

A Lack of Depth

Review of *The Pinnacle of Life: Consciousness and self-awareness in humans and animals* by Derek Denton

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1. Introduction

1.1 This book is primarily a piece of journalism rather than a bit of academic research. But even judged by journalistic standards it is fairly weak. The potential interest for *PSYCHE* readers is, perhaps, twofold. First, the book does contain some interesting transcripts of conversations between Denton and three important figures: Miriam Rothschild, John Eccles, and Donald Griffin. The latter two have some pretty weird views and it is fun to read through their informal musings on various topics. Rothschild's remarks, especially about the interpretation of animal behaviour, are the most interesting and carefully considered. One wishes more had been garnered from her interview. The second thread of interest concerns the background philosophical assumptions which inform the book. Unfortunately there is no attempt to reflect on these. Denton gives us a tour of scientific data that is indeed relevant to questions about consciousness in humans and animals, but there is almost no discussion of how such data is to be interpreted.

2. Overview

2.1 I want to address two of the theoretical ideas that operate in the book. Neither are examined in detail by the author, but both are deeply problematic. In the first place, I shall attempt to locate Denton's theory of consciousness in order to point out a critical difficulty. Secondly, I shall remark on Denton's use of evolutionary ideas. Before I begin in earnest, however, let me briefly outline the book's contents.

2.2 Denton begins with a brief history of ideas running from Egyptian medical reports to John Eccles' interactionism. Although the coverage is thin, there are a few interesting observations along the way, things that one might like to follow up. My hopes of so doing, however, were dashed by the rather poor bibliography.

2.3 Then we move on to a chapter about animals in which Denton stresses the role of learning in animal cognition. But Denton is too sketchy. Much more needs to be said about what learning amounts to if any interesting conclusions are to be drawn. He continues with a discussion of some of the chimpanzee mirror experiments, but says almost nothing about the difficulty of interpreting such data. We also get a brief outline of various ape language learning projects. These data are pretty familiar, but a reader coming to them for the first time wouldn't have enough information to go away and consider their implications for his or herself.

2.4 In the next two chapters Denton moves quickly on to human beings, briefly describing some of Wilder Penfield's experiments involving electrical stimulation of the brain of wide awake patients. He gives us a quick run through some split-brain patient data too. Although the whole book is liberally sprinkled with dubiously relevant literary quotations, these two chapters, which also include a discussion of sleeping and dreaming, suffer badly from an overdose of Proust.

2.5 In the penultimate chapter, Denton discusses the rapid growth of the human brain in recent evolutionary history. Tool use, language, culture, and the need to track social relationships all get a brief mention. The final chapter provides a very brief summary and then recommends a broadly materialistic approach. This is championed over an Eccles-like interactionism and a Skinnerian behaviourism.

3. The 'Theory' of Consciousness

3.1 Denton taps into some fairly traditional views about consciousness. He suggests that it enables:

a creature ... to exercise options. By images in the mind-be they the most rudimentary or the most elaborate-the animal may examine the possible outcome of its actions. It can choose a course and in so doing may meld its instinctive memory ... with such experiences as it has already had in the course of its life. (p. 6)

3.2 So by means of manipulating internal representations or, as Denton more usually describes them, internal images, the animal can internally 'try out' possible actions. This,

Denton repeatedly tells us, will confer a great survival advantage on the animal, thus making consciousness fully compatible with an evolutionary picture.

3.3 Suppose that we had evidence that a creature had an internal world model, and that this model could be manipulated so as to test out future actions, and so forth. Would we be right to think that possessing such a model, and the apparatus to manipulate it, would count as necessary and sufficient conditions for consciousness? The difficulty here is that the popular 'internal world model' remark masks an ambiguity which dogs cognitive psychology's approach to consciousness. Sometimes 'internal' means internal to the brain, with the internal representation being identified with a data structure in the brain. On other occasions 'internal' means internal to the mind, with the internal representation being something of which a conscious subject is aware. This kind of mixing and matching simply will not do.

3.4 Let me, very briefly, try to illustrate the problem. Suppose that I have some brain internal data structures that track certain environmental features. Further suppose that I have a bit of brain hardware that modifies these representations in a way that could be interpreted by the theorist as trying out possible future actions. What implications does all this 'sub-personal' processing have for consciousness? Suppose the processing is going on inside my head. Does it imply that I am conscious of the range of "options" and that I "choose a course"? Presumably if it does then I would be in a position to report this verbally. But I shall only be in a position to do this if the relevant information processing also has an effect on my speech centres. Let us suppose that it does not, for surely it is not the case that it must. In that case it looks as though all the information processing is going on and yet I, this person, cannot report on my considerations, and, indeed, would deny having had any such experiences if asked.

3.5 I am not setting out to endorse a particular theory of consciousness here. Rather, I want to point out that stories about the information processing my brain gets up to--that is, 'sub-personal' stories--cannot be readily assimilated with a story about what I, a conscious subject, do and am aware of. My brain undergoes all sorts of processes, which can be described in information processing terms, and, no doubt, these are what get my thoughts thought. But it clearly is not the case that *all* those internal information processing states are thoughts. Indeed, it is not clear that any of them are. [Note: The last two paragraphs draw on the excellent discussion of these problems found in Dennett (1969), chapters IV and VI.]

3.6 There is one reading of Denton's theoretical claim with which I am happy. That is, I think it is a sufficient condition for consciousness that one has the ability to manipulate ideas in the mind, to think about a range of different options and their outcomes, and to choose between them. But it is wrong to assimilate various information processing events that might be interpreted as performing such a function with my thoughts. Such information processes could be going on in the absence of such thoughts.

3.7 If my objection goes through then a great deal of Denton's evidence in favour of animal consciousness is simply irrelevant. That, for example, some mammals undergo a process very similar to REM sleep leaves the question of animal dreams and, in particular, internal "image formation", untouched (116-121). It does so because the evidence, as presented, only supports the idea of brain internal representations and is systematically neutral on the question of what is present to consciousness. Of course Denton might have a good response to my briefly and somewhat crudely stated objection. Unfortunately, Denton shows no awareness that there might even be scope for a dispute here.

4. Evolutionary Considerations

4.1 Denton is very explicit about his commitment to a form of Darwinism. He tells us that "consciousness has been honed on the anvil of natural selection." There has been no need for "any external intervention or other-worldly influences" (xii). No quibbles on this front, but I do worry about some other apparently Darwinian claims. When discussing animal consciousness, for example, he makes some familiar points about continuity. He takes "the view that there is an evolutionary continuity and that features we know exist in humans have their origins in early life forms" (39). This remark is made in the context of supporting the case for consciousness in animals. Of course, it is true that human capacities have their origins in the capacities of earlier life forms. But that does not mean that earlier forms were just simpler versions of later forms. Sometimes this is the case. Consider the evolution of vision. Almost certainly the evolutionary precursor of the eye--perhaps a few photosensitive cells wired into an animals motor system--was, more or less, a primitive eye. But the evolutionary precursor of the wing was not, and could not have been, a primitive wing. A primitive photosensitivity offers some selection advantage in virtue of a primitive visual capacity. The precursor of the wing is not favoured by natural selection because it provides a primitive capacity for flight. The wing precursor doesn't help an animal fly, not even a little bit. It is only later when, due to quite independent selection pressures, the relevant appendage has grown in size, and so forth, that it might then acquire this new function.

4.2 What sort of capacity is consciousness? Is it like vision or flight? I don't presume to offer an answer here, but it is a question that needs to be explicitly addressed by Denton if his argument is going to have any force.

4.3 More alarming, however, are hints of a quite un-Darwinian take on evolution. Denton remarks that in "proposing continuity, there is an inherent idea of progress and increase in powers..." (39). He is also prone to expressions such as the "ascent of life" (xii), and, of course, his title is suggestive of a belief in a certain notion of evolutionary progress. There is an innocent and a pernicious way in which human beings can be considered to be the pinnacle of evolutionary processes. If we think that human beings are quite the neatest products that evolutionary has turned out then we can, innocently, describe them

as the pinnacle of the product line, where the product line is arranged in order of neatness. But Denton's remarks suggest the pernicious reading, where human beings are the pinnacle because they are the leading edge of mother nature's campaign for ever neater creatures. This view is not in the least bit Darwinian, for mother nature is running no such campaign. Indeed, the idea of her as a campaigner is one of the things that Darwin was trying to stamp out.

5. Conclusion

5.1 This book is poor because it fails to acknowledge the philosophical complexities of the issues. To tell us about some theory neutral facts of animal behaviour and human physiology is one thing, but to address the topic of consciousness requires serious theoretical work. This is lacking and, worse, what theory does emerge in this book is simply not critically examined. Of course a popular journalistic book of this type must simplify details and should aim to avoid technical philosophy. But there is simply no excuse for a failure to lay out and attempt to justify a theoretical framework.

References

Daniel C. Dennett (1969) *Content and Consciousness*. London: Routledge.