PHENOMENOLOGY AND SCIENTIFIC REALISM*

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Having explored (in section 1 of this Conclusion) some of the issues raised by the relationship between transcendental and existential phenomenology, we turn now to consider a further set of issues concerning something that they have in common, namely their rejection of scientific realism. According to this philosophical position, not only is there a subject-independent world, which includes within it human subjects and their experiences; but also the empirical sciences have a privileged status in identifying and explaining what happens in this world. Because of this, common-sense or pre-scientific representations of the world may in principle he displaced by scientific ones, where the two are in conflict, and may themselves be regarded as 'objects' for scientific explanation.[13]

What kinds of response might be made by scientific realists to the phenomenologists' arguments against their position? We shall approach this question by returning to a central theme of the *Phenomenology of Perception*, its rejection of 'objective thought', and of its view of the world as consisting of determinate objects in external relations to one another, and hence as an appropriate 'object' for scientific description and explanation. As we noted in Chapter Five, section 1, Merleau-Ponty regards objective thought as shared both by empiricists and by intellectualists; and his critique of objective thought is intended to reveal the deficiencies both of scientific realism and of transcendental idealism. Here we will focus on the implications of this critique for scientific realism.

Merleau-Ponty argues that objective thought misrepresents the character of the lived world. But, even if one accepts that this is so, the scientific realist might well reply that this does not show that the 'real' world, as depicted by the sciences, is not 'objective'. Rather, it may show only that 'the world as experienced by humans' is not the world as it really is, and hence that there may be significant differences between the world as experienced and the 'real' world - the former providing a by no

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means infallible guide to the character of the latter.

What is suggested by this reply is a typical claim made by the proponents of scientific realism: that there is a fundamental distinction to be drawn between the realms of 'subjective experience' and 'objective reality' - between, for example, what is revealed to perceptual experience and what is discovered by scientific enquiry. Furthermore, it will be maintained, it is a central aim of such enquiry to explain, scientifically, the character of perceptual experience by reference to the nature of the external world, and to the ways in which this interacts with the human perceiver's sensory equipment, neurological mechanisms and/or cognitive structures, and so on. Thus the experience of what Merleau-Ponty terms 'the lived world' itself becomes an 'object' for scientific, causal explanation.[14]

From this standpoint the role of 'phenomenology' would be merely to provide accurate descriptions of perceptual experience, which it is then the legitimate task of the sciences to explain. Such descriptions would, of course, give proper recognition to the intentional, object-directed nature of experience; and, if Merleau-Ponty is right, to the non-determinacy of these intentional objects, and the internality of their relations. Further, the scientific realist could agree with the phenomenologists that many past attempts at such description have indeed misrepresented the experienced world, due to objectivist 'prejudices'. But, it could he argued, there is nothing about the overall project of scientific realism which requires or necessarily generates such misrepresentation; and the insights of the phenomenologists can thus be incorporated within this project, with the philosophical anti-realism that accompanies them being left behind.

The position just sketched out is no mere theoretical possibility, for it was a position of this kind that was in fact adopted by some of the Gestalt psychologists during the period in which Husserl's and Merleau-Ponty's philosophical work was developing: for example by Wolfgang Kohler in his influential book *Gestalt Psychology* (1930), which begins in the following way:

> There seems to be a single starting-point for psychology, exactly as for all the other sciences: the world as I find it, naively and uncritically... . In my case ... that naive picture consists, at this moment, of a blue lake with dark forests around it, a big grey stone, hard and cool, which I have chosen as a chair, a page on which I write, a faint noise of the wind which hardly moves in the trees, and a strong odour characteristic of boats and fishing. (*Gestalt Psychology*, p. 2)

For Kohler, however, this is *only* 'the starting-point': the task of a scientific psychology is then to explain how such experiences of the world are in fact generated, by a combination of external stimuli and the operations of the central nervous system (or indeed by mental processing of these stimuli, for

it makes no difference, in this context, whether such explanations are materialistic or mentalistic). And, in setting out this two-stage programme of 'phenomenological' description followed by scientific explanation, Kohler makes his philosophical commitment to realism quite clear – just as, elsewhere, he voiced his suspicions about the phenomenologists' anti-realism.[15]

But Merleau-Ponty would not accept this attempted incorporation of phenomenological description within a realist framework. In the *Phenomenology of Perception* - as he had earlier in *The Structure of Behaviour* - he acknowledges his indebtedness to the work of the Gestalt psychologists in challenging objectivist misrepresentations of perceptual experience (*PP*, pp. 47—51). But he criticizes them for their insufficiently radical rejection of 'naturalism' and 'causal thinking', and for failing to avoid 'the prejudice of determinate being' (*PP*, p. 51, note 1). What exactly does this mean; and does Merleau-Ponty succeed in showing what is wrong with this kind of position?

Given that such forms of 'causal thinking' might accept the non-determinacy of the lived world, and the internality of its relations, and hence do not involve any straightforwardly identifiable mis-description of the phenomena, Merleau-Ponty's basic objection must be that it is simply not possible to provide causal explanations which refer to determinate objects and external relations *for* the (non-determinate, internally related) 'world as it is experienced.' To show that this is not possible, as we have seen, Merleau-Ponty proceeds in an apparently piecemeal fashion, taking one after another a series of attempts that have actually been made by scientists to provide such explanations, and arguing that each of them fails.

But this procedure is itself open to a possible objection: that even if Merleau-Ponty is right about all those attempts which he considers, this may be due to their *specific* failings, and may therefore not reveal anything fundamentally misconceived about the overall project of scientific explanation. Perhaps, that is, the examples he takes are of a rather primitive kind, revealing the inadequacies and immaturity of early twentieth-century psychology and neurophysiology. But these might be improved upon one day - perhaps, indeed, they already have been? So Merleau-Ponty might have done better had he tried to provide an argument to show that the non-determinate and internal cannot *in principle* be explained in terms of the determinate and external. And perhaps such an argument could be provided. But Merleau-Ponty does not do so; and at times he seems to deny that it could be done (e.g. *PP*, p. 8, note 5 - though he might, of course, be wrong about that).[16]

Yet even if no such argument can he provided, and Merleau-Ponty's criticisms of particular explanations are at best inconclusive with respect to the general project of which they are particular instances, there are other kinds of argument which the phenomenologist might use against scientific realism. In particular, there are Husserl's objections, in Part One of *The Crisis*, to what he regarded as

the misinterpretation of modern/Galilean science by philosophical realists, including Galileo himself - along with Descartes, Locke and many others. So we will now shift our attention from Merleau-Ponty's concern with the non-determinacy and internality of the lived world to Husserl's concern with the scientific realist's treatment of the secondary qualities.

As was implied in our account of *The Crisis* in Chapter Six, section 1, Husserl does not (unlike Merleau-Ponty, it would seem) straightforwardly deny the possibility of 'explaining' scientifically one's perception of such properties by reference to the (idealized) primary properties of objects. But he *does* deny that such explanations should be taken to imply that the secondary properties - and, more generally, all the properties of things in the life-world - are 'unreal', merely 'subjective', by contrast with the world of objects characterized only by the (idealized) primary properties, as depicted by Galilean science.

Husserl's argument, as we noted, depends upon the claim that Galileo's conception of the 'scientific' world was arrived at by a process of *abstraction* from the lived world. In this process of abstraction, the secondary properties were eliminated because they failed to satisfy the requirements of measurability or quantifiability, and hence could not be represented by the variables of mathematically specifiable scientific laws. Husserl maintains that these abstract conceptual constructs, i.e. of objects with (idealized) primary properties alone, were mistakenly reified by Galileo and his philosophical allies. Instead, he claims, they should be regarded merely as 'constructs', which are helpful in contributing to the predictive (and hence explanatory) power of modern science, but have no genuine ontological status - and certainly not one that involves subjectivizing the status of the objects and properties of the life-world.

However, there are a number of possible objections to Husserl's argument here. First, he seems to believe that, because these scientific concepts are formed through a process of abstraction from one domain, they cannot therefore have any genuine referential function in relation to another domain. This may not seem altogether convincing, since it is unclear why any such facts about the *origins* of scientific concepts should imply such restrictions for their referential function. Second, Husserl's argument apparently commits him to an *instrumentalist* view of the cognitive status of scientific theories, which sees them merely as devices for making predictions, and hence regards the nature of scientific explanation as consisting merely in the ability to provide such predictions. This is a far from unchallenged or unchallengeable view of scientific theories.[17] Third, Husserl's account of Galileo seems to ignore some of the reasons which led him and others (such as Descartes and Locke) to regard the secondary properties as 'subjective'. For example, it was claimed that the perception of these properties varies markedly between different external conditions and internal states of the perceiver; and that, although similar variations occur in the perception of primary properties, scientific

explanations of the latter variations seem necessarily to make reference to the primary properties of the object, whilst corresponding explanations for the former can be given without reference to any secondary properties of the object.[18]

But there are also a number of broader issues raised by Husserl's rejection of scientific realism in *The Crisis*, which go beyond these somewhat technical problems about his treatment of the primary — secondary property distinction. *The Crisis* was one of a number of philosophical works, published between the two world wars, which protested at the way in which modern science, at least in its dominant cultural interpretations, had denuded the natural world of all 'meaning' - presenting it as a barren, mechanical realm of 'matter in motion', and radically separating it from the 'human' realm of subjectivity and experience.[19] So Husserl's argument in Part One of *The Crisis* can be seen as belonging to a more general form of criticism of 'the separation of humans from nature'. We shall now consider some questions about phenomenology and scientific realism that are raised by this.

The process of separation is said to involve the stripping away from the natural world of all those features which make it a 'meaningful' object of experience for humans in their everyday, pre-scientific existence; and the 'relocation' of these features within the 'inner life' of the human subject. In his opposition to this, Merleau-Ponty's position is very similar to Husserl's. For Merleau-Ponty, the only real world is what he sometimes calls 'the human world' (e.g. *PP*, p. 24), by which he means, not 'the world of other humans', but 'the natural world', invested as it is, in everyday experience, with 'human' qualities and meanings: not just the secondary properties, but aesthetic ones, and many others which have often been deemed by scientific realists to be anthropomorphic (see Chapter Five, section 2).

Before proceeding further, it is important to emphasize the difference between *this* kind of objection to scientific realism, and another which has concerned the supposed illegitimacy of adopting 'scientific' methods in the study of 'the human world', understood in its more usual sense as the realm of human, and hence social, activity. Anti-naturalist philosophers of the social sciences have typically argued that there are various distinctive features of the human world that make it impossible or inappropriate to apply to it the same methods of enquiry and modes of explanation as are employed in the natural sciences. In particular, it has often been argued that what is required in the study of social phenomena is an attempt to 'understand' these by reference to the ways in which human agents experience their activities, and to the 'meanings' which they give to them - or, indeed, the meanings that are given to them by various kinds of social rules, conventions, conceptual frameworks, and so on.[20]

There have been many different versions of this kind of anti-naturalist position. But at least some of them have drawn their philosophical inspiration from phenomenology, with its emphasis upon the unprejudiced, non-scientific description of human experience and meaning.[21] However, despite the possible merits of such approaches in the social sciences, their relationship to phenomenology as a philosophical position is potentially problematic. For in arguing that the human sciences must adopt quite different methods from the natural sciences, because of the distinctively 'subjective' character of human existence, they run the risk of at least implicitly accepting precisely that separation between 'subject' and 'object', between the realm of subjective human experience and that of objective nature, which the phenomenologists are concerned to reject.

We can now return to this phenomenological rejection of the separation between experience and nature, and consider some possible difficulties that may face it. Perhaps the most important of these can be introduced in the following way. There is apparently good reason to believe that the 'meanings' in nature experienced by humans are by no means historically or culturally universal: for example, the new ways of 'seeing' nature associated with the Romantic movement, or the different attitudes towards nature and its 'moral status' expressed in different cultural and religious traditions.[22] Such variability might well make it difficult to regard these meanings as residing in the world of nature itself, rather than being 'given' or 'attributed' to nature by humans. (Indeed, the socio-historical diversity in human experiences of the world, and the part played in this by differing conceptual structures, presents more general difficulties for phenomenology, since it might seem to undermine both the adequacy of the first-person standpoint in arriving at descriptions of experience, and the supposed primacy of experience vis-à-vis the 'meanings' provided by specific conceptual frameworks).[23]

It may thus seem attractive to maintain, as scientific realism does, that there is indeed a crucial distinction to be made between 'nature' and 'how nature is experienced by humans'; and that one should therefore be on one's guard against the illicit projection of human meanings onto the natural world. A similar conclusion might be supported by considering the existence of other animal species which, like humans, experience the world in certain ways, but in ways that presumably differ from humans. One may, for example, have little if any ability to understand 'what it is like to be a bat' - to take the title of an influential article by Thomas Nagel [*Philosophical Review* 1974]; but that there is some such subjectivity, and that it differs from 'ours', seems a not unreasonable assumption. Furthermore, since non-human species have existed for much longer than the human species, they have presumably, prior to the emergence of humans, inhabited a 'world' which, until quite recently in evolutionary terms, has had no peculiarly 'human' meanings attributed to it, let alone residing in it.

The overall implication of these considerations would be that phenomenology - whether in its transcendental or in its existential forms - is unduly *anthropocentric* in its conception of the world; and correspondingly, that scientific realism is, at least in this respect, less so.[24] Yet there is a curious paradox here, and one that has some significance for current debates within environmental philosophy, concerning what kind(s) of 'attitude towards nature' humans should adopt.[25] For it is often argued that it is scientific realism, at least in its Galilean form, which is itself at fault in supporting a conception of nature that is at the root of contemporary environmental problems: that is, of nature as a mere 'object' of possible human domination and control, rather than as existing 'in its own right' as something whose intrinsic character, and indeed value, humans must learn to respect. According to this line of argument, then, it is scientific realism that is unduly anthropocentric, setting up nature as an object for human, technical control, under the guise of providing 'objective knowledge of reality'.[26]

The issues raised by this apparent paradox are too complex to explore fully here, but two possible responses to it will be briefly considered. The first would be to argue that, even if the scientific realist can show that the phenomenologist's apparent refusal to distinguish between 'the world as experienced' and 'the real world' leads to illicit projections of human meanings onto nature, it does not follow that the world as described by the supposedly objective procedures of the natural sciences is indeed 'the world as it really is', devoid of all human meanings. For science is itself a human, and hence social, activity. The concepts it employs to describe the world, however much they have been constructed so as to eliminate illicit projections of human meanings, *are* nonetheless human, and thus socio-historical, constructions. It would therefore be absurd to regard them as representing 'nature in its own right', and hence as free from the possible influence of such human historical projects as that of the technical control or domination of nature.

The second possible response, one that is more sympathetic to scientific realism, would be this. To the extent that it is true that 'modern science' has conceived of nature as an object of technical control, and has in this respect displayed an objectionable form of anthropocentrism, this has primarily been due to its failure to recognize the distinctive characteristics of the organic world - the liv*ing* world, as distinct both from the 'lived world' of the phenomenologists, and from the inorganic world of 'matter in motion.' But this failure is not inherent in scientific realism which, as such, involves no specific views about the actual character of 'the world discovered by the sciences', and is thus quite consistent with recognizing the distinctive character of the organic world.[27] This organic world includes, inter alia, the various non-human animal species; and the members of these species are indeed 'bodily' beings. But this does not mean that their bodies are of a Galilean kind, mere 'matter in motion', whose behaviour is straightforwardly explicable by reference to the laws of physics or mechanics. To regard

them in this way would indeed be to misrepresent them.

So in this view, what is objectionable about the kind of duality between 'humans' and 'nature', and relatedly between 'mind' and 'body', which Husserl and Merleau-Ponty were so keen to criticize, is not the scientific realist's insistence on distinguishing between our experience of nature, and 'nature as it is', but the specific characterization of the latter as consisting merely of 'mechanical' bodies, with their exclusively primary properties. Furthermore, it might be argued, amongst these non-mechanical bodies of the organic realm are human bodies; and it may be the case that these display certain characteristics which distinguish them from all other animal bodies. In particular, as we saw in Chapter Six, Merleau-Ponty claims that human bodies possess a certain kind of intentionality, practical knowledge, and so on. According to the view we have been outlining here, there would be no reason why the scientific realist could not, in principle, accept this claim. But what could not be accepted is Merleau-Ponty's further thesis that the human body cannot he understood scientifically: i.e. that these characteristics of the human body cannot be causally explained within the framework of 'objective thought'.

Thus the crucial issue here is whether the intentional properties of the body can be given causal explanations: for example, in neurophysiological, or indeed psychological, terms. Merleau-Ponty clearly believes this is not possible - though there are difficulties for his strategy of argument here, as we noted earlier in this section. Certainly, since the time that Merleau-Ponty wrote the *Phenomenology of Perception*, there have been many attempts to provide such explanations, and of a more sophisticated kind than those he considered there; and, in some of these, 'phenomenological' descriptions of what it is like to live with certain kinds of bodily pathology have been provided by writers who are nonetheless committed to the kind of scientific-explanatory project that Merleau-Ponty regarded as philosophically misconeeived.[28]

But this hardly shows that his philosophical claims were mistaken: such writers might simply be wrong in regarding the phenomenological and neurophysiological approaches as compatible with one another. For what is involved here is a strict analogue of the issues traditionally explored within the philosophy of mind, about whether it is possible for intentional states to be explained in terms of non-intentional ones. This has usually been regarded as a problem about the relations between 'mind' and 'body', the latter being assumed to be unproblematically characterizable in non-intentional terms. But what Merleau-Ponty's claims about the human body imply, in effect, is that there is a 'body-body problem', not just - or perhaps instead of - a 'mind-body problem': i.e., a problem about the relationship between the intentional properties of the human body, and their supposed neurophysiological bases or correlates.

Yet, at the very least, Merleau-Ponty's own view of this relationship has to be able to account for one apparently undeniable fact: that Schneider's abnormal mode of bodily existence was in some sense due to a bullet damaging his brain (see Chapter Six, section 3). But we shall not try to explore how far Merleau-Ponty can succeed in incorporating this 'fact' in his existential phenomenology.[29] Instead, in the final section of this Conclusion, we shall go on to consider the implications of his criticisms of both empiricist and intellectualist versions of objective thought for some recent debates within the philosophy of mind.

Notes and references

13 See R. Bernstein, *The Restructuring of Social and Political Theory*, Basil Blackwell 1976, pp. 117-35, on the conflict between scientific realism and Husserl's position in Part Two of *The Crisis*.

14 So, for example, in the case of the Muller-Lyer illusion (see Chapter Five, section 2), the scientific realist will insist that the two lines really are equal, and then try to explain why they are not perceived as such: for attempts to do this, see note 3, Chapter Five.

15 On the relations between the phenomenologists and the Gestalt psychologists, see H. Misiak and V. S. Sexton, *Phenomenological, Existential, and Humanistic Psychologies*, Grune and Stratton 1973: Kohler's attitude to Husserl is discussed on pp. 15-16.

16 Cf. the analogy suggested in Chapter Five, section 4, with Imre Lakatos's concept of a degenerating researeh programme ('Falsification and the Methodology of Scientific Research Programmes', in I. Lakatos and A. Musgrave eds, *Criticism and the Growth of Scientific Knowekdge*, Cambridge University Press, 1974). One can never be sure that a programme that is degenerating at one time will not become progressive later on: this is Paul Feyerabend's objection, in *Against Method* (New Left Books, 1975, Chapter 16), though his own arguments 'against method' may be open to a similar objection.

17 On realism and instrumentalism, see A. Chalmers, *What is this Thing called Science?*, 2nd edn, Open University Press, 1982, Chapters 13 and 14; and A. O'Hear, *An Introduction to the Philosophy of Science*, Oxford University Press 1989, Chapter 6.

18 Galileo's arguments are presented in *The Assayer* (in S. Drake, *Discoveries and Opinions of Galileo*, Doubleday Anchor 1957); a discussion of Descartes' arguments, in relation to recent philosophical work on these issues, is provided by J. Cottingham in *Descartes*, Basil Blackwell 1986, Chapter 6.

19 For example, E. A. Burtt, *The Metaphysical Foundations of Modern Physical Science*, 2nd edn, Routledge 1932; A. N. Whitehead, *Science and the Modern World* (1926; London: Free Associations Books 1985); and some elements in the work of the early Frankfurt School (see note 26 below).

20 See B. Fay, *Social Theory and Political Practice*, Allen and Unwin 1975, Chapters 3 and 4, and W. Outhwaite, *Understanding Social Life*, 2nd edn 1986.

21 See Bernstein, *Restructuring of Social and Political Theory*, pp. 135-69, for a discussion of the central figure here, Alfred Schutz; T. I.uckman, ed., *Phenomenology and Sociology* (Penguin 1978), and M. Roche, *Phenomenology, Language and the Social Sciences*, Routledge and Kegan Paul 1973.

22 See K. Thomas, *Man and the Natural World* (Penguin 1984), especially Chapters I and VI, on changing views of nature in England between 1600 and 1800, including artistic representations of landscape; and R. Attfield, *The Ethics of Environmental Concern* (Basil Blackwell 1983), Part One, on religious traditions and their attitudes toward nature.

23 Hence the rejection of phenomenology as a 'philosophy of the individual subject' by both structuralists and post-structuralists: see V. Descombes, *Modern French Philosophy*, trans. L. Scott-Fox and J. L. Harding,

Cambridge University Press 1980; R. Solomon, *Continental Philosophy since 1750: The Rise and Fall of the Subject*, Oxford University Press 1988, and K. Soper, *Humanism and Anti-Humanism*, Methuen 1986. It is arguable that the kinds of wholesale rejection of phenomenology by the theorists discussed in these works fail in relation to some of the specific claims of the phenomenologists we have been considering: for example, Merleau-Ponty's emphasis on the 'historical', pre-conscious, practical character of existence.

24 But cf. Merleau-Ponty's claims about the 'alien' character of things and the natural world, discussed in Chapter Seven, section 4; and, more generally, his acceptance of certain aspects of realism. But his opposition to scientific realism is not affected by these qualifications.

25 See J. Passmore, *Man's Responsibility for Nature* (2nd edn, Duckworth 1980), especially the Appendix to the second edition, 'Attitudes to Nature'; Attfield, *Ethics of Environmental Concern*, Part Two, and A. Brennan, *Thinking About Nature* (Routledge 1988), Chapters 9 and 10, on whether nature has 'intrinsic value'.

26 The best-known versions of the 'science and technical control' thesis stem from the work of the Frankfurt School: see D. Held, *Introduction to Critical Theory*, Hutchinson 1980; W. Leiss, *The Domination of Nature*, New York: George Braziller 1972; and Fay, *Social Theory and Political Practice*, Chapters 2 and 3. See R. Keat, *The Politics of Social Theory* (Basil Blackwell 1981, Chapter 3), for criticism of Habermas's and Fay's arguments. Herbert Marcuse's version of this thesis draws its inspiration partly from *The Crisis*: for criticism of his interpretation of Husserl, see J. O'Neill, 'Marcuse, Husserl, and the Crisis of the Sciences', *Philosophy of the Social Sciences*, 18, 1988, 327-342.

27 See M. Beckner, *The Biological Way of Thought*, University of California Press 1968, and Brennan, *Thinking About Nature*. Cf. also Merleau-Ponty's discussion of what he calls 'The Vital Order', in *The Structure of Behaviour*. Trans, A. Fisher, Methuen 1965.

28 See e.g. A. Luria, *The Man with a Shattered World*, Harvard University Press 1987; O. Sacks, *The Man Who Mistook his Wife for a Hat*, Duckworth 1985, and a much older work, P. Schilder's *The Image and Appearance of the Human Body*, International Universities Press 1950. Indeed, unlike these, Merleau-Ponty's descriptions of Schneider give little sense of Schneider's own experience of his bodily existence.

29 Merleau-Ponty's solution to this problem is best approached through his discussion of the 'Three Orders' - Physical, Vital and Human - in Part Three of *The Structure of Behaviour*. There he argues for what is, in effect, an 'existential' version of teleological holism, in which human meanings function as the highest level goals of the system, and the operations of the lower levels (organic and physical) are explained in terms of their contributions to the higher levels. Thus the biological and physical sciences are 'integrated' in an existential-phenomenological synthesis, and by no means straightforwardly rejected.