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Review of Patrick Heelan, Space-Perception and the Philosophy of Science

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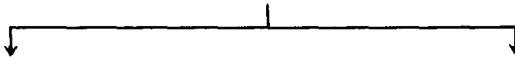
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REVIEW

Patrick Heelan, *Space-Perception and the Philosophy of Science*, University of California Press, Berkeley, 1983, pp. xiv + 383, \$54.50.

Heelan's is a richly complex book, expounding at least four inter-related major theses together with several associated minor theses, the whole presented in an enveloping philosophical framework. The logical order of these theses is distinct from the pedagogical order in which Heelan presents them. (This is no criticism, fortunately pedagogy often doesn't merely recapitulate logic; to insist that it does so would be to rob many works of their cultural and literary, not to mention their educational, virtues.) The logical skeleton of Heelan's book is roughly as follows:

P₀: A Hermeneutic/Phenomenological Philosophical Framework is the Most Adequate One.



P₁: Perception, phenomenologically analysed, is a hermeneutic act.

P'₁: Intelligence generally is to be understood as an extension of perception. Specifically, common sense aims at incorporating new perceptual horizons into a hermeneutically coherent framework of understanding. (Doctrine of the Primacy of Perception)

P₂: Science, phenomenologically analysed, is a hermeneutic social enterprise.

P'₂: Science is to be understood essentially as an extension of perception and common sense. Specifically, science aims at a maximally broad incorporation of new perceptual horizons into a hermeneutically coherent framework of understanding. (Doctrine of Horizontal Realism)

H₁: Perception is 'plastic' in this specific sense: it admits alternative geometrical organisations which are phenomenologically coherent, epistemologically adequate and hermeneutically directed. (Doctrine of Geometrical Plasticity)

H₁[']: The doctrine of geometrical plasticity explains the roles of geometrical organisation in the development of Western pictorial art and is an essential factor in the historical explanation of the development of Western culture (e.g. religion) more generally.

H₁^{''}: The doctrine of geometrical plasticity represents a major internal expansion in the power of the continental phenomenological and hermeneutic traditions, permitting a new rapprochement between them and the Anglo-American analytic tradition.

H₂: In science, perceptual horizons are expanded technologically. Under certain conditions the theoretical entities of which hermeneutic understanding speaks can be directly incorporated into perceptual experience (they can be perceived). (Doctrine of Readable Technologies)

H₂[']: The history of science can only properly be understood when a central and hermeneutic role is accorded perception in it following the doctrines of horizontal realism and readable technologies.

H₂^{''}: Contemporary Anglo-American philosophy of science has become distorted by its emphasis on the formal structures in science to the neglect of the role of perceptual experience, especially its hermeneutic character. Correcting this imbalance permits a new rapprochement between the two traditions.



H₃: Reductionist accounts of mind and Materialist accounts of science are deeply incoherent: first person intentionality is irreducibly central to both. (Doctrine of Contextual Irreducibility)



H₄: There is a profound interplay between science and culture, mediated by the technological transformation of the common sense world. (Doctrine of the Primacy of Praxis)

The P theses form the philosophical background to Heelan's specific studies. The H theses are those Heelan himself advances as the important ones; this is made quite clear in a valuable little philosophical summary of doctrine at the close of the book (Chapter 16: Retrospective). The horizontal alignment of theses on the page is not accidental, they are meant to present visually the dual structure of the argument that Heelan offers.

The pedagogical order of presentation is as follows. Part I: Condensed introduction to P_0 , P_1 , P'_1 and P_2 (Chapter 1), H_1 (Chapters 2, 3, 4), H'_1 and other evidence for H_1 (Chapters 4, 5, 6). Part II: P_1 and P'_1 vis-à-vis scientific theory of perception (Chapters 7, 8), P_2 and P'_2 (Chapters 9, 10), H_2 (Chapter 11), H_3 (Chapter 12), H'_2 (Chapter 13), H_4 (Chapters 14, 15). The consideration of H'_1 and H'_2 is, respectively, throughout Parts I and II. The book closes with a long appendix on hyperbolic geometry and a psychological theory of its role in human visual organisation which explains some of the technical detail behind H_1 .

This is an ambitious book, and it is perhaps best viewed as a treasury of diverse riches. Heelan has taken a rich philosophical framework and within its categories woven a marvellously detailed and wondrously wide tapestry. That tapestry includes an exciting illumination of Western art and pictorial understanding generally; the sweep of history, scientific and cultural; the enterprise of science and the nature and roles of technology in both science and culture. Heelan's book then has interest at several different levels; in ascending order: there are the specific theses about vision and about science; there is the connecting of philosophy of visual art and philosophy of science; there is Heelan's attempt to set both of these latter fruitfully into an hermeneutic/phenomenological framework. And like any ancient tapestry, it is a book to be savoured for its miniature illuminations, elegant connections across seemingly unrelated weave and surprising reversals of figure and ground, as much as for systematic philosophical argument. I have put the matter this way because, belonging to the Anglo-American analytical tradition as I do, I confess to a certain suspicion of the primacy of first-person, intentional categories which characterise the continental hermeneutic/phenomenological traditions at bottom. There is not the space here to discuss the issue, so let me put my attitude in this manner: While I am prepared to accept a *version* of the doctrines of the primacy of perception and horizontal realism, and certainly welcome the admonition contained in H'_2 , I remain sceptical of what I see as the anthropomorphic tendencies enshrined in the continental tradition in the guise of fundamental insights, tendencies which science has tenaciously fought down through the centuries. Of course students attached to the categories of these continental traditions ought to find Heelan's broad synthesis even more impressive and stimulating.

Irrespective then of the tradition to which one belongs, I believe that students of both the arts and the sciences need to take Heelan's work seriously into account.

The book is largely clear in style, making for easy reading. If I had a complaint here it would be that, in discussions of complex matters Heelan is so keen to provide the cautions and nuances that would make for a completely defensible position, the inattentive reader may lose sight of the wood for the trees. (In a way, the whole book suffers in a modest way from this surfeit of riches – somewhat rectified by the Retrospective – and that is why I have laboured to present here a logical skeleton of the book.) There is an ample bibliography and an effective index, and the text is nearly (not quite) error-free.*

C. A. HOOKER

NOTE

* There are relatively minor grammatical infelicities – characteristic of word processor mistakes – on pp. 11, 55, and 237. There are two specific problems with the footnotes worth mentioning: (i) The second sentence of n. 19 to chapter 5 should actually belong under n. 20 for chapter 5; (ii) the references for Cassirer and Goodman, respectively nn. 2 and 3 for chapter 14, are missing, and the material printed against those notes belongs respectively to nn. 4 and 5 of chapter 14. Finally there are typographical errors on pp. 200, 201, 213 and 237, of which the only serious one is the reference to figures 9.1 and 9.2 when Heelan clearly intends reference to figures 10.1 and 10.2.

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