Louise M. Antony and Norbert Hornstein (eds.), *Chomsky and his Critics*, Blackwell, Oxford, 2003, x + 342 pp., Hardback, ISBN 0631200 207, $68.95, £55.00, Paperback, ISBN 0631200 215, $31.95, £16.99.

The present volume is the tenth installment of Blackwells' series wherein prominent philosophers reply to a collection of previously unpublished papers. Chomsky, of course, even in academic circles, is less known as a philosopher, more known as a political critic, and the founder of modern linguistics. It is to be hoped that this collection contributes to the wider appreciation of the serious challenge Chomsky's ideas pose for many a philosophical doctrine. That such a hope will be realised is moot. I do not mean to slight the editors – they are to be congratulated – still less the contributions, most of which are serious attempts to counter or illuminate the philosophical aspects of Chomsky's voluminous output, and all elicit interesting replies from him. The fact is that the collection lacks the clout to interrupt the dogmatic slumber of most philosophers. Consider the (partial) list of philosophers to whom Chomsky has had something substantial to say, many of whom have previously responded to him: Quine, Goodman, Putnam, Dummett, Davidson, P. Strawson, Kripke, Fodor, Katz, Burge, Searle, Nagel, Harman, the Churchlands, Stich, Soames, ... One might also mention any number of others whose views run counter to those of Chomsky (e.g., Dennett and his Darwinian optimism (especially see his egregious discussion of Chomsky in *Darwin's Dangerous Idea*), Brandom and his antiquated substitutional account of linguistic structure, McDowell and his pre-modern "enchantment", etc.). Leaving aside those who are sadly no longer with us, none of the above contribute to the collection. One is left with the impression that Antony and Hornstein didn't have an easy time attracting some obvious 'big name' candidates to the project. After years of having their positions calmly demolished, some have perhaps been left with the thought that they are dealing with an obtuse mind.

The first three of the ten papers deal with broad metaphysical issues arising in Chomsky's recent discussions of physicalism/materialism and naturalism.

Since the late 1960s, Chomsky has been suggesting that there is an anachronistic incoherence in the way notions of the physical/material have been deployed in philosophy. Chomsky's target is the standard methodology whereby the philosopher a priori decides upon the resources available to a scientist/naturalist, then insists that some particular philosophically contentious issue – consciousness, intentionality, etc. – is amenable to naturalistic treatment (for good or ill) just to the extent that it is explainable in terms of the resources antecedently determined. For Chomsky, such

a position has nothing to do with modern science. In stark terms, post-Newton, it is not so much 'mind' we don't understand, but 'body': the Newtonian revolution exorcised the body from the machine, the ghost remains to be explained. In this light, we ought to approach the 'mind' as just another aspect of the world, similar to the chemical or the biological. There is no issue of legitimacy here beyond the assessment of particular explanatory theories of the mental, be they about language, consciousness, perception, etc. There is no mind-body problem. A genuine naturalism is *methodological*, not metaphysical.

In a typically entertaining article, William Lycan ('Chomsky on the Mind-Body Problem') defends a functionalist position on mental states. On this view, the mind-body problem is genuine and putatively solved: the mind is a certain functional organisation of body. We need not tarry over just what 'body' amounts to; we may leave physics free to substantiate whatever implements the independently identifiable mental states.

Lycan is perhaps speaking for many. Indeed, one draw of functionalism is precisely that it does eschew a flat-footed physicalism. Chomsky, though, suspects that even functionalism habours a priori assumptions about 'body' which are unwarranted. A more specific response, however, targets the traditional virtue of functionalism. A now standard thought, originating with Putnam, is that a virtue of functionalism is its rejection of the 'species chauvinism' of the 'identity theory'; under functionalism, aliens, dogs and machines all (potentially) get to be in the same type of mental state, notwithstanding distinct physical substrates, due to a shared functional profile. Such a typing might well better cohere with our pre-theoretical notions about the distribution of mentality, but from the optic of methodological naturalism, nothing is gained beyond the likely explanatory pay-off, which, in the present case, is not noticeably great. To see Chomsky's point here, consider his view of linguistics as an inquiry into a uniquely human, biological phenomenon. Such inquiry is not animated by an attempt to discern an equivalence class of all those organisms to which we might wish to ascribe 'language'; rather, we seek to understand the underlying computational structure of an aspect of human biology, not some nebulous functional notion of communication or arbitrary symbolic systematicity. It might turn out that some cross species equivalence class supports interesting generalisations, but we don't begin with that assumption. Independent of such surprising findings, questions of whether birds, bees, and dolphins have language too, is an idle semantic question. Here, inquiry would be crippled by avoiding 'species chauvinism'. The point is methodological: once free of the mind-body problem, we should not be

side-tracked into thinking that there is any urgency or obvious pay-off in characterising mental states in general.

Jeffrey Poland ('Chomsky's Challenge to Physicalism') offers a sympathetic response to Chomsky's admonishments on materialism. Poland argues for a *methodological physicalism* which, rather than affecting to offer a substantive meta-theory for philosophy or science, consists of *regulative ideals* of finding underlying structure and seeking potential unification (including the alteration of lower level theories to incorporate the established results of higher level sciences – a point much emphasised by Chomsky) which may guide theoretical construction and assessment. Poland's ideas are very interesting and demonstrate the positive value Chomsky's work has for philosophical reflection on science.

Unlike Poland, Galen Strawson ('Real Materialism') presents a non-methodological account of materialism – *realistic materialist monism*. For our purposes, the paper may, in essence, be read as suggesting that Chomsky's metaphysical views have a precedent in the empiricist tradition running from Hume to Russell's neglected position of the 1920s, under which we know the structural effects of objects without understanding the nature of them such that they have such effects. Such a reading of Hume, if not Russell, is familiar from Strawson's *The Secret Connexion*. About Hume, Strawson is, at the very least, interestingly wrong. The soundness or, indeed, innocence of attributing such a metaphysics to Chomsky is more doubtful. Chomsky remains wholly methodological in his outlook. These are, though, interesting issues which are not often explored. Hume's claim, for example, that our understanding of causation is more instinctual than rational, is properly seen by Chomsky not to be a species of behaviorism; rather, it is more fruitfully construed as a claim about the limits of reason which remains wholly neutral as to the existence and character of the 'causes'. Otherwise put, the limits of our understanding of things arise from the shape, as it were, of our native cognitive capacity, not from the nature of things in themselves ranged against a formless mind. We can, for sure, provide a metaphysical gloss to this cognitive thesis, but little is thereby gained, save for an increase in the likelihood of misunderstanding.

The next three papers take up issues to do with Chomsky's rejection of the cluster of assumptions that have animated recent philosophy of language/mind: principally, intentionality, externalism, and referential semantics.

Francis Egan ('Naturalistic Inquiry: Where does Mental Representation Fit in?') agrees with Chomsky that we should seek computational theories of our various cognitive capacities, e.g., vision and language, where such theories are wholly concerned with internal states. Egan departs from

Chomsky in attempting to find a principled role for intentionality – mind-world relations – in our understanding of these states. Egan's position echoes that of numerous others who contend that only by viewing a computational system as environmentally embedded can we glean what it is *for*; otherwise, we are left with a 'syntactic engine', which is, say, no more a visual system than it is a linguistic system.

It is curious that Egan does not note, and Chomsky's reply does not remind her, that such a consequence is precisely welcomed by Chomsky. The real issue is what other systems a given computational system is interfaced with, such that the cognitive system as a whole exhibits the capacities we find. Such inquiry is not beholden to ignore external relations; but the question needs to be posed: When and how are they relevant? In particular, inquiry into computational systems does not ignore representational content. For Chomsky, the matter is academic, for no clear notion of representational content is at hand to play any kind of constraining role in the development of a computational theory. Chomsky's position on this issue has been the cause of much confusion; in his reply to Egan, Chomsky is clear: inquiry into cognition ought not to be constrained by the commonsensical notions of thought and representation with their quasi-causal status. In this respect, cognitive science is just like any other science: our common forms of discrimination are left behind.

George Rey ('Chomsky, Intentionality, and CRTT') addresses similar issues to Egan in the form of an attempt to make sense of Chomsky's appeal to representation, knowledge and computation. Rey's paper and Chomsky's reply are perhaps the most valuable parts of the collection, if only because the former creates an opportunity for the latter to clear away common confusions.

Rey, like many before him, reads Chomsky through the set of commitments familiar from the work of Fodor, which Rey encapsulates as the Computational Representational Theory of Thought: roughly, the thesis that mental states get to be both causally active and subsumable under intentional generalisations through being computational states, i.e., states that are both physically realised (and so causally efficacious) and structured so that the transitions between them respect intentional properties (preserve truth). From what has already been said, it should come as no surprise that Rey finds Chomsky to be at best obscure in his apparent commitment to CRTT, for Chomsky holds to no such thesis. Chomsky is careful in his reply to detail many, if not all, of Rey's misunderstandings. To pick up one central strand: the majority of Rey's queries dissipate like smoke in the wind when it is noted that Chomsky has never understood 'representation' to be an intentional notion. For Chomsky, 'representation'

is a structural notion derived from concatenation algebra, i.e., it marks a condition of being 'well-formed' over a primitive 'alphabet' closed under a finite set of operations. In other words, 'representation' is a wholly syntactic notion that is not constrained to meet any conditions that issue from our 'folk' conception of mental states and their transitions. That said, Rey might well have a point: perhaps it would be better if Chomsky were to drop 'representation' (as Jackendoff – *Foundations of Language* – has recently done). It would, at least, be of some benefit to mutual understanding if commentators were not so ready to ignore Chomsky's admonishments about how he should be read.

Like Egan, Peter Ludlow ('Referential Semantics for I-Languages?') seeks to show that an adequate account of internal states – in particular, the states of the language faculty: I-languages – ought to find a place for referential relations to semantic values. Ludlow's arguments are characteristically interesting and informed, and contain a valuable discussion of awkward cases such as 'The average family has 2.5 children'. The upshot, however, is a species of Kantian empirical realism, where the purported external relata are partly individuated by the internal conceptual resources of the lexicon/language faculty. This doesn't strike me as the kind of externalism most philosophers argue about, nor the kind Chomsky rejects. The worth of such Kantian externalism devolves upon what explanatory role such de-transcendentalized relations might play. It is difficult to say. The posited external objects (semantic values) appear to be merely the ontological reflex of construing 'representation' as a relational notion, as opposed to a structural one.

The remaining four papers allow us to see Chomsky's work from the perspective of some familiar philosophical positions. Paul Horwich ('Meaning and its Place in the Language Faculty') has long argued against a referential account of meaning in favour of a use/conceptual role approach. At least negatively, Horwich and Chomsky are in agreement. Horwich seeks to buttress this agreement by elaborating a "very simple picture" of the language faculty in which there are no substantial semantic features of lexical items; instead, 'meaning' is determined by the 'regularities of use' exhibited by combined 'I-sounds' produced in accord with syntactic schemata. It is unclear in what sense the model is simple. The model makes essential appeal to combinatorial procedures (as well as schemata) that encode the categoricity of the lexical items to be combined. This kind of duplication of information is highly unattractive and enjoys no empirical support against a model which enriches the lexical items at the expense of seemingly redundant particular rules. Chomsky's reply offers other arguments on the same theme.

According to Chomsky, there is no particular empirical or conceptual demand to have a 'theory of meaning' – construed as a theory of propositional content – beyond whatever accounts for distribution phenomena and 'felt relations' (e.g., inference, analyticities, etc.). On Chomsky's view, this burden is in the brief of lexical semantics and syntax generally.

A good example of Chomsky's approach to these issues is offered by Paul Pietroski's excellent paper ('Small Verbs, Complex Events: Analyticity without Synonymy'), which takes up the venerable matter of causatives and analytical relations, an issue again *en vogue* in the semantics literature. Pietroski shows how we can have an adequate 'eventish' semantics for causatives (e.g., 'Bill boiled the water') without falling foul of the familiar arguments against treating the causative aspect as enshrined in a derivational/synonymy relation (e.g., 'Bill boiled the water' need not be derived from 'Bill caused the water to boil'). The account involves an eventish reading under existential closure of the kind of little-*v* syntax developed in the early 1990s, which has since been integrated into the minimalist program. Many interesting issues arise here concerning our understanding of analyticity, synonymy, and the interpretation of eventish semantics. These are intriguing matters for future research.

Ruth Garrett Millikan ('In Defense of Public Language'), *pace* Chomsky, argues that a notion of a public language is fit to serve as what the competent speaker understands or knows. Such a language is a shared set of conventions for communication. On this view, linguistic structure arises from particular forms being adaptive to certain communicative ends – information coordination. This model is a familiar one seen through the lens of Millikan's biological naturalism. Chomsky's reply is as one would expect. Unless it is shown how this notion of functionality may begin to explain the structure and acquisition of *any* of the syntactic forms and relations with which linguists generally concern themselves, the approach amounts to not much more than a wish to have language fall under antecedent assumptions about mentality in general. For Chomsky, the case of language seriously challenges the kind of functional assumptions Millikan (and many others) take to be pre-established. Further, it is worth pointing out that Chomsky's complaint has never been that public languages don't *exist*. One is free to define 'English', say, as a set with some complex membership condition C. Some such set may or may not accurately answer to our intuitions about what English is. Whatever our intuitions, when we turn to cognitive questions – What does a speaker/hearer know? How is the knowledge acquired? How is the knowledge put to use? – any publicity requirement fundamentally hinders rather than helps inquiry. Our purpose is to explain linguistic phenomena, not to analyse the concept ENGLISH.

The final paper ('Theory Theory as an Alternative to the Innateness Hypothesis') sees Alison Gopnik argue against Chomsky's wholesale nativism in favour of a more empiricist model (the 'theory theory'), whereby the developing child is as if a little scientist, constructing theories and seeking to verify them by the available data. The child's innate endowment just covers those general resources required for theory construction (whatever they might be). The problem with such a contrast couched in general terms, as Chomsky points out is in his reply, is that, in at least one sense, nativism is simply trivially true – there is no fancy hypothesis. Normal human infants grow arms, not wings. This is a difference in nature no-one but the befuddled would wish to demur. An interesting contrast only arises when we look in detail at particular cases and ask what the organism must bring to the acquisition situation given estimates of the 'data' available and the complexity of the species typical endstate of the acquisition process. In the case of language and vision, say, theory theory looks like a non-starter, and Gopnik says nothing to have us think otherwise.

A fault running through much contemporary work on this issue is the presupposition that innateness is solely a cognitive issue. Chomsky makes clear in his reply (for the umpteenth time) that the cognitive is continuous with the biological. The cognitive cases, therefore, are mere instances of biological development: the same fundamental problems arise with puberty as they do with language. From this perspective, the theory theory approach appears to be an exceedingly partial account of high level cognitive capacities, at best.

There is much in this collection that should be of interest to any philosopher seriously concerned with language, mind and the philosophy of science. As always, one may quibble. One might have hoped for a paper or two on the relation between Chomsky's political/social views and his general philosophical/scientific outlook – Chomsky only comments on this intriguing issue when prompted. Some discussion of Chomsky's views on the issue of modularity would also have been welcome. This is the area, politics aside, where Chomsky is perhaps most often misunderstood.

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