combine to form a complex system, the relevant micro-properties are changed so as to give rise to new causal powers in the resulting systems. Yet given the radical gulf between conscious mental properties and the micro properties of physics (the problem famously underlined by Descartes), we do not seem much closer to seeing how the latter, however transformed, could give rise to the former. Nevertheless, Ganeri's analysis at the very least succeeds in providing an illuminating conspectus of what is at issue in this baffling problem.

Emergence is but one of the many important issues tackled in a book whose scope extends over a large range of philosophical puzzles about the self. There are intriguing taxonomies of theories of the mind, ancient and modern, and an abundance of critical discussion, including an acute critique of the Buddhist view of the self. Both because of the clarity of its grasp of the contemporary landscape in analytic philosophy of mind, and because of the special slant given by the author's knowledge of Indian philosophy, the work has a lot to offer. While it would be unrealistic to expect from this (or perhaps any) book definitive solutions to the intractable problems of mind and body, Ganeri's understanding of what it means to approach these problems from a broadly naturalist perspective seems to me to be a good deal more nuanced, and more philosophically interesting, than much of the contemporary literature in the philosophy of mind.

John Cottingham
j.g.cottingham@reading.ac.uk
This review first published online 20 August 2013

The Conceptual Link from Physical to Mental
By Robert Kirk
Oxford: University Press, 2013. 252pp, £35
ISBN 10: 0199669414
doi:10.1017/S0031819113000636

Kirk's latest work furthers the agenda of a kind of physicalist naturalism that takes seriously the need to account for mental descriptions, their unique place in human life, and their connection to human embodiment. It is hard to find much to disagree with in the overall position because it is hard to know just what the overall position entails beyond repudiating any pretensions to identity theories and the common forms of crass reductionism that want to assert something beyond a kind of sparse or weak monism. It is clear that Kirk has an unwavering faith in a kind of functionalism and an in-principle ability to unpack the causal (quasi-mechanistic) connections and

'deep' arrangements characteristic of the human mind in the way required for such a view but it is not clear that he can have them at the philosophical price he wants to pay.

Kirk begins by affirming a level of description – D – requiring only narrowly physical specifications: 'the locations and states of all the particles in it but not their relations to things outside it … of course, utterly impossible for us to take in' (7). It is significant that this Laplacean image is utterly impossible for us to take in and therefore, for all practical purposes, not a useful source of either knowledge or explanation but rather a kind of 'Linus blanket' for those who like a tidy metaphysics and ontology.

We are then introduced to 're-description' of several varieties but mainly pure or impure (or should we call it 'rich')? Re-description is purely physical if it can be articulated in terms allowed within the mode of discourse proper to a physical base description (7). Kirk then announces the claim that, relative to a world W, 'Any ordinary factual truths in W are re-descriptions of p – a comprehensive physical description of W'(9). We are therefore confronted with the profusion of facts (about the law, political boundaries, the value of the dollar relative to the pound or Euro, whether or not Napoleon actually has a headache and whether that is caused by his need to maintain military success after the conquest of Austria, and so on) that must jostle for 'utterly impossible to take in' space in the human epistemic universe and how they relate to 'pure re-descriptions'.

'Logico-conceptual entailment' is the tool that allegedly will enable us to undertake the demanding task of limning the space that has proved so recalcitrant for generations of physicalists since Hobbes. Logico-conceptual (l-c) entailment is such that (14):

> 1. A l-c entails B if A and ~B is a contradiction (for broadly logical or conceptual reasons).

The example Kirk uses to do a lot of the work concerns an array of pixels so arranged as to constitute cat picture P_C'. The example trades on the fact that there is nothing a part from a picture and its geometrical arrangement in two dimensional space and yet it constitutes a picture of a cat which neither the science of pixel arrangement nor geometry has in their vocabulary even though it is a contingent truth about our world that such things are all that there is ('That's all').

Kirk uses the example to support the claim that l-c entailment works across conceptual gaps such as that between a conception of the pixel array and the conception of a picture of a cat but it is not clear whether the l-c entailment relies crucially on human intuitive assessments of what is possible or on some more rigorous means of

https://doi.org/10.1017/S0031819113000636 Published online by Cambridge University Press

closure such as logical manipulations of Ramsey sentences. The latter seems unlikely as analytic entailment is not required so that something like the ability to recognise 'pure' redescriptions such as *an image of a reclining cat* as being what the pixels are is what must be elucidated. To do this you require no more than the necessary experience, visual capacities adequate to the perceptual job in hand, and a mastery of the relevant concepts:

> world-to-words semantic rules + logic entail that just that arrangement of pixels is an image of a cat (31).

But herein lies the rub.

Kirk seems to overlook, as do many naturalists of his ilk, that the logico-conceptual constitution of the world is (as Wittgenstein notes in TLP) a contribution of the subject (in Aristotle's words, the active intellect or, for Kant, 'spontaneity') and that the contribution expresses our interest and directs our interest (PI, #570). But if that is so and that is what concepts do, then an analysis of them and what they produce for us in terms that are utterly impossible for us to take in (and evaluate) is not 'pure' but impoverished and futile. When we look closely at what it is about us and our world that means that we compose facts which cannot be reduced to physical language, or comprehended if one were to only know such language, then we come close to a characterisation of ourselves which is at the heart of the logical, metaphysical or moral subject (to draw once again on the *Tractatus*). What it is to be (or not to be) a thing like that is the problem. Kirk supports the relatively anodyne view that at some level or other we can be thought of in physical terms and that's all; but that does not go nearly close enough to a definitive account of what goes down between us and our world (including a plethora of world-to-words links) to illuminate our adaptation to that world in the way required to discuss the human subject as a source of logic, argument, and the moral life.

The terms of engagement Kirk supplies therefore force us back to two related questions:

> What is a re-description? and
> Why do we compose them?

The very idea of a re-description indicates our ongoing human need, in relation to objects and events, to 'differentiate the networks and levels to which they belong and to reconstitute the lines along which they are connected and engender one another'(Foucault, *The Foucault Reader* [1984], 56). This comes about because we are adept at discerning levels of connectedness at which memories,

https://doi.org/10.1017/S0031819113000636 Published online by Cambridge University Press

dreams, reflections, commitments, ideologies and social institutions are constitutive of the world we create and inhabit such that a physicalist might need to be informed that the world contains 'many things not dreamed of in his philosophy'. If that is so, then the work of analysis and explanation cannot afford to embrace unsurveyable ontologies and metaphysics that are impossible to take in and must cope with a negotiable but ontologically messy world of sense (or cognitive significance) rather than reference (that lodestone of sparse ontologies). Only in relation to sense can we investigate things as we need to, express our interests and direct our interests gainfully in the rich (rather than pure) ways that lead to a place somehwhat more cognitively inhabitable than the philosophical, epistemically puritanical and impenetrable, refuge that is 'pure' metaphysical physicalism.

To be fair, Kirk's descriptions and re-descriptions need not be specifiable in causal terms; they may be specified in terms of, for example, the transmission, storage, and retrieval of information. Nor do they have to be specified independently of the environment: 'nothing here is to be taken to imply that functionalism commits you to a narrowly local or individualistic account of the mental.' (71) Thus to call such permissive and inclusive physicalism 'puritanical' seems a little harsh; indeed one gets the sense of Kirk being on the side of the naturalistic angels rather than holding a more narrow dogmatic allegiance.

Kirk's deep functionalism is an interesting case study of what may or may not be involved; 'if what I have said about the moderate realism of everyday psychology is correct, the psychological generalizations used in the Ramsey sentence must include some which entail there are (more or less) distinct interacting internal states.'(74) We get a sense that it is the functionally specified causally construed 'internal states' of a human subject (released from the shackles of internalism or methodological solipsism) that are the part of D (the maxi-description of physical states of affairs) in W (the actual world) that are together going to serve as the reference of mental predicates and that they will do so without needing recourse to problematic intentional descriptors (such as Napoleon or the cat depicted by the pixels) because these individuating designators are themselves able to be psychologically engaged with in terms denotable by sparse (or pure) re-descriptions. Perhaps they are. One is, however, nagged by the feeling that the domain of sense (as distinct from reference) has norms within it that are of a piece with the space of reasons (or Aristotle's second nature) and not straightforwardly with the space of causes (and Aristotle's first nature). If that is so then the apparatus of re-description required to make the connections we are interested

in for the purpose of understanding and explanation, is not pure in the requisite sense. After all is said and done, the causal conditions in which one recognises Dr Gustav Lauben are the same as those in which one recognises the man from down the street and it is only participation in the relevant discourse (a historically situated phenomenon in the human life-world) that makes the difference. Now such discursive situations, their ontologies, and the normative or prescriptive shaping of human cognition that occurs in them, may be amenable to a pure kind of naturalism but one is entitled to have doubts about that and to regard protests on behalf of even a liberal purity as a smokescreen over a metaphysical (if one believes in that sort of thing) and not merely conceptual gap.

Similar hesitations prevent one from too readily accepting the notion of *functional isomorphism* of two individuals: 'a matter not only of their having the same general types of subsystems and the same causal and other kinds of interaction between them; it also requires them to produce the same outputs for the same inputs, both as wholes and internally.' (76) If discursive productions – well-formed propositions that may be true or false – are located in discourses replete with situated socio-historico-cultural determinants of content and cogency, then these are not pure in Kirk's terms. But the looping effect of human kinds (Hacking) makes such ideational (or noematic) entities part of our mental lives and therefore intrinsic to our being as creatures who speak and articulate our engagement with the world. This only strengthens one's sceptical leanings.

Consider the following piece of behaviour: *he raised his glass to fallen comrades and found himself completely overcome by all that had gone before and would never be recovered*. We all understand this man and have a sense of 'empty rooms and empty places' and what that all means. Of course, his neurones are buzzing away, and an (utterly impossible to take in) description of them might gesture at what is going on, but our interests lie elsewhere for normal (non-neuroscientific) purposes and they lead us to make certain neuroscientific investigations that ultimately focus on certain patterns of function as significant. Absent the more informative (but impure) understanding the relevant neuroscience would be part of a gargantuan and highly detailed whole (all alike in being impossible to take in, or even parse, usefully). When we bring to our neuroscience a sense of 'what in social and personal life means something' (Williams, *Ethics and the Limits of Philosophy*, 1985) then immediately the world takes on the landscape of a human life-world and we can find within it points of interest worth further attention. Until we are directed in that way, it is a forbidding and featureless mass where even

autistic scientists would not know where to begin (although its epistemic structures would share the orientation that leads to their bewilderment) in that intersubjectivity would not give us any help in adapting our cognitive apparatuses to the world in which we do live and move and have our being.

If that is so then a kind of cognitive pluralism (Horst, *Beyond Reduction: Philosophy of Mind and Post-Reductionist Philosophy of Science*, 2008) might serve better to meet our real philosophical and explanatory needs than Kirk's functionalism and re-descriptive monism which could be seen as a production of a pure or heroic age of a certain variety of analytic naturalism.

Grant Gillett
grant.gillett@otago.ac.nz
This review first published online 11 September 2013

Radicalizing Enactivism
By D. Hutto and E. Myin
Cambridge: MIT Press, 2013, 240pp, £24.95
ISBN: 9780262018548
doi:10.1017/S003181911300065X

One of the most stimulating debates in the philosophy of mind / cognitive sciences revolves around the characteristics of mental content. Hutto and Myin's *Radicalizing Enactivism* tackles this issue head on, advancing an original and provocative thesis that attempts to challenge approaches to mind that suppose the primacy of contentful representations.

In their seminal book, *The Embodied Mind,* Varela, Thompson and Rosch (1991) presented enactivism as a different way of approaching the mental. The authors maintained that rather than being static, mentality emerges from and is constituted by patterns of interaction between organisms and parts of their environments. Since then, enactivism has developed in different, more or less radical directions. Hutto and Myin's *Radicalizing Enactivism* surely belongs to the most radical braches of contemporary enactivism. The authors argue that experience is best understood in terms of dynamically unfolding, situated and embodied interactions with relevant worldly offerings. The claim is that 'Where we find such familiar activity we find basic minds' (i). The authors defend REC (Radical Enactive Cognition) and argue that such spatio-temporally extended patterns of dynamic interaction do not involve content. In fact, representational content first enters the picture when we deal with higher-