

DENNETT'S REAL PATTERNS AND NEAR-FATALISM

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Daniel Dennett spends a good bit of time defending the possibility of a compromise position on the reality of beliefs and desires. He resists the pressure to become either a realist or an instrumentalist and seeks to define a particular kind of middle ground, in brief that ascription of beliefs and desires reflect real patterns in human behaviour, though ones only detectable by adopting the intentional stance. That theme appears frequently in Dennett 1987a and is once more addressed in Dennett 1991.

Here it will be accepted without challenge that Dennett has made at least a good prima facie case that there is middle ground to be occupied. But it will be claimed that a puzzle remains in the interpretation of Dennett's position. If one goes back to Dennett 1987b the flagship article in Dennett 1987a, one finds a theme, which we can call the 'near-fatalism' theme, that has not been integrated with the kind of middle ground he describes. But the near-fatalism theme is dropped in later work (Dennett 1987c and 1991). Is it because it is felt to be incompatible with that middle ground compromise? It is not obviously so.

1. THE REJECTION OF INSTRUMENTALISM

It was no surprise that early expressions of Dennett's view led to him being dubbed an 'instrumentalist'. Dennett (1978) said that to attribute intentional states to something one has to take a certain stance towards it, the intentional stance, thus treating it as an intentional system. This stance involves attributing rationality to the object and attributing to it the beliefs and desires it 'ought to have' in the circumstances. This is the basis of a predictive strategy that can be the useful one to adopt for many kinds of systems, including people, chess-playing computers and oil-refineries.

The very talk of adopting some kind of stance or strategy towards an object seemed to suggest something akin to instrumentalism about beliefs and desires. That impression was strengthened by such quotes as this:

... the definition of intentional systems I have given does not say that intentional systems really have beliefs, but that one can explain and predict their behaviour by ascribing beliefs and desires to them ... The decision to adopt the strategy is pragmatic, and it is not intrinsically right or wrong. (Dennett 1978, p.7)

But, in later work, instrumentalism or any position that wholeheartedly rejects realism is resisted and a kind of compromise position is aimed for, i.e. the view that:

while belief is a perfectly objective phenomenon ... it can only be discerned from the point of view of one who adopts a certain predictive strategy (Dennett 1987b, p.15)

That predictive strategy is the intentional strategy.

Just that form of words will not suffice to convey the nature of the compromise. Can't one say similar things about the physical stance? The physical characteristics of the world are objectively real, but one needs to adopt the strategy of describing the world or part of it as a physical system in order to be able to discern those properties. That doesn't seem obviously wrong, even if one were committed to a full blooded realism about physical states. So the form of words applied to intentional states seems to miss the special nature of the compromise position for them.

2. REAL PATTERNS

Dennett, however, does take some trouble to explain the way in which belief and desire attributions reflect real patterns in human behaviour. Here is an explanation (Dennett 1987b, 25-29) based on an example of Robert Nozick's.

Nozick posited a race of superintelligent beings (Martians) who could predict human activity, such as activity on Wall Street, on the basis of the laws of physics and do not need to adopt the intentional stance. This seems to suggest that our status as believers and desirers is not objective, but is relative to the observer, and appears to depend on (relative) ignorance and intellectual limitations.

Dennett's response to this is significant in elucidating his position. He says the Martians are missing something perfectly objective - the patterns of human behaviour that are describable only from the intentional stance. In explaining what the Martian is missing in its prediction, in precise physical terms, of a certain stockbroker placing an order for 500 shares in General Motors, Dennett points to the failure to see a certain real pattern in the world. Infinitely many distinct physical acts, but all forming the same kind of share order, would have the same effect on the market.

One can think of this as a form of functionalism, but at the level of the society rather than at the level of the individual. Human actions are interpreted in terms of various social and linguistic conventions and are seen as interacting to produce outcomes also described in terms of the social institutions. Behaviour fits into the same pattern when it plays the same role in society, in this case affecting the share price. Further, one can often explain why various people act in the same way by citing their common beliefs and desires, disregarding all the ways in which they might be different.

Another explanation of the nature of the real patterns, (Dennett 1987c and 1991) involves an analogy with the Game of Life. In this 'game', which lends itself to computer implementation, there is a 2-D matrix of cells which can be either off or on. Whether a particular cell is on depends on how many of its eight neighbours were on in the previous instant of time. If two neighbours were on then the cell's current

state is the same as its previous state. If three neighbours were on then the cell's current state is on. If any other number were on, then the cell's current state is off.

The interest for us in this apparently primitive deterministic universe is that these simple laws of nature underpin a rich variety of moving and static visible patterns. For example, there is the glider, a pattern of five on cells that over four instants of time (which involve a changing configuration of on cells) reproduces itself exactly, but moved diagonally one cell. In a computer implementation, the eye can easily follow such a pattern across the screen, and so it is very natural to talk of a persisting pattern rather than merely talk of cells going on and off. Thus there is a level of description that a certain stance (in this case one based on innate perceptual mechanisms) reveals.

A new way of thinking about the reality of the patterns occurs for the first time in Dennett 1991. A visual display of a row of black squares with white gaps of a similar size (called by Dennett a 'bar code') is subjected to different amounts of random noise, so that there are some black pixels amongst the white and vice versa. In each of the versions up to 33% noise the original pattern of the black squares is discernible. In what sense is that pattern real? Dennett offers a new suggestion. The pattern is real if it is more economical to describe the array of pixels in terms of the original pattern plus

a list of exceptions rather than just as a bit map, i.e. a pixel by pixel description.

All of these things are suggestive, but recognizing Dennett's avowed philosophical kinship gives new insight into his position. He identifies himself firmly as a Quinian (see Quine and Dennett 1987d). He questions Fodor's commitment to the existence of beliefs as syntactically specified things in the head (Dennett 1987b, 34-35 and 1991 44ff). The belief in the possibility of an alternative could be said to come from an allegiance to the principle of radical translation or, rather, a similar principle of radical interpretation of behaviour. We attribute sets of beliefs and desires to people on the basis of their behaviour. We do this by assuming they are rational, and this, much of the time, allows us to make correct predictions of future behaviour.

The process of attributing beliefs and desires is thus essentially holistic. We interpret what people do in terms of a consistent rational structure. We cannot attribute beliefs and desires singly, but rather jointly in such a way as to form a rational whole. There is thus no reason to think that each individual attributed belief need correspond to some discrete object in the head. This, more than anything, makes clear the qualified nature of Dennett's realism.

One way of thinking about that possibility is to think, as Andy Clark does, that underlying brain patterns have a connectionist structure of

a kind described in recent work on Parallel Distributed Processing (see Rumelhart et al. and McClelland et al.). In a connectionist network neither rules nor even symbols are explicitly represented. Nonetheless, such networks are capable of learning and forming generalizations. Clark argues that it does not follow that talk of belief and desire, which involve symbolic rather than connectionist structures, should be eliminated. Rather beliefs and desires are to be 'holistically ascribed on the basis of bodies of behaviour' (Clark, p.5).

Here it will be assumed that Dennett's talk of the holistic ascription of beliefs and desires and his Game of Life and bar code analogies suffice, at least provisionally, to indicate some middle ground concerning the reality of belief and desire.

3. NEAR FATALISM

Dennett 1987b appears to contain a theme that sheds a rather different light on the reality of beliefs and desires. The initial quotation of the article taken from Somerset Maugham points us firmly in the direction of what I take to be the main point here. It illustrates a fatalist view of human affairs - a servant is to meet Death in Samarra, whatever he does. In drawing out this theme later in the article Dennett says (1987b p.27):

These fatalists are wrong, but they are almost right. There are patterns in human affairs that impose themselves, not quite inexorably but with great vigor, absorbing physical perturbations and variations that might as well be considered random; these are the patterns that we characterize in terms of the beliefs, desires, and intentions of rational agents.

This quotation follows Dennett's elaboration of Nozick's objection already mentioned. A Martian enters a prediction context with a human. The human predicts the arrival of a man and his boss for dinner on the basis of a phone conversation to that effect, in contrast to the Martian making the prediction on the basis of physics.

In what way is there a pattern imposing itself with great vigour? Presumably the pair of travellers can survive a number of contingencies on the journey that tended to deflect them from the goal of arriving there at that time. A road is blocked, so they divert. They get lost, but ask the way and get back on the right track. A tire is flat, so they change it.

This goal directedness that survives adverse circumstances puts the emphasis, for the moment, on desire rather than belief. We get the sense of an intentional system being essentially a teleological system. That, in a way, comes as no surprise, for we knew all along that intentional systems should be understood in terms of desires as well as beliefs. But what seems to be new is the emphasis on purposes being pursued flexibly. We need to respond to new situations that hinder us and adapt our behaviour accordingly so we can still achieve our goals. In fact, a similar point could be made about the ability

to respond to fortuitous events that allow us to achieve our goals more easily than expected.

For the moment, I am presenting Dennett as saying that the key to being a true believer is being a true desirer. This has some intuitive appeal, even if one were inclined to be perfectly realist about internal representations. It is the sophisticated nature of the interactions with the world in order to fulfill desires that underpins the status of internal states as truly representative of events and states.

However, the emphasis on desire rather than belief is not a general characteristic of Dennett's text. Belief and desire seem to be equal partners a lot of the time. Moreover, Dennett does have a point to make about belief that is arguably the companion theme to the near-fatalism theme.

4. THERMOSTATS AND TRUE BELIEVERS

We can take the intentional stance to a thermostat attached to a boiler driving a heating system and attribute beliefs to it, e.g. that the room is too warm (Dennett 1987b 29-33). But there is a difference between a thermostat and a person with regard to the reality of their intentional states.

We can imagine the same thermostat being attached to a different mechanism so that it might regulate e.g. the speed of a train. That tends to undermine the claim that the thermostat has beliefs about the room temperature as it could be in the same state and serve a quite different function. Indeed it tends to undermine the claim that the thermostat embodies a representational state at all.

But a smarter machine that is connected to the world with a variety of sensing devices and that processes the input in a sophisticated way involving various pieces of background knowledge is much harder to transpose to another situation without it 'noticing'. There we have stronger reasons for attributing to it a representation of the world. But any system could be fooled with a clever enough transposition, and there is no 'magic moment' or sharp line between systems that do and those that do not have representations.

How does the thermostat theme relate to the near-fatalism theme? They are certainly juxtaposed in Dennett's text. Is this supposed to be another case of patterns imposing themselves with great vigour? Beliefs, desires and intentions are all mentioned in the previously quoted passage (1987b p.27). My earlier explanation of the vigour in terms of the flexible pursuit of purposes seems inappropriate here.

Perhaps we have essentially the reverse of the phenomenon. Rather than the representational state imposing itself on the world with great vigour we have the world imposing itself on the representational

state with great vigour. There is great vigour, for all kinds of faults and misleading circumstances fail to prevent the sophisticated mechanism from registering the true state of the world.

If there is such a change of direction it should come as no surprise. One might think of Searle's distinction between belief, which has a word to world direction of fit, and desire, which has a world to word direction of fit. Here we are dealing with representations which need not be words.

If the notion of a change of direction seems exaggerated here one could say that to establish their credentials as representations desires and beliefs require different virtues. For desire, the virtue is a kind of flexible resoluteness in pursuing the goal. For belief, the virtue is a kind of sensitivity in detecting the true nature of the world. The notion of great vigour does not apply so obviously to belief using this image. In any event it can be agreed that for Dennett near-fatalism has some form of counterpart notion for belief. Henceforth, talk of the near-fatalism theme will be understood as going along with a corresponding theme for belief.

5. CAN THE NEAR-FATALISM FIT INTO THE COMPROMISE?

The pattern that imposes itself with great vigour in the way described seems intuitively to be something with a considerable degree of reality. The focus seems to be away from the observer's predictive

interests and back to the organism itself and the way it contains a pattern which governs its interaction with the world.

How does this fit in to Dennett's compromise position on the reality of beliefs and desires? Consider the Game of Life comparison. It would be possible to emphasize patterns that in some way reflect the near-fatalism characteristic. There are more robust patterns that tend to survive interference. There could be a pattern that gradually assembles itself into a target pattern, and also can shrug off interference. But there is no emphasis on these kinds of possibilities in Dennett's texts.

In Dennett's bar code parallel there is something perhaps analogous to a near-fatalist goal, that is, the pure undistorted bar code pattern. But that ideal form of the pattern is not usually presented as a goal to be achieved. It does play that role when the possibility of improving a signal by removing the noise is discussed (Dennett 1991, p.35). However we are firmly told that that is not the point.

What about the Quinian holism? A particular belief or desire is only attributed as part of a whole scheme of attribution. Moreover that aspect of belief attribution is not supposed to be merely a practicality of attribution but expresses the nature of the reality of beliefs and desires. How would the near-fatalism theme fit into this? Again, there would be no reason in general why a certain kind of principle of attribution could not attribute beliefs and desires as a

whole in such a way as to accommodate the near-fatalism theme. Purposes are attributed in a way that depends on the level of flexible resoluteness displayed. Beliefs are attributed in a way that depends on their level of sensitivity. Such a practice might have much to recommend it. But there is no mention of that by Dennett (1991). Moreover, the requirements of rationality, the fundamental principle of attribution, do not immediately appear to require that kind of flexible resoluteness and sensitivity. So, again, the specification of Dennett's compromise appears to ignore the near-fatalism theme and the thermostat theme.

6. CONCLUSION

Dennett's near-fatalism and thermostat themes in Dennett 1987b provide an interesting picture of what is important in being a representation, with their emphasis on a kind of flexible resoluteness in pursuing a goal and a kind of sensitivity in modeling the world. However, that picture is lost sight of when Dennett develops his compromise position on the reality of the behaviour patterns using such things as the Game of Life analogy. It should be clear that the near-fatalism theme is a distinct theme and not a mere articulation of that compromise position. However, while one might anticipate the near-fatalism theme leaning more to realism, there turn out to be some prospects for integrating it into the compromise.

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