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Some reflections on the 1984 Reith Lectures: Minds, Brains and Science

The 1984 Reith Lectures were delivered by John Searle, Professor of Philosophy at the University of California, Berkeley. The task he set himself was to seek a reconciliation between our common-sense belief that we are conscious, rational, free agents and the scientific assumption that reality can be reduced to mindless physical particles. In my reflections I limit myself to two of the areas covered in the lectures, namely the mind-body problem and the freedom of the will.

John Searle on the mind-body problem

Put simply, Searle maintains that brains cause minds, and minds are a feature of brains. He disassociates himself from dualism with its assumption that minds are separate from brains while he also wishes to affirm, against certain extreme forms of physicalism, that mental phenomena such as consciousness and intentionality are real and important. He admits that there are massive empirical gaps in our knowledge of how the brain works, for example we still do not know why sleep is necessary or exactly how memories are stored, but he claims that there is no philosophical problem in discerning how the mind could be caused by, in the sense of being realized in, the brain. The analogies he gives are drawn from the relationship between micro—and macro—properties of physical systems. A table is solid (macro-level) while its molecules are not (micro-level), although the solidity of the table is caused by the lattice structure of the molecules. Water is liquid due to the interactions between H_2O molecules which are themselves neither wet nor dry. Similarly consciousness, intentionality etc. are caused by, or realized in, the brain, although individual neurons themselves cannot be said to feel pain or desire food.

Searle feels that the resolution of the mind-body problem will be similar to the resolution of the life-matter relationship. Just as it is now recognized that no addition of an *élan vital* is necessary to produce living things out of matter, so neither is it necessary to postulate the addition of some entity called mind in order to understand the nature of conscious things. In both cases one merely needs to enlarge one's concept of the potentiality of matter:

> It should seem no more mysterious, in principle, that this hunk of matter, this grey and white oatmeal-textured substance of the brain, should be conscious, than it seems mysterious that this other hunk of matter, this collection of nucleo-protein molecules stuck on to a calcium frame, should be alive.[1]

Searle believes, then, that dualism becomes redundant once one is prepared to enlarge one's concept of the characteristics of matter. Similarly the tension between the scientific account of reality as that which is publicly observable, and the every-day experience of consciousness as subjective and private, is dissolved when one simply extends the definition of science to include the whole of reality, including subjective, private states. Therefore all, according to Searle, is ultimately reducible to materialism and science. There is no more a mind-body problem than there is a digestion-stomach problem!

Some philosophical reflections on Searle's analysis

The lineage of Searle's hypothesis is not difficult to discern. It belongs to the family of identity-theory[2] and its grand-father is Spinoza who also rejected Cartesian dualism by extending the definition of matter to include consciousness.[3] Any criticisms one may have of identity theory will also apply to Searle's views. Let us review, then, some of the philosophical problems inherent in identity-theory.

(a) The analogies offered by identity theorists for the mind-body relationship (e.g. lightning/electrical discharge, morning/evening star, or Searle's water/H_2O molecules) break down in several important ways:

  (i) They are all publicly observable, whereas a mind event is only experienced by one subject and can (barring telepathy) be experienced by only that subject.
  (ii) They are all observable through the five senses, not so minds.
  (iii) We know a lot about the relationship between the two terms of each of the analogies, for instance, we know how a

1. J. Searle, *Minds, Brains and Science*, (BBC), p. 23, 1984. This book follows closely the substance of the Reith Lectures.

2. Beloff offers the following useful definition: 'The world consists of physical entities and physical space-time events. What, all this while, we have been calling the phenomenal facts are, it transpires, merely particular physical facts i.e. brain states and brain-processes, that happen to become known to us in a very special way, namely by direct acquaintance.' J. R. Smythies Ed., *Brain and Mind*, (Routledge, London), pp.36–37, 1965.

3. *Ethics* III II.

conglomeration of H_2O molecules form liquid water and how a suspension of water droplets produce clouds, but we know *absolutely nothing* about how certain neurons firing could possibly produce, e.g., a sensation or an intention. To put it another way, why should sugar taste sweet and not bitter or bland, or why should bleach smell pungent? Scientists do not have the genesis of an answer.

(iv) The analogies are all of manifestly material entities, while minds seem ontologically different. Thinking of, for example, the sensation of anxiety, H. D. Lewis writes, 'We have to move by inference from the scientific description to a totally different type of reality to get to the feeling of anxiety. It is not a case of extending our knowledge simply at the same level of discourse.'[4]

As Karl Popper points out, the principle of Occam's razor should be respected, but not at the expense of the facts, and often the world seems stubbornly more complex than the principle of parsimony would prefer. Present examples might be the failure of scientists to make headway in the Unified Field Theory and the apparent multiplicity of sub-atomic particles. Similarly, Popper contends, it is inadmissible to claim that the mind-body problem can be evaporated by extending the definition of matter. After mentioning some of the points given above, he adds, 'We also have the dramatic and, from a physical point of view, strange changes that have taken place in the physical environment of man, due, it appears, to conscious and purposeful action.'[5] Such stubborn facts should not be ignored or explained away. To borrow the lines of Louis MacNeice:

'World is crazier and more of it than we think,
Incorrigibly plural.'[6]

(b) Mind, as understood by identity-theory has no practical rôle or function. In the context of evolution theory, mind has no survival value. It is otiose because the efficient functioning of the organism depends entirely on the correct operation of the central nervous system which is subject to purely physical laws of causation. In a radio discussion Searle attempted to meet this objection by arguing that evolution could have produced mindless zombies but such creatures would lack a certain behavioural flexibility and discriminatory power. The evidence he adduces for this claim comes from the work of W. Penfield amongst patients suffering

4. H. D. Lewis, *The Elusive Mind*, (London: Allen & Unwin), p.196, 1969.
5. K. Popper & J. Eccles, *The Self and Its Brain*, (London), p.61, 1977.
6. 'Snow'.

from *petit mal* epileptic fits. Evidently one patient, for instance, was able to drive his car all the way home whilst unconscious. However, he drove through all the red traffic-lights. Certainly one can agree with Searle that these patients indeed lacked flexibility and judgement while undergoing a fit, but this is presumably explicable in purely physical terms according to identity-theory, namely that parts of their brains failed to operate properly. It would seem that the practical rôle of the mind should remain an absolute enigma for identity-theorists like John Searle.

Some theological reflections on Searle's analysis

Identity-theory raises two extra problems for the Christian:

(a) If mind is a function of the brain, how can beings exist who are pure spirit? Such beings, according to traditional Christianity, would probably include the angels (although throughout church history some theologians have ascribed subtle or ethereal bodies to angels) and would certainly include God himself. To be consistent, must the person who holds an identity-theory of man necessarily be an atheist? The answer is: no. The theist who is convinced of the truth of identity-theory has two options:

(i) Adopt a form of pantheism if he is convinced that consciousness is necessarily caused or realized in a physical organism; the universe itself then becomes God's central nervous system.[7]

However, besides being heterodox, this view has two difficulties. The first is parallel to one of Hume's objections to the telelogical argument for God's existence: the analogy between known designed objects and the universe itself is too remote to carry any weight. Similarly, there are just not enough similarities between the universe and known central nervous systems to give plausibility to the cosmic identity-theory hypothesis. Secondly, if the organic unity of the universe as God's central nervous system is stressed, it is difficult to see how sufficient autonomy for creatures over against God can be allowed.

(ii) The second option is available to those who maintain that as a matter of empirical (but not logical) fact our minds are caused by our brains. That is, we are inevitably embodied, but the mind-body relationship is a contingent one so that it remains a logical possibility that a conscious, unembodied being like

7. This thesis is worked out in detail in Grace M. Jantzen's *God's World, God's Body*, (Darton, Longman and Todd, London 1984).

God could exist.[8] An analogy might make the position clearer. Imagine a universe where all magnetic fields were caused by, or realized in, solid magnets, it would be foolish for the inhabitants of that cosmos to conclude that it is logically necessary that a solid magnet must exist if there is to be a magnetic field. After all, in the universe next-door there might exist magnetic fields which are caused not by solid magnets but by electro-magnets. Equally, it is logically possible that God's mind could be grounded in something other than matter, something which might be called 'spirit'.

(b) If mind is caused by the brain, it would seem to follow that brain death entails the termination of mind, does this not seriously jeopardize any doctrine of immortality? This is not the place to review the extensive philosophical literature on the subject. Let it suffice to identify the main issues.

In contrast with dualism, which tends to view the self as a simple entity which constitutes the permanent sub-stratum of all experiences and memories, identity theorists usually perceive the self as a 'field' or activity (remember how Searle suggested that the mind-body relationship is not unlike the digestion-stomach relationship), or as Davies puts it, '. . . the relation between mind and body is similar to that between an ant colony and ants, or between the plot of a novel and the letters of the alphabet.'[9] This view, of course, has affinities with Hume's concept of mind. Two corollaries seem to follow from this.

Firstly, a reconstituted central nervous system would seem to result in the same consciousness, just as a reprinted novel is the same story as the one out of print. Or to change the simile and to quote Penelhum, 'There is no need for persons to be regarded as necessarily continuous entities; they might exist like television serials do, in instalments.'[10]

Secondly, with this dynamic, process view of the self, identification becomes a subjective policy decision as with all complex entities (e.g. is the sock covered in darns the same sock that was given me new last Christmas before it developed holes?). The answers will depend entirely on human convention. On the identity-theory model I can either agree to say that it is the same person from womb to tomb, or concur with the character in T. S. Eliot's play:

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8. This position is argued in, for example, T. F. Tracy's *God, Action and Embodiment*, (Eerdmans), 1984.

9. P. Davies, *God and the New Physics*, (Dent), p.83, 1983.

10. T. Penelhum, *Survival and Disembodied Existence*, (Routledge), p.95, 1970.

'Ah, but we die to each other daily.
What we know of other people
Is only our memory of the moments
During which we knew them. And they have changed since then'.[11]

Similarly it would be entirely a matter of convention whether or not one considered a post-mortem person who had been reconstructed *ex nihilo* (cf. Hick's 'replica' person[12]) as identical with his dead twin. Hick, of course, would be happy to give the new person the benefit of the doubt as would MacKay.[13]

I think there are two main problems with the re-creationist view of the afterlife, however, and its attendant view of the self as process or abstraction (cf. the plot of a novel). The first may be expressed like this: if identity is just a convention, the 'replica' view is tenable, but something rancours when the hypothesis is conceived existentially. Yes, I would probably be inclined to treat the 'replica' John as the real John I knew on earth and yes, the 'replica' John would probably feel that he was the real John equipped as he is with John's memories and character traits, but would the real, dying John have felt any comfort at the prospect that one day his replica would be created? I think he could reasonably feel no comfort at all. As far as he would be concerned, his being would permanently terminate at death. Existentially, likening me to the plot of a novel or a 'field' seems pitifully inadequate, although rationally I might be convinced. But the philosophical objections to Hume's dynamic view of the self will not go away: What is it that has the tendency to believe in a fixed self behind the changing panoply of experiences? Surely all my experiences are *mine*. Only a simple and enduring self can relate and unify experience in a manner that even sense perception requires. Without an ontological self there can be no moral responsibility because past actions are not certainly mine. And so on. The functional view of the self which is usually part of the identity-theory package is therefore both counter-intuitive and open to the same philosophical objections that Hume's views have encountered. If, on the other hand, the self is a simple ontological entity, a sort of Kantian 'transcendental unity of apperception', identity cannot be a matter of convention, the criterion for ongoing identity must be quite simply continued existence.[14] This criterion would not be met if the self were annihilated and another self later created. The new self

11. *The Cocktail Party*, Act 1 Sc. 3.
12. See J. Hick, *Death and Eternal Life*, (Collins), 1976.
13. See e.g. D. M. MacKay, *Brains, Machines and Persons*, (Collins), 1980.
14. For further information on the philosophy of personal identity, see P. T. Mackenzie's article 'Beyond Identity and Imagination' in *Philosophy*, April, 1983.

could not be the same as the dead self because there would be no continuity of existence.

The other problem concerns the inadequacy of Hick's reply to those critics who point to the logical possibility of any number of identical 'replicas' being created: surely not more than one of the 'replicas' could be the dead John, but which one?! Hick responds by admitting that there would be a problem of identity if a number *were* to be created but as a matter of fact God never would create more than one, and provided that this is so, his hypothesis would hold. But this reply surely misses the point. Hick needs to show not that multiple 'replicas' *will not* occur but rather that multiple 'replicas' *could not* occur and this would only be possible if he accepted the notion of a substantial, simple self, or soul, one per person. And if he accepted this, his 'replica' theory would be obsolete because this soul would have to go on existing after the death of the body so as to be in a position to be re-embodied later.

But for the identity theorist who is unhappy with the 'replica' theory either because of the sort of philosophical problems just mentioned or because of the kind of theological objections expounded in, for example, Calvin's *Psychopannychia*, there is an alternative option. A 'middle C' may be played on a flute and then sustained on a recorder after the flute has been broken. Similarly, after death a person's mind could survive by being caused by, or realized in, a non-physical entity, perhaps something like the 'astral body' of spiritualist lore. If indicted for lack of evidence, the advocate could refer to the literature on ghosts and point out that these astral bodies usually occupy spaces unrelated to ours. If, however, this theory sounds too fanciful, one may resort to a view similar to that already advanced with regard to God's mind, that is after death we become pure spirit beings, devoid of any kind of form. This view becomes virtually indistinguishable from the standard notion of the conscious, intermediate-state prior to resurrection. Again the 'middle C' analogy suggests that the self is a dynamic, functional thing and the problems with this have already been discussed. Perhaps, however, a modified form of the astral body theory would be serviceable for those who contend that the self is a simple immortal entity. In any event, identity-theorists certainly need to clarify and defend their notion of the self.

John Searle on the freedom of the will

Again Searle recognizes a tension between our common-sense belief that we are free in the libertarian sense that whenever we make decisions there are genuine alternatives available to us, and the

scientific assumption that decisions are in fact caused by brain events which are in turn causally determined by physical processes. He rejects dualist interactionism as totally implausible. He asks whimsically, 'Are we supposed to think that thoughts can wrap themselves around the axons or shake the dendrites or sneak inside the cell wall and attack the cell nucleus?'[15] He also denounces compatibilism which endorses the scientific notion of causality while insisting that we are nevertheless free when we are not constrained. Searle rightly concludes that 'compatibilism . . . denies the substance of free will while maintaining its verbal shell.'[16]

Searle feels constrained to endorse the scientific belief in what he calls 'bottom-up' causation, that is the belief that macro-features of objects can be explained with reference to micro-level phenomena. Some of his examples have already been mentioned—the solidity of wood and the liquidity of water. While admitting that one's decision, for example, to raise one's arm really does result in one's arm rising (a case of top-down causation), Searle insists that to give a comprehensive description of what is happening, one would have to go on to say that the top-down causation occurs only because the decision is grounded in neuro-physiology to start with. That is, ultimately all mental events are physically determined and are examples of the general scientific principle of bottom-up causation. He summarises, '. . . on my view, the mind and the body interact, but they are not two different things, since mental phenomena just are features of the brain.'[17]

To be consistent, Searle reluctantly has to reject libertarianism although he admits that the sense of radical freedom is an inextricable aspect of an intentional action. In the light of science we can easily persuade ourselves that, contrary to common-sense, the earth is not flat but Searle contends that we just cannot accept experientially that we are not really free, because the sense of freedom is built into our very experience of an action, whether premeditated or spontaneous. In the nature of the case, then, we find that we simply cannot accept the scientific or philosophical arguments in favour of determinism no matter how cogent they are. As a philosopher he must affirm determinism but as a human being he must reject it. He is in a rather similar position to David Hume who found that as a philosopher he had to acknowledge the uncertainty of such fundamental concepts as physical causation but when he left his study he resumed the common-sense beliefs held by ordinary people.

15. *Op. cit, p.17.*
16. *Ibid.*, p.89.

Some philosophical reflections on Searle's analysis

The notions of physical interactionism and downward causation in an ultimately bottom-up causal context will seem strange and baffling to many, but really the world is full of examples. For example, the water-heater/thermostat system is an instance of physical interaction. For cases of downward causation one might refer to the way certain characteristics of crystals influence the behaviour of sub-atomic particles as lasers and holograms demonstrate, or again to the fact that when stars reach a critical mass, they exert such an enormous gravitational pressure in their centres that some atomic nuclei fuse and form heavier elements. It is clear that Searle is correct when he maintains that such concepts of interaction and downward causation are compatible with the notion of a causally enclosed, purely physical universe. He is also right in concluding that given this view of the universe, no place can be found for libertarianism.

As a further point of clarification in the wider context of the mind-body debate, we should make a clear distinction between downward causation and downward explanation. To affirm the validity of the latter is to reject reductionism. It is to reject, for example, the view that man is nothing but a handful of chemicals. It is to insist that the significance of the whole can be greater than the sum of the parts. The failure to distinguish clearly between downward causation and explanation results in a certain lack of clarity in discussions of the self found in recent works like *The Mind's I*[18] and *God and the New Physics*.[9]

Some theological reflections on Searle's analysis

As I have argued elsewhere,[19] a theology which takes seriously human responsibility and the justice of divine retribution must reject determinism and must affirm a libertarian view of human choice. In the words of C. A. Campbell, '. . . a man can be said to exercise free will in a morally significant sense only in so far as his chosen act is one of which he is the sole cause or author, and only if—in the straightforward categorical sense of the phrase—he 'could' have chosen otherwise.'[20] Searle's analysis of the problem of freedom of the will is therefore unacceptable. The important point is that Scripture does not just assume that we find we must treat ourselves and each other as

17. *Ibid.*, p.26.
18. Composed and arranged by D. R. Hofstadter & D. C. Dennett, (Penguin, 1982).
19. 'The nature of man—Has the Ghost in the Machine finally been Exorcised?', *Vox Evangelica*, (Vol. XIII, 1983). Republished in *Faith and Thought*, 1984, *110*, 140–155.
20. C. A. Campbell, *On Selfhood and Godhood*, (Allen & Unwin), p.98, 1957.

free (a position compatible with Searle's) but that an omniscient God, devoid of illusions, also treats us as responsible and therefore free, albeit possessing a limited freedom.

Must the Christian then reject identity-theory because it cannot entertain libertarianism? Again, the answer is: no. It is philosophically possible to accept the concept of downward causation within an indeterministic context. Indeed this is Popper's view. He believes that the universe is capable of real innovation. This may seem an odd idea but as Keith Ward observes, the alternative for the Christian is even more peculiar,

> It is hard to imagine how properties can be genuinely new and emergent, but the notion of creation must be a mystery on any account, and it is perhaps even harder to suppose that everything that comes to be must already have existed [e.g. in the mind of God. cf. Augustine], and so there could never be anything new at all.[21]

Ward, himself, maintains that there is real innovation in the mind of God and also in human beings and the world.

It is also philosophically possible, then, to espouse libertarian-monist-interactionism, that is a libertarian form of identity-theory. The view would reject the idea that the universe is a causally-closed system and reject that all downward causation (e.g. an intentional act) is ultimately explicable in terms of bottom-up causation. It would insist that, from the objective viewpoint of the scientist, the subject's free choice would be observed as a physically uncaused, spontaneous brain event. This view has been ably articulated by Thorp in his book *Free Will*.[22]

Conclusion

The substance of the 1984 Reith Lectures is indicative of the ascendence of identity-theory. The theory has not been proved, neither indeed in principle could it ever be proved.[23] As a hypothesis it is less credible than Searle's lectures would suggest. But it could be argued that it is attended by fewer problems than rival theories, like

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21. *K. Ward, Rational Theology and the Creativity of God*, (Basil Blackwell), p.156, 1982.

22. J. Thorp, *Free Will*, (Routledge & Kegan Paul, 1980).

23. How, for example, could it ever in principle be demonstrated that consciousness is spatially located in the brain? It has been shown by W. Penfield that the artificial stimulation of particular neurons of the brain result in certain subjective experiences, such as a memory flashing in the mind, but it seems impossible to prove that the memory-experience is actually occurring *in* those neurons, but identity-theory entails that this must be the case.

dualism.[24] When it carries a functional view of the self it runs into severe problems when attempting to accommodate a belief in the after-life. It has yet to be demonstrated whether it can coherently ally itself to a simple, ontological view of the self. However, presented in an appropriate form, identity-theory poses no threat to either the Christian doctrine of God or the notion of responsible choice.

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24. An interesting third possibility is emergentism. See, for example, W. Hasker's 'Emergentism' in *Religious Studies* (Vol. 18, Dec. 1982).