

Review of The Mind's I by Douglas Hofstadter and Daniel Dennett (1981) (review revised 2019)

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ABSTRACT

A mixed bag dominated by H & D's reductionist nonsense. This is a follow-up to Hofstadter's famous (or infamous as I would now say, considering its unrelenting nonsense) Godel, Escher, Bach (1980). Like its predecessor, it is concerned largely with the foundations of artificial intelligence, but it is composed mostly of stories, essays and extracts from a wide range of people, with a few essays by DH and DD and comments to all of the contributions by one or the other of them. For my views on the attempts of D and H to understand behavior see my review of Hofstadter's 'I am a Strange Loop' and other writings.

Much of it is very reductionistic in tone (i.e., "explains" everything in terms of physics/math and denies "reality" of psychology) but as Hofstadter notes, the quantum field equations of a water molecule are too complex to solve (and so is a vacuum) and nobody has a clue about how to explain the way properties emerge (e.g., water properties from H₂ and O₂) as you go up the scale from the vacuum to the brain, so reductionism, like holism, requires a great deal of faith and in fact is incoherent as one cannot even frame its arguments without presupposing the coherence of higher order thought. Additional problems for reductionism are the uncertainty principle, chaos (e.g., no way to predict how a pile of sand will fall), the logically necessary incompleteness of math (and all thought) and the impossibility of matching higher order behaviors (e.g., language) with lower order phenomena (e.g., biochemistry), i.e., the combinatorial explosion or underdetermination. In sum, though there are many interesting comments, like nearly all writing on behavior, this work lacks any coherent account of the logical structure of rationality, which I try to give in my writings.

Those wishing a comprehensive up to date framework for human behavior from the modern two systems view may consult my book 'The Logical Structure of Philosophy, Psychology, Mind and Language in Ludwig Wittgenstein and John Searle' 2nd ed (2019). Those interested in more of my writings may see 'Talking Monkeys--Philosophy, Psychology, Science, Religion and Politics on a Doomed Planet--Articles and Reviews 2006-2019 3rd ed (2019) and Suicidal Utopian Delusions in the 21st Century 4th ed (2019)

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phenomena (e.g., biochemistry), i.e., the combinatorial explosion or underdetermination. See my other writing for discussion of 'undecidability', 'incompleteness', 'emergence', 'reduction' etc. In sum, though there are many interesting comments, like nearly all writing on behavior, this work lacks any coherent account of the logical structure of rationality, which I try to give in my writings.

Like all books - yes I do mean *all*, this can be usefully viewed as a psychology text, though none of the authors realize this. It is about human behavior and reasoning — about why we think and act the way we do. But (like all such discussion until recently), none of the 'explanations' are really explanations (and not even descriptions) of what we are interested in (higher order behavior of linguistic System 2). People are not clear about separating the 'mental mechanisms' involved, which can be neurophysiological (System 1 and biochemistry) or psychological (System 2). In fact, like most 'explanations' of behavior the texts here and the comments by DH and DD are often more interesting for what kinds of things they accept (and omit) as 'explanations' than for the actual content. As with all reasoning and explaining, one now wants to know which of the brain's inference engines are activated to produce the authors biases and results. It is the relevance filters which determine what sorts of things we can accept as appropriate data for each inference engine and their automatic and unconscious operation and interaction that determines what we can accept as an answer. This is standard terminology from evolutionary psychology so if that's not familiar you may wish to do some reading. I recommend Buss's "Handbook of Evolutionary Psychology 2nd ed" and the newest edition of his text on EP, and Boyer's "Religion Explained", which I have also reviewed.

Cognitive and evolutionary psychology are still not evolved enough to provide full explanations (though following Wittgenstein we should say "descriptions"), but an interesting start has been made. Boyer's 'Religion Explained' is one of half a dozen books that show what a modern scientific description of religion looks like. Pinker's 'How the mind Works' is a good general survey.

We now recognize that art, music, math, language and religion are all results of the automatic functioning of the inference engines (System 1) as embellished by linguistic System 2 (see my other writings for details). This is why we can expect similarities and puzzles and inconsistencies or incompleteness and often, dead ends. It is now the dominant view that the brain has no general intelligence, but numerous specialized modules or inference engines (System 1 reflexes), each of which works on certain aspects of some problem and the results are then added. Hofstadter, like everyone, can only generate or recognize explanations that are consistent with the operations of his own inference engines, which were evolved to deal with such things as resource accumulation, coalitions in small groups, social exchanges and the evaluation of the intentions of other persons. It is amazing they can produce art or music or math and not surprising that figuring out how they themselves work together to produce overall intelligence or consciousness or choice is way beyond reach nearly 40 years later.

The article on Turing (and many others) left me thinking- 'Oh where is Wittgenstein when we need him!' Turing attended W's lectures on the foundations of math but he did not understand the most basic points (not surprising, as few have even to this day). As W so famously said, decades before this book was written--'Philosophy is the battle against the bewitchment of our intelligence by means of language' (or we might now say by the brain's inference engines) and it is a battle that H and D have lost. Wittgenstein is one of the most original and influential thinkers of all time and commented incisively on all the major issues in this book, but there no awareness of this in the writings of either of them. He explained in detail how the language games of simulation (e.g., Turing test of computer thinking), imitation, pretense, belief, etc., are parasitic on innately programmed reflexes which then lead to the public acts of knowing and understanding. We are told (p94) that we 'believe' in other minds (try disbelieving—e.g., look at your child or even your dog and think 'this is just a robot', or imagine you step on its foot and it howls and you think it's doing that for the same reason noise comes out of the radio

when you turn it on), and that we treat others as black boxes--- but only the mentally ill or autistic do that (ask yourself how we know that). It is only computers that we treat as black boxes and about which we might have beliefs concerning their interior processes. H stopped writing such books after this one until his recent disaster 'I am a Strange Loop' (see my review), but D continues to this day (2019) to produce treatises full of the same basic confusions (as do thousands of others).

By far the best philosophical article in the book is John Searle's famous 'Minds, Brains and Programs' in which he introduces the Chinese room argument, which shows why computer programs don't think (NOT why they cannot ever be designed to think--he continues to point out to this day that WE can be regarded as examples of computing devices that think---i.e., in my terms the language games of 'computing', 'machine', 'think' etc. can be applied to us). DD and DH offer superficial and arrogant criticisms, but Searle is now widely regarded as a top living philosopher and the Chinese room is probably the most famous new philosophical debate since Wittgenstein's arguments against private language, solipsism, etc. and of course Wittgenstein was the first to discuss in detail all these basic language games of mind and machine (see e.g., Gefwert, Proudfoot etc.). It would have saved them a lot of embarrassment if they had just offered to let Searle coedit the book, or at least rebut their comments.

Nagel's lovely 'What is it like to be a bat' shows that we don't have any idea what an answer is like, nor how to even try to find one. In this respect, it's quite similar to Searle's comments on AI--nobody to this day has any idea what a program mimicking 'thinking' would be like, nor even how to go about making one and Wittgenstein showed us the subtleties of the language game of 'thinking' and other dispositional verbs as I describe in detail in my recent writings.

Some say neural nets and fuzzy logic are like the brain, but what is the evidence? And again there are just more language games. Searle has made similar comments in his criticisms of those like Dennett, who claim to

explain consciousness (e.g., see 'The Mystery of Consciousness') and the same applies to free will, causality, perception etc. So far as I can see, neither this book nor GEB, nor any of their others, further the study of mind, in the sense of the descriptive psychology of higher order thought, in any way. See my quotes from P.M.S. Hacker elsewhere for congruent thoughts of the most eminent Wittgensteinian. We did not then and do not now (i.e., 25 years after this book was published) know how to scientifically conceptualize thinking (or consciousness, uncertainty, entanglement, wave/particle duality, free will etc.)—i.e., how to play the language games using these words, nor even how to recognize what such an 'explanatory' concept (i.e., a satisfactory language game with clear Conditions of Satisfaction--COS) would be. But DD and DH did not get the point then, nor subsequently.

DH has new (since GEB) speculations on how music, art, math and programs may map onto each other but they don't go anywhere. He has some new Q & A sessions, so extensively used in GEB, but they leave only questions and on the key issue of how programs might be like thinking, the only convincing reply is that of Searle--we don't even know how to conceptualize the difference (I would say how to decide to play the language games). So, DH winds up just as lost as DD 'Maybe, just like beauty, the sound 'I' denotes nothing at all' (p456). If 'I' means nothing then by the same criteria (refusal to accept the normal meaning—i.e., the COS) so do all other words. DD says the Chinese room aims to refute materialism and that it fails as an argument because the room is too slow--both clearly untrue. And now, after over 40 years of philosophizing (e.g., in 'Consciousness Explained' and in 'Freedom Evolves') and his most recent work 'From Bacteria to Bach and Back: The Evolution of Minds (2018)', he repeats the same mistakes that Wittgenstein pointed out over 80 years ago.

We ought to consider it extremely odd that any philosopher should think he can answer empirical questions. Thinking, feeling, perceiving, choosing, etc. are phenomena of the world like any others and we can investigate them in various ways. But how can anyone investigate them

by thinking? A philosopher cannot answer questions about genetics, chemistry or physics, but when it comes to the realm of mind, consciousness, perception, free will, causality, reality, they feel qualified-why? Like all behavior, we now look at the operations of the inference engines to see why they make us think like this. Is it the operations of the intuitive psychology and social mind engines that forces them to deny the reality of the very things they are investigating (e.g., thinking, consciousness, choice)? As Wittgenstein often said our language lacks clarity so we can say anything but we cannot mean anything except in very specific contexts.

H makes a glaringly stupid remark --comparing LSD effects to a bullet through the brain (p412). By 1981 millions of people had taken LSD and there were hundreds of books and thousands of articles and numerous films showing that it was precisely its ability to specifically trigger emotions, memories, images, intellectual and visual fantasies etc., that gives it such great therapeutic power and interest. If he had taken psychedelics it might have freed him from wasting his life spouting nonsense.

They attempt (p403) an explanation of mirror reversal, but in spite of this and Ned Block's article (J. Phil p259-77. 1974) and even one by Feynman, I think the only complete explanation is that found in the book and article by British psychologist Richard Gregory.

Because of the wide range of famous writers represented, this book is still well worth reading. Where else can you find Turing, Searle's Chinese room, Nagel's famous 'What is it like to be a bat?' and several xln selections from Sci Fi writer Stanislaw Lem?

Perhaps the bottom line here is that 25 years of research in AI and programming by tens of thousands of people with billions of dollars have failed to produce a program that can perceive and respond in general contexts with them abilities of a 3 monthold baby, or a robot with the realworld intelligence of an ant, though recently there have been huge

advances. Cognitive psychology is slowly exposing the inference engines that make it possible and one day, probably, we can mimic them with a program. Even so, it is not clear we will find it useful to call it thinking. The problem is that almost nobody in this book has a clue about how language (largely equivalent to mind, as Wittgenstein made clear) works and so they just repeat the errors of 2500 years of philosophy.

See my recent review of Ray Kurzweil's 'How to Create a Mind', which provides an update on this discussion.

