

# Scientism on Steroids: A Review of Freedom Evolves by Daniel Dennett (2003) (review revised 2019)

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## ABSTRACT

“People say again and again that philosophy doesn’t really progress, that we are still occupied with the same philosophical problems as were the Greeks. But the people who say this don’t understand why it has to be so. It is because our language has remained the same and keeps seducing us into asking the same questions. As long as there continues to be a verb ‘to be’ that looks as if it functions in the same way as ‘to eat and to drink’, as long as we still have the adjectives ‘identical’, ‘true’, ‘false’, ‘possible’, as long as we continue to talk of a river of time, of an expanse of space, etc., etc., people will keep stumbling over the same puzzling difficulties and find themselves staring at something which no explanation seems capable of clearing up. And what’s more, this satisfies a longing for the transcendent, because, insofar as people think they can see the ‘limits of human understanding’, they believe of course that they can see beyond these.”

This quote is from Ludwig Wittgenstein who redefined philosophy some 70 years ago (but most people have yet to find this out). Dennett, though he has been a philosopher for some 40 years, is one of them. It is also curious that both he and his prime antagonist, John Searle, studied under famous Wittgensteinians (Searle with John Austin, Dennett with Gilbert Ryle) but Searle more or less got the point and Dennett did not, (though it is stretching things to call Searle or Ryle Wittgensteinians). Dennett is a hard determinist (though he tries to sneak reality in the back door), and perhaps this is due to Ryle, whose famous book ‘The Concept of Mind’ (1949) continues to be reprinted. That book did a great job of exorcising the ghost, but it left the machine.

Dennett enjoys making the mistakes Wittgenstein, Ryle (and many others since) have exposed in detail. Our use of the words consciousness, choice, freedom, intention, particle, thinking, determines, wave, cause, happened, event (and so on endlessly) are rarely a source of confusion, but as soon as we leave normal life and enter philosophy (and any discussion detached from the environment in which language evolved—i.e., the exact context in which the words had meaning) chaos reigns. Like most, Dennett lacks a coherent framework - which Searle has called the logical structure of rationality. I have expanded on this considerably since I wrote

this review and my recent articles show in detail what is wrong with Dennett's approach to philosophy, which one might call Scientism on steroids. Let me end with another quote from Wittgenstein--'Ambition is the death of thought'.

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 21<sup>st</sup> Century 4<sup>th</sup> ed (2019).

``People say again and again that philosophy doesn't really progress, that we are still occupied with the same philosophical problems as were the Greeks. But the people who say this don't understand why it has to be so. It is because our language has remained the same and keeps seducing us into asking the same questions. As long as there continues to be a verb 'to be' that looks as if it functions in the same way as 'to eat' and 'to drink', as long as we still have the adjectives 'identical', 'true', 'false', 'possible', as long as we continue to talk of a river of time, of an expanse of space, etc., etc., people will keep stumbling over the same puzzling difficulties and find themselves staring at something which no explanation seems capable of clearing up. And what's more, this satisfies a longing for the transcendent, because, insofar as people think they can see 'the limits of human understanding', they believe of course that they can see beyond these.``

"Philosophy is a battle against the bewitchment of our intelligence by means of language".

"Ambition is the death of thought"

"Philosophers constantly see the method of science before their eyes and are irresistibly tempted to ask and answer questions in the way science does. This tendency is the real source of metaphysics and leads the philosopher into complete darkness." (BBB p18).

"How does the philosophical problem about mental processes and states and about behaviorism arise? – The first step is the one that altogether escapes notice. We talk about processes and states and leave their nature undecided. Sometime perhaps we shall know more about them-we think. But that is just what commits us to a

particular way of looking at the matter. For we have a definite concept of what it means to learn to know a process better. (The decisive movement in the conjuring trick has been made, and it was the very one we thought quite innocent). — And now the analogy which was to make us understand our thoughts falls to pieces. So, we have to deny the yet uncomprehended process in the yet unexplored medium. And now it looks as though we had denied mental processes. And naturally we don't want to deny them. W PI p308

These quotes are from Ludwig Wittgenstein, who redefined philosophy some 70 years ago (but most people have yet to find this out). Dennett, though he has been a philosopher for some 40 years, is one them. It is also curious that both he and his prime antagonist, John Searle, studied under famous Wittgensteinians (Searle with John Austin, Dennett with Gilbert Ryle) but Searle at least partially got the point and Dennett did not. Dennett is a hard determinist (though he tries to sneak reality in the back door), and perhaps this is due to Ryle, whose famous book 'The Concept of Mind' (1949) continues to be reprinted. That book did a great job of exorcising the ghost but it left the machine. Dennett enjoys making the mistakes Wittgenstein, Ryle (and many others since) have exposed in detail. By accident, just before this book, I had read 'The Minds I', which Dennett coauthored with Douglas Hofstadter in 1981. They made some bad mistakes (see my review), and saddest of all, they reprinted two famous articles that pointed the way out of the mess--- Nagel's 'What is like to be a bat?' and an early version of John Searle's Chinese Room argument explaining why computers don't think.

Nagel pointed out that we do not even know how to recognize what a concept of a bat's mind would be like. Searle similarly explained how we lack a way to conceptualize thinking and how it differs from what a computer does (e.g., it can translate Chinese without understanding it). Likewise, we lack a clear test for recognizing what counts as good vs bad--or just intelligible-- for many philosophical and scientific concepts. Our use of the words consciousness, choice, freedom, intention, particle, thinking, determines, wave, cause, happened, event (and so on endlessly) are rarely a source of confusion but as soon as we leave normal life and enter philosophy (and any discussion detached from the environment in which language evolved—i.e., the exact context in which the words had meaning) chaos reigns. Wittgenstein was the first to understand why and to point out how to avoid this. Unfortunately, he died in his prime, his works are composed almost entirely of a series of examples of how the mind (language) works, and he never wrote any popular books, so understanding of his work is restricted to a very few.

Searle is one of the world's leading philosophers and has written many extremely

clear and highly regarded articles and books, some of which have pointed out the glaring defects in Dennett's work. His review "Consciousness Explained Away" of Dennett's 1991 book "Consciousness Explained" and his book "The Mystery of Consciousness" are very well-known, and show, in a way that is amazingly clear for philosophical writing, why neither Dennett (nor any of the hundreds of philosophers and scientists who have written on this topic) have come close to explaining the hard problem—i.e., how do you conceptualize consciousness. Of course in my view (and Wittgenstein's) there is no 'hard problem' only confusion about the use of language. Many suspect we will never be able to 'conceptualize' any of the really important things (though I think W made it clear that they are mixing up the very hard scientific issue with the very simple issue of how to use the word), but it is clear that we are nowhere near it now as a scientific issue. My own view is that the scientific issue is straightforward as we can see 'consciousness' being put together a few neurons at a time by evolution and by development. And the 'concept' is a language game like any others and one just needs to get clear (specify clear COS) about how we will use the word.

Dennett has mostly ignored his critics but has favored Searle with vituperative personal attacks. Searle has been accused by Dennett and others of being out to destroy cognitive psychology which is quite funny, as modern philosophy is in the narrow academic sense a branch of cognitive psychology (the descriptive psychology of higher order thought), and Searle has made it very clear for 30 years that WE are a good example of a biological machine that is conscious, thinks, etc. He just points out that we don't have any idea how this happens. Searle characterizes as "intellectual pathology", the views of Dennett and all those who deny the existence of the very phenomena they set out to explain.

Dennett repeats his mistakes here and leaves his reply to his critics to the penultimate page of the book, where we are told that they are all mistaken and it is a waste of space to show how! Unsurprisingly, there is not one reference to Wittgenstein or Searle in the entire book. There are however, many references to other old school philosophers who are as confused as he is. It is scientism writ large—the almost universal mistake of mixing together the real empirical issue of science with the issues of how the language is to be used (language games) of philosophy.

Like most people, it does not cross his mind that the very inference engines he thinks with are forcing him to come to certain conclusions and that these will often be quite unconnected with or wrong about the way things are in the world. They are a jumble of evolutionary curiosities which do various tasks in organizing

behavior that were useful for survival hundreds of thousands of years ago. Wittgenstein was a pioneer in doing thought experiments in cognitive psychology and began to elucidate the nature of these engines and the subtleties of language in the 30's, and thus he made the sorts of comments that this review begins with.

Dennett says (p98) that his view is compatibilism, i.e., that free will (which I hope, for coherence, we can equate with choice) is compatible with determinism (i.e., that "there is at any instant exactly one physically possible future"--p25). He wants to show that determinism is not the same as inevitability.

However, the whole book is smoke and mirrors by means of which choice, in the sense we normally understand it, disappears and we are left with "choice", which is something we cannot choose. Naturally, this echoes the fate of consciousness in his earlier book "Consciousness Explained".

It is remarkable that, at a time when we are just beginning to reach the point where we might be able to understand the basics of how a single neuron works (or how an atom works for that matter), that anyone should think they can make the leap to understanding the whole brain and to explain its most complex phenomena. Please recall the last sentence of Wittgenstein from the opening quote: "And what's more, this satisfies a longing for the transcendent, because, insofar as people think they can see 'the limits of human understanding', they believe of course that they can see beyond these." The language games are highly varied and exquisitely context sensitive so everyone gets lost. If we are very, very careful, we can lay out the language games (e.g., specify the Conditions of Satisfaction of various statements using the words consciousness, choice, reality, mind etc.) and clarity becomes possible, but Dennett throws caution to the winds and we are dragged into the quicksand.

There are at least 3 different topics here (evolution of our brain, choice and morality) and Dennett tries vainly to weld them together into a coherent account of how freedom evolves from the deterministic crashing of atoms. There is, however, no compelling reason to accept that bouncing atoms (or his favorite example, the game of life running on a computer) are isomorphic with reality. It never occurs to him that unless he exactly specifies a context and so the COS (Conditions of Satisfaction—i.e., what makes the statements true or false), his statements lack meaning. He knows that quantum indeterminacy (or the uncertainty principle) is a major obstacle to determinism, however defined (and has been taken by many as an escape to freedom), but dismisses it due to the fact that such events are too rare to bother with. By extension, it's unlikely that any such event will happen now or

even in our whole lifetime in our brain, so we appear to be stuck with a determined brain (whatever that may be, i.e., he never specifies the COS). However, the universe is a big place and it's been around a long time (perhaps 'forever') and if even one such quantum effect occurs it would seem to throw the whole universe into an indeterminate state. The notion "there is at any instant exactly one physically possible future" cannot be true if at any instant, a quantum indeterminacy can occur--in this case there would seem to be infinitely many possible futures. But again, what exactly are the COS of this statement? This recalls one of the escapes from the contradictions of physics—each instant our universe is branching into infinitely many universes.

He correctly rejects the idea that quantum indeterminacy gives us the answer to how we can have choice. This obvious idea has been suggested by many, but the problem is that nobody has any idea how to specify an exact sequence of steps which starts with the equations of physics and ends up with the phenomena of consciousness (or any other emergent phenomenon). If so, they will definitely win at least one Nobel Prize, for not only will they have 'explained' consciousness, they will have 'explained' (or much better 'described' as Wittgenstein insisted) the universal phenomenon of emergence (how higher order properties emerge from lower ones). So, they would have to solve the 'easy' problem (to determine the exact state of the brain corresponding to some mental state and preferably specify the exact position of all the atoms in the brain over time--ignoring uncertainty) and the 'hard' one (what exactly correlates with or produces consciousness or choice etc.?). And while they are at it how about also doing the impossible--an exact and full solution to the quantum field equations for a brain. It is very well known that these equations are uncomputable, even for one atom or a vacuum, as it would require an infinite amount of computer time. But infinite will do for one atom so maybe a brain will take no longer. It never crosses his mind (nor anyone I have seen) that nobody can make clear how an atom 'emerges' from electrons, neutrons and protons or a molecule emerges from atoms nor cells from molecules etc. Yes, there are some equations but if you look carefully you will see lots of hand waving and facts that are just accepted as 'the way things are' and so I think it clearly is the same with consciousness, color, choice, pain emerging from bunches of cells. Of course, after Wittgenstein we realize that mixed up with the scientific questions are the philosophical ones—i.e., the different uses (meanings, COS) of the words are not kept clear and so the discussions are mostly incoherent.

He starts off on the first page appealing to the laws of physics for protection against fantastic notions such as immaterial souls, but physics is made of notions just as fantastic (uncertainty, entanglement, wave/particle duality, Schrodinger's

dead/alive cat etc.) and as Feynmann said many times ``Nobody understands physics!'' Many think nobody ever will and I am one of many who say there is nothing to 'understand' but rather there is just lots of 'things' along with existence, space, time, matter etc. to accept. There is a limit to what our tiny brain can do and maybe we are at that limit now.

Even if we create a massive computer that could understand (in some sense) far better than we, it is not clear that it could explain to us. Understanding an idea requires a certain level of intelligence or power (e.g., holding a certain number of things in mind and performing a certain number of calculations/second). Most people will never grasp the abstruse math of string theory no matter how long they have to do it. And it is not clear that string theory (or any other) makes sense as a mathematical (i.e., real) representation of our world. This requires clear COS which I think string theory, the quantum theory of mind etc etc lack. So, there is good reason to suppose that our supersmart computer, even if we teach it how to think in the 'same' sense that we do, will never be able to explain really complex things to us. But as always we are need to specify the exact context to be able to see the meanings (COS) of the words and most science of this sort has no awareness of the problem.

On the first page is one of his favorite quotes, which compares the brain to a bunch of tiny robots, and on pg2 he says that we are made of mindless robots. But what are the COS for an entity having a mind? The way the brain (and any cell) works is nothing at all like the way robots work and we don't even know how to conceptualize the difference (i.e., we know how robots work but not how brains work—e.g., how do they make choices, understand images and motives etc.). As I noted above, this was pointed out by Searle 30 years ago but Dennett (and countless others) just does not get it.

We are also told on the first page that science will let us understand our freedom and give us a better foundation for our morality. So far as I can see, neither science nor philosophy, nor religion, has any effect on our understanding of our freedom or morality. Although he discusses the biology of altruism and rational choice at length, he never mentions the abundant evidence from cognitive psychology that our moral intuitions are built in and demonstrable in 4 year old children. Instead, he spends much time trying to show how choice and morality come from memories of events and our interaction with others. On pg2 he says our values have little to do with the 'goals' of our cells and on pg2 to 3 that our personality differences are due to how our ``robotic teams are put together, over a lifetime of growth and experience.'' This is a bald dismissal of human nature, of the abundant evidence

that our differences are to a large extent programmed into our genes and fixed in early childhood, and is typical of his constant confused wandering back and forth between determinism and environmentalism (i.e., his view that we develop morality over time by experience and by thinking about moral issues). But again he mixes scientific issues with philosophical ones, i.e., exactly what game are we playing with “robot”, “mind”, “determined”, “free” etc.? Many other sections of the book show the same confusion. Those who don’t know the scientific evidence may wish to read Pinker’s “The Blank Slate”, Boyer’s “Religion Explained” and any of the hundred or so recent texts, and tens of thousands of articles and web pages on personality development, and evolutionary and cognitive psychology.

On pg4 he says bison don’t know they are bison and that we have known we are mammals for only a few hundred years. Both show a fundamental lack of understanding of cognitive psychology. The cognitive templates for ontological categories were evolved, in their original forms, hundreds of millions of years ago and animals have the inborn ability to recognize others of their species and of other species and classes of animals and plants and objects without any learning sufficient to establish categories. Bison know they are like other bison and our ancestors knew they were like other mammals and that reptiles were different but similar to each other etc. Cognitive studies have shown these types of abilities in very young children. Again are we using “know” in its System 1 prelinguistic sense or in its System 2 linguistic one? See my other writings for the utility of the two systems of thought viewpoint.

Of course, it is true that the words ‘bison’ and ‘mammal’ are recent, but they have nothing to do with how our brains work.

On page 5 he attributes postmodernism’s hostility to science as a product of ‘fearful thinking’ but does not speculate why that is. In spite of his acquaintance with cognitive psychology he does not see that this is likely due to the fact that many science results clash with the feelings normally produced by the operation of the inference engines for intuitive psychology, coalition, social mind, social exchange, etc. as I discuss elsewhere.

On page 9 he notes that free will is a problem and our attitudes to it make a difference, but for whom? Nobody but philosophers. We make choices. What’s the problem? One has to step outside life to experience a problem and then everything becomes a problem. What are consciousness, pain, yellow, intention, matter, quarks, gravity etc.? I doubt that any normal person has ever experienced a fundamental change in their interactions with people or their decision-making



processes due to their thinking about choice. This shows that there is something strange about such questions. Wittgenstein shows that the language games are different. There are games for language connected with the cognitive templates for decisions, or seeing colors etc., and thinking philosophically is typically using the words in the wrong context or without any clear context (one can call this decoupled), so without clear COS (meaning).

Decoupled modes permit thinking about the past, planning for the future, guessing the mental states of others, etc., but if one takes the results in the wrong way and starts to think "John will try to steal my wallet", rather than just imagining that John might do it, confusion enters and those who cannot turn off the decoupled mode or distinguish it from coupled mode, enter the realm of pathology. Some aspects of schizophrenia and other mental illness might be seen this way--they lose control of which mode they are in, e.g., not being able to see the difference between the motives people have and the motives they might have, between one language game and another.

One can then see much of the philosophizing people do as operating in these decoupled (counterfactual) modes, but failing to be able to keep in front of them the differences from the normal mode. Normal mode—e.g., what is that lion doing--was undoubtedly the first one evolved and decoupled modes--what did that lion do last time or what does he intend to do next--evolved later. This was probably never a problem for animals--any animal that spent too much time worrying about what might happen would not be very successful contributing to the gene pool.

It is interesting to speculate that only when humans developed culture and began degenerating genetically, could large numbers of people survive with genes that led them to spend a lot of time in decoupled modes. Hence, we have philosophy and this book, which is mostly about running the decision templates in decoupled mode where there are no real consequences except earning royalties for putting the results in a book for other people to use to run their engines in decoupled mode. Let us alter Wittgenstein's quote to read: "As long as there continues to be a verb 'to decide' that looks as if it functions in the same way as 'to eat' and 'to drink', as long as we continue to talk of freedom of action, of saying I wish I had done otherwise, etc., etc., people will keep stumbling over the same puzzling difficulties and find themselves staring at something which no explanation seems capable of clearing up."

As with most philosophy books, nearly every page, often every paragraph, changes from one type of language game to another, without noticing that now one would

have to be joking or dreaming or acting in a play or reciting a story, etc., and not actually intending anything, nor describing an actual situation in the world. On page 10 he says we count on free will for the whole way of thinking about our lives, like we count on food and water, but whoever, outside philosophy, standing in front of lunch counter full of food, ever thinks how fine it is that they have free will so they can pick coke instead of mineral water? Even if I want to be a serious compatibilist and try thinking this in decoupled mode, I have to exit and enter nondecoupled mode to make the actual choice. Only then can I go back to decoupled mode to wonder what might have happened if I had not had the ability to make a real choice.

Wittgenstein noted how pretend games are parasitic on real ones (this is not a trivial observation!). The ability to engage in very complex decoupled scenarios is already evident in 4 year old children. So, I would say that normally, nobody counts on having choice, but rather we just choose. As Wittgenstein made clear it is action based on certainty that is the bedrock of our life. See the recent writings of Daniele Moyal-Sharrock and my other writings.

On the same page, he shows again that he does not grasp cognitive basics. He says we learn to conduct our lives in the conceptual atmosphere of choice, and that 'It appears to be a stable and ahistorical construct, as eternal and unchanging as arithmetic, but it is not.' And on page 13--'It is an evolved creation of human activity and beliefs'. The whole thrust of cognitive psychology (and Wittgenstein) is that we do NOT (and CANNOT) learn the basics of planning, deciding, promising, resenting, etc., but that these are built-in functions of the inference engines that work automatically and unconsciously and start running in very early childhood.

On pg 14 he suggests it's probable that our having free will depends on our believing we have it! Do we believe we see an apple, feel a pain, are happy? The language game of belief is very different from that of knowing in the words are incoherent (no clear COS) in the way that Dennett often uses them. We can believe we have a dollar in our pocket, but if we take it out and look at it we can't meaningfully then say that we still believe it (except as a joke etc.). The inference engine can run in decoupled (belief) mode so we can imagine having choices or making them, but in life we just make them, and it is only in very odd situations we can say that we believe we made a choice. But Dennett is saying this is the universal case. If making a choice had any dependence on belief than so would everything else-- consciousness, seeing, thinking, etc. If we take this seriously (and he says 'the serious problems of free will') then we are getting into trouble and if we actually

try to apply it to life, then madness is minutes away. He, like all philosophers until recently, had no clue that Wittgenstein showed us the way out of this need to ground our actions on beliefs by describing the actual basis of knowing which is the ungrounded 'hinges' or automatism of System 1 thinking in his last work 'On Certainty'. Daniele Moyal-Sharrock has explained this over the last decade and I have summarized her work and incorporated it in my reviews and articles.

On page 65 et seq., he discusses causation, intention and the 'informal predicates' that we use to describe atoms etc., but cognitive research has shown that we describe all 'objects' with a limited number of ontological categories, which we analyze with our intuitive physics modules, and that when agents (i.e., animals or people or things like them—i.e., ghosts or gods) are involved, we use our concepts (engines) for agency, intuitive psychology, social minds, etc. to decide how to behave. There is almost certainly no causation module but rather it will involve all of these and other inference engines, depending on the precise situation. Discussing possibility and necessity is much easier if one talks in terms of the output of our modules for intuitive physics, agency, ontological categories etc. Of course, there is no mention here of Wittgenstein's many incisive comments on the language games of causation, intention, deciding, nor of Searle's classic works on Intention and Social Reality.

He spends much time on Ainslie's book 'Breakdown of Will', in which is discussed the hyperbolic discounting faculties (i.e., inference engines) by which we evaluate probable outcomes.

He makes much of the excellent work of Robert Frank on altruism, emotion and economics, but the book he cites was 15 years old when this book was published. It was Bingham's idea, amplified by Frank and by Boyd and Richardson (1992) that cooperation was greatly stimulated by the evolution of means for punishing cheaters. He suggests these as examples of Darwinian approaches that are obligatory and promising. Indeed, they are, and in fact they are standard parts of economic, evolutionary and cognitive theory, but unfortunately, he makes little reference to the other work in these fields. All that work tends to show that people do not choose but their brains choose for them (System 1 fast automatic 'choices' vs System 2 slow deliberative 'choices'). He does not establish any convincing connection between this work and the general problem of choice and like nearly all philosophers has no grasp of the powerful two systems of thought framework.

Philosophers of all stripes have been hypnotized by their ability to decouple the inference engines to play 'what if' games, loving to put counterintuitive tags on

ontological categories (i.e., if Socrates was immortal etc.). In this respect, they share some elements with primitive religion (see Boyer). This is not a joke, nor an insult, but merely points out that once one has a grasp of modern cognitive concepts, one sees that they apply throughout the whole spectrum of human activity (and it would be odd if they did not). But as Wittgenstein explained so beautifully, the language games and the inference engines of S2 have their limits--explanations come to an end--we hit bedrock (S1). But the philosopher thinks he can see beyond it and walks out on the water, or as Wittgenstein put it, into absolute darkness.

On pg 216 he says that making oneself so that one could not have done otherwise is a key innovation in the evolutionary ascent to free will, and that we can only be free if we learn how to render ourselves insensitive to opportunities. Again, one can say anything but one cannot mean (state clear COS) for anything, and Dennett does not even begin to clarify the COS. And how these 'abilities' function (i.e., the games of 'will', 'self', 'choice', 'cause' etc.) is never made clear. Dennett has a penchant for hiding his ideas in a massive amount of rather irrelevant text (i.e., he is a true philosopher!).

Again, he gets things backwards, as there is a vast body of very good evidence from biology and psychology that we get the feelings that we should behave in some way from our inference engines, and these are not provided by some part of our conscious self, but by the automatic and unconscious operation of the engines. As he notes, hundreds of experiments with the Prisoner's Dilemma and related protocols have shown how easy it is to manipulate people's choices and that their calculations are not conscious and deliberate at all and in fact much of modern psychological, sociological and neuroeconomics research is devoted to distinguishing the automatism of S1 from the deliberative thinking of S2 and showing how S1 rules.

When the situation is manipulated to make people conscious, they are much slower and less reliable (S2). So, there has been constant pressure of natural selection to make the engines fast and automatic and inaccessible to deliberate thought.

Dennett says 'we make ourselves' so that we could not do otherwise and that this is the basis of morality and choice. The evidence is exactly the opposite. Our inference engines give us basic moral intuitions and we generally act in accord with the results. If we or others do not, we feel guilt, outrage, resentment etc., and then cheater genes will invade the population and this is one of the main theories as to how a good part of morality evolved. Our genes make us so we can't (mostly) do otherwise, not our will or whatever Dennett thinks can do it. We can often choose

to do otherwise, but our own intuitions and the knowledge of social disapproval usually serve to limit our choices. These intuitions evolved in small groups between 50,000 and some millions of years ago. In the modern world, the intuitions are often not to our long-term advantage and the social controls weak. This is a prime reason for the inexorable progress into chaos in the world.

On pg 225 he finally sneaks in a definition of free will as "a complicated snarl of mechanistic causes that look like decision making (from certain angles)". He claims that this plays all the valuable roles of free will, but lacks some (unspecified) properties possessed by traditional free will. The smoke is thick but I am pretty sure one of those unspecified properties is what we understand as choice. He insists (top of pg 226) that his naturalistic account of decision making leaves plenty of room for moral responsibility, but making ourselves so we couldn't do otherwise does not describe the way we actually function, nor does it leave any room for morality, as that would consist precisely in being able to do otherwise.

He does not propose any test for deciding if a choice is voluntary or forced and I doubt he could do so. Normally if someone asks us to move our hand, we know what counts as having a choice, but, typical of philosophers, I expect that regardless of whether it moves or not he will count both as evidence for his position and of course if everything counts then nothing counts as Wittgenstein so trenchantly remarked many times.

At this point he also starts his discussion of Libet's well known work on conscious attention, which is the only part of the book that I felt was worth my time. However, Libet's claim that we make decisions without awareness has been debunked many times, by both psychologists and philosophers (e.g., Searle and Kihlstrom).

On page 253 et seq., he sneaks in his definition of conscious will—the "brains user illusion of itself" which has as one of its main roles providing "me with the means of interfacing with myself at other times". And "Illusory or not, conscious will is the persons guide to his or her own moral responsibility for action." He says the trick we need is to see that "I" control what is happening inside the "simplification barrier" ... "where decision making happens". "Mental events" become conscious by "entering into memory". "The process of self description... is what we are". The crucial thing is that choice is possible because the self is distributed over space (the brain) and time (memories). He realizes this is going to leave many incredulous (everyone who can follow this and really understands the bizarre language games!). "I know that many people find it hard to grasp this idea or take it seriously. It seems to them to be a trick with mirrors, some kind of verbal slight of hand that

whisks consciousness, and the real Self, out of the picture just when it was about to be introduced." Many will say he took the words out of their mouth, but I would say it's incoherent and that everything we know about consciousness and the whole universe (making the obvious extensions of such claims) was gone long before we got this far in his tome. And a careful look at the language games shows their lack of coherence (i.e., no clear Conditions of Satisfaction as I note in my articles).

Like most philosophers and nearly all scientists who wax philosophical, he makes fatal mistakes in his first sentences – failure to use language in clear (i.e., meaningful) ways and all that follows is a house of cards.

Wittgenstein stated the issue with his usual aphoristic brilliance so I repeat it again.

"How does the philosophical problem about mental processes and states and about behaviorism arise? – The first step is the one that altogether escapes notice. We talk about processes and states and leave their nature undecided. Sometime perhaps we shall know more about them—we think. But that is just what commits us to a particular way of looking at the matter. For we have a definite concept of what it means to learn to know a process better. (The decisive movement in the conjuring trick has been made, and it was the very one we thought quite innocent). — And now the analogy which was to make us understand our thoughts falls to pieces. So, we have to deny the yet uncomprehended process in the yet unexplored medium. And now it looks as though we had denied mental processes. And naturally we don't want to deny them. W PI p308

On pg 259 he says that culture has made us rational animals! This is a stunning denial of human (and animal) nature (i.e., genetics and evolution) coming from the person who wrote 'Darwin's Dangerous Idea'!

Presumably he is talking about his idea that it is memories spread over space (the brain and other people) and time (much like Dawkins' memes) that give us choices and morals and consciousness (line 6 from bottom). He says consciousness is a user-interface but it is never made clear who or where the user is and how it interfaces with the brain (you will have to suffer through 'Consciousness Explained' to find that there is no answer there either). Though he makes many references to evolutionary and cognitive psychology, he seldom uses any of the terminology that has been current for decades (social mind, intuitive psychology, coalitional intuitions etc.) and clearly is not familiar with most of the concepts. If he means that we got the fine details of morality from culture, that's ok, but this is the S2 icing on the cake and the S1 cake was baked by the genes.

We are also told here that R&D (by which he means evolution here, but other things elsewhere) has given us the self and that language creates a new kind of consciousness and morality. I am sure that he will get little agreement on this. It seems quite clear that consciousness and the basics of morality evolved in primates (and earlier) long before spoken language (though it is very contentious as to how language evolved from extant capacities in the brain). He continues ``morality memes arose by accident some tens of thousands of years ago`` which would be OK if he meant the icing on the cake but he clearly means the cake! And then he says the point of morality is not the survival of our genes, which is an amazing (and totally incorrect) thing to say, even if he was only referring to memes.

On pg 260 he claims that because we do not comprehend our ``bland dispositions to cooperate``, they mean nothing to us, but it is the operation of our templates (i.e., reciprocal altruism promoting inclusive fitness) that is everything to us and to every action of all animals. As Dawkins recently noted in his comments on E.O Wilson's disastrous recent work supporting the phantasm of 'group selection', natural selection is inclusive fitness (see my review of Wilson's 'The Social Conquest of Earth'). There is ample evidence that if one of our many 'templates' is damaged, a person cannot function properly as a social being (e.g., autism, sociopathy, schizizophrenia). I would say it is the operation of the templates for intuitive psychology etc., which lead people when philosophizing to the counterintuitive views that we do not have consciousness and choice.

He also says here that it was one of the major evolutionary transitions when we were able to change our views and reflect on reasons for them. This again reflects his lack of understanding of evolutionary psychology. I know of no evidence that the basic moral intuitions, like all the templates, are accessible to consciousness but there is a huge body of work showing the opposite. We may decide our cheating was justifiable, or forgive someone else's cheating, but we still know it was cheating (i.e., we cannot change the engine). I suspect my ancestors a million years ago had the same feelings in the same situation, but what has happened is that there are now lots of other things that may be taken as relevant, and that sometimes these will lead me to act contrary to my feelings. Another issue is that as culture developed, one had to make many important or 'moral type' decisions for which the engines were not evolved to give a clear answer.

On pg 267 he says that we now replace our 'free floating rationales' (probably corresponding to what cognitive psychologists call our templates or inference engines) with reflection and mutual persuasion. And on pg 286 he says that it is a

child's upbringing --demanding and giving reasons-- that affects moral reasoning. Again, he just has no grasp of what has happened in the last 30 years of research-- the templates are innate S1 automatisms and cannot change with reflection or upbringing. We are then told again that consciousness makes moral issues available over time to the self, which takes responsibility. It is not any more coherent or credible with repetition.

On pg 289 he has a chapter summary which repeats the mistaken notions that it is culture that makes it possible to reflect and that choice depends on education (memory) and sharing. It's clear that it is not culture but the inherited cognitive structures that make it possible to reflect and to choose and that culture determines the acceptable actions and their rewards or punishments. On pg. 303 he discusses the classic philosophical barrier between 'ought' and 'is', unaware that our templates solved that problem long ago— i.e., they tell us how to feel about situations regarding other people. He also seems to be unaware that there are hundreds of 'cultural' universals implanted in our genes (e.g. see Pinker's 'The Blank Slate') and also of Searle's classic paper "How to derive Ought from Is".

He often starts into what looks like it's going to be a good discussion of some issues in evolutionary psychology, but invariably wanders off into philosophical arcana and winds up with more confusion. This happens on pg. 261 where he states that concepts like 'praiseworthy' were shaped over millennia by culture, while most would say the basis for such concepts is in the genes and each culture only determines the details of acceptable reactions to the intuitions its members get from their innate mechanisms. On pg 262 he tries to explain how an ESS (Evolutionarily Stable Strategy) can produce morality. His idea here is that genetic 'R&D' (i.e., evolution) produces dim understandings of morals and then culture (memetics) produces variations and clarifications. I would say that we all know, and much research has made clear, that we commonly get very clear results from our inference engines and only dimly understand in special cases. Culture merely decides what we can do about our feelings.

The last part of the book is mostly concerned with moral culpability. He refers to the legal classic by Hart and Honore, which I started reading 30 years ago, since its authors were deeply influenced by Wittgenstein. Dennett tells us that we have control over our own morality and that thinking about morality will improve us. But, there seems no justification whatever for this view in this book. There is nothing at all here to help anyone escape from the dictates of the monkey mind and I am quite sure that when industrial civilization collapses in the 22nd century people will be acting as their ancestors did 200,000 years ago. It is a defensible point



of view that those who manage to escape do so by traveling a spiritual path that has no connection with philosophy - and there is not a hint of spirituality in this entire book--another telling point considering that many mystics have fascinating things to say about the functioning of the mind. I find more wisdom about how to be free and moral in any of Osho's 200 books and tapes than anywhere in philosophy.

Unsurprisingly, one rarely finds spiritually and morally advanced people teaching at universities. There is no sign here, nor in anything he has done, that Dennett is morally superior. After 40 years of thinking about morality he launches personal attacks on his critics or arrogantly dismisses them. It seems clear that, like all of us, he is trapped in the limits of his inference engines.

So, how much opportunity is there to improve our morality? It seems clear (e.g., see Pinker's 'The Blank Slate') that most of our behavior is genetic and the rest due to unknown factors in our environment, in spite of the vigorous efforts of parents and religions and political parties. On average, maybe 5% of the variation in moral behavior (variations are the only thing we can study) is due to our own efforts (culture). The moral choices that matter most today are those affecting the fate of the world. But our templates were not evolved to deal with overpopulation (except by murder) and climate change (except by moving elsewhere and killing any opposition).

How remarkable it would be if just one of the hundreds of millions of educated people in the world managed to figure out what consciousness or choice or any mental phenomenon really is (i.e., how to describe its neurophysiological correlates). And if one did, we would expect them to be a scientist at the cutting edge of research using some exotic fMRI equipment and the latest parallel processing neural networked fuzzy logic computer etc. And that would only mean they specify the neural circuits and biochemistry/genetics. So, they cannot answer the questions of philosophy (the language games of the descriptive psychology of higher order thought). But it needs no answer --like the existence of space, time, matter, it's just the way things are and the philosopher's job is to clarify the language games we can play with these words. But, a philosopher or physicist just sitting there thinking, coming up with a scientific solution to the greatest scientific puzzle there is! And then writing a whole book about it without checking with the sceptics first. To return to the quote at the beginning--'Ambition is the death of thought'. Indeed--though clearly Wittgenstein was thinking of profound thought!