edge (called 2E) of ontological analysis resulting in cogent concepts of absence, negativity, change, process, contradiction etc.

Similarly understanding being as involving internal as well as external relations opens up a third level (called 3L) of ontology, situating categories of existential togetherness, totality, concreteness (such as the concrete universal = singular) and holistic causality etc.

A fourth level taking off from from the notion of the reality of transformative praxis already present in basic critical realism, deepens our understanding of agency through notions such as four planar social being and the development of ‘explanatory critique’ into a dialectic of freedom, which moves from simpler to deeper states of human well-being and flourishing. (This fourth dimension of analysis is called 4D). By the same token the properties of the first level or moment - called 1M- thematized within basic critical realism are expanded to include, besides structure and difference, notions of real possibility and of the reality of emergence, truth and error.

Turning to the contribution of the philosophy of metaReality, ontology is further deepened to include a fifth level in which we understand being as reflexive, inward and spiritual, and a sixth at which the re-enchantment of reality occurs (so that for instance, value is no longer regarded as something we impose on the world, but rather as an intrinsic feature of it). Finally, at a seventh level, being is understood as involving the primacy of identity and unity over difference and split and, moreover, as essentially incorporating non-duality. (These levels are known as 5A, standing for a fifth aspect of being, 6R signifying a sixth realm and 7Z/A signifying a seventh zone, which is also one of awakening.)

The dialecticizisation of critical realism involves, at (2E), the isolation of ontological monovalence, or the definition of a purely positive account of being, alongside the epistemic fallacy and the collapse of ontological structure in actualism, as the third great failing of Western philosophy. More recently, I have argued that the prohibition on inwardness in a purely extensionalist and outer conception of being has claim to be called a fourth great error ( see *Ecophilosophy in a World of Crisis*, p. 18).[[14]](#endnote-14)

**7. The implications of the ontological turn for applied critical realism**

**(i) Interdisciplinarity**

Explanation in open systems follows the RRREIC schema that I have elaborated[[15]](#endnote-15) elsewhere (see R. Bhaskar et al., *Interdisciplinarity and Climate Change*, Chapter 1). A complex event or situation of interest is first resolved into its separate components, i.e. into the effects of its separate determinants; second, these components are the *r*edescribed in theoretically significant terms; third, a knowledge of independently validated tendency statements is utilized in the *r*etrodiction of possible antecedent conditions, which involves working out the way in which known causes may have been triggered and interacted with one another such as to give rise to the concrete phenomenon under investigation; whereupon, fourth, alternative accounts of possible causes are *e*liminated on evidential grounds. This may be followed by *i*dentification and *c*orrection. Here I will concentrate on only one feature of the context of applied critical realism, namely, interdisciplinarity.

Starting from the characteristic *complexity* of open systems, in which we have a situation of *multi-mechanismicity*, we move to *multi-disciplinarity* when we add to complexity, *emergence*. There are three defining criteria of emergence: unilateral dependence of the higher level upon the lower level; taxonomic irreducibily of the higher to the lower level; and the causal irreducibility of the higher in the explanation of phenomena at the lower level. When, in addition to the emergence of *levels*, we have the emergence of *outcomes*, so that the different mechanisms combine synthetically to produce a qualitatively new result, then necessarily we have *interdisciplinarity*. When one or more of the mechanisms involved are themselves emergent then we have *intradisciplinarity*. These are all ontological features, but they necessitate the construction in applied scientific work of what has been called a ‘*laminated system.’ [[16]](#endnote-16)*

Epistemologically, ontological interdisciplinarity requires *transdisciplinarity*, together with *cross-disciplinary understanding* and *effective epistemic integration*. These last two may be justified by reference to the principles of universal solidarity and axial rationality which the philosophy of meta-Reality, at the seventh level of ontology situated above, justifies.

**(ii) The double specificity of critical realist research and the design of a critical realist research project**

Critical realist research is always specific both to the object it studies (in the intransitive dimension) and the place of the study in the total research process (in the transitive dimension). The initial situation of any applied research project always involves the identification of an object, problem, situation, etc., existing intransitively, i.e., at that moment effectively independently of the researcher. This is the metaphysical realism to which applied research is inevitably subject. Given this, we can begin to see how the various distinctions, categories and concepts that have been developed within critical realism can be put to use. Thus, in so far as the researchers desire to study their object *scientifically*, then one would expect them to have recourse to the distinctions between structures and events, the domain of the real and the domain of the actual, open and closed systems, the idea of the transfactuality of laws, etc. In so far as the investigation is of a phenomena within an *open system*, then one would expect them to be open to interdisciplinarity and the need to employ a laminated totality. If the object is or involves a *social* phenomenon, mechanism etc, then one would expect the researchers to seek to identify the significant structures and agencies and their articulation (in line with the Transformational Model of Social Action) and to deploy the critical realist conception of social life as concept-dependent but not exhausted by its conceptuality.

Furthermore, in thinking about how to conceptualise the object under study, the researcher will be able to use categories and concepts drawn from all seven levels of ontology. Thus s/he may find it useful to talk about a contradiction between two or more structures, and this contradiction can be understood quite legitimately as an ontological one.

**(iii) The advantages of critical realism and the critical realist embrace**

What are the advantages of critical realism over rival theories? First, it can be shown to possess maximal ontological inclusiveness, greater epistemological generality and great methodological and heuristic fertility. Second, rival metatheories, such as empiricism and social constructionism, are susceptible to damaging critique (but the converse is not the case), and especially to that radical form of it, which I have termed an Achilles Heel critique, where we take the feature of a system which is its apparent strong point and show that it cannot sustain it, such as in the case of empiricism, experimental activity. Thirdly, it can be shown that, in practice, other metatheories will of necessity employ elements of critical realism in so far as they are to be axiologically viable (while the converse is not the case, i.e., one can have critical realism without empiricism or social constructionism, but not vice versa); so that they become in practice internally contradictory TINA formations.

Moreover, a case can be made for critical realism as an *explicit* *ex ante* metatheory when, as in the contemporary social sciences, the researcher is faced with a choice of competing metatheories. Finally, there is what I have called ‘the critical realist embrace’.[[17]](#endnote-17) (cf. Bhaskar and Hartwig, *The Formation of Critical Realism*, Chapter 4). On this, critical realism welcomes researchers from other traditions. They will find that critical realism allows them to develop their insights and intuitions in an enhanced way and that they are welcome in the fold, provided only that they drop their *exclusivity* and, with it, their methodological prohibitions on what may be necessary to carry through or complement their focus, or for the investigation of other (and possibly connected) objects of enquiry.

**8. Emancipation and Engagement**

However it remains the case that if existing philosophies of society and social science seriously misdescribe the world they can hardly be good guides either for research or for projects oriented to improving the human condition or more ambitiously of emancipation; and they will often appear more or less completely irrelevant to it. It will seem as if we do our philosophy or social theory in one horizon of being and act in another very different one. We will be beings living a neo-kantianized existence, characterized by a profound split and ‘unhappy consciousness’. In short our theory will be out of kilter with our practice or, to use the terms introduced in the first section, our philosophy or social theory will be profoundly ‘unserious’ and incapable of underlabouring for any human goal or indeed any human engagement in the world.

Since the world we live in faces manifest problems on each of the four planes of social being – namely, material transactions with nature, social interactions between people, social structure and the stratification of the embodied personality – we need at the very least philosophy and social theory that can begin to engage with this world. It would be a minimal claim of the critical realist approach argued for and over in this book that such an approach can begin to heal the splits in the erstwhile ‘unhappy consciousness’ of contemporary irrealist philosophy and social theory and so allow us to start to engage – in a spirit of seriousness - with the huge problems that face us.

1. **NOTES**

 John Locke, *An Essay concerning Human Understanding*, ‘Epistle to the Reader’, XXXXXXXX). [↑](#endnote-ref-1)
2. Roy Bhaskar, 1993, *Dialectic: The Pulse of Freedom*, London and new York, Verso [↑](#endnote-ref-2)
3. Roy Bhaskar, 1975, *A Realist Theory of Science*, Leeds, Leeds Books, Appendix 2, Chapter 2. [↑](#endnote-ref-3)
4. L. Wittgenstein, XXXXXXXXXX, *Tractatus*, XXXXXXXX 6.35. [↑](#endnote-ref-4)
5. Roy Bhaskar, 1979, *The Possibility of Naturalism: A Philosophical critique of Contemporary Human Sciences*, Brighton, Harvester. [↑](#endnote-ref-5)
6. Roy Bhaskar, 1986, *Scientific Realism and Human Emancipation*, London, Verso, Chapter 2 & 3. [↑](#endnote-ref-6)
7. Anthony Giddens, 1979, *Central Problems of Social Theory*, London, Macmillan. [↑](#endnote-ref-7)
8. Margaret S. Archer, 1995, *Realist Social Theory: The Morphogenetic Approach*, Cambridge, Cambridge University Press. [↑](#endnote-ref-8)
9. Bhaskar, *Dialectic*, Ibid., pp 163-180. [↑](#endnote-ref-9)
10. Bhaskar, *Scientific Realism and Human Emancipation*, Ibid., Chapter 2.5 – 2.7. [↑](#endnote-ref-10)
11. Roy Bhaskar, 1994, *Plato Etc: The Problems of Philosophy and their Resolution*, London and New York, Verso. [↑](#endnote-ref-11)
12. Alan Norrie, 2011, *Dialectic and Difference*, London, Routledge. [↑](#endnote-ref-12)
13. Roy Bhaskar, 2002, *Reflections on Meta-Reality: Transcendence, Emancipation and Everyday Life*, London, Sage. [↑](#endnote-ref-13)
14. Roy Bhaskar et al (eds), 2011, *Ecophilosophy in a World of Crisis*, London, Routledge. [↑](#endnote-ref-14)
15. Roy Bhaskar et al, XXXX *Interdisciplinarity and Climate Change*, XXXXXXXXXXXXXXXXXX [↑](#endnote-ref-15)
16. R. Bhaskar and B. Danermark, 2006, ‘Metatheory, interdisciplinarity and disability research: a critical realist perspective’, *Scandinavian Journal of Disability Research.* XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX [↑](#endnote-ref-16)
17. Roy Bhaskar with Mervyn Hartwig, 2010, *The Formation of Critical Realism: A personal perspective,* London, Routledge. [↑](#endnote-ref-17)