Ryan Nefdt, *The philosophy of theoretical linguistics: A contemporary outlook*. Cambridge: Cambridge University Press, 2024. Pp. xii + 231.

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Ryan Nefdt's lively and often surprising book is a contribution to *a posteriori* philosophy of science. It does not aim to offer aprioristic reasoning about scientific epistemology and how scientists ought to approach their task (recall the syntactic theorists of the 1980s, cruelly mocked in Pullum 1983, who would solemnly garnish their papers with protective warnings against 'naive falsificationism'). Rather, its point of departure is what theoretical linguists actually do, and its goal is to explore the philosophical issues arising from their work. Nefdt is qualified and employed solely as a philosopher, but he is extremely well acquainted with a wide range of work in linguistics.

The book's content is organized as follows: Chapter 1: prerequisites and overview; Chapter 2: the question of 'what makes a language a possibly human one'; Chapter 3: the diverse array of contemporary syntactic frameworks; Chapter 4: the search for 'a viable metasemantic grounding' for linguistics; Chapter 5: the study of pragmatics as distinct from semantics; Chapter 6: the two main physical realizations of language – phonological and sign; Chapter 7: the relevance of computational linguistics to linguistic theory; Chapter 8: philosophical issues surrounding the evolutionary origin of language; Chapter 9: a very brief conclusion. Each of Chapters 1–8 ends with a select list of items for further reading.

The thoroughly contemporary stance of Nefdt's book contrasts strikingly with previous work on the subject. When I was asked to write a historical review of philosophy of linguistics from 1945 to 2015 (published as Pullum 2019), I found it inescapable that philosophical discussion of linguistics in that period had been dominated by issues raised in Noam Chomsky's work: transformational grammar, psychological reality, mental representations, evaluation measures, linguistic nativism, Cartesian rationalism, intuitions as data, and so on. And I noted that, as of 2015, this meant the subject was unfortunately still largely restricted to 'philosophical discussion focusing on linguistic and psycholinguistic approaches that are now a half-century old.'

Ten years on from 2015, Ryan Nefdt has broken loose from those themes. This is not your father's introduction to the philosophy of linguistics. Topics like universal grammar, possible and impossible languages, language acquisition, and unbounded dependencies still find a place, but Nefdt also strikes out in new directions, such as the philosophical implications of computational linguistics, construction grammar, dependency syntax, formal semantics, gesture, inferentialism, lexical-functional grammar, machine learning, normativity, ontology, phonetics, phonology, pragmatics, sociolinguistics, and many other topics that go essentially unmentioned in 20th-century books on the philosophy of linguistics like Katz (1985), George (1989), Botha (1992), or Barber (2003).

Occasionally structuralism of the 1925–1950 period is alluded to, but it is never front and centre; don't look for discussion of Fred Householder's distinction between the 'God's truth' and 'hocus pocus' metaphysical interpretations of linguistic descriptions. And don't expect coverage of the fierce 1960s debates over 'innate ideas' between Noam Chomsky and his former philosophy teachers Nelson Goodman and Willard Quine, either: they are not mentioned.

In perhaps the most surprising absence of all, the book never at any point mentions the late Jerry Fodor. I'm not implying that at some point a reference to Fodor was called for and was

not made. But those schooled in the earlier literature will be surprised to find no mention of any of his work. (They should perhaps remind themselves that Fodor's classic *The Language of Thought* is now half a century old, and did not lead to a research program in linguistic or cognitive science.)

Similarly unrevisited are the once impassioned discussions of whether the Turing-equivalent weak generative capacity of transformational grammars might matter for falsifiability or learnability or parsability. That cluster of issues has gone the way of the dodo. And with it went Mark Gold's work on 'learnability' construed as 'language identification in the limit'. Gold's mathematical model of language learning (1967) idealizes the learner as an algorithm that guarantees to correctly guess a generative grammar for a language, given finite access to an ultimately exhaustive stream of data from it. Inspired by reading *Aspects* (Chomsky 1965) in conjunction with work of Putnam and Solomonoff from a few years earlier, Gold spawned a huge computational literature on grammar induction, and a forgotten research program in linguistics by Culicover and Wexler (1980). Such work was still up for discussion in a philosophy of science journal two decades ago (Johnson 2004), but it has vanished from the agenda of linguists and psycholinguists, having bequeathed essentially nothing to the study of actual language acquisition.

Nefdt's refusal to get bogged down in timeworn topics is to be welcomed: things really have moved on. I find it encouraging to see a book on the philosophy of linguistics that takes note of Ruth Millikan's highly original philosophical work on language as a biological function, almost unknown among linguists; that acknowledges the work of the shamefully overlooked Esa Itkonen; and that assumes functionalist approaches to syntax merit consideration alongside generativist work (as Frederick Newmeyer has been advocating since the 1990s).

Nefdt has a long discussion (Chapter 5) of pragmatics, paying some attention to game-theoretic modelling of linguistic communication (in which §5.1 is headed by an irresistibly lovely film-title pun: 'The intimation game'). He addresses not just conventional symbolic computational linguistics but also deep learning, neural networks, and transformers (Chapter 7). And he takes a modern enough view of science to have a section on systems biology (§8.4).

The chapter on syntactic metatheory (50–79) attempts a characterization of syntactic frameworks in terms of a trio of very basic principles – rule-governance, autonomy, and recursion – and I don't think it really works. Nefdt proposes that Chomsky's minimalist approach can be characterized by a simple conjunction of three basic tenets: (i) natural language syntax specifies rules for the formation of hierarchically ordered constituents, (ii) all other linguistic systems supervene on syntax, and (iii) natural language syntax is recursive by definition. This doesn't really elucidate much. Of course, there may be little in minimalism to elucidate: the program still strikes me as an incoherent collage of vague generalities and buzzwords, as it did thirty years ago (Pullum 1996; see also Seuren 2004). But I don't think minimalism's devotees would accept the conjunction of the above three statements as encapsulating its main tenets.

And clarifying (iii) above would demand a close analysis of the accursed word 'recursive'. Nefdt cites the useful paper by Tomalin (2007) on how confused and confusing linguists' uses of the term have been, plus a couple of other works on the topic, but ultimately leaves things in the state they have been in since Hauser, Chomsky and Fitch (2002) made their ill-defined but influential conjecture about an innate 'recursion' capacity being the key element of the language capacity.

The ‘recursion’ conjecture was part of what prompted Everett’s controversial *Current Anthropology* article (2005), claiming that Hauser and colleagues were wrong, because the Pirahã language (Amazonas state, Brazil) does not exhibit the ‘recursion’ property. Two decades of highly personal acrimony resulted (see Pullum 2024). And in that context Nefdt’s remark that ‘Everett thinks that the Pirahã are capable of recursion’ (64, fn. 13) is singularly unhelpful: it seems to conflate issues of syntactic structure (e.g., whether Pirahã has verbs such as *believe* which take subordinate clause complements) with concerns about mental capacities (e.g., whether Pirahã speakers can entertain beliefs about other people’s beliefs). Everett, as I read him, was never making claims about human capabilities. Confusion on that point seems to have been responsible for some of the misguided allegations about his having insulted the Pirahã people’s intelligence and humanity, which he certainly never did.

Nefdt is not always accurate on technical points in formal and mathematical linguistics. One example: he says the claim that all natural languages have context-sensitive (CS) grammars could be ‘falsified by providing evidence that parsing with context-sensitive grammars is an NP-hard problem, thought to require $O(2^n)$ time to parse a sentence’ (30). The general recognition problem for CS grammars is in fact PSPACE-complete, and the mathematical question of whether PSPACE-complete = NP-hard = $O(2^n)$ is still open, like many problems in relating time and tape complexity. But more importantly, the nonexistence of an efficient parsing algorithm for a class of languages does not falsify a claim that natural languages fall within that class. (Perhaps the most restrictive claim we can maintain about natural languages will turn out to be that they are CS; but maybe humans evade the worst of the in-principle parsing complexity by sticking to fairly short sentences, or sentences with easy structures.)

Despite these minor points, Nefdt’s understanding of the work of theoretical linguists seems to me quite remarkable, and likewise the breadth and topicality of the references he cites: I repeatedly found the book not only brought philosophy to bear on interesting topics or lines of investigation, but also cited interesting recent works in linguistics that I hadn’t been aware of. I suspect that most readers will have the same experience.

I must warn readers about one feature of the book: the index, just over two pages long (229–231) is utterly inadequate. The bibliography is copious, with only one gap that I noticed (Quine 1948 is missing), so the poverty of the index suggests that the job was outsourced. Numerous scholars whose work receives substantive discussion are missing (a miscellaneous twenty of them: Herb Clark, Bill Croft, Donald Davidson, Daniel Everett, Gottlob Frege, Adele Goldberg, Irene Heim, Angelika Kratzer, Norbert Hornstein, Wilhelm von Humboldt, Simon Kirby, William Kretschmar, Saul Kripke, Ruth Millikan, Andrea Moro, Prashant Parikh, Emil Post, Hilary Putnam, Dan Sperber, Deirdre Wilson, Mark Steedman). And dozens of needed subject entries are missing as well (again, citing just twenty examples among many: communication, corpora, logic, natural language processing, Neanderthals, parallel architecture, pragmatic demarcation, the Pareto principle, Pig-Latin, Pirahã, poverty of the stimulus, the Quine-Duhem thesis, radical construction grammar, Riau Indonesian, transducers, type theory, Warlpiri, and Zipf’s law). To put a positive spin on it, one could say that the book is far richer than the index suggests. Don’t use the book for reference via the index; read the text!

And that is my overall recommendation. Any linguist who has even a mild interest in philosophical reflections on theoretical linguistics will profit from reading this book from cover to cover.

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