

THE UNIVERSITY OF CALGARY

FOLK PSYCHOLOGY: RELIC OR REALITY?

BY

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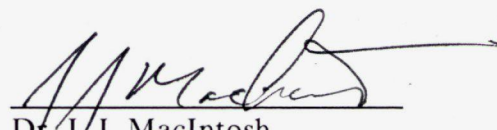
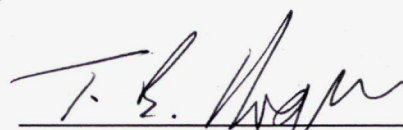
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Folk Psychology: Relic or Reality?", submitted by Edrie Sobstyl in partial fulfillment of the requirements for the degree of Master of Arts.



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ABSTRACT

Folk psychology, also known as commonsense or everyday psychology, has recently come under attack from the eliminative materialist quarter. Folk notions like belief, desire, and so on, it is argued, are conceptually outmoded and should be eliminated because they do not refer to real entities, that is, there are no beliefs and desires and we have been confused in thinking that there are. This thesis approaches the argument that folk psychology ought to be eliminated on scientific grounds from the point of view that eliminative materialism is confused about what is to be eliminated. The very idea of folk psychology has not been made sufficiently clearly to determine its scientific worth, and accomplishing this clarification is the work of the first part of this essay.

Once that idea has been clarified, it begins to become evident in the proceeding sections that the problem for any future scientific psychology lies not with the folk as such, but with intentionality as that feature of psychological discourse that appears scientifically intractable. Whether or not empirical investigation proves that there is any merit to the eliminative materialist project, and history gives us no definite clues either way, it is finally concluded that a possible appealing solution to this debate is one which reconciles the scientific and the intentionalistic as important and indispensable tools for dealing with different levels of inquiry.

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This thesis is dedicated to my partner, Nick Karim, for his unfailing emotional support, and to my parents.

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INTRODUCTION

"Everything should be made as simple as possible, but no simpler."

Albert Einstein

Simplicity can be viewed in a number of ways. In the discipline known as the philosophy of mind, some theoreticians have of late seen simplicity as synonymous with scientific rigour. The theme underlying my thesis is that while simplicity can be a desirable quality in our scientific theories, it may not be applicable in this sense to all theories about the mind. It is not necessarily a shortcoming of a theory about the mind that it fail to meet the standards of scientific rigour, and in fact forcing these standards on some theories of the mind creates more complexities than those theories contained before we began tampering with them.

The perpetrators of this damage hold a position known as eliminative materialism. The central tenet of this position is that all our past efforts to untangle such problems in the philosophy of mind as the mind/body problem, the meaning and incorrigibility of belief, and the nature of consciousness, have been misguided. There is no point in investigating and theorizing about the mental and its quirks because there is quite simply no such thing. The predecessors of this position, the reductive materialists, held that there is such a thing as the mental, but that we have been mistaken in not noticing that it is really just a form of the physical. The former can (and should, if we prize accuracy)

be reduced to the latter. The eliminative materialist, in contrast, says there are only physical events. What's more, the eliminative materialist says, science will support this claim as soon as it investigates the mental concepts of so-called commonsense or folk psychology, and discovers that behind those concepts lies nothing - no desires, no wishes, hopes, or fears, no thought and reason, no introspection, and so on.

This claim may seem outrageous and indeed that is how it is usually perceived. If you believe right now, as you surely must, that you are reading a page in a graduate thesis, how could you possibly be mistaken in that belief? Alas, this is a question to which no eliminative materialist has given a satisfactory answer. Instead, he or she will talk about what is so wrong with folk psychological things like beliefs that we should shed no tears at their departing, and even as conscientious scholars hasten them on their way. Therein lies the central problem with eliminative materialism as an approach to the mind and to commonsense ways of talking about the mind.

Chapter one outlines a brief history of the mind/body problem in order to expose the background that is being dismissed by the eliminative materialist. A discussion of the status of folk psychology follows, as some eliminative materialists (and some of their opponents) appear to believe that it is important whether we consider commonsense psychology to be a theory or not. Chapter two zeroes in on folk psychology itself. In order to talk about eliminating folk psychology, we must first be clear about what it is that we're eliminating, which eliminative materialism is not. By taking on the task of defining commonsense psychology, however, I uncover some very significant ambiguities in the literature about commonsense psychology, and set about trying to clarify them.

In chapter three I examine contemporary claims about folk psychology in light of the considerations arising out of chapter two. It begins to become evident that the whole eliminative materialist argument has strayed into rocky territory, when it need not have done so. In chapter four I examine the claim that science will eventually prove the eliminative materialist correct by means of addressing examples similar to the ones the eliminative materialist invokes. Again it becomes evident that the approach of eliminative materialism against folk psychological concepts misses the mark.

Chapter five looks at where the eliminative materialists have gone wrong, namely by firing their cannon at the wrong opponent. I contend that it is intentionalistic psychology that eliminative materialism wants to eliminate. But having said that, there is a way to diffuse the outrage incurred by eliminative materialism, and that is to introduce the equally outrageous notion of competing levels of explanation. This notion allows us to concede that eliminative materialism may be right, but consoles us with the fact that this may not be so earthshaking a revelation as we first thought.

CHAPTER ONE

GETTING TO ELIMINATIVE MATERIALISM

Most discussions of materialist theories in the philosophy of mind begin with an historical exegesis of the various positions and "isms" that have arisen in response to the question of the nature of consciousness and the mind-body problem. Such summaries sometimes, even usually, begin at classical or Cartesian dualism, then briefly and I would say simplistically define some neodualist accretions (epiphenomenalism, interactionism, psychophysical parallelism, etc.), and finally dismiss the entire dualist school of thought as both conceptually and scientifically untenable.¹ I shall follow suit, at least with regard to scientific untenability, leaving open the question of conceptual acceptability. This shortest possible route to eliminative materialism (with a detour at the potential consideration of folk psychology as a theory) concentrates on the sorts of motivations we might have for accepting such a position, in part because the evidence eliminative materialism relies upon is not yet in. This lack of conclusive evidence seems to be taken as justification for simply stating eliminative materialism as a coherent possibility, but

¹ There are many examples that could be mentioned here. Three of the more influential contemporary introductions to the field are: Keith Campbell, *Body and Mind*, Joseph Margolis, *Philosophy of Psychology*, and Peter Smith and O. R. Jones, *The Philosophy of Mind: An Introduction*. The introduction to C. V. Borst's *The Mind/Body Identity Theory* contains a more classical approach, and a good current introduction can be found in Ned Block's *Readings in the Philosophy of Psychology*, Volumes I and II.

as we shall see in the next three chapters, it is doubtful that the statement of eliminative materialism as a coherent possibility has been made coherently enough.

(i) From Dualism to Materialism

Cartesian dualism (so called in spite of Descartes' attempts to be a materialist as far as possible), holds that the seat of consciousness, of beliefs, desires, fears, hopes, etc., is the mind, an entity separate and distinct from the body. The mind is "an abstract noun that lacks a concrete referent",² it is "utterly nonspatial having neither shape, size, nor location. Its essence is simply having consciousness."³ Whatever else this ethereal entity might be, it can be viewed as sometimes causally affecting the body, and sometimes being causally affected by the body, giving rise to a dualistic subtheory called interactionism. Or the causal chain may be restricted in its operations so that physical events can cause mental events, but not vice-versa, a position known as epiphenomenalism. Psychophysical parallelism disallows all causal interaction between mind and body, but admits a noncausal correlation between physical and mental events.

The possible relationships between mind and body are obviously numerous, but one feature of mind, at least as Descartes construed it, remains constant: it is immaterial, intangible, and therefore not amenable to scientific investigation (although the causal laws, if any, connecting the mind to behaviour might perhaps be the subject

² Thomas Szasz, "Objections to Psychiatry", in Jonathan Miller, *States of Mind*, pp. 272-273. Of course the mind is not itself a noun, it is the referent of a noun. Szasz is concerned here with bringing out the difficulty in determining the nature of what is referred to by the word "mind".

³ Jerome A. Shaffer, *Philosophy of Mind*, p. 35. Shaffer's claim that the mind lacks a specific location is problematic for a variety of reasons; his statement, however, serves to emphasize the problem for the Cartesian dualist in somehow connecting or "attaching" persons to their minds.

matter of a science). Dualists are therefore unable to answer a number of (for them) very pressing questions, for example, at what stage of human evolution did the mind come into existence, and as a response to what conditions? How do individual minds come to be? Does the onset of their presence coincide with the birth of a particular person? Are they necessarily "attached" to people (or animals and if so which ones) at all? If so, do they pass out of existence when people (or animals) die, or can they exist in a disembodied state? Perhaps most pressing of all is the question of mind/body causal interaction, or how the intangible mental can produce changes in physical entities such as bodies. Any answers to these questions seem at best ad hoc, at worst frustratingly mystical, because the products of the mind are only observed by us in their alleged behavioural manifestations. No special "intellectoscope" can ever be devised to allow us access on an interpersonal basis to that paradigm of the inaccessible, the human mind.

It is productive to examine the reasons for rejecting dualism, because these reasons have considerable bearing on the theoretic appeal of one of the alternatives to dualism, namely eliminative materialism. There are two factors motivating outright denial of dualism in all its forms. First, there is the principle of parsimony, sometimes referred to as Ockham's Razor, which requires that we not multiply entities beyond necessity, and choose for our explanations the simplest theories we are able to formulate. Any postulates that do not contribute to austere explanations are regarded as gratuitous and hence disposable. As applied to dualism, Ockham's Razor shears away the hypothesized but evasive mind and its attributes (the beliefs, desires, intentions, and so forth that make up the fabric of commonsense psychology), leaving only the body behind. The mind-body problem becomes tractable by being exposed as a pseudoproblem, and mental ac-

tivity then becomes a likely candidate for empirical investigation. But, in opposition to this line of thought, it may be that some events cannot be explained without postulating minds and their attributes, so that commonsense psychological notions remain part of even the most austere commonsense explanations.

A reliance on empiricism is the second element influencing the denial of dualism. It is not surprising, given the nature and scope of scientific discoveries and advancements in this century, that we should in general come to place such faith in the "Scientific Method". Herbert Feigl offers us a reason for this attitude, saying, "the optimistic outlook that inspires the advance of science and informs its heuristic principles, does not tolerate the (objectively) unknowable or 'un-get-at-able'".⁴ This belief, that some day we will "get at" the whole picture of human intellectual activity, precludes the very existence of such entities as the essentially inaccessible (or at best subjectively accessible) mind, and is thus the practical expression of the principle of parsimony. (A related idea underlies both the principle of parsimony and the empirical method, i. e. , that there are not only too many entities being postulated but that they (the mental ones) are also too "queer". Interestingly, this idea of queerness parallels arguments against moral intuitionism: "If there were objective values, then they would be entities or qualities or relations of a very strange sort, utterly different from anything else in the universe. . . Correspondingly, if we were aware of them, it would have to be by some special faculty of moral perception or intuition, utterly different from our ordinary ways of knowing everything else."⁵ We seem to have research programmes afoot which may explain hu-

⁴ Herbert Feigl, "The 'Mental' and the 'Physical'", Minnesota Studies in the Philosophy of Science, Vol. II, pp. 400-401.

⁵ (J. L. Mackie, Ethics: Inventing Right and Wrong, p. 38.)

man moral action without postulating queer entities, or faculties by which we apprehend them.)

It is further recognized as a practical necessity that the findings of science must be taken into account by philosophers (and others) who are interested in developing a coherent model of the "mental". One of the strong points of eliminative materialism is its insistence that any adequate psychology must be constrained by the truths of neurophysiology. Wilfrid Sellars points this out when he writes, "familiarity with the trend of scientific thought is essential to the appraisal of the framework categories of the common sense picture of the world."⁶ (Sellars' assertion here obviously has greater force than a mere warning of the folly of academic isolation, but the further implications will be taken up later.) However, the path toward understanding the mind through neuroscience is also fraught with complications, and we must be extremely careful in formulating our expectations here. This point will be taken up again in considerable detail in later chapters.

Dualism has then fallen victim to a sort of tautology: to be conscious and to have free action is to have a mind, but the Cartesian mind, because of its essentially unintended nature, cannot be described in any more helpful way than as being the seat of consciousness and action. This leaves us free to adopt, if we will, a monistic account of nature, i.e., to postulate the existence of only one sort of stuff or substance, the physical. The mind is now seen in much of the literature as either a collection of physical processes, or as nothing at all. There are, of course, exceptions. Those who wish to espouse supervenience theories of the mind reject the apparent dichotomy between

⁶ Wilfrid Sellars, "Empiricism and the Philosophy of Mind" in Science, Perception, and Reality, p. 172.

dualism with its mysterious mind, and monistic reductionist physicalism. The supervenience theorists want to say that the mental is not reducible to the physical, but is supervenient on the physical, in a way that (they think) excludes dualism. It is not clear, however, that supervenience does not amount in the end to a form of interactionist dualism. It is also worth noting that functionalist theories of the mind, which really equivocate at best on the question of dualism, do not fit happily into the dichotomy. I will here bypass a lengthy description of the variety of (other?) monistic alternatives available in order to focus immediately on physicalism.

Physicalism as a methodological strategy (which is more or less synonymous with materialism) holds that mankind and nature are composed of the same matter, and that everything worth knowing about humanity can be adequately accounted for by explaining the physical states and processes to which we are subject. (Obviously "everything worth knowing" will have some serious qualifications under physicalism because the nature of the questions we ask about people will change. The eliminative materialists, as I will argue in chapters two and three, have thus restricted this area of inquiry before the inquiry has really started.) It is at once evident that the perceived goal of the scientific tractability of the mental, a goal that dualist theories cannot hope to meet,⁷ is wrapped up in the very method of inquiry favoured by physicalism. "The physicalist believes that the methods of natural science can be counted upon to give a comprehensive description of human beings."⁸ Of course the emphasis here on physics as the science specifically suited to unravelling the mysteries of mankind is somewhat outdated. It is now more characteristic for the materialist to rely on an amalgamation

⁷ Clearly no sincere dualist would want to meet this goal.

⁸ John O'Connor, Modern Materialism: Readings on Mind-Body Identity, introduction p. 5.

of highly specialized physical, chemical, and biological sciences, particularly neurophysiology.

Having reached materialism, we can consider the possibilities presented by a scientific investigation of mind. There are two feasible alternatives, one reductionist and the other an eliminativist approach.⁹ The first is summed up in Feigl's approach to science generally: "the advance of scientific theories consists essentially in the reduction of a variety of originally heterogeneous observable facts and regularities to a unitary set of explanatory concepts and postulates."¹⁰ (Note that the facts in question must be observable and recall the verificationist tendency that led us originally to materialism.) This characterization of the scientific enterprise is in some sense the reverse of what the materialist intends. Feigl's statement looks as though it would allow as a valid theoretic program the reduction of the observable facts about humans (at either the gross behavioural or microchemical level) to the concepts of folk psychology, upon which a systematic cognitive science can then be founded. Certainly this is the route some wish to take.¹¹ But the materialist hopes to reduce commonsense psychology to a purely physical theory of the "mental", because the concepts and postulates of the former are seen as neither unitary nor particularly explanatory.

But there are objections, some of them serious, to the reductive program. For example, much of the debate surrounding the mind-brain identity theory in the last two

⁹ The suggestion that the mental is supervenient on the physical ought perhaps be included as a third alternative, but I will omit it here because supervenience seems to me to equivocate on the question of materialism versus dualism, rather than offer a straightforward variant of reductionism.

¹⁰ Feigl, "The 'Mental' and the 'Physical'", p. 438.

¹¹ See, for example, Howard Gardner, The Mind's New Science, pp. 285-288.

decades focused on such problems as Leibniz's law of the Indiscernibility of Identicals,¹² the location question, the alleged privacy of mental events, the problem of introspection, and the alleged incorrigibility of the mental. These problems all centre on the issue of whether it makes sense conceptually to speak of an identity between the mind and the brain (or, more specifically, the brain/central nervous system complex).¹³ I think it does make sense, but I also think that this debate is based upon an unfounded assumption. The reductive materialist hopes to replace the idiom used in folk psychology with a set of more scientific concepts, and thereby to gain an enhanced explanatory capacity. But this replacement is to take place within the confines of the "predictive" framework of folk psychology. This allows us to "pare our ontology in the manner simplicity requires, and we salvage the legitimacy of a familiar idiom at the same time."¹⁴ But it is open to question whether cognitive science and folk psychology can be forcibly conjoined in this fashion. Here the eliminative materialist steps in.

(ii) Folk Psychology's Theoretical Nature

Eliminative materialism is distinguished by the claim that any hopes for intertheoretic reduction between folk psychology and neurophysiology will come to nought.

¹² This is often confused in the literature with the Identity of Indiscernibles, which holds that for all P, if α is P just in case β is P, then α and β are identical; Leibniz tells us this is contingently true. The law of the Indiscernibility of Identicals, which isn't explicitly mentioned by Leibniz, is of course referred to as Leibniz's law, and holds that if α and β are identical, then for all P, α is P if and only if β is P. Think of P as standing for the quality of being a stabbing pain. The problem for any identity theorist, then, is that if pains are identical to neural configurations, a stabbing pain must have a corresponding stabbing brain state. My thanks to Jack MacIntosh for making Leibniz lucid to me on this point.

¹³ These issues are discussed thoroughly and very helpfully in C. V. Borst's The Mind/Brain Identity Theory and in John O'Connor's Modern Materialism.

¹⁴ Paul Churchland, Scientific Realism and the Plasticity of Mind, p. 82.

The way in which this central claim is expanded normally takes one of two forms. The first, represented most enlighteningly by Paul Churchland, Patricia Smith Churchland, Stephen Stich, Paul Feyerabend, and possibly Daniel Dennett,¹⁵ holds that it is at least possible to view commonsense or folk psychology as comprising an empirical hypothesis, entailing that it is subject to certain constraints, methods of verification, and possible elimination should it fail to meet scientific standards. The second form holds that folk psychology is not an empirical game but a language game, a fixed understanding of a set of concepts, which presupposes the truth of some ontological assumptions which are in fact false. This point of view is represented by the earlier Richard Rorty (i.e., prior to Philosophy and the Mirror of Nature), and possibly by Daniel Dennett.¹⁶ (A third possibility is offered by Adam Morton, suggesting that folk psychology is neither empirical nor idiomatic, but consists in a "stylistic coherence" or set of criteria of plausibility for the principles and concepts we invoke in psychological explanations, which Morton calls a "scheme".¹⁷ But to set Morton and the folk-theorists up as opponents on this issue is misleading. Paul Churchland's exposition of what a theory amounts to, i.e., a conceptual framework, is so deliberately broad that it allows for Morton's scheme. Furthermore, the eliminative materialist critique of commonsense psychological concepts as radically false remains intact whether those concepts are schematic or theoretic.)

¹⁵ It is not clear whether Dennett views folk psychology as a theory or merely as a systematized idiom; he refers to the erroneousness of our "ordinary" way of picking out mental features and entities, but fails to say whether this method embodies a theory, a possibility we must surely allow. On the other hand, he writes that "most if not all of our familiar mentalistic idioms fail to perform (the) task of perspicuous reference, because they embody conceptual infelicities and incoherencies of various sorts." (Brainstorms, p. xix) This seems much closer to Rorty's position, below, that talk of the mental is just a misguided way of talking about the physical.

¹⁶ See note 15.

¹⁷ Adam Morton, Frames of Mind, especially his Introduction and Chapter One.

The distinction between folk psychology as a theory or as a set of everyday concepts used in certain everyday ways may be more apparent than real, for reasons that will be discussed shortly. What is more interesting and relevant for now is the attempt to prove that folk psychology is not, and cannot be, a theory. This argument is made by Kathleen Wilkes in the following way: first, she asserts that "everyday mental terms have more work to do than have scientific terms."¹⁸ In addition to descriptive, explanatory, and predictive functions, mental terms also have an evaluative function (i. e. , they are used to praise, blame, warn, etc.). Here Wilkes is likely right, but her conclusion, that "there is no useful sense of the word 'theory' whereby everyday psychological explanation suggests or contains a theory of the mind",¹⁹ does not follow. It is not incoherent to suppose that one vocabulary can be used in a variety of contexts, and that each of these contexts suggests a distinct theory. For example, terms such as 'mass' and 'velocity' are used in both classical mechanics and the theory of relativity, which are most certainly distinct theories. The fact that such terms acquire a different meaning depending on the context in which they are used does not support Wilkes' contention that the terms cannot therefore embody a theory in any context. Rather, it seems to be the case that the terms themselves are actually different depending upon the theory in which they figure. 'Mass' may seem like the same term under the theory of relativity and in classical mechanics, but it is in fact subtly different due to theoretical considerations. Folk terms are affected by similar considerations, suggesting they must be embedded in some theory to acquire a specifically psychological meaning. A problem for this approach, which Wilkes acknowledges, is that by adapting a term to a theory, we may no

¹⁸ K. V. Wilkes, "Functionalism, Psychology, and the Philosophy of Mind", *Philosophical Topics* 12, 1 (1981) p. 149.

¹⁹ *Ibid.* , p. 149. There is, however, one useful sense of everyday (or folk) psychological explanation that may not suggest a theory. This is the generic sense discussed in chapter two, section (ii).

longer have the same term. As will be argued at length later (see chapter five), it is essential to isolate the descriptive, explanatory, and predictive functions and meanings of everyday psychological terms in order to develop a cognitive science in which these terms figure.

Wilkes' second point is that even after we separate the evaluative capacity of folk psychology from its other capabilities, it remains the case that cognitive science (and neurophysiology, for that matter) seeks to explain different phenomena than folk psychology, and does so in different ways.²⁰ Cognitive science, for example, explores short- and long-term memory, perception, problem-solving, etc., in a way that requires the identification of the fundamental capacities common to all beings capable of purposive behaviour. Folk psychology, on the other hand, seeks to explain such phenomena as why Fred became a Catholic, why John took such a dislike to David, and why Sheila chose to holiday in France instead of Italy.²¹ Again, however, Wilkes' conclusion is all wrong. Although she is correct in pointing out that the explananda of folk psychology and cognitive science, (and again, neurophysiology) differ in some very fundamental respects, this fact says nothing much about either of them other than that they are different. She is arguing in effect that since cognitive science is a theory, and since folk psychology is not at all like cognitive science, folk psychology therefore cannot be a theory. The error here should be obvious.

A corollary of Wilkes' second point is that folk psychological explanations are "irredeemably and essentially context-relative", making them "able to produce subtle,

²⁰ Ibid. , p. 150

²¹ Examples are *ibid.* p. 150.

accurate, ambitious and sophisticated analyses of human motivation", but only in "the sphere of the unique actions of specific individuals in well-nigh unrepeatable circumstances." This context-relativity "has no reflection in scientific psychology."²² Again, the point is well taken but tells not at all against the claim of folk psychology to theoretical status. Wilkes writes:

"not only does the everyday conceptual framework contain no theory, not only do the elements of that framework suffer from redundancy, categorial obscurity, and ineliminable vagueness, but above all there is no justification for the supposition that common sense can provide the most general and abstract level of cognitive psychology; we do not make the same assumption about common sense and the physical sciences."²³

The failure of common sense to provide abstractions and generalizations for cognitive psychology should come as no surprise. They are, after all, different theories. The mere fact that the elements of the everyday conceptual framework suffer from redundancy, categorial obscurity, and ineliminable vagueness, whereas the conceptual framework of cognitive psychology (or neurophysiology), whatever it may be, does not (or will not or must not), suggests only that folk psychology is a bad theory, not that it is not a theory at all. The fact that the conceptual framework of folk psychology is revealed to be redundant, obscure, and vague only as compared to another theory reinforces the sug-

²² Ibid. , p. 152.

²³ Ibid. , p. 155.

gestion that although folk psychology is a bad theory from the scientific point of view, it can be called a theory all the same. Wilkes is simply misguided in making mature cognitive science the standard for what any theory of the mental, including the commonsense theory, must be (although in so doing she may have given us a good argument for rejecting the idiom of folk psychology as a descriptive, explanatory, and predictive tool). The problem is evidently the belief that different assumptions are made regarding common sense than are made with reference to the physical sciences. (This problem is discussed at greater length in chapters two and three.) It is this belief that Paul Churchland attacks in his attempt to provide us with a useful sense of the word 'theory' whereby commonsense psychology does constitute a theory of the mental.

"There is", writes Wilfrid Sellars, "a widespread impression that reflection on how we learn the language in which, in everyday life, we describe the world, leads to the conclusion that the categories of the common sense picture of the world have, so to speak, an unchallengeable authenticity."²⁴ Although the "'ostensive ties' between our fundamental descriptive vocabulary and the world rules out of court as utterly absurd any notion that there are no such things as the framework talks about",²⁵ we can introduce such a notion by throwing open to question the existence of the ostensive tie. As previously mentioned, Churchland accomplishes this by broadening the notion of a theory from its familiar position as a set of speculative hypotheses to include all forms of knowledge, especially the perceptual and the commonsense. He thereby weakens our rigid view of the categories of common sense as possessing special ontological status. Without going into Churchland's argument in detail, it is sufficient to emphasize his

²⁴ Sellars, "Empiricism and the Philosophy of Mind", in Science, Perception, and Reality, p. 173.

²⁵ *Ibid.*, p. 173.

point that the character of all our knowledge claims is mediated by the conceptual framework in which they are expressed, and that the possibility of learning progressively richer frameworks is great, particularly with reference to the perceptual case. However, it is worth noting that the theory/non-theory debate over folk psychology is in the end quite sterile. It may be thought to be easier to accomplish wholesale disposal of folk psychology if it is a theory, but it may be a very different kind of theory than those used in the scientific context, and anyway, arguing that folk psychology is not a theory cannot save it.

(iii) The Future of Eliminative Materialist Theory

The concepts of folk psychology, whether they are theoretical or idiomatic, suffer from radical failure of reference, and are therefore not reducible to neurophysiology. This is the central claim of the eliminative materialist. But eliminative materialism may be what Jeffrey Foss has called "promisory note philosophy",²⁶ because its ultimate success or failure as a model of the "mind" depends on future scientific discoveries. If these discoveries turn out to be as expected, the proponents of eliminative materialism can be applauded for their astute powers of prediction. If the discoveries in question turn out not to support a purely neurophysiological account of mental activity, no one is left holding the eliminative materialist bag because, as Foss points out, many philosophers offer arguments in favour of eliminative materialism, but no one is an eliminative materialist. (Perhaps the risk is too great.) A third possibility exists, which tends to be

²⁶ Jeffrey Foss, "A Materialist's Misgivings About Eliminative Materialism", New Essays in the Philosophy of Mind Series II, p. 107.

overlooked. A future cognitive science may be feasible in which folk or folk-like terms figure, with or without modified meanings, but which may prove to be irreducible and nonequivalent to neuroscience. The fate of the case rests on the activity currently under way in neurological laboratories. The "promisory" nature of eliminative materialism therefore leads its proponents to explicate much of their case by inductive parallel, pointing out that although many or even most of the pieces are missing in the puzzle that will eventually displace folk psychology, there are a considerable number of completed cases available in the history of scientific inquiry. For example, pneumata, alchemical essences, caloric, phlogiston, and aether have all disappeared from our scientific ontology. The eliminative materialist speculates that beliefs, desires, intentions, hopes, wishes, fears, and so on, will one day follow their scientific mates into explanatory oblivion. "Scientific psychology,...having first lost its soul, later its consciousness, seems finally to lose its mind altogether",²⁷ to the joy and contentment of one and all. Unfortunately, the history of science does not lend as much support to the eliminative materialist position as is needed to sustain the use of this inductive parallel. The consequences of this problem will be explored in detail in chapter four.

Eliminative materialism thus lies squarely at the end of the philosophical road. For its defenders, this is one of the sources of its appeal, and for its opponents, a source of indignation and disbelief. The former group finds both relief and challenge in finally loosening our tenacious grasp on the idiom of folk psychology, while the latter clings to that idiom all the more tightly, motivated perhaps by the secret fear that they are somehow protecting our very humanity. Proponents of eliminative materialism hold out to us the promise of a radically new and more fruitful way of seeing and describing

²⁷ Feigl, "The 'Mental' and the 'Physical'", p. 370.

ourselves and our environment, once we are freed of the false conceptual scheme that has been folk psychology's burden upon us. On the other side, the opponents of eliminative materialism are happy to labour under their everyday idiom, insisting that it points to some important if elusive truths about persons, or at least lets us get on with everyday life.

We are not yet, however, warranted in adopting eliminative materialism even temporarily. Given its so-called promisory nature, its statement as a plausible solution to the mind-body problem may at present be all we can hope for. But some of the central tenets of the theory need to be stated far more clearly than they have been in the literature. The punch that a mere descriptive statement of the theory lacks to make it a knock-down argument must be sought in more than as yet undiscovered neurophysiological detail. I will not argue directly for or against eliminative materialism, because my interest in this thesis is not, except tangentially, in its comparative strengths and weaknesses. Naturally both will arise in the course of discussion. For the remainder of this essay, I will examine three aspects of eliminative materialism that I think are crucial in determining its usefulness as a theory of the mind. First of all, exactly what is it that we are eliminating? This is a terribly complex question, and requires that the whole notion of folk psychology be prodded apart. Secondly, do we have good reason, or as good reason as the eliminative materialist thinks we do, for believing that what is being eliminated fits the inductive "pattern" of the history of science? And finally, can we really give up our current folk framework, or might we perhaps keep it in some modified form, and why would we want to? The optimisms of Dennett, Stich, the Churchlands, Feyerabend, Rorty, for a radical reconceptualization of the mind may be warranted, but might not have as radical consequences as they think.

CHAPTER TWO

FOLK PSYCHOLOGY - WHAT IT IS

In order to make sense of the eliminative materialist position, it is first necessary to determine exactly what is being eliminated and why. There is no quick or easy answer here, and a close look at the available literature reveals only a confused morass of problems lumped together under the label "folk psychology". This leaves me the formidable task of trying to clarify an ill-defined notion, so that the heart of arguments for and against eschewing commonsense psychology as a theory of the mental becomes clear. It shall become evident in the course of developing a more perspicuous version of the theory that some eliminative materialist theorists (Paul Churchland in particular) are overzealous in their dismissal of folk psychology, and that this is due almost entirely to a systematic ambiguity regarding certain of its essential features. Furthermore, this ambiguity creates a confusion between two different approaches to eliminative materialism. It is possible on the one hand that when people express a desire to eliminate folk psychology, what they really mean is that they want to eliminate intentionalistic psychology. If this is the case, then at least some eliminative materialists are being very vague about what it is that they see their position as eliminative of. On the other hand, some eliminative materialists are quite clear on this point, i.e., that it is

intentionalistic psychology that they wish to eliminate, but even then fall back into arguments about folk psychology. In this chapter, I will address the issue of what is meant by folk psychology, and argue that the existing literature is very confused in this respect, because it conflates two distinct aspects of folk psychology.

(i) Defining Folk Psychology

To make my investigation of folk psychology²⁸ as intelligible and illuminating as possible, I first need to supply a means for defining folk psychology. It is tempting, given the views of folk psychology currently in vogue, to accept an apparently straightforward characterization like "folk psychology is a commonsense theory which purports to explain and characterize our own and others' thought and behaviour in terms of rationality and contentful mental states such as beliefs, desires, fears, goals, etc.". But this definition, and others recognizably like it, jump the gun. Folk psychology should be defined in terms of the ways in which people in general, in some culture, in some era, explain the thought and behaviour of themselves and others. To define folk psychology in any more detailed fashion than this, we must be able to identify the folk. If we accept this way of defining commonsense psychology, as I think we must, it becomes evident that it is not one thing, as is normally assumed, but a set of things, varying between peoples, cultures, and eras. But we are now faced with a crucial nuance that is conspicuous by its absence in the literature, and that is the existence of a significant gap between what folk psychology is, and the way we²⁹ actually do folk psychology. The

²⁸ NB/ The terms "folk psychology" and "commonsense psychology" will be used interchangeably throughout, partly to mitigate the pejorative force of the former and the approbative force of the latter.

²⁹ For more on who "we" are, see p. 28.

importance of this gap cannot be underestimated, because the relevance of any argument against commonsense psychology is diminished if that argument is directed against a parochial construal of such a psychology.

This gap is illustrated in Paul Churchland's work most strikingly by the following tension. Churchland urges that folk psychology be viewed as a detailed hypothesis about the inner dynamics of human behaviour, so that he can convince us that the hypothesis may be fundamentally mistaken. But in giving his version of the hypothesis in question, he describes commonsense psychology as a shared framework of abstract laws or principles concerning the dynamic relations between causal circumstances, psychological states, and overt behaviour.³⁰ The framework of abstract laws is surely one aspect of folk psychology, but the fact that it is shared is certainly another. We must therefore differentiate the abstract notion of folk psychology as a feature of everyday discourse, which includes some vocabulary of terms and some set of principles for explanation and prediction, from actual examples of such discourse, which will then be a function of what folk are putting their particular vocabulary to use. I will call the first of these notions "generic folk psychology" to refer to the fact that people do characterize the mental states and actions of themselves and others. This is the "psychology" part of folk psychology. This is contrasted with what I will call specific folk psychologies (or psychological theories), which give the details of how some group F does commonsense psychology. This distinction is both of paramount importance in mounting an effective critique or defense of folk psychology, and complex and difficult to draw. But draw it we must, if the muddled debate surrounding commonsense psychology is ever to be made clear. Specific folk psychologies could possibly differ from one another in signif-

³⁰ P. M. Churchland, Scientific Realism and the Plasticity of Mind, p. 92.

icant detail, and that is what makes this distinction so important, and its absence such a pathway to confusion.³¹

Is there anything that can be said about generic commonsense psychology other than that it is the class of specific commonsense psychologies? Some things do seem tempting. First, not only do human beings often and perhaps characteristically endeavour to explain the behaviour and mental activity of ourselves and others, we also usually (tacitly) take it that the terms and generalizations we use in these explanations are commonsensical. Implicit in the notion of a commonsense psychology, therefore, is the idea that its explanations are taken as commonsensical by those who accept them. But this is not to say that commonsensical explanations must be wise or even true. (One can imagine that they may seldom be either, although some philosophers have made the important assumption or argument that commonsense psychological explanations are both wise and true and furthermore are the benchmark by which the truth of anything else one might say about the mind is to be tested.) To say that a belief is commonsensical in a community is to say that the belief is an unreflective opinion that seems obviously and without need of question true to the typical members of the community. Correspondingly, the explanations generated must, if they are to be deemed folk psychological, be acceptable or seem reasonable for the most part to the folk.

Secondly, it may be that commonsense views and the explanations giving them expression take on certain characteristic form and perhaps content. There may or may not be a deeper explanation for this tendency. It may be that, for whatever reason, only certain kinds of beliefs (i.e., only those falling within certain parameters) appear

³¹ I must extend my gratitude to my supervisor, John Baker, for his help in sorting through this confusion. His assistance in drawing the distinction has been invaluable.

commonsensical in the above sense to most of the folk. If this were so, then not surprisingly all views which are commonsensical would be of these kinds. This may be why some, for example Paul Churchland, have generally not noticed the fact that specific folk psychologies are in fact different, at least in detail. The characteristic form and content referred to above might be viewed as a second defining feature of folk psychology. But notice that we should not assume, as some have, that all commonsense psychologies would fall within these parameters, parameters with which "we" are familiar. We might, for example, find that in some communities, the commonsense psychology (in the sense of unreflective obviously true opinions) does not satisfy the parameters just mentioned. Our reaction to these communities would depend upon which facet of folk psychology we chose to emphasize. If we emphasized the commonsensical idea, then such communities would be said to possess a commonsense psychology, albeit one we found odd, because they had a shared set of unreflective obviously true opinions. If we focused instead on the form-and-content parameters as being defining features of folk psychology, then we would be bound to say that these anomalous communities lacked folk psychologies. Since this is something I don't think we should have to say, the distinction between the generic (the form and content) and the specific (the 'common' in commonsense) in folk psychology is important because it allows us to attribute folk psychologies to unfamiliar folk.

The parameters in question enable folk psychology to achieve its purpose, namely the explanation of human behaviour and thought. The vocabulary facilitates explanation, together with a set of semantic and syntactic hypotheses about the meanings of the terms in the vocabulary and how these terms are connected. But it is highly debatable

that everyone will use the same vocabulary, even after allowing for cross-linguistic variance, or that when they do use the same terms, they will mean the same things by them.

It should be obvious that the standards by which specific folk psychologies are identified are quite lax compared to the relatively rigid constraints imposed upon scientific theories. The tests for determining whether some theory is a folk theory in community C are that the theory be believed by the folk of C, and that the theory be viewed as commonsensical by the folk of C. Typically, for whatever reason, the theory will also satisfy the kinds of parameters mentioned earlier. (Notice that the folk may themselves be scientists. This raises the interesting perplexity that the theory in question may, if it also satisfies certain scientific considerations, be both a folk theory and a scientific theory.) In contrast, the question of whether a theory is a scientific theory is more complicated. It is not sufficient that such a theory merely be held by an individual who is recognized within the community as a reputable scientist. Considerations of method, agreement of theory with the larger body of scientific knowledge, and especially empirical confirmation, must be taken into account. And if a theory is deemed non-scientific, as is sometimes the case, its adherents are in turn deemed poor scientists or even non-scientists. Folk theory, on the other hand, has no "method" beyond introspection and discourse, no larger body of knowledge with which to agree except, perhaps, our intuitions about human nature, and is often impossible to test empirically. (Experiments like the one Stich cites on belief perseverance just assume the existence of beliefs and then extrapolate.)

Furthermore, many hypotheses that fail to gain scientific credence end up ensconced in folk theory. For example, Freudian psychoanalytic theory was never widely accepted in Freud's day among the members of the Viennese medical community

and even now tends to be shut away from the mainstream in special institutions. But parts of Freudian theory have been co-opted by some of the folk in order to explain our mental lives. The subconscious and the unconscious are both common coin in today's folk theories, and to a lesser extent, so are various gender-based complexes such as penis envy. It is very important to note that the kinds of notions that get absorbed into folk theory in this fashion are those that do not require a great deal of technical interpretation - folk theory is, after all, not science - and where a greater degree of technicality was intended, the folk often change such notions in the act of borrowing them. Freud intended the unconscious to be a highly technical and scientific notion, but it has been watered down in folk theory to mean little more than the seat of such thoughts as are not explicitly articulated to oneself. The same transformation occurs with the concept of penis envy, which in the folk context is now nothing more than a petty put-down. The phenomenon of science affecting the folk occurs in reverse as well, for science occasionally ignores folk theory at its peril. Pearls of folk "wisdom" that were once dismissed as "old wives' tales" are sometimes shown to have factual bases. (That science can sometimes learn from folk theory in this way may encourage us to be more sceptical of the eliminative materialist program. This point will be taken up in chapter four.)

Each specific commonsense psychology, then, typically falls within the parameters of generic psychology but each may exhibit variations to greater and lesser degree. All specific folk psychologies have the same general purpose as generic folk psychology, but each may concentrate more on some phenomena while ignoring others, depending upon which phenomena its adherents are concerned to explain, and how they do so. Where generic folk psychology requires only that we can pick out a vocabulary that is used for folk psychological explanations, each specific theory may use slightly different terms, or

the same terms in different ways. One theory may be based upon rationality, belief, and desire, may account for knowledge in terms of belief, may account for action in terms of desire, and so on, while the vocabulary of another theory may contain the soul or vapours, and may use such terms to account for beatitude, fatigue, or other phenomena. The terms used in theories such as these can be said to bear a family resemblance to one another, but they may also be used in other ways outside of folk psychology, in which case the resemblance is more problematic. (For example, rationality is sometimes used as the hallmark of moral agency, so that besides being used as an explanation of behaviour, there may also be a moral evaluation attached to such behaviour.) This illustrates that it is somewhat misleading to refer to specific theories as though each were a discrete body of terms and principles, for this is not always the case. A contemporary theory might differ from a pre-Freudian theory only in the addition of subconscious mental states, in which case the family resemblance between the two will be strong. But both will be different, and perhaps profoundly so, from a commonsense psychology found among the Homeric Greeks. The inter-relations between specific folk theories, and between specific and generic folk psychology, are very complex.

The distinction between generic folk psychology and its specific manifestations is based on a number of interesting things about folk psychology. First of all, it would be a mistake to think that specific folk psychologies have been the same in every culture and over time. Commonsense psychology is independent of culture and history only in its generic form. In every epoch and society, we will find some attempt at psychological explanation being made, and these attempts will share certain features (i.e., the special vocabulary with its semantic and syntactic hypotheses). But when we fill in the details of these attempts, we find not only differences between societies and over time, but also

within societies. For example, we can expect to find subtle differences in the specific commonsense psychological explanations made by women and by men in our society. Some men may attribute a woman's irritability to the fact that she is now having her period, whereas women would be aware that irritability is a symptom only of *pre-Menstrual Syndrome*. Similar divisions can perhaps be made between wealthy, educated women and poor, undereducated women, and so on. The problem thus uncovered in arguments about folk psychology is that the opposing camps argue for the most part over the *details* of one another's specific folk psychologies when they *think* they are discussing generic folk psychology. For most writers on both sides of the eliminative materialist debate, the details in question seem to be whatever explanations of thought and action are invoked by mostly white, middle-class Anglo-Saxon male professors of philosophy. One begins to suspect that something simpler and yet vastly more important is being overlooked.

The complexities and subtleties that I have been discussing receive scant attention in the literature. Dennett points out that "it is just worth noting that philosophers' use of 'believe' as the standard and general ordinary language term is a considerable distortion. We seldom talk about what people believe; we talk about what they think and what they know."³² It is somewhat distressing that Dennett finds this fact only *just* worth noting, for surely it is central, but given that he belongs to the ideological class just mentioned, it is at least unsurprising. Furthermore, it is a relatively recent historical development that we talk about thinking and knowing. In the past it was far more common to speak of believing than about thinking.³³ Perhaps the objection can be made

³² Dennett, "Three Kinds of Intentional Psychology", in *Reduction, Time and Reality*, p. 40, fn. 6.

³³ Jack MacIntosh points out that, e.g., in the writing of Jane Austen a person would be more likely to speak in terms of belief than of knowledge and thought.

that this "Ivory Tower" use of 'believe' and its cognates is acceptable because it is a synecdochic use, standing for any number of other contentful mental states, and perhaps also for the underlying theories in which these states function. But this objection will not do, for two reasons. First, in order to say that any term is being used synecdochically, that is, being used to represent some family of closely related concepts, we must be able to specify with some degree of certainty what the family being represented is, and how its individual concepts are related. In the case of the philosophical use of 'believe' (as a folk concept), filling in this part of the story will yield the limited and artificial folk psychological theory currently being criticized, so the synecdochic defense has gotten us nowhere.³⁴ Secondly, even if this problem of specification could be overcome (for example, if 'believe' could be rendered empty of connotation by being set as a synecdoche merely for the vocabulary of any folk psychology), then the objection that 'believe' is being used synecdochically is still not helpful. If 'believe' is being so used, (and from the evidence it is doubtful that it is), this fact appears to have been forgotten or ignored. The response to this line of argument is that in trying to analyze notions like belief, philosophers have either gotten the folk right or not. But whether they have succeeded or failed is, to say the least, an open question. The outcome of my comments on the concept of folk psychology, then, is this. It would be a grave error, if only because it would be an oversimplification, to assume that the contrast between folk psychology and science is a contrast along only one dimension. It isn't. It would be equally erroneous to assume that it is clear what folk psychology is or even that there is a single folk psychology. What we need to determine is what single feature, if any, makes the diverse group of folk psychological concepts so objectionable and so scien-

³⁴ E. g. , an epistemological analysis of 'believe' will very likely be different again, so it seems that even philosophers require considerable clarification of synecdochic terms.

tifically unfeasible to the eliminative materialists. It is at this primary step that eliminative materialism has failed, by neglecting the essentially intentional nature of folk concepts. This opens up the possibility of two different eliminative routes, one eliminative in favour of neurophysiology, and one in favour of cognitive science. The former would eliminate commonsense psychology outright, while the latter would retain its intentionalistic portion intact.

(ii) Prospects for Reduction and Elimination

In as much as specific folk psychologies are culturally variable, any attempt to reduce folk psychology to neurophysiology, or to base a cognitive science on the concepts of folk psychology, is doomed to confusion. At issue here are a number of things that must be addressed by any program seeking to develop a new "science of the mind". Given the variability of specific folk psychologies, we cannot use any single folk psychology as a test against which to measure, for example, neurophysiological theories, because the results so achieved will necessarily fail to be univocal. Our neurophysiology, which one hopes would be applicable to all humans, will have been tested against a theory that is not necessarily applicable to everyone. Nor can we reasonably expect cognitive science to explain psychological phenomena as categorized under a specific commonsense psychology, for the same reason. We are thus faced with the following dilemma: if we seek to *base* an emerging "mind science" on the concepts of a single specific folk psychology, the resulting scientific theory will be unacceptably dogmatic. The alternative is to face the mammoth task of reducing a diverse group of specific commonsense psychological theories to a single, unified scientific theory. While this

approach is undeniably complicated, it may hold some promise in capturing the subtleties of human mental activity. (It would be much simpler to acknowledge the core of all specific folk psychologies, if any such core exists.) However, the option of eliminating all specific folk psychologies in favour of a unified science of the mind may not, given my distinction between generic and specific folk psychology, be open to the eliminative materialist.

What might prevent the eliminative materialist from throwing out all specific folk psychologies is a final general consequence arising from the generic/specific distinction in commonsense psychology. There is an undeniable possibility that, in time, neurophysiology will itself provide the basis for a new specific folk theory. When Paul Churchland urges us to consider the possibility of radical departure from our current conceptual framework in order to embrace a more scientific treatment of our central nervous system capabilities, he must be addressing not only philosophers and neurobiologists, but everyone. And certainly everyone is in principle capable of learning and using the envisioned neural parlance in describing and explaining the behaviour of themselves and others. Were such widespread terminological (and perhaps ontological) displacement to occur, we could then conclude that a unified folk psychology had at last been developed, because all the folk would speak about their mental lives in terms of axons, dendrites, synaptic gaps, excitable cells, and so on. In other words, if the folk co-opted neurophysiological theory into their set of unreflective obviously true opinions, their folk psychology would be mature neurophysiology. But the line between folk theory and scientific theory is a fuzzy one, in two ways. At a given time t_1 , it may be difficult to determine where the line lies. For example, when someone sniffs the air and asks, "what's that horrible smell?", the possible responses may include rotten eggs, sour

gas, or H_2SO_4 . Chemically each of these explanations bears the same cause - sulphur. But it seems that *saying* H_2SO_4 (or sulphuric acid) is somehow more "scientific", and that saying rotten eggs is more like folk chemistry, while attributing the cause to sour gas lies somewhere between the two.

The line also moves over time. What was once science becomes part of folk theory. We may latch onto the terminology of Freudian psychoanalysis in everyday discourse, or our store of information may benefit when technology is adapted for everyday use, as occurred when home computers enabled (some of) the folk to speak of RAM, bits, and bytes, or physicalist philosophers may pick up on neurological jargon like "C-fibres" and "excitable cells". (There is a third possibility here which poses further problems, in that occasionally, the passage of time sees folk theory gaining unexpected scientific credence. This is discussed in chapter four.) In spite of the difficulty of determining where folk theory ends and science begins at any one time, I do not think it unrealistic to suppose that given a sufficient length of time, the latter, as far as it deals with what we now call the mind, may become so firmly entrenched in our everyday discourse that it will be said to have become common sensical. It is only its lack of intentional terms that make it unlike folk psychology.

It may be objected that the problems created for both reductive and eliminative materialism by the uncovering of a number of specific folk psychologies is somewhat exaggerated, because many of the specific theories in question are mere historical relics. But not all of them are, especially not the ones that encompass contemporary inter- and intrasocietal psychological differences. The specific theories that are historical relics (e.g., dealing with vapours, humours, or perhaps the soul) are deemed so in part because they have proved to be poor candidates for inclusion in developing science, and hence

have been eliminated from literal discourse and ontology. Given the eliminative materialist claim that similar considerations apply to beliefs, desires, and so forth, a more thorough examination of the empirical standards by which such judgements are made needs to be undertaken. In the case of folk psychological concepts, I submit that it is their fundamentally *intentional* nature to which eliminative materialism objects, but that no argument has been given by the eliminative materialists as to why it is this feature that makes folk psychology scientifically undesirable.

CHAPTER THREE

THE RISE AND FALL OF FOLK PSYCHOLOGY

In this chapter I will address some contemporary claims about folk psychology in the light of the distinction between specific and generic folk psychology, which I drew in the preceding chapter. The consequences for writers on both sides of the debate are great, as previous assessments of commonsense psychology are shown to have been fundamentally confused. By the end of this section, we are left with a clearer picture of what people have meant by folk psychology, and where they have gone astray. There is indeed a very problematic specific commonsense psychology (or perhaps psychologies) at the bottom of this mess, and it is a crucially intentionalistic psychology. The eliminative materialists, I argue, need to reconsider whether it is folk psychology in its broad sense that they seek to eliminate, in order to adopt a wholly neurophysiological vocabulary, or if what they object to is the less broad idea of a science based on the intentionalistic vocabulary of commonsense psychology.

(i) Some General Problems

Stephen Stich's work on belief illustrates a number of very serious problems in philosophical analyses of folk psychology. The very existence of a confusion between generic and specific folk psychology is demonstrated by the method Stich chooses to test the implicit details of our folk psychological generalizations. He appeals to intuition in order to determine "the boundaries or extensions of our folk concepts".³⁵ He writes, "in the absence of an argument that intuitions in some domain are particularly likely to be mistaken or misleading, it would be folly to ignore them".³⁶ One such argument might be that there is a definite ambivalence in Stich's work over whether the intuitions he appeals to are mere linguistic intuitions, or deeper reflections upon our own mental states. The fact that we may share intuitions about how to describe a situation need not imply that we share commonsense psychological analyses of that situation. Another argument is that the intuitions Stich appeals to are based on the aforementioned white, middle-class Anglo-Saxon male professorial specific folk psychology, and are therefore temporally parochial, and could be misleading. Stich compares the extension of intuitions about commonsense psychological concepts with the extension of judgements about furniture, saying that by appealing to a subject's spontaneous judgements about a number of pieces of furniture, we can learn a great deal about what can be subsumed under the subject's concept of a couch. This is true for that subject, but Stich fails to recognize that even for a folk concept as pedestrian as "couch", there are a variety of social and cultural factors that could influence the so-called spontaneous judgements of

³⁵ Stich, From Folk Psychology to Cognitive Science, p. 51.

³⁶ Ibid. p. 52

different subjects. If we look at the furnishings identified by the typical North American subject as "couches", we may find items included in the group that would be excluded by, say, an interior designer, who might distinguish between couches and divans, a British participant, who may wish to exclude settees from the group, and a French subject, who may leave out a chaise longue. Similarly, the folk may variously draw (or fail to draw) non-trivial distinctions between commonplace beliefs and their stronger relatives, convictions, their harmful counterparts, prejudices, their weaker versions, mere assumptions, and their nondiscursive variety, Stich's own intuitions. Clearly the philosophical approach to folk psychological concepts is often not sufficiently finely grained to capture the intricacies of differing specific folk psychologies. It is therefore probable that where our intuitions conflict with Stich's (as they sometimes do), we have grounds to suppose that competing specific commonsense psychologies are at work.

The question then arises, however, that if we cannot appeal to intuition to determine the details of our folk generalizations, what method should we use instead? One response is that if we wish to do this, we must bear in mind that what we are doing is comparative anthropology, and possibly comparative psycholinguistics. We may then appeal to intuition, provided that we are dealing with subjects whom we have little reason to suppose are ideologically removed from us. Another method might be to question subjects about their own and others' mental lives, because this seems more effectively to draw on opinions that subjects hold to be obviously true. For more "exotic" subjects (and this term should have much broader application than Stich gives it), the task of determining the details of their commonsense psychologies requires a much greater sensitivity to the use of folk psychological concepts, and will be complicated by

many factors, including translation between languages, which may render the task quite beyond us.

A second problem Stich needs to address arises from his attempt to offer a systematic description of what folk psychology does. Stich feels that a content theory of belief, i.e., one which types belief tokens with reference to their content, provides the most plausible explication of the folk notion of belief. The core of the content theory is that for the attributor (A) of a belief (p) and the subject (S) of that belief, "when A says 'S believes that p', he (sic) is saying that S has a mental token of a sentence stored in the way characteristic of beliefs, and this token is content identical to the one which he (A) expresses by uttering 'p'."³⁷ (I will leave to one side Stich's assumption that commonsense psychology is sentential in nature, in spite of Fodor's sometimes convincing arguments that folk psychology not only is but ought to be sentential.) The claim that the folk language of belief characterizes a subject's cognitive state by comparing it to our own does more than just reveal that observer relativity is built into Stich's "folk" notion of belief.³⁸ It shows Stich's specific folk psychology to be ego- and ethnocentric, but while Stich addresses the problem of observer relativity, he fails to draw the same conclusion. He notes that two observers may be sufficiently dissimilar that they would describe a subject's beliefs in divergent ways, or even worse, may be left with no comfortable characterization of those beliefs at all. But he attributes these problems to the inherent vagueness of the language of folk psychology. The language of Stich's specific commonsense psychology may be too vague to capture the mental activity (nb. *not* the beliefs!) of ideologically variant subjects, but presumably those

³⁷ Ibid. p. 76.

³⁸ Ibid. p. 136.

subjects have a specific theory adequate to their own purposes. I doubt that unification of these scattered theories is possible, but that question is to me of vastly more importance and interest than whether people really have beliefs and desires, so although I am sympathetic to the eliminative materialist position, I take a different path in arriving at it than do its champions.

(ii) The Failures of Folk Psychology

The controversy over the success or failure of folk psychology centres around three problems, all due mostly to Patricia and Paul Churchland. I will argue that the existence of these problems, at least as stated by the Churchlands, is called into question when examined in light of the distinction I drew in chapter two between generic and specific commonsense psychology. The first of these is divided into three subproblems, beginning with the claim that folk psychology has failed to make any progress in at least two thousand years. Paul Churchland puts it like this: "the FP (folk psychology) of the Greeks is essentially the FP we use today, and we are negligibly better at explaining human behaviour in its terms than was Sophocles".³⁹ Seen from the generic point of view, this claim seems at first to ring true, but this is misleading because generic psychological explanation is not really something we use, but rather is something we do. And Churchland must either be referring to generic commonsense psychology, in which case the claim is not as interesting as he thinks it is, or he has in mind a specific folk psychology, in which case he is claiming that those unreflective psychological opinions

³⁹ P. M. Churchland, "Eliminative Materialism and the Propositional Attitudes", *Journal of Philosophy* LXXVIII No. 2, p. 74.

that struck the Greeks as obviously true are the same as ours today. This seems unlikely. Either way, there is a serious ambiguity in the statement. It would be unwise to adopt the interpretation in which there is no such ambiguity, because we want to save Churchland from a probable falsehood.

Churchland adheres to a commonsense theory which essentially contains rationality, consciousness, beliefs, desires (and other contentful mental states), and a large number of very loose generalizations or "laws", such as: people tend to feel pain at points of recent bodily damage, persons denied fluids tend to feel thirst, persons in pain tend to want to relieve that pain, persons who are angry tend to be impatient, and so on.⁴⁰ This theory differs in many important respects from the theory adhered to by at least some of the Greeks, so that their ancient commonsense psychology is *not* the same as Churchland's contemporary theory. For example, the folk psychological concepts of the Greeks did not, as Kathleen Wilkes points out,⁴¹ include 'mind' or 'consciousness' (or any cross-linguistic counterpart). The term 'psyche' is not an adequate substitute, because it was a much richer notion than 'mind', coming closer to the idea of soul or life-force. It left the body at death and could speak, neither of which is associated with the mind. The Greeks did use terms associated with consciousness and intentionality (hopes, wishes, reasoning, etc.), but lacked the overarching rubrics. Julian Jaynes argues at length that an etymological study of pre-classical Greek, which also lacked equivalent words for 'mental states', 'will', and 'volition', reveals that what is found functioning in place of these concepts, and of the ones Wilkes mentions, are the

⁴⁰ P. M. Churchland, Scientific Realism and the Plasticity of Mind, pp. 92-93

⁴¹ K. V. Wilkes, "Pragmatics in Science and Theory in Common Sense", *Inquiry* 27.

gods.⁴² While Jaynes' conclusion, that hallucinated voices of the gods were the precursors of consciousness, is farfetched, his general point about the existence of a large and incontrovertible conceptual gap between (very) ancient Greek and modern cross-linguistic psychological vocabularies is well taken.⁴³ Richard Rorty makes claims in a similar vein, indicating that Greek has (or had) no mechanism for distinguishing between "inner" or "mental" events and events in the external world, placing the blame for the so-called mind/body problem on the shoulders of a linguistic quirk.⁴⁴ Secondly, some of the generalizations made by, say, Aristotle are seriously at odds with the ones Churchland makes. In the De Anima, for example, Aristotle mentions that the dialectician of his day explains anger as "a boiling of the blood or warm substance surrounding the heart".⁴⁵ (This example also illustrates, interestingly, the fact that explanations of psychological phenomena using materialist vocabulary have existed historically and have often been very mistaken. This indicates the need for clearer criteria for determining when science has gotten the mind right, and perhaps more importantly, for when the folk have gotten science right. We commonly use materialist vocabulary without in any way intending materialist explanation. For example, one might say "my

⁴² J. Jaynes, The Origin of Consciousness in the Breakdown of the Bicameral Mind, p. 69. Jaynes writes about the Greeks two centuries and more prior to the era referred to by Churchland, so perhaps Jaynes' claims are marshalled somewhat unfairly against Churchland. One would suspect, though, that a careful study of the development of folk psychological terms during the intervening period, minus the thesis about the gods, would be very revealing, so naturally it is. See Bruno Snell, The Discovery of Mind and David B. Claus, Toward the Soul: An Inquiry into the Meaning of Psuche Before Plato.

⁴³ Most of Jaynes' ideas are derived from the works of Snell (above) and Joachim Boehme.

⁴⁴ Rorty, Philosophy and the Mirror of Nature, p. 47

⁴⁵ De Anima 403b, p. 536 in Richard McKeon's Basic Works of Aristotle. It may be argued that there is a problem with using Aristotle as a spokesperson for ancient Greek folk theory, because he was an intellectual, and should therefore not be held up as an example of the views of the "common man". The force of this objection is dissipated, however, by referring once again to the generic/specific distinction, which emphasizes that folk theories are not held only by a certain class. The Greek intellectuals are then seen to hold a specific folk psychology that includes claims like the one cited here, and which may differ to greater or lesser degree from the specific folk psychologies of playwrights like Sophocles, Greek soldiers, slaves, women, politicians, etc.

brain just isn't working" but mean "I'm not thinking clearly", or "my heart was in my throat" meaning "I was terrified".)

It is exceptionally difficult to cull examples of clear differences in psychological explanation from historical literature. One feels that a contemporary interpretation is being forced onto an ancient situation, or, alternatively, that one is somehow "missing something". It seems plausible that either of these intuitions could be accounted for by the fact that differences in folk psychology are at work. As far as comparisons in the present are concerned, we often find ourselves dealing with "explanations" that don't seem particularly explanatory, reasons that we don't feel compelled to count as reasons, but not necessarily because they derive from unfamiliar folk psychologies. A teenager who guns down a yard full of schoolchildren because she "doesn't like Mondays" is most likely to be viewed as suffering psychological dysfunction, and perhaps is. But such bizarre explanations are most likely explanatory in the minds of the persons expressing them, possibly because those minds are constrained by different folk psychological standards than our own.

However, if Paul Churchland is misguided in his charge that folk psychology has been developmentally stagnant for millenia, those writers who defend folk psychology's long history of accomplishment make the same error. Kathleen Wilkes contends that commonsense psychology has remained unchanged for millenia because "the Greeks were already brilliant at psychological explanation".⁴⁶ If she is referring here to generic folk psychological explanation, it is hard to imagine what standard of brilliance might be called into use for such explanation to be termed "brilliant". Perhaps the standard is

⁴⁶ K. V. Wilkes, "Pragmatics in Science and Theory in Common Sense", p. 356

quantitative, and Wilkes means merely that Greek discourse was chock-a-block with psychological explanation. If, however, as seems likely, Wilkes is not referring to quantity of explanation offered, she too is at best guilty of ambiguity, and at worst of making questionable claims about a temporally specific Greek psychological theory. Her argument is echoed by Stich, who concedes that "our" (which could only mean his) commonsense psychology has not altered much since Sophocles' time, but attributes this to the fact that the very idea of doing empirical science has only come into its own in the last few centuries, and psychology has lagged behind the other sciences in part because the program of exploiting commonsense psychological notions in an experimental context has barely begun.⁴⁷ It is as yet too early to say whether commonsense psychological notions will be scientifically useful. Terence Horgan and James Woodward, while gainsaying Churchland by pointing out that folk psychology probably has changed in empirically progressive ways over time, nonetheless object that a standard like empirical progressiveness is of little use in assessing folk psychology. Folk psychology seeks to apply causal generalizations to particular behaviours, not to create new generalizations.⁴⁸

The second part of the problem of folk psychology as a degenerating research program is its explanatory failure. Churchland complains that commonsense psychology remains largely silent about mental illness, creative imagination, sleep and dreaming, 3-D visual images, perceptual illusions, memory, learning, and so on.⁴⁹ Stich attempts to stay

⁴⁷ Stich, From Folk Psychology to Cognitive Science, p. 213

⁴⁸ T. Horgan and J. Woodward, "Folk Psychology is Here to Stay", *The Philosophical Review* XCIV, No. 2, p. 202.

⁴⁹ P. M. Churchland, "Eliminative Materialism and the Propositional Attitudes", p. 73, and Scientific Realism and the Plasticity of Mind, p. 114.

the force of this criticism by reverting to Wilkes' claim about the multi-functionality of folk psychological terms. (see chapter 1, p. 13) His response is that because folk psychology is more than just a crude explanatory and predictive theory, because its concepts are also pressed into service to warn, threaten, praise, blame, discourage, hint, insult, etc., it has escaped pressure to evolve into a better theory with a wider range of explanatory power. This suggestion is only useful to a point, however, because it does not address the problem of how folk psychology will stand up to such pressure now, or if it should in fairness be made to do so at all. Horgan and Woodward offer a better response that discloses another ambiguity in Churchland's critique of commonsense psychology.

In arguing for the generic/specific distinction in folk psychology, I contended that because of cultural variability of folk theories, these folk theories cannot be used as benchmarks by which to test the success of cognitive science and neurophysiology, which both purport to be true of all human beings. Here the case is reversed, and cognitive science and neurophysiology must not be used as the tests of successful commonsense psychology. The claim that folk psychology is a failure can be looked at in three ways:

1. Folk psychology fails to meet the rigid standards of scientific theory, or
2. Folk psychology fails to comport with scientific test data, or
3. Folk psychology fails to answer the questions that it is intended to answer.

One would suspect that only the last claim, if true, would bode ill for folk psychology, but the matter is more complicated than that. Churchland concentrates only upon the first two claims, implying that "getting it right" for commonsense psychology is to be

determined using scientific standards of theoretical validity and scientific data. Folk psychology is clearly *not* science, so it is odd that Churchland would expect it to account for phenomena that cannot be adequately explained by recourse to belief, desire, rationality, etc. And given Churchland's commitment to a folk theory of this kind, he has no answer to Horgan and Woodward's objection of having imposed *a priori* demands on any successful psychological theory to account for a pre-established range of phenomena.⁵⁰ The fact that neurophysiology may be able to provide the most detailed explanation of the most extensive set of phenomena is a point in its favour, but diminishes the validity of folk psychology as a folk theory not at all. By the same token, neurophysiology's superiority need not undermine the potential of the cognitive science project that is based on folk psychological vocabulary.⁵¹

The third prong in the Churchlands' attack on the research program of folk psychology is the incommensurability of its categories with those of other, more developed sciences. Lack of optimism for a successful reduction leads Paul Churchland to agitate for outright elimination. Stich counters this claim by pointing to the social sciences, which are "up to their ears in the intentional idiom that is the hallmark of folk psychology",⁵² and to which, for the present, there are no alternative theories. Stich tries to

⁵⁰ T. Horgan and J. Woodward, "Folk Psychology is Here to Stay", *The Philosophical Review* XCIV, No. 2, p. 200.

⁵¹ Horgan and Woodward also claim that cognitive theories based on concepts "recognizably like" commonsense psychological concepts have been very successful at explaining visual perception, memory, and learning, but it is unclear whether "belief-like" and "desire-like" can be cashed out in a way that preserves the folk notions of belief and desire. There is also the problem of developing a cognitive science with a limited range of application because of its reliance on the conceptual framework of a specific folk psychology.

⁵² Stich, *From Folk Psychology to Cognitive Science*, p. 213. Here is an instance of an eliminative materialist referring very explicitly to intentionality as a crucial feature of commonsense psychology, and Stich is also careful to point out that we just don't know yet how this feature will perform in a scientific context. He is somewhat unique in acknowledging all these nuances.

outmanoeuvre the obvious eliminative materialist response, that we should dispose of the social sciences as well, by calling it a "crass physicalist prejudice". The *ad hominem* nature of this reply should be obvious. Any serious eliminative materialist must eventually address him- or herself to the possibility that folk psychology may take other disciplines along with it when it goes, and in fact the disciplines that will be eliminated are far more numerous than Stich's list indicates. (see chapter 5, pp. 73, 75.) But there is another possibility here that Stich ought to have noticed himself. Remember his emphasis on Wilkes' claim that folk psychological concepts have a number of duties to perform, and combine this with my assertion, from chapter one, that stripping folk psychology of its explanatory and predictive functions may leave us with a powerful evaluative vocabulary. What we end up with is a double-aspect theory of human behaviour. At the level of the individual organism, science may (in time) account for all mental activity and action. But societies have no central nervous systems or cerebral cortices to study (except perhaps in the most metaphorical sense), so we may want to retain the descriptive and evaluative capacities of our folk vocabulary for use at the social level. The alternative is to account for social phenomena in terms of neurological aggregates, which would be cumbersome and hard to subject to experimental control. Furthermore, as is pointed out by Owen Flanagan, eliminative materialism once again adopts an *a priori* stance, this time about the way the relations among the different sciences will work out. The issues at stake here are empirical, and cannot be settled by philosophical prediction.⁵³

The next hurdle folk psychology must leap is what Patricia Churchland calls the Infralinguistic Catastrophe, based on the fact that we often cannot describe the content

⁵³ Owen J. Flanagan, Jr., The Science of the Mind, esp. pp. 220-221.

of the beliefs of young children, nonlinguistic animals, and so-called exotic folk. Yet we have reason to think that the cognitive processes operative for many such creatures, especially pre-linguistic children, are essentially similar to our own.⁵⁴ Stich confuses the problem here somewhat by claiming both that we often have no comfortable content sentences to characterize the mental states of infralinguistic creatures, and that such beings are not plausibly described as having beliefs at all. This latter assertion does not follow from the former, and I doubt that either of the Churchlands would accept it, so I'll dismiss it as a slip on Stich's part.

The generic/specific distinction can mitigate this catastrophe to some extent, pulling folk psychology away from the edge of certain perdition to the point where it is merely in big trouble. As far as Stich's "exotic" folk go, it is certainly a shortcoming of his specific folk psychology that it is unable to characterize their mental states (as beliefs), but this fact need not tell against folk psychology in general. Presumably the so-called exotic folk in question would possess a specific folk psychology that could account quite nicely for their own mental states and activities. (Note that I do not here refer to their beliefs; it is conceivable that their specific folk psychology would not contain reference to beliefs or any cross-linguistic entities recognizably like them.) The criticism that a cognitive psychology built from folk notions won't do because it cannot capture the mental states of certain subjects bears only upon a very narrow picture of what folk

⁵⁴ Paul Churchland oversimplifies this reasoning a little by mentioning that along the structural dimension of infant development, the major brain cells and neurons are in place prior to birth, and that development from birth on merely modifies these structures through growth, lengthening, and myelination. The incredible complexity in the operation of impulse-carrying fibres, as described in Patricia Churchland's book Neurophilosophy: Toward a Unified Science of the Mind/Brain, suggests that mere growth is of quite crucial importance and that, for example, myelination of axons can increase their rate of impulse conduction by something in the neighbourhood of two and a half orders of magnitude. The general point remains that the basic parameters of intellectual activity stay the same at all levels of human development regardless of their comprehensibility in terms of propositional attitudes, but it would be an interesting empirical project to try to pinpoint developmental progress more closely.

notions are. But there are far more serious worries here for folk psychology. Where we do uncover significant diversities between the specific folk psychologies of two groups of folk, what those folk have in common may only be discoverable at a lower, i.e., neurological, level of investigation. (And perhaps not even there; what if neurophysiology can't provide a unified scientific psychology?) The possibility of developing an overarching but non-scientific psychology may be illusory. Another concern is that the unrepentantly linguistic model of folk psychology that seeks to explain all mental activity sententially is, in fact, inadequate at the infralinguistic level. There is some inductive reason to think that folk psychology must be sentential, namely that all of the folk psychologies discovered so far have been sentential. Perhaps this fact is even strong enough to amount to an *a priori* requirement that commonsense psychology be sentential, as Fodor suggests. Certainly my characterization of folk psychology, as a discursive human trait, is to that extent in agreement with Fodor's. But the empirical possibility exists that there is something akin to "unreflective opinion" articulated nondiscursively, or indeed not articulated at all, by, for example, babies, cats, beavers, elephants, etc. However, I do not see how we could express these quasi-psychologies in non-anthropocentric ways.

The final argument against folk psychology as a possible launching point into cognitive science is based upon what Stich calls the multiplicity of mental states. Here Stich acknowledges that belief and desire are used as synecdoches for a vast number of mental states, and adds that each of these states is interrelated to various social and linguistic practices. "Without an appropriate background of practices", Stich writes, "we quickly lose our grip on the subtle distinctions embedded in our commonsense concep-

tual framework".⁵⁵ This seems to be the closest Stich comes to acknowledging the need for different commonsense frameworks where differing practices are found, even though he is obviously aware of the anthropological and ethnographic evidence that some of our most familiar concepts are completely absent in other cultures. The conclusion drawn from this multiplicity is that adopting ordinary-language concepts for scientific use will require such great modification of those concepts, to reduce their everyday nuances and ambiguities, that they can no longer properly be called ordinary, or may have to be abandoned altogether. There are two points to be made here. First, given the complexity of neurophysiological structures, there is some reason to hope that the nuances of mental state language may somehow be expressible, although surely not isomorphically, in neural functional terms. The cognitive scientist, then, may not, as Stich suggests, need a broad cover term that indifferently embraces a wide range of different but synecdochically related folk notions; what he or she may need is a taxonomy that allows as much variation as there is in the brain and central nervous system. On the other hand, however, it may be that some commonsense psychological notions will be more fruitful when investigated in general terms. Emotion, for example, has proved a more productive starting point for scientific investigation than have individual emotions. Once again, we may feel free to let common sense inspire science, but ought not predict the outcome of empirical investigation based on commonsensical considerations.

The second point is a cautionary one. Just as the eliminative materialist insists that cognitive psychologists must be constrained by known neurophysiological facts, so philosophers of mind must be constrained by known facts about cognitive psychologists. From the severity of some eliminative critiques, it appears that the eliminative

⁵⁵ Stich, From Folk Psychology to Cognitive Science, p. 217.

materialists, for all their scientific optimism, ignore to some degree what cognitive science is actually doing. Owen Flanagan states the case in this way: eliminative materialists sometimes talk as though cognitive scientists simply appropriate folk psychological concepts, categories, and laws outright, but this is not exactly true. Cognitive science does often engage in intentional-stance explanation, in which case it suffers the liabilities we would expect, but perhaps not to the extent we might expect. Flanagan insists that cognitive psychology accepts folk psychology's basic conceptual scheme, but rejects its generalizations as vacuous and trivial. Here is one place where eliminative materialists and cognitive psychologists are not so far apart as the eliminative materialists think. Furthermore, cognitive science also tends to combine intentional-stance explanation with design-stance explanation, the latter rarely appropriating folk psychological generalizations, for the simple reason that there are normally none to be appropriated for the process being studied! If Flanagan's arguments here are correct, and I think the cognitive-scientific evidence indicates they are, then the eliminative materialist appears more overzealous than ever.

(iii) Some Conclusions

I have argued in this chapter that eliminative materialism is frustratingly ambiguous about what it seeks to eliminate. Using two senses of folk psychology, the generic and the specific, I believe I have uncovered the reason for this ambiguity. The consequences for eliminative materialism cannot be underestimated. If what is to be eliminated is the specific folk psychology common to Paul Churchland and Stephen Stich (and it is not even clear that they have the same one), then the project is worthwhile for

a number of reasons, but other specific folk psychological theories may remain unscathed. (Perhaps it is to these other theories that we should look for our scientific taxonomy.) If sententialism is the eliminative materialist's target, he or she has a very convincing objection to current philosophical models of folk psychology, but perhaps non-sentential, non-linguistic models may yet be developed. If all specific folk psychologies, intentional or not, are on the eliminative chopping block, eliminative materialism must fall victim to self-refutation. It is plausible to assume that neurophysiology could one day become a specific commonsense psychology, and surely the eliminative materialist would not wish to dispose of neurophysiology. Finally, we may wish to re-examine generic folk psychology in light of the existence of intentionality as a feature apparently common to all specific commonsense psychologies. If intentionality is such a feature, then it must surely be one of the defining characteristics of folk psychology, and is therefore a generic feature. But if it is not a necessary feature of all specific folk psychologies, then some specific psychology might exist that does not share in this feature. Intentionality is clearly the non-trivial core common to the folk psychologies of Dennett, Stich, Wilkes, and others.

CHAPTER FOUR

SHAKING THE INDUCTIVE PARALLEL

In chapter one I emphasized that the neurophysiological picture of human beings alluded to by the eliminative materialists is for now incomplete. For this reason, much of the eliminative materialist case is argued by means of invoking an inductive pattern allegedly commonplace in the history of science: a number of scientific postulates have disappeared from literal discourse, and beliefs, desires, goals, etc., are supposedly destined to walk the same path. But this notion is far from clear, and in order to assess the viability of eliminative materialism, this central idea must be made more coherent. In this chapter, I will attempt to unravel this inductive parallel, and in so doing will show that it is not wholly successful because it employs a questionable analogy between historical scientific occurrences and folk psychology.

The factors calling this analogy into question are numerous. First, implicit in the eliminative materialist position is the general view that not only is folk psychology mistaken, but that all folk theory is (or will be) shown to be incorrect when scrutinized by science. But science sometimes lends unexpected support to folk generalizations. Second, the history of science also shows us instances of eliminated theories whose concepts

have remained in our vocabulary, sometimes in radically altered form. Third and perhaps most significantly, the entities eliminated from scientific ontology are sometimes later discovered not to have been such bad entities after all, and so are brought back, albeit with modifications. Possibly none of these cases are by themselves sufficient to shake our faith in the eliminative materialists' analogue claims, but collectively they cast a shadow of doubt on those claims. The fact that we are able to cite examples of eliminative materialism having overlooked portions of the history of science, specifically those portions that tell against the inductive parallel, at once makes the parallel seem less plausible, and shifts the onus of strengthening the scientific analogy back to the other camp.

(i) Folk Theory Meets Science

One of the more interesting side issues to arise from chapter two was the claim that parts of folk theory are occasionally bolstered by scientific discoveries, that is, the folk are sometimes proved right. Two folk generalizations that are regularly invoked in everyday discourse are:

1. Chicken soup cures the common cold, and
2. Eating carrots helps us to see in the dark.

Both are often disregarded as scientifically inaccurate misconceptions, in the same way that the eliminative materialist wants us to disregard folk psychological generalizations. But in fact both are empirically true. Chicken soup, because it is warm, clear, and rich in protein, helps the virus-burdened body to rid itself of mucus more efficiently than it

could without the soup. (Using extra pepper in one's chicken soup adds to its antihistaminic properties.) Carrots are one of the best natural sources of vitamin A, and vitamin A figures very crucially in normal vision, especially night vision. The retinal pigment rhodopsin, which is broken down when stimulated by light, must be resynthesized for normal vision, and the body's ability to perform this resynthesis is greatly diminished if supplies of vitamin A are deficient. Symptoms of vitamin A deficiency include failure of growth in the bones and teeth, severe inflammation of the eyes, and most significantly, a condition known as nyctalopia, or night blindness. These folk generalizations are a little misleading as stated. Chicken soup does not "cure" a cold in the same way that penicillin "cures" syphilis because the cold would normally go away by itself. But chicken soup is still an efficacious means of lessening the duration of a cold. Similarly, carrots do not actually enhance our ability to see in the dark beyond the normal, admittedly poor, range for humans, but without carrots (or some other carotenoid-pigment form of vitamin A), our night vision would be dramatically reduced. Perhaps these folk "laws" have not been proved in any strict scientific sense, but they have been shown to contain some truth. The expectation that other folk generalizations, including some folk psychological ones, may be supported in this loose fashion may no longer be far-fetched.

Potential objections to counterexamples like these must be considered. Neither of the folk generalizations cited calls upon the kind of folk concepts the eliminative materialists complain about in the same way as do the generalizations of folk psychology. In chapter two I argued that it is the intentional aspect of folk psychological concepts to which the eliminative materialists are (implicitly) objecting. But carrots have no intentional aspect, so there is no worry about invoking them as part of a scientific

explanation. Night blindness is sufficiently well understood that it merits application of a concept like 'carrot' in its explanation. The "common" cold, which can be caused by dozens of different viruses, is a little more problematic and perhaps in this respect more analogous to 'belief' than we might have expected. But there are things recognisable as cold viruses and chicken soup in the world, and in both these examples, the folk generalization is merely a cruder way of stating a scientific hypothesis, which is subject to empirical confirmation or disconfirmation. It is more difficult to imagine our folk psychological generalizations as crude scientific hypotheses because we don't know how or if we can physically identify our specific folk psychology's intentional entities as things in the world, much less translate them into some scientific analogues. And this is of course the very problem at issue for eliminative materialism (or, rather, for its opponents). The anti-eliminative materialists, including Zenon Pylyshyn, argue that some behavioural generalizations cannot be captured in terms other than the intentional or representational. The fact that the folk are not always wrong in other areas may give us pause when it comes to discounting folk psychology outright, and remind us that although the probability of specific folk psychological concepts being vindicated even in some modified form by science may seem very small, it is nonetheless, and particularly at this early stage, a real possibility. The rise of so-called "cognitive science" is a case in point.

(ii) The Sunrise That Didn't Go Away

Notwithstanding the examples just given, the folk are often proved wrong by science. The eliminative materialists countenance the disappearance of old terms and the-

ories from both serious science and everyday conversation and thought, supposing that if the theories go, the terms will, or should, too. This entails ejecting beliefs from their epistemologically privileged position, where one has sole access to one's own beliefs, and of which one does not therefore doubt the existence. (One may doubt that one's beliefs are true, but not that one is having a particular belief.) It is this consequence that is one of the most radical in the eliminative materialist project. But crucially, the way we talk does not always reflect theoretical change. In the past we have been perfectly well able to keep the terms and drop the theories. The best example of concepts that have remained in our vocabulary in spite of the complete discrediting of the theory in which they figure are the concepts 'sunrise' and 'sunset'. I have used these terms myself in everyday conversation, and have often heard others use them as well, but I attribute neither to these others nor to myself a belief in the truth of the geocentric theory of the universe. Once we accept Copernicus' assertion that the earth revolves around the sun and not vice-versa, we must then see that the sun neither rises nor sets because it is a (more or less) fixed star, and it is simply our planet's rotation that makes the sun appear to move. Yet we continue to speak of sunsets, even to wax poetic about them, regardless of the leap forward in scientific understanding that occurred during the Copernican Revolution.

There is, however, a notable qualification that needs to be made here. It may be the case that concepts like 'sunrise' are not connected to any particular hypothesis about the nature of the galaxy, but to a certain perceptual theory, which happens to be incorrect. But if this is the case, why does 'sunrise' remain in use? Possibly the persistence of pre-Copernican terminology in our post-Copernican vocabulary may be due to the deceptive evidence of our own eyes. When we follow planetary progress over the course

of a day, it *appears* (provided it is sunny) that the sun moves in an arc across the sky, and that the earth is stationary. Our acceptance of Copernican theory is almost an act of faith, assumed at an intellectual level even though it contradicts what we experience at the perceptual level. Terms like 'sunrise' and 'sunset' are therefore connected not to particular theories about the universe, but to a certain perceptual framework. (This is true of many concepts in the realm of folk physics, such as 'solid'. Solidity at the commonsense perceptual level is determined experientially by tapping a body, leaning something up against it, or what have you. The folk term 'solid' is ambiguous, though, meaning both "not mushy" and "not gappy". At the scientific level of subatomic physics, genuine solidity in the latter sense is something of an illusion.) Folk psychological terms may be similar in that they could persist due to the deceptive evidence of introspection, in spite of any scientific evidence that may discredit these terms.

A partial response to this qualification is that it is only contingently the case that we cannot "see" the movement of Earth and the other visible planets in the way we need to if we wish to verify Copernican astronomy with our senses. Paul Churchland offers a wonderful lesson on how, by merely locating a specific alignment of planets and then tilting one's head to the side so that one's vision is oriented along the proper plane, one can actually perceive Earth's rotation.⁵⁶ One would suspect, however, that even if we managed to teach this perceptual technique to everyone, we would continue to speak of sunrises and sunsets all the same. Perhaps some terms are so firmly entrenched in our language that even severing their ties with their underlying conceptual framework cannot eliminate them. This must be the case, because I have done the perceptual ex-

⁵⁶ P. M. Churchland, Scientific Realism and the Plasticity of Mind, pp. 32-34.

periment myself and still talk about sunsets. And if this is so, it may be that specific folk psychological terms are also too firmly entrenched to be dropped.

Another objection to this example is that, given this severance of concept from underlying scientific framework, it may be the case for some words that they become metaphorical descriptions or linguistic "shorthand" for phenomena that were once described incorrectly. But if we allow this possibility for terms like 'sunrise', we ought to allow it for 'belief', 'desire', 'goal', and so on. These folk psychological concepts may remain in our language as metaphorical descriptions of what may in fact be, regardless of what the speakers think, neurophysiological occurrences and may actually be indispensable to us as such. The neurophysiological events in question may be so complex that it will be incredibly cumbersome to use literal descriptions of them in everyday discourse. Richard Rorty uses a similar line of argument in "Mind-Body Identity, Privacy, and Categories",⁵⁷ where he claims that the charge of conceptual confusion levelled at proponents of the "identity" theory of the mind (i.e., that mind is identical with brain/central nervous system) rests solely upon the fact that elimination of the referring use of folk psychological terms from our language would be impractical.

Here the eliminative materialist will immediately point out that this way of looking at things masks the fact that there is much more than mere vocabulary at stake here. The issue is, remember, an ontological one. Folk psychological concepts are to be eliminated not because there are better ways of talking about mental entities, but because those concepts have no reference, there simply are no beliefs, desires, goals, etc.⁵⁸

⁵⁷ Review of *Metaphysics* XIX (1965) pp. 24-54.

⁵⁸ It is worth noting that early discussions of eliminative materialism, which was at first known as the disappearance form of the identity theory, placed greater emphasis on such folk psychological concepts as

Allowing that we may retain some folk psychological terms as shorthand for neurophysiological processes is a return to a view eliminative materialism sought to improve upon, namely reductive materialism. But it is exactly this complaint that the sunrise example is able to deal with so effectively. If we consider the concept 'sunrise' in scientific (and then ontological) terms, we must acknowledge that, strictly speaking, there are no such things. Without doing damage to any theory of reference, though, we can say that the word 'sunrise' continues to refer in the sense that it picks out a genuine phenomenon, but in the post-Copernican world, that phenomenon is radically different from the one originally referred to. This claim amounts to nothing more startling than that our language is rife with misnomers, but that should come as no surprise. Except perhaps to the eliminative materialists, who now appear to be in need of an argument for picking on folk psychological misnomers in particular. Even if 'belief', 'desire', 'goal', and even 'pain', 'dream', and 'image' suffer radical failure of reference, an additional claim is needed about why we, obstinate lot that we are, might feel compelled or even tempted to use neurophysiological terminology to talk about our mental lives, even if we well know that our "mental" lives don't exist, only our physical lives do.

'sensation' and 'pain'. There is a group in the contemporary literature that tends to overlook these concepts in favour of more nebulous ones like 'belief' and 'desire'. This neglect suggests more than the mere assumption, addressed in chapter two, of 'belief' as a synecdoche for all mental concepts. It suggests that some folk psychological concepts are not such easy targets for the same or as severe criticisms as others, for example, the notion of a stabbing pain in the abdomen is not as vague, ambiguous, or context-relative as the belief that snow is white. Emotions seem to fit very nicely into a reductive program, but I don't wish to hazard a guess about where dreams and mental images fit into this continuum. A subtle revision in materialist critique of folk psychology seems to have been effected, but not necessarily acknowledged. This presents the interesting possibility of a revisionary/eliminative materialism which would seek to eliminate some folk psychological concepts, but to be reductive regarding others (and perhaps some other way regarding yet others). Dennett most explicitly mentions a revisionary approach (see *Brainstorms*, Introduction p. xx), although not in the same way as I have done. Even Paul Churchland appears to concede this possibility, writing that "the commonsense conception of reality is a loosely integrated patchwork of subtheories rather than a unified monolith, and parts of it may fare better than others in the crucible of enlightened criticism". (*Scientific Realism and the Plasticity of Mind*, p. 42.)

An illustrative example of this human linguistic mule-headedness is the Canadian switch to the metric system of measure in the early seventies. Temperature, of course, is a real thing, but degrees are just convenient human constructions for measuring fluctuations of temperature. Given that degrees don't really exist anyway, many of us felt it didn't much matter whether we talked about degrees fahrenheit or degrees centigrade, so long as we understood one another, and that would be easier if we stuck with the more familiar method. But note that in the case of degrees, although they seemed firmly entrenched to some of us at the time, they were in the end terribly easy to change. The case is therefore a little different for beliefs and desires, which are in this respect more like sunrises and sunsets, i.e., very thoroughly entrenched and very difficult to get rid of. In the meanwhile, we may wish to do as Rorty suggests, letting "a thousand vocabularies bloom and then see which survive".⁵⁹ It would not be surprising, I contend, to discover that both folk psychological and neurophysiological vocabularies could flourish in different domains and regardless of mental ontological considerations. Chapter five addresses the feasibility of this contention.

It remains very difficult, and beyond the scope of this thesis, to develop a clear-cut position on the extent to which a term derives its meaning from the theory in which it is embedded. Obviously terms and theories can in some sense be separated, as the sunset example shows. But one might argue that a change in underlying theory yields a term which, while morphologically the same, differs in respect of meaning, and hence is not really the same term. There is some plausibility to this line of reasoning, which sets the term above the theory but related to the theory in such a way that the connections can be severed and the term attached to a progression of newer theories. On the other hand,

⁵⁹ Rorty, "In Defense of Eliminative Materialism", *Review of Metaphysics* XXIV, 1970. p. 119.

there must be some reason for keeping the same term. I suggest that historical and scientific continuity are very important factors, as the example in the next section illustrates.

(iii) The Atom That Wouldn't Stay Away

The counterexamples to the inductive parallel given thus far might be seen as somewhat inadequate for the purpose of questioning that parallel, because they are somehow disanalogous to the case of folk psychology. On the other hand, the eliminative materialists do not offer much reason to think their examples *are* analogous in the required way (how is 'belief' like 'phlogiston'?). My final counterexample is, I think, very much like the cases cited from the history of science, but with a substantially different outcome than the instances used for the generalizations of eliminative materialist theory. Up against the sad fates of pneumata, alchemical essences, caloric, phlogiston, and aether, stand the happier tales of the atom and the vacuum, two concepts which have managed to overcome elimination.

I will begin with the atom because it seems to represent the clearer counterexample, and because discussion of the vacuum relies fairly heavily upon what goes on in atomic theory. The history of the concept 'atom' is much more convoluted than this discussion might suggest, but I have opted for simplicity because it enables me to point out the most central features of the development, disappearance, and redevelopment of the concept. The atomic theory was originally introduced in about the fifth century B.C. by Leucippus of Miletus and his pupil Democritus, in response to the problem of the perceived antithesis between the unity of the cosmos and the multiplicity of events

therein.⁶⁰ Previous solutions to this question had been suggested, and the problem itself had been dismissed as misguided, because reality was unchangeable, and multiplicity, or perceived change, was an illusion. Leucippus and Democritus would likely have been uncomfortable with the idea that all change is illusory, and so sought to make it intelligible. Democritus denied the apparent unity of being, dividing it into a number of unchangeable and indivisible things, called atoms.

The atoms of Democritus were infinite in number and differed only in respect of size and shape. Democritus was able to account for a number of physical phenomena with his primitive atomic theory. Motion was an eternal property of atoms. Change in a body was based on local motion of its constituent atoms. Evaporation was explained as a loosening of the connections between atoms. Density was attributed to a body's being composed of many atoms and very little void. (The void was introduced as the opposite of atomic being, necessary to the separation and movement of atoms.) A primitive theory of colour perception was based upon the differing shapes of the atoms of the four basic colours, for Democritus white, black, red, and green. In general, however, the original atomic theory addressed what we might call the philosophical problems of unity and plurality, of immutability and change, while remaining vague as a physical theory. This is likely because insufficient physical data were available to the Greeks to enable them to comprehend science as physical theory. The atomic theories of Leucippus and Democritus, and later of Epicurus and Lucretius Carus, were questioned,

⁶⁰ There are a number of very good histories of the concept 'atom' available to the general reader. The two I have relied upon most heavily throughout this section, in part because of their specifically philosophical orientation, are S. Sambursky's *The Physical World of the Greeks* (Routledge 1959), and A. G. Van Melsen's *From Atomos to Atom* (Duquesne University 1952). Developments to the present day, which are less important to the case at hand, can be found in John Gribbin's *In Search of Schrodinger's Cat* (Bantam 1984). However, histories such as these tend very much to present the received view of the history of science and philosophy of science. In the section that follows, I am very much indebted to Jack MacIntosh for pointing out those areas in which the received view has been too simplistic.

at least by Socrates and Plato, on mostly philosophical grounds, that is, for providing the wrong *kind* of explanations. (Aristotle, although he rejected atomic theory, did so for thoroughly empirical reasons.) The concept 'atom' in the sense that Democritus intended was to vanish in an on-again off-again way for centuries. This is analogous to the approach being taken by the eliminative materialists. With insufficient scientific evidence in hand, they urge us to dismiss a theory on speculative philosophical grounds.

Aristotle and his pupil Theophrastus were the major contemporary critics of the atomic theory, and it is in fact their polemics that reveal Democritus' theory, as his own writings have not survived. Aristotle held some form of a theory of smallest parts, which differed qualitatively and were subject to change, and which he called the natural minima, but this theory was not very central to his physics. All the same, it was Aristotle's teleological picture of nature, and his theory of smallest parts, that held sway and remained an integral part of physical science until the revival of the atom in the seventeenth century. Aristotle criticized atomic theory on a number of points, virtually all of which have since been shown to be empirically misguided, for example, that a wholly new form comes into being when a compound is formed, and that only four elements exist. Furthermore, atomic explanation was to be applicable to all matter, and not merely to the inanimate. This meant that the workings of the mind, to Aristotle processes setting humanity apart from all else, were to Democritus nothing but a result of shifting atomic positions, although he did allow that the soul was constructed of a special type of atom. The existence of the void, or vacuum, was denied by Aristotle for a number of reasons, including that for the Greeks the atom and the void went together, but also because he rejected (again on empirical grounds) a conclusion that we know today to be correct, namely that in a vacuum all bodies fall with the same velocity.

Generally, Aristotle's finite spherical universe was more in tune with the Greek ideal of order and perfection than was the world of Democritus, filled as it was with atoms colliding chaotically in the void. The physical doctrine of Aristotle became accepted by and large as dogma, and was unshaken for a very long time. (There were, of course, some pockets of opposition. For example, some Arab scholars after the fall of the Roman Empire were opposed to Aristotle in many areas. The disappearance of the atom was not quite so complete as is sometimes thought, but in some areas at least, it was dismissed, and for philosophical reasons.)

At first, so far as physical explanations were needed, Aristotle's minima theory had as much promise as atomism because the physics and chemistry needed to show the superiority of one over the other were slow to develop. But because Aristotle's physics had more acceptable philosophical consequences, most scholars chose to discuss and modify his theory of smallest parts. The rise of Christianity (and other monotheistic traditions) saw the atom suffer yet another blow, because the materialist theory in which it figured was at odds with the religious conception of the cosmos as the expression of a divine will. So the atom, in spite of its unforeseen potential, was eliminated. This parallel may apply to either neurophysiological or folk psychological theory, depending on the discoveries of science with regard to both. Physical science for centuries dealt with Aristotelian-inspired questions. In the period leading up to the seventeenth century, and even into the eighteenth century, Aristotle's mechanics and primitive chemistry were increasingly seen as faulty. (Galileo, for example, adhered to Aristotelian views of mechanics until very late in his life.) The need for a quantitative theory of matter, which would lend itself to mathematical interpretation, became evident, but was at first predominantly a non-Aristotelian corpuscular theory with matter and motion but not at-

oms being invoked in explanations. (Bacon, Descartes, Boyle, and Leibniz, for example, held either non-atomic or anti-atomic views.) It was not until Newton (1642-1727) that the atom, after varying periods of absence spanning some sixteen centuries, came back.

Two final features of the history of the concept 'atom' deserve mentioning. First, the atom did not return in a blaze of glory, suddenly clarifying all that was confused in physics. In fact, the failure to identify the true elements held atomic theory back for some time. But once it began to develop and to show some exciting potential for explaining the behaviour of matter, the empirical question of the ontological status of the atom arose. Many thermodynamic formulae gave accurate descriptions of physical phenomena without recourse to atoms and molecules, which came to be viewed by some as the last vestiges of a more metaphysical period in science. Progress in science was mostly due to empirical discovery, so some felt it imprudent to utilize entities not subject to experience, except in a heuristic fashion. But the discovery of Brownian motion in 1827, where very tiny particles were found to move in an erratic motion when suspended in liquid, was an empirical problem fully explicable in terms of the movement of molecules in the liquid. The Wilson cloud chamber, created in the nineteenth century, permitted scientists to observe the path of small particles, especially what later became known as electrons, by the formation of ions in gas, made visible by saturating the gas with water vapour. These two discoveries, in combination with a steadily mounting body of physical and chemical knowledge relying directly upon the existence of atoms, spoke strongly in favour of the real existence of the atom. The case is still not conclusively proved.

The other point is that the term 'atom' as we use it today may not be the same term as was used in the last century, or in the last millenium, because it no longer refers

to the smallest indivisible particle of matter. But even though today's atom differs in this significant respect from the atoms of the seventeenth century and the fifth century B.C., it is similar in some other equally important respects. For example, the atom is still seen as the building block of all matter, has an essentially quantitative character, is perpetually in motion, and so on, and these are ideas owed distinctly to Democritus. To say the atom is no longer the same entity denies the historical and scientific continuity of the term and the underlying theories. There are further considerations of meaning and scientific theory here that are outside the scope of this thesis. This is not too great a worry, however, since my concern is more with how the term 'atom' has functioned in science over the centuries than it is with metatheoretical claims about change in meaning over time.

The question that we must now put to the eliminative materialist is: do we have any reason to suppose that the fate of folk psychological concepts will necessarily be like that of phlogiston and aether, and unlike that of the atom? To avoid the accusation of attempted empirical crystal ball gazing, the eliminative materialist must say no. Any response that relies on the real existence of the atom as opposed to the nonexistence of, say, aether, begs the question because it is precisely the existence of folk psychological entities that is being debated, and predetermining their nonexistence does not settle the debate. In other words, the eliminative materialist cannot claim that folk psychological concepts are more like caloric essences and less like atoms because the latter exist and the former do not, because we simply cannot know what future science will discover about beliefs and sensations, however stimulating our suspicions might be. It is the intentionality of folk psychological concepts that distinguishes them from other theoretical postulates, and this makes them significantly different from both the eliminated

concepts (phlogiston and caloric) and from the reinstated concepts (atom and vacuum). Here Paul Churchland's insistence that scientific knowledge and commonsense beliefs are equally hypothetical returns to haunt him. If folk psychology is a theory for the explanation of human mental activity, which can in principle be displaced by another, neurophysiological one, then the displacing theory must itself be subject to further displacement. Churchland's vituperations against folk psychology may be repeated millenia from now with neurophysiology as their target. We cannot even conceive of the state of cognitive science in the centuries-distant future, at least not without entering the realm of science fiction. Science should not be viewed as an end-state process that will cease to progress in a given area once it has discovered all the truths in that area, so we should suppose that our understanding of human mental activity will become increasingly detailed over the course of hundreds of years, but may never be complete.

In spite of Churchland's claims about our intellectual history's "rich store of possible parallels from which to draw guidance", and his warning that due attention to that history can save us from any "narrow-minded prejudice" against an incomplete neurophysiological theory, he has himself paid too little attention to history. Nor can he, nor any other eliminative materialist, claim that the return of the concept 'atom' is an isolated case in the history of science. The vacuum, partly due to its association with atomism, suffered some fifteen centuries of neglect before re-emerging, and Newton's theory of occult forces was replaced by Huygens' mechanical theory of impact in the seventeenth century, only to reappear much later. What responses, then, are left to the eliminative materialist? Churchland hints at one when he writes that, "short of precognition . . . the only relevant premisses available to us concern the discernible virtues and

shortcomings of the P-theory",⁶¹ that is, of folk psychology. One interpretation of this claim is that the eliminative materialist case can be restated so that it does not rely upon scientific analogies at all. If this route was chosen, eliminative materialism would become most primarily a critique of commonsense psychology, and this critique needs to be tidied up in the ways I mentioned in chapters two and three. But even if the parallel is dropped by the eliminative materialists, the parties in favour of folk psychology can still add the parallel to their arsenal, perhaps strengthening their claim that an *a priori* determination of the fate of intentional concepts is being made. However, the fact that intentionality is a scientifically nebulous concept means that this parallel may be entirely without basis.

Differences in the explanatory success of folk psychology as opposed to neurophysiology are primary, so that at least reduction, and possibly elimination of at least some folk psychological concepts grows more appealing. We want a theory under which we can subsume as many and as varied mental events as possible, and neurophysiology seems a promising place to start, but may prove too limited. Even though it is at this stage of its development on an explanatory par with folk psychology in some areas, it appears to have greater potential because it avoids such shortcomings as ambiguity, vagueness, and context-relativity. Explanatory success is what led to the eventual triumph of the atom. Its quantitative character was well suited to some very good accounts of previously puzzling phenomena. Of course we need to remember two important facts about the atom. First, even with such a good theoretical entity, we still have a long way to go in physical science. Ask a physicist, for example, how many known and suspected sub-atomic particles there are, and she is likely to say if it's Tues-

⁶¹ Scientific Realism and the Plasticity of Mind, p. 116.

day there must be fourteen. Secondly, it is of some significance that although physics is a highly developed science, we (even if we are physicists) continue to describe our everyday world using the concepts of folk physics. The implications of this oddity will be taken up again in the next chapter.

The eliminative materialist should place greater emphasis on the fact that the inductive examples are offered only as possible analogies, proclaiming the highly speculative nature of eliminative materialism. Lip service is usually paid to this aspect of uncertainty, but the warning is sometimes lost in the headlong rush toward redemption by physical science. Paul Churchland is particularly guilty of this charge, although he lately seems to be withdrawing somewhat from his more rabid position.⁶² Some other possibilities that need to be counted as just as plausible as elimination are, that perhaps human mental activity will prove to be beyond the comprehension of humans, or that the mental will prove to be supervenient on the physical, or that the mental will prove to be an emergent property, or, and I think this is the most provocative possibility, perhaps eliminative materialism will prove to be correct, but its proof will make little or no difference to the way we live our everyday lives. This suggestion may show eliminative materialism to be not quite so radical as it at first appears, or at least to confine the dramatic effect of the theory within a certain realm, leaving folk psychology alive and well in a realm of its own.

⁶² See his article in New Essays in the Philosophy of Mind.

CHAPTER FIVE

THE INTENTIONAL CORE OF FOLK PSYCHOLOGY

I have argued in chapters two and three that it is unclear what the eliminative materialists are objecting to, and suggested some ways in which this might be made clearer. It tends to be the case that eliminative materialism offers arguments showing that folk psychology "won't do". But these arguments are not, I contend, univocal in their results because it is not clear that only one folk psychology is being argued about, or indeed that there is only one thing called folk psychology to argue about. The conclusion of these two chapters, then, is that some of the eliminative materialists might, in objecting to "folk psychology" (whatever they mean by that) have misidentified their opponent, and furthermore that it is intentionalistic psychology that they are after.

In chapter four, I expanded the "promissory note" argument along one dimension, that of the inductive parallel, first because this is really the only dimension we can examine at this stage of scientific development, and secondly because the argument from parallel examples gives emphasis to the fact that it is folk psychology's intentional qualities that cause the eliminative materialists stress. In this concluding chapter, I will address intentionality as a thorn in the side of eliminative materialism, and argue that

the problem has nothing whatever to do with the folk, but has everything to do with the prospects for developing cognitive science. But having said that, I will argue finally that at some level(s) of inquiry and explanation, intentional categories may be indispensable, and it is at that point that we should be addressing the ontological status of different explanatory concepts.

(i) Intentionality and the Future of Cognitive Science

There are two points to be made with regard to intentionality in this context. First, to be fair to the eliminative materialist school, it is not as though its adherents are completely blind to the problem of intentionality. But its significance is lost by them (and by their opponents) in a quagmire of largely sterile secondary issues, such as whether folk psychology is theoretical or progressive. The term "folk psychology" is thus doubly pejorative, as it seems to imply "primitive", and it helps to conceal the important intentional core. Since it is intentionality that we are really stalking here, it behooves all of the eliminative materialists to acknowledge as much, even if only to mention that certain assumptions are being made about intentionality. The literature abounds with specific arguments against intentionality, but these are outside the scope of this thesis. Suffice it to say that, knowing their enemy, the eliminative materialists should now meet it head on.

The second point to be made here is that, where eliminative materialism relies on "promisory note" arguments to back its claim that folk psychology "won't do", the arguments in favour of folk psychology are *not* promisory in nature. Folk psychology has never made any daring claims to scientific greatness, but suddenly found itself with sci-

entific standards forced upon it. It is, however, only a folk theory, allowing us to get on with everyday life, and is perhaps indispensable for that purpose. (Recall my comments in chapter one that by arguing that commonsense psychology is a theory, the eliminative materialists seem to be hoping that the theory can be picked up and discarded in one neat move. In fact folk psychology is more like a family of squid than a theory, with tentacles wound inextricably throughout our lives.) It is not so much that a folk theory is the only theory we have at the present time, but the fact that in its own admittedly narrow and context-relative range, the folk theory seems to be working just fine.

The primary complaint of the eliminative materialist, then, must not be seen as an argument against basing a science or a research program on folk psychology, because the problem has nothing to do with the folk. It is the idea of basing science or research on intentional concepts that comes to grief, probably because of some unconscious assumptions being made about the pitfalls of the intentional. The whole story then begins to sound very like arguments made in the last century and early in this one pitting introspectional psychological explanations against purely mechanistic ones. Wundt (1873), who established the first laboratory of psychology, is usually credited with having brought psychology from its philosophical stance to the status of an empirical science using experimental data. His pupils continued this tradition, but some form of mind-body dualism continued to underpin most of psychology until attacked by the behaviourist and psychoanalytic schools. Even Freud, representing the latter school, preferred a mechanistic account of most of nature, but accounted for the mind in non-physiological terms. Upon noticing the similarity between the current debate and argu-

ments of a century ago, one is tempted to point to the eliminative materialist and wonder just who is being non-progressive.

A "bottom-up" approach to neurophysiology is therefore an ideal to be esteemed equally by neurologists, cognitive scientists, and philosophers.⁶³ Speculation on the scientific feasibility of the intentional is of interest, but once it begins to place *a priori* restrictions on the options for cognitive scientific development, it is unprincipled and undesirable. Furthermore, it is just possible that once the complete picture is uncovered, and intentional concepts have, let's say, been found to have no scientific relevance, they may not conveniently disappear! We cannot and must not pin down the course of any future science, whether cognitive or neural, because to do so is to risk inhibiting the development of them both.

(ii) Intentional and Other Levels of Explanation

I think it is possible to accept that neurophysiology has gotten all the scientific facts about human beings right, and even accept that the terms of intentional psychology suffer radical failure of reference, and still hold that the intentional is a desirable and maybe indispensable level of explanation. What this amounts to is admitting that under the strictest of scientific standards, eliminative materialism is correct about intentional psychology, but that sometimes and for some reasons it does not matter. We cannot, I believe, work and live solely within the terms and explanations of neurophysiology. We

⁶³ This phrase is borrowed from Patricia Churchland (Neurophilosophy: Toward a Unified Science of the Mind/Brain, pp. 461-462). "Top-down" (or theory-devising) approaches seek to develop a schema to enable understanding of a brain function, and then ask whether and how the brain implements the schema. "Bottom-up" (or theory-testing) approaches examine the brain to uncover schemas or patterns.

must have intentionality to provide some answers to some questions, and this may mean that we can still have a science (although perhaps of a different sort) based on those kinds of questions.

We might think of a computer machine language as an analogy here. Machine language is divided into the high-level or programming language, then the compiler, which interprets the high-level language, then a "shorthand" octal or hexadecimal numerical series, and finally a binary string, the machine code. In the case of a programming language, systematic regularities exist through the descending levels that permit principles of translation to be established. Although the programming language is useless to the computers' series of on-off switches, and vice versa, each can be made intelligible to the other by reference to the principles of translation. In this respect, psychological explanation may or may not be analogous to machine language, depending on what science eventually discovers. But where the analogy really has force is in respect to the unintelligibility of information from one level to another. Not only could we not answer the question "why did Fred become a Catholic?" in neurophysiological terms, we could not even pose it in those terms. And the questions that we can only ask and answer in intentional psychological terms may not be questions that we are prepared to give up. To adopt the reductive tack and claim that talk of the mental is just a style of talk about what are really neurophysiological events is ontologically bland. But if the reductionist route to reconciling neurophysiology and cognitive science (articulated in terms of intentional concepts) won't work, and it seems likely that it won't,⁶⁴ the two can still be reconciled if they are seen not as competing, but as attacking two different levels

⁶⁴ There are many reasons why the reductionist route will fail. They are enumerated in Block (ed.), Readings in the Philosophy of Psychology Volume I, parts two and three. See especially Putnam's comments in those two sections.

of inquiry. Talk of the mental is therefore not a style but a compulsion we have in order to say and explain certain things, i.e., those things that interest us.

The distinction between different levels of explanation is by no means a new one. Daniel Dennett maintains that it is such a distinction that underlies Socrates' discussion in the Meno of the vagueness of intentional predicates, and also underlies Fodor's division between conceptual and causal definitions. Dennett himself describes the difference as being between one theory and a second "more reductive" theory.⁶⁵ A very thorough recent analysis of different levels of explanation is conducted by Zenon Pylyshyn,⁶⁶ for exactly the reason I am suggesting: certain regularities in human behaviour can only be captured in intentionalistic terms. However, the notion of a level of explanation that I am supporting is unusual in so far as I am suggesting that different levels, possibly ontologically incompatible levels, can operate simultaneously.

(iii) The Ontological Status of Theoretical Entities

We are left finally with this question: if talk of the mental is a compulsion, and there are (at least) two levels of explanation to be considered, are both levels *real*? Is the compulsory intentional level ontologically serious? If so, then what we are countenancing when we countenance two levels of explanation is plainly dualism. But perhaps the level of the mental is real in a different way. The mental may be created

⁶⁵ Dennett, "Three Kinds of Intentional Psychology", pp. 37-38.

⁶⁶ Pylyshyn, "Computation and Cognition: Issues in the Foundations of Cognitive Science", *Behavioural and Brain Sciences* 3 (1980), pp. 111-132, and Computation and Cognition: Toward a Foundation for Cognitive Science.

by us, as beings who attach value and hold interest, and is real in the sense that art is real. The lines in a painting of a table are not the lines of a real table "in the world", but it is them that we find interesting. In our capacity as attachers of value, moreover, we may actually prefer the vocabulary of the commonsense to that of neurophysiology no matter what science tells us. Both vocabularies may be rich in their respective milieux.

But this is quite an odd use of the idea of a level, and one that may strike some as not quite intellectually respectable, if not downright immoral. What I am suggesting, in effect, is that once we emerge from Plato's Cave and realize how mistaken our judgements about reality have been, we can wilfully return to the cave and live out our lives in blissful shadow!⁶⁷ No eliminative materialist can argue successfully that we mustn't go back to the cave and disregard the dictates of science, because we can always reply that we find the cave more interesting and we'll go back there if we please.

Eliminativism proceeds in two directions, one which views folk psychology as a sloppy way of talking, to be eliminated in favour of a scientifically cleaned up but still intentionalistic vocabulary, that of cognitive science. The other direction, eliminative materialism per se, holds that both the commonsense and the cognitive scientific vocabularies are ontologically suspect. But by making folk psychology the central issue, the arguments for or against intentionalistic psychology have not been touched. Can we have an intentionalistic psychology? This is a question for empirical investigation. Do we need an intentionalistic psychology? This question is both philosophical and empirical. But neither of these questions, which are the most central, crucial, and fun-

⁶⁷ My thanks to John Baker for suggesting this very picturesque analogy.

damental for the eliminative materialist, are answered in arguments about folk psychology. That spirited debate has missed the point.

It is the human traits of valuing and interest that the eliminative materialists have not counted into their rigorously scientific program for determining ontological status. Nothing, I conclude, could forestall so wistful a reaction to the dictates of science as this:

"Imagine: inside, in the nerves, in the head - that is, these nerves are there in the brain (damn them!), there are sort of little tails, the little tails of those nerves, and as soon as they begin quivering, that is, you see, I look at something with my eyes and then they begin quivering, those little tails, and when they quiver, then an image appears. It doesn't appear at once, but an instant, a second passes, and then something like a moment appears, that is not a moment . . . but an image; that is, an object or an action! That's why I see and then think, because of those tails, not at all because I've got a soul, and that I am some sort of image and likeness. All that is nonsense! It's magnificent, this science! A new man's arising, that I understand. And yet I am sorry to lose God!"

(Fyodor Dostoevsky, The Brothers Karamazov)

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