BROAD AND DEEP, BUT ALWAYS RIGOROUS: SOME APPRECIATIVE REFLECTIONS ON ULLIN PLACE'S CONTRIBUTIONS TO BEHAVIOUR ANALYSIS

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ABSTRACT: Ullin Place's contributions to the literature of behaviour analysis and behaviourism span the period from 1954 to 1999. In appreciation of his scholarship and breadth of vision, this paper reviews an early widely-cited contribution ("Is consciousness a brain process?" *British Journal of Psychology*, 1956, pp. 47-53) and a late one which should become widely cited ("Rescuing the science of human behavior from the ashes of socialism," *Psychological Record*, 1997, pp. 649-659). It is noted that the sweep of Place's work links behaviour analysis to its philosophical roots in the work of Ryle and Wittgenstein and also looks forward to the further functional analysis of language-using behaviour.
Key words: behaviour analysis, linguistic philosophy, verbal behaviour.

Ullin Place was both a charming man and a deeply serious one. He was a regular contributor at meetings of the U.K. Experimental Analysis of Behaviour Group (e.g., Place, 1999) and the European Meetings for the Experimental Analysis of Behaviour (e.g., Place, 1997a). He loved the type of debate that can be generated at specialist meetings such as these, where those who share a common perspective on their science can both review their findings and occasionally reflect on their philosophical underpinnings. The presence of Ullin at so many British and European meetings served to remind us of the important and interesting links between the experimental analysis of behaviour, behaviourism, and broader philosophical issues.

This paper will focus on two of Ullin Place's contributions, one from early in his career and one from the last period. His most widely cited paper entitled, "Is consciousness a brain process?"(Place, 1956, pp. 47-53), appeared more than 40 years before the other contribution, "Rescuing the science of human behavior from the ashes of socialism" (Place, 1997b, pp. 649-659). This in itself indicates the great span of time over which he has exerted an influence. The contrasting titles reflect the range of topics in which he took an interest but, as will become clear, there are strong themes linking the two and thus more or less spanning his career.

Is Consciousness a Brain Process?

Although it appeared in a psychology journal, and its subject matter was and remains of crucial importance for psychology, the 1956 paper is a contribution to philosophy. It is couched in the terms of the linguistic philosophy of its time; an approach to philosophy that I believe had much, and has much, to contribute to behaviour analysis. The linguistic philosophers of the mid-twentieth century, particularly Gilbert Ryle (most notably in Ryle, 1949), offered a vital and brilliant alternative to the traditional mentalism that tended to pervade British empiricism. Nonetheless, it was and remains dense stuff, and this is probably why it has not read as widely by behaviour analysts as perhaps it should have been. Behaviour analysts will, for example, be fortified in their many skirmishes on fundamental issues with the cognitivists in psychology if they have studied some of Ryle's discussions of the meanings of words. In particular, Ryle (1953) gives an account of the "use of an expression" (p. 167 et seq.), which makes it clear that the use of a linguistic term is best understood in terms of its function rather than its physical characteristics, just as the use of an everyday object should be so understood. Importantly, Ryle couples this with outlining the unnecessary confusions that are generated by the unwarranted assumption that the meaning of a term involves reference to the "real" entity for which it stands.

In the 1956 paper, Place reviews the arguments, by then longstanding in philosophy, that are taken to support the view that it is a logical error to regard consciousness as a brain process and is thus not a matter subject to empirical test. Such a review of arguments is, of course, a feature of the central strategy of linguistic philosophy, because linguistic philosophers believe that rigorous clarification of the meanings of apparently familiar terms will resolve or dispose of philosophical (or, perhaps, even psychological) problems.

The argument he makes is, roughly, as follows. It is false that the term "consciousness" normally refers to a brain process, because, amongst other reasons, it is possible to talk about aspects of consciousness, such as having certain mental images without aspiring to know anything about brain processes. However, it may still be true that consciousness is a brain process in the unusual sense that the two terms "consciousness" and "brain process" refer to the same object but

> the operations which have to be performed to verify the presence of the two sets of characteristics inhering in the object or state of affairs can seldom if ever be performed simultaneously. (p. 46)

Place accepts the philosophical argument that it doesn't usually make sense to say that two terms refer to one and the same thing, unless it is evident that the characteristics attributed by the two terms belong to a single thing, but he then goes on to suggest that there are a few special cases. These are ones where the two terms describe ontologically the same thing, but the two terms are used within very different contexts, one of these being scientific discourse:

we treat the two sets of observations as observations of the same event in those cases where the technical scientific observations set in the context of the appropriate body of scientific theory provide an immediate explanation of the observations made by the man in the street. (p. 48)

He backs this up with some examples which, although, different from this one in that the special features of introspection are not present, involve statements that scientific terms and ordinary language terms refer to the same thing. He goes on to argue that the matter could be resolved empirically, and thus become a part of psychology, if it was established that introspective reports could be accounted for by processes known to occur in the brain. However, he says, this step in the analysis is obstructed by what he terms the phenomenological fallacy. This is the mistake of supposing that when someone describes his or her experience he or she is describing the literal properties of phenomenal, or mental, events:

> It is assumed that because we recognise things in our environment by their look, sound, smell, and feel, we begin by describing their phenomenal properties, i.e., the properties of the look, sounds, [. . . etc.] which they produce in us, and infer their real properties from their phenomenal properties. In fact, the reverse is true . . . it is only after we have learned to describe the things in our environment that we learn to describe our consciousness of them. (p. 49)

He argues here that if we dispose of the mentalistic assumption that we are directly aware only of the contents of our own consciousness, and replace it with the view, familiar to behaviour analysts and linguistic philosophers, that our experiences are of objects and events in our environment rather than in our heads, there is no objection in principle to correlating brain processes with verbal reports of psychological processes.

There is a similarity in the two steps in Ullin Place's argument. At each stage, he asserts that the conventional assumption of the primacy of mentalistic terms is misplaced. At the first stage, he claims that just because the agreed, everyday, meaning of the term "consciousness" refers to mental, or private, events, this does not mean that consciousness cannot also be a brain process. At the second stage, he asserts that language, which appears to refer primarily to mental events, is confused and that dispersing this confusion leads to a simple account of the general relationship between events in consciousness and brain processes.

A great deal has changed in our knowledge of the neurosciences in the time since that paper was written, and the fact that the paper has been cited many times bears witness to its contribution. It has helped to undermine the pervasive mentalistic dualism that has done much to retard the rate we have been able to harness the new techniques of the neurosciences. Now, however, huge progress has been made. Indeed, reports of specific brain-behaviour relationships are commonplace, and functional MRI has given us a technique, which may enable us to do just what Ullin Place suggested more then 40 years ago. That is, we may be able to provide direct evidence of correlations between verbal statements based on introspection on the one hand and specific brain processes on the other. Although

we have not reached that stage, rapid developments in functional MRI and other techniques (reviewed, for example, by Posner & DiGirolamo, 2000) suggest that it is not far off.

The development of his ideas on the nature of consciousness can be seen in a much later paper (Place, 1992). Here he distinguishes between two forms of consciousness, which he calls the biological/private and the linguistic/social forms of consciousness. In his usual scholarly manner, he provides in this paper a concise account of how the philosophical tradition that assumed that nonhuman animals did not have minds has been undermined in a number of ways by nineteenth and twentieth century demonstrations of the learning abilities of animals. However, a huge gulf in linguistic competence has also been established through experimental psychological studies. He concludes that many of the remaining complexities may be reduced by distinguishing between biological/private consciousness, which "is as much part of the mental life of all warm-blooded vertebrates . . . as it is of those few whose linguistic competence allows them to describe the stream of events in which it consists in their own case" (p. 67) and linguistic/social consciousness. He broadly agrees with Skinner (e.g., 1974) that consciousness in this latter form is something that is shared and communicated within a verbal community. He also notes that this type of definition was recognised by Skinner as similar to the Marxist conception of consciousness.

Rescuing the Science of Human Behavior
From the Ashes of Socialism

In a late career review, which rejoices in the marvellous title, "Rescuing the science of human behavior from the ashes of socialism" (Place, 1997b), Ullin Place brings together a range of themes. He suggests that the failure of Marxism as a political system has led to the rejection not just of socialism as a political system but of the whole notion that scientific method can be applied to human social behaviour. He maintains that this is not the case and that:

1. A scientific account of human social behaviour will only become possible once we have an effective science of behaviour at the level of the individual;
2. We could we have an effective science of behaviour at the level of the individual if principles of behavioural analysis identified with nonhuman animals were applied;
3. Acceptance of Chomsky's (1959) views as to the inadequacy of behavioural approaches to language is the main factor inhibiting the more widespread development of a science of human behaviour based on operant principles.

Accordingly, he then reviews the progress of behaviourism from Watson to Skinner, which was then "stopped dead in its tracks by its failure to deal adequately with the phenomenon of language" (p. 651). He points out that this halt to progress derived from the acceptance of Chomsky's critique and that Chomsky's own theory in turn leads to the view that:

a substantial part of human behavior is controlled by processes which are innate and thus immune from control by learning, . . . we shall be driven to the pessimistic conclusion that there is little or nothing we can do to change human nature, no way that can prevent the depredations of the criminal, the violence of the terrorist, the horrors of warfare, and the ultimate self-annihilation of the human species. (p. 651)

Here, Place is in full flow and finding common cause with Skinner in identifying the potential of behavioural science for bettering the human condition and deploring the liberal establishment for its failure to appreciate the paucity of its prescientific vision.

In later parts of the paper, he notes a number of developments that may nonetheless turn the tide. I want here to concentrate on the one to which he gives most weight and is most closely associated with his own work. As noted earlier, he sees progress in the behaviour analysis of language as the crucial event in restoring behaviour to its proper place in psychology. He writes:

What is needed . . . is a total reconstruction of the science of linguistics based on the principle that linguistic competence is acquired and maintained by the same basic processes of selective reinforcement that govern the acquisition and maintenance of every other human skill. (p. 654)

Interestingly, he sees abandonment of some of Skinner's views, as expressed in *Verbal Behavior* (1957), as the important first step. A key move here, he asserts, will be to accept that the functional unit of language is the sentence, rather the words and phrases that comprise it. The rest of the paper is concerned with developing an account of how verbal behaviour, with the sentence as the basic unit, can be construed in terms of the three-term contingency characteristic of operant behaviour. He identifies a number of issues that need to be addressed to begin to make this plausible and a number of features that distinguish verbal behaviour from other types of operant behaviour. For example, he claims that verbal behaviour is different from animal behaviour examined in a Skinner box in that "win-shift/fail-stay" contingencies are in effect, because if the sentence is effective, the speaker moves on to the next verbal act. He spends a considerable amount of time discussing the production and functional significance of novel sentences, perhaps revealing here the impact of Chomsky's attack on Skinner on his own thinking about verbal behaviour, and links this to an account of rule-governed behaviour. Ullin Place was always concerned with the big issues in the big picture, and he is forthright about one particular use of verbal rules:

The importance of this human ability to communicate information about remote contingencies the like of which the listener need never have encountered personally is difficult to exaggerate. It is the very foundation of the culture that more than anything else distinguishes the way human beings adapt to their environment from the way animals do. (p. 656)

Although the treatment of verbal behaviour in the 1997 paper is only a sketch, there are rudiments here of a thoroughgoing, or radical, account of much of language-using or verbal behaviour. A fuller version of his account can be obtained from the series of papers he wrote dissecting aspects of Skinner's 1957 volume (Place, 1981a, 1981b, 1982, 1983). In particular, he discusses Skinner's views on syntax in the 1983 paper and considers at some length Skinner's failure to adopt sentences as the basic unit of verbal behaviour. He concludes that Skinner was right to reject the sentence, as defined by grammarians, as a unit because it is rarely a functional unit in human verbal behaviour. Instead, he says, we should use the category of an effective sentence. This is "a word or string of words which has a determinate effect on the behaviour of a particular listener, when uttered in a particular context on a particular occasion" (p. 171). Ullin Place's preferred definition of the key unit of verbal behaviour is clearly a contextually-defined functional entity.

Summary and Conclusions

In the 1956 paper, Place draws on his philosophical expertise to indicate how mentalistic assumptions confuse psychological analysis. He also accurately predicts that discoveries in neuropsychology will come to give a scientific account of consciousness. The conceptual analysis begun in 1956 is developed in Place (1992), where he distinguishes between two conceptions of consciousness, one of which is strongly linked to human verbal behaviour while the other is not.

The 1997 paper takes further Place's vision and agenda. The vision, shared across much of the behaviour analysis community, is to demonstrate how the basic principles and phenomena of operant conditioning, demonstrated in the laboratory often with nonhuman animals, can be used to interpret the whole of human psychology. However, Place states, the current rejection of the application of the scientific method to human social behaviour has produced an intellectual vacuum in which "the only creeds on offer . . . are divisive and obscurantist principles such as tribalism, nationalism and religious fundamentalism" (p. 649). His agenda is to remedy this rejection through addressing the big issues, particularly those concerning verbal behaviour, that he saw as having become major stumbling blocks to progress in behaviour analysis and thus in psychology.

Scientists of the mid-twentieth century seemed to have had an optimism that is not often found in their early twenty-first century descendants. Contemporary scientists are more likely to work only on a very restricted domain and be pessimistic about comprehending or dealing with broader issues. In Ullin Place's 1997 paper, rather as in *Beyond Freedom and Dignity* (Skinner, 1972), we are urged to address those big issues, using what we already know about behavioural principles and thus regain our optimism. It behooves us to do as he suggests.

References

Chomsky, N. (1959). Review of B. F. Skinner's *Verbal behavior. Language*, *35*, 26-58.

Place, U. T. (1956). Is consciousness a brain process*? British Journal of Psychology*, *44*, 47-53.

Place, U. T. (1981a). Skinner's *Verbal behavior* I—why we need it. *Behaviorism*, *9*, 1-24.

Place, U. T. (1981b). Skinner's *Verbal behavior* II—what is wrong with it. *Behaviorism*, *9*, 131-152.

Place, U. T. (1982). Skinner's *Verbal behavior* I—how to improve Parts I and II. *Behaviorism*, *10*, 117-136.

Place, U. T. (1983). Skinner's *Verbal behavior* IV—how to improve Parts IV—Skinner's account of syntax. *Behaviorism, 11*, 163-186.

Place, U. T. (1992). Two concepts of consciousness: The biological/private and the linguistic/social. *Acta Analytica*, *8*, 53-72.

Place, U. T. (1997a). Linguistic behaviourism and the correspondence theory of truth. In J. C. Leslie (Ed.), *Proceedings of the Third European Meeting for the Experimental Analysis of Behaviour, July 10-13 1997, Dublin, Ireland* (p. 59). Coleraine: University of Ulster.

Place, U. T. (1997b). Rescuing the science of human behavior from the ashes of socialism. *The Psychological Record*, *47*, 649-659.

Place, U. T. (1999, March). *Evidence for the role of operant reinforcement in the acquisition and maintenance of linguistic competence*. Paper presented at the annual meeting of the Experimental Analysis of Behaviour Group, London.

Posner, M. I., & DiGirolamo G. J. (2000). Cognitive neuroscience: Origins and promise. *Psychological Bulletin*, *126*, 873-889.

Ryle, G. (1949). *The concept of mind.* London: Hutchinson.

Ryle, G. (1953). Ordinary language. *The Philosophical Review*, *62*, 167-186.

Skinner, B. F. (1957). *Verbal behavior*. New York: Appleton-Century-Crofts.

Skinner, B. F. (1972). *Beyond freedom and dignity*. New York: Knopf.

Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.