

[Place, U. T. (1993). A radical behaviorist methodology for the empirical investigation of private events. *Behavior and Philosophy*, 20, 25-35.]

A RADICAL BEHAVIORIST METHODOLOGY FOR THE EMPIRICAL INVESTIGATION OF PRIVATE EVENTS¹

U. T. Place
University of Wales, Bangor

Abstract

Skinner has repeatedly asserted that he does not deny either the existence of private events or the possibility of studying them scientifically. But he has never explained how his position in this respect differs from that of the mentalist or provided a practical methodology for the investigation of private events within a radical behaviorist perspective.

With respect to the first of these deficiencies, I argue that objective observation statements describing a public state of affairs in the common public environment of two or more observers which those observers confirm as a correct description provide a far more secure foundation for empirical knowledge than statements describing private events in the experience of a single individual. In the course of this argument, I also invoke Wittgenstein's (1953) demonstration - his 'private language argument' - of the incoherence of traditional subjective empiricism.

Regarding the second deficiency, I argue that observation statements describing private events *can* serve as data for an objective study, provided that

- (a) the verbal behavior in which they consist and its context are objectively observed and recorded,
- and
- (b) an explanation is given of how this verbal behavior is generated by the events it reports.

Introduction

Before he died, B. F. Skinner repeatedly insisted, as recently as an article published in *The Times Literary Supplement* in 1987, that, unlike methodological behaviorism, which denies the possibility of a scientific investigation of private events, radical behaviorism accepts both the existence of such events and the possibility of subjecting them to scientific scrutiny. But despite his repeated protestations to that effect, no one outside the behavior-analytic community appears to have believed him.

The reason for skepticism is not difficult to understand. Everyone knows that Skinner was a behaviorist. Not only did he repeatedly say so himself, but when he died, he was well-known as the only surviving major figure from the period from 1930 to 1960 when behaviorism in its various forms was the dominant force in American Psychology. If Skinner was not a behaviorist, who was? And what *is* a behaviorist, if not someone who believes either

- (a) that mental events do not exist,
- or
- (b) that if they do, they are not accessible to scientific study?

We seem, therefore, to be faced with a dilemma: We must conclude either that Skinner is not a behaviorist or that he is contradicting himself. Needless to say, his critics have preferred to attribute his statements to inconsistency. That they may have misconstrued what he represents seems not to have occurred to them.

AUTHOR'S NOTE:

Please address correspondence to: U. T. Place, Willowtree Cottage, Boltby, Thirsk, North Yorkshire, YO7 2DY, ENGLAND.

The Objectivist Principle in Epistemology as the Foundation of Behaviorism

It is my belief that the critics of behaviorism have misunderstood what it stands for. It is, however, also my view that the behaviorists, Skinner included, are partly to blame for this misconception, because they have failed to appreciate and state adequately the intellectual foundation of their own position. The foundation of behaviorism lies its rejection of the subjectivist epistemology which originated in the 17th century in Descartes's attempt to derive all knowledge from his inability to doubt the existence of his own thought processes. The empiricist version of Descartes's epistemology, first formulated in the 18th century by Bishop Berkeley, holds that the foundation of empirical knowledge consists of observation sentences, describing the "ideas," or private sensory experiences, of a single observer.

The alternative epistemology, which subsequently became the basis of behaviorism, was first stated in the early 19th century by the French positivist philosopher and founder of sociology, Auguste Comte (1830-1842).² Comte held that the secret of the remarkable achievements of the empirical sciences was the "objectivity" of their observational procedures. On Comte's view, an observational procedure is more or less *objective* insofar as the conclusions which are reached as a consequence of its application are determined by the nature of the object, event, or state of affairs being investigated, rather than by "subjective" factors deriving from the nature of the human observer and peculiarities of the individual investigator. In an *objective observation procedure* the attempt is made to eliminate or, where they cannot be eliminated, discount all sources of error which arise from the nature of the observational process itself and from the special peculiarities - the prejudices, disabilities, and other idiosyncracies - of the individual. The objectivity of the observational procedure does not guarantee truth, but eliminating subjective sources of error makes its realization more likely.

Objective empiricism shares a number of assumptions with Berkeley's *subjective empiricism*. These may be stated as follows:

- (1) A factual statement (the utterance of a non-analytic indicative sentence) is *true* if and only if there exists what Barwise and Perry (1983) call "a situation" (an event or state of affairs) or a class of such situations which corresponds in all relevant respects to the situation or class of situations specified in and referred to by the sentence.
- (2) An *observation statement* is a particular factual statement in which the utterance of the sentence which contains it is under the *direct* stimulus control of the situation which the sentence describes.
- (3) A factual statement is *known* to be true if it is either a true observation statement or is logically tied to a number of such true observation statements in such a way as to rule out any alternative explanation of their truth.

Where objective empiricism differs from the subjective variety is in the kind of observation statement which is taken as providing the *indubitable evidential foundation* needed to extend knowledge beyond what is immediately observed.

For the subjectivist, the fundamental observation statements describe a *private event* within the experience of a single individual. For the objectivist, they describe a *public state of affairs* within the common stimulus environment of two or more observers who, assuming that they are competent speakers of the relevant language or technical code, will all confirm that, relative to the standard conventions of that language or code, those words correctly describe that state of affairs. Because they leave much less room for error, these *objective observation statements* provide a much firmer foundation for empirical knowledge than do the introspective protocols of the subjectivist.

Doubts can arise concerning the truth of a claim to have observed something, if any of the following possibilities cannot be excluded:

- (1) The claimant is lying.
- (2) The claimant is hallucinating.
- (3) The claimant is misdescribing the situation because of some sensory or intellectual disability.
- (4) The claimant is misdescribing the situation due to an inadequate grasp of the meaning of the words she is using.
- (5) The claimant is misdescribing the situation because it is a *transient event* which happens too quickly for an accurate description to be reliably given by a human observer.

In the case of a sentence such as "This is a table here in front of me" uttered in the presence of number other competent observers all of whom confirm that that sentence accurately describes the current situation, virtually no room is left for any such doubts. The first four of possibilities of error are ruled out by the confirming testimony of other competent observers; the fifth by the insistence on the part of the scientist that what is observed be a persistent state of affairs which can be repeatedly examined and re-examined by any number of observers. There would seem to be only two possibilities which are not excluded in such a case. One is the case where all observers conspire to mislead. The other is the equally improbable case where all observers are suffering from some kind of group hallucination. Both cases can occur, but both are unlikely.

By contrast, in the case of an introspective protocol such as "I feel a pain in my left shoulder", none of these possibilities (1) through (4) can be excluded. Because the event in question is transient and unavailable for inspection by other competent observers, we cannot exclude the possibility that the subject is lying, hallucinating or misperceiving the situation - either because of an intellectual defect, an inadequate grasp of the language or the transience of the observed event. It is true that in such a case the speaker cannot lie without knowing that she is so doing. But for others there is no such assurance, and in all the unintentional sources of possible distortion the claimant is in no better position than anyone else to check the accuracy of the description she gives.

Wittgenstein's Private Language Argument

Added to these considerations is an argument which we owe to Wittgenstein which conclusively demonstrates the incoherence of subjectivist epistemology. This is the so-called private language argument, which is developed in paragraphs 242 ff. of Wittgenstein's *Philosophical Investigations* (1953). Because of Wittgenstein's aphoristic style, the support which this argument gives to objectivist epistemology has been submerged in a welter of conflicting interpretations. But leaving aside what, to my mind, are the somewhat arid debates as to what Wittgenstein actually meant, the private language argument may be stated for our present purposes as follows.

If, as the subjectivist theory implies, the statements we make about our public intersubjective world are to be derived from observations of the individual's private sensory experience, then the language in which they are formulated must consist of words which derive their meaning from what has been called "private ostensive definition" in which the individual fixes the meaning of a particular word simply by resolving to use it to denote the kind of experience which he or she is currently undergoing. But in that case, Wittgenstein points out, *no other person* can learn the language whose words derive their meaning in this way. For *ex hypothesi* no one, beside the individual concerned, can have the experiences to which a particular name has been assigned. It follows that there is no possible way in which such observation sentences could provide a basis for the kind of knowledge that is public and communicable.

Yet the intuition which is embodied in the subjectivist theory - that empirical knowledge needs to be anchored in a set of incontrovertible observation sentences - is surely right. Without such an empirical anchor, we have no guarantee that what is said bears any relation to anything that actually exists now, has existed in the past or will exist in the future. But, if protocol sentences in a private language are disqualified, what is the alternative?

The only alternative, I suggest, is to suppose that the foundation of empirical knowledge consists in observation sentences describing a public state of affairs which, given the prevailing linguistic conventions, any competent member of the relevant verbal community would agree is an accurate description of that state of affairs.

The Objectivity Principle as the Foundation of Empirical Science

From the principle that the observation sentences, which provide empirical knowledge with its foundation, are descriptions of a publicly observable and observed state of affairs on whose correct description any competent member of the verbal community will agree,³ it is a short step to deduce the principle of the

objectivity of scientific observations. According to this principle, the permanent traces or records left by transient events are more reliable anchors for empirical scientific knowledge than observation sentences describing the events as observed by one or more individuals at the time of their occurrence.

Every working scientist knows intuitively that objective records of transient events made by such devices as cameras, tape recorders, kymographs or electrical event recorders are to be preferred to the testimony of any number of human observers relying only on their eyes, ears, and other sense organs. This intuition rests upon the fact that most events happen too quickly to be accurately and reliably recorded by the human sensory-cerebral system, and partly on the fact that once an event has happened, it cannot be brought back for reinspection. Using a mechanical recording device overcomes these two problems. It converts an ephemeral event into a relatively permanent state of affairs which can be examined repeatedly by any number of different observers, and thus makes it easier to reach agreement between them. It also reveals aspects of the event which are otherwise undetectable by the human sensory-cerebral system. The procedure whereby permanent records of transient events are generated by mechanical recording device is more objective than that provided by the testimony of human witnesses because the mechanically produced record, being more closely determined by the nature of the event, leaves less scope for distortion by "subjective" factors. It cannot be too strongly emphasized, however, that we can rely on the objective record to secure these advantages for us only in so far as we possess a sound theoretical understanding of the process whereby the objective record is generated. Without that understanding, we have no means judging which conclusions are justified by the objective record and which are mere artefacts of the recording technique.

The Objectivity Principle Applied to Psychology: Behaviorism

Given the principle of objectivity in scientific observation, we can now derive the fundamental methodological principle of behaviorism as it was originally stated by J. B. Watson (1913; 1919). According to this principle, the observation sentences providing the basis for an empirical science of Psychology cannot be introspective protocols describing the private experiences of a single individual. Objective records of publicly observable behavioral events - supplemented where appropriate by objective records of the associated physiological events occurring beneath the skin - are necessary in order to put psychology on a proper scientific footing.

Interpreted in this way, behaviorism is not a thesis about what does and does not exist by way of inner events; nor is it a thesis about the kind of explanation of psychological phenomena it is legitimate to give. It is a thesis about the data that are and are not acceptable as the basis on which to construct a science of Psychology.

The problem which private events present for a behaviorist is that there appears to be no way of studying them objectively. The original 19th century scheme for a science of psychology, which took private events as its primary data and introspection of those events as its primary research method, is obviously disqualified. In such a scheme there is no way of either eliminating or discounting distortion due to the observer's opinions, prejudices, peculiarities, preferences or proclivities.

There is a further problem. Private events are transient; but, unlike those in the public domain, they cannot be objectively recorded by any methods yet known. Perhaps, as some of us (cf. Place, 1956) are inclined to think, that private events are among the brain events recorded by such devices as the electroencephalograph (E.E.G.). But if they are, our introspective identification of these events is so completely subjective that there is little possibility, as things stand, of establishing any correlation between the two descriptions. In the absence of such correlations, nothing in these reports would allow us to identify which part of the recorded brain activity corresponds to the reported private event.

The apparent impossibility of studying private events objectively leaves only two alternatives. Either you accept, as Comte did, that psychology is the science which uses introspection to study private events, in which case psychology is not and can never be a genuine empirical science; or, you insist, with Watson, that psychology *can* become a genuine empirical science, in which case you must give up the notion that private events are part of its subject matter. This is the position known as "methodological behaviorism" which for a while was a dominant force in twentieth century psychology. But methodological behaviorism had a fatal flaw. It put private experience - one of the most important phenomena of human and perhaps

animal life - totally beyond the reach of scientific investigation.

Radical Behaviorism and the Objective Investigation of Private Events

Skinner repeatedly insisted that his radical behaviorism differs from methodological behaviorism in that it accepts not only the existence of private events, but also the possibility of studying them scientifically. How is this possible? Skinner's answer is that, although there is presently no way of objectively observing and recording private events themselves, we can objectively observe and record the verbal behavior of human subjects when they report the occurrence of such events.

I take Skinner's point to be that there is no more reason to reject objective records of introspective verbal behavior as evidence for the private events they report than to reject a cumulative record of responding in a Skinner box as evidence of the lever-pressing or key-pecking it records. It is just that, in the former case, the causal process connecting the events being studied and the objective record available for study is more indirect and less well understood. But if this is the analogy that Skinner has in mind, it focuses attention on the fact that, just as our interpretation of a cumulative record depends on our understanding of the causal process which connects it to the events which produce it, so our interpretation of the subject's verbal reports requires an understanding of the causal process which connects *it* to the private events which it reports.

Once this point is made, it becomes clear that our lack of understanding of the causal connection between private events and the verbal behavior that reports them is the most serious impediment to the development of a genuinely objective approach to the study of private events. But the reason for that lack of understanding, I believe, is not that the problem is insoluble, or even beyond the reach of current theory. It is rather that the problem of explaining how verbal reports of private events are generated has never been seriously addressed.

A Radical Behaviorist Methodology for the Study of Private Events.

I conclude that, before we can confidently use verbal reports as evidence of the nature and occurrence of private events, we need to embark on a systematic program of empirical research, one designed to throw light on the phenomenon whereby human beings acquire the ability to make verbal reports of private events taking place inside their skins. We need to explain how that ability is acquired as part of the process of acquiring linguistic competence in general. Such a program of research needs to be conducted as a series of projects at six different levels:

- (i) a project should be conducted at the *sociological* level designed to study the practice of making verbal reports of private events in the various social settings in which such reports are either solicited or spontaneously provided. Such a project would be designed
 - (a) to throw light on the social or "pragmatic" function of such verbal reports, e.g., in applying for exemption from social obligations, as in the case of reports of feeling tired or unwell,
 - and
 - (b) to provide samples of the form which such reports take in the different social contexts in which they occur.

In this project we will need the help of Ethnomethodological Sociologists in the research tradition known as "Conversation Analysis." They have developed an unparalleled expertise in the recording, transcribing and analysing all forms of naturally occurring verbal interaction. A particularly relevant study in this connection is Gail Jefferson's (1980a; 1980b; 1988) investigation of what she calls "troubles talk."

- (ii) a project should be conducted at what we may perhaps call the "*humanistic*" level in which perceptive "introspective observers" are asked to pay attention to and record, as accurately and dispassionately as

they can, all the thoughts and experiences that occur to them over a limited period of time. Two well known literary examples of this kind of "introspective diary" are Marcel Proust's (1923-8) *À la Recherche du Temps Perdu* and James Joyce's (1926) *Ulysses*. These literary examples, particularly that of Proust, are open to the objection that the record is distorted in the interests of narrative clarity and literary style. Similar diaries produced for academic purposes, like Dinah Murray's recent (1986) 'Silent speech acts and their cognitive effects,' are likewise open to the familiar objection, levelled at the introspective reports of the Würzburg School (Humphrey 1951), that they are subject to distortion by the diarist's theoretical perspective.

(iii) a project conducted at the *conceptual* level which is designed to throw light on two questions:

- (a) 'Which of these supposed verbal reports are in fact genuine reports of private events?'²⁴ and, in those cases where a statement *is* a genuine report of a private event
- (b) 'How does the speaker succeed in communicating his or her meaning to the listener?'

In this project we need to call on the expertise of linguistic philosophers in the tradition represented by the work of Ryle (1949) and Wittgenstein (1953; 1980) on the psychological concepts of ordinary non-technical language.

(iv) a project should be conducted at the level of *experimental psychology* which is designed to throw light on the role of private events in the control of human performance. This would incorporate many existing experimental studies, in both the behavioral and the cognitive traditions, in which verbal reports of private events are used as evidence of the occurrence or non-occurrence of private events. The main difference between this project and those studies being undertaken already would be

- (a) that it is focused specifically on the phenomenon of private events, their function and the subject's ability to report them,
- and
- (b) that it is informed both by sociological studies of the nature and context of such reports, as they occur outside the laboratory, and by conceptual studies of their linguistic meaning.

(v) a project conducted at the level of *developmental psychology* which is designed to throw light on the process whereby children acquire the ability to report their private thoughts and experiences, using a combination of

- (a) field studies focusing on the role of the mother and the peer group in teaching children such skills as how to report and describe their pains or internalize their self-directed speech,
- and
- (b) experimental studies of (e.g., teaching children to solve problems by making the appropriate self-directed verbalizations).

Finally,

(vi) a project should be conducted at the *physiological* level which is designed to discover the physiological correlates of verbal reports of private mental events. This project would aim not just at making an anatomical identification of the events reported, but equally at disentangling the mechanism which makes possible the reporting of *these* events, and not others which perform an equally, if not more important, role in the regulation of human performance.

REFERENCES

- Barwise, J. and Perry, J. (1983) *Situations and Attitudes*. Cambridge, Massachusetts: M.I.T. Press.
- Comte, A. (1830-1842) *Cours de Philosophie Positive*, 6 Volumes. Paris.

- Feyerabend, P.K. (1975) *Against Method*. London: New Left Books.
- Humphrey, G. (1951) *Thinking: An Introduction to its Experimental Psychology*. London: Methuen.
- Jefferson, G. (1980a) The analysis of conversations in which "troubles" and "anxieties" are expressed. *Progress Report, (British) S.S.R.C. (HR 4805/2)*. London: Social Science Research Council. Mimeo.
- Jefferson, G. (1980b) The analysis of conversations in which "troubles" and "anxieties" are expressed. *Final Report, (British) S.S.R.C. (HR 4805/2)*. London: Social Science Research Council. Mimeo.
- Jefferson, G. (1988) On the sequential organization of troubles-talk in ordinary conversation. *Social Problems*, 35, 418-441.
- Joyce, J. A. A. (1926) *Ulysses*. Paris: Shakespeare.
- Kuhn, T. S. (1962) *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Murray, D.K.C. (1986) Silent speech acts and their cognitive effects. In M. B. Papi and J. Verscheuren (eds.) *The Pragmatic Perspective: Selected Papers from the 1985 International Pragmatics Conference*. Amsterdam: Benjamins.
- Place, U.T. (1956) Is consciousness a brain process. *British Journal of Psychology*, 47, 44-50.
- Proust, M. (1923-8) *À la Recherche du Temps Perdu*, 8 vols. Paris: Éditions de la Nouvelle Revue Française.
- Ryle, G. (1949) *The Concept of Mind*. London: Hutchinson.
- Skinner, B.F. (1987) Outlining a science of feeling. *The Times Literary Supplement*, 490, 501-2.
- Watson, J.B. (1913) Psychology as the behaviorist views it. *Psychological Review*, 20, 158-177.
- Watson, J.B. (1919) *Psychology from the standpoint of a behaviorist*. New York: Lippincott.
- Wittgenstein, L. (1953) *Philosophical Investigations*. English translation G. E. M. Anscombe. Oxford: Blackwell.
- Wittgenstein, L. (1980) *Remarks on the Philosophy of Psychology*, 2 Volumes. G. H. von Wright and H. Nyman (Eds.) English translation C. G. Luckhardt and M. A. E. Aue. Oxford: Blackwell.

NOTES

1. Earlier versions of this article were presented at the Second European Meeting on the Experimental Analysis of Behaviour, University of Liège, Belgium, July 1988 and at the Fifteenth Annual Convention of the Association for Behavior Analysis, Milwaukee, Wisconsin, May 1989. On the latter occasion it was dedicated to the memory of the late Willard F. Day Jr. who died in February of that year. Another version was presented as part of a symposium, 'Introspection revisited', at the London Conference of the British Psychological Society, December 1989
2. The principle had, however, been accepted implicitly by working scientists from the time of Galileo, if not before. This is shown by the fact that it is a clear implication of Galileo's distinction between the primary and secondary qualities of material bodies that those (primary) qualities which are susceptible to objective measurement bring us closer to reality than those (secondary) qualities which are a matter of subjective assessment
3. By deriving the principle of objectivity from the conditions required to achieve agreement between observers, we avoid the objection that is sometimes raised against objectivist and behaviorist approaches to language, namely, that all a machine can record is what has been aptly described as "a broth of phonemes." We may be able to design computers which can recognize words; but, so the argument runs, only a human being can understand them. By the same token, this position can also accommodate the contention of philosophers of science like Paul Feyerabend (1975) and Thomas Kuhn (1962) who have emphasized the theory-laden character of scientific observations. All this means is that in order to achieve agreement on the correct description of an objective state of affairs, the observers must share a common theoretical language or "paradigm", as Kuhn calls such things.
4. For example, when a pupil shouts *I know* in response to the teacher's question, she is not reporting a private event or, for that matter, a private mental state. She is claiming to be able to give the right answer. Whether it *is* the right answer is decided by public, not private criteria.