On interpreting 'folk psychology'[*]

MILENA NUTI

Abstract

'Folk psychology' has meant many things to many people. In this paper I consider some of the construals and issues surrounding them. My aim is to clear the conceptual ground necessary to decide what is 'folk psychology' and what is not in a way that is sensitive to constraints of methodological naturalism. There is an interesting comparison between the notion of 'folk psychology' as discussed in different literatures, and the notion of 'language' as it was discussed before Chomsky sharpened the boundaries of empirical inquiry.

1 Introduction

There is now a huge literature on 'folk psychology'. This paper considers some of the ways in which the term has been understood, with a view to developing a theoretically adequate conception which will lay the groundwork for future research.

The term 'folk psychology' is typically introduced in discussing facts of the following sort. If we consider some piece of behaviour, there are (at least) two ways in which we might characterise it. On a purely physical level, we might notice that the detective has put his hand in his raincoat pocket. However, we can also form hypotheses about why he might have done that, and we have expectations about what might happen next for each of these hypotheses. For example, we might think that the detective *feels* cold and he *hopes* to warm his hand up in his pocket. In which case he should keep it there a while. Or we may notice the unlit cigarette in his mouth and understand that he *thinks* his lighter is in his pocket and *wants* a smoke. Or we might notice the gangster just ahead of him and wonder whether the detective is in fact reaching for the gun he *knows* to be in his pocket while *hoping* that the gangster, whom he *intends* to shoot, *assumes* he is just

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looking for a light. Understanding any of these scenarios involves understanding behaviour in mental terms: e.g. hoping, wanting, thinking, etc.[1]

Normal adult humans have this ability, and the term 'folk psychology' regularly appears in most discussions of exactly what such abilities humans have and how to account for them. Because these issues are of interest to different disciplines (e.g. philosophy, psychology, primatology) they are approached by theorists from different backgrounds and from multiple perspectives[2]. While interdisciplinarity is a virtue, I think some confusions have arisen partly from lack of clarity in use of terminology. My main aim in this paper is to clear some of them up.

There are three main reasons why the notion of 'folk psychology' should be of interest to linguists. The first is methodological: the most effective way of sorting out conflicting issues in debates surrounding folk psychology is to adopt a Chomskyan naturalistic approach. In order to evaluate this claim, the emphasis in this paper will be on terminological issues and an overview of existing debate. The second is the inherently interesting possibility of a cognitive module parallel to the language faculty. There is not only a "pre-Chomsky" notion of 'folk psychology' at play in the literature, that is comparable to a "pre-Chomsky" notion of 'language'; also there is probably a faculty of the brain dedicated to some aspects of 'folk psychology' in the same way as there is for some aspects of 'language'. But in order to work out what aspects those might be and how to explain them, the basic parallel will have to be accepted, and its consequences for existing (and future) debate accommodated. The third reason concerns the relation between pragmatics and folk psychology. Understanding communicative behaviour involves recognising and attributing mental states. There is therefore an overlap between the interests of pragmatics and folk psychology. Indeed, it would be desirable to provide an integrated account. However, to do this would require some characterisation of the folk psychology side of the equation and it is therefore useful to get a handle on the notion that is theoretically tractable.

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[1] In much of the literature on folk psychology, *belief* and *desire* are the most discussed mental states, and the ones that are almost always used to illustrate folk psychology. I have deliberately avoided using them at this point. Reasons for this should become apparent below. Already note, however, that for the purposes of exposition of so-called 'folk psychological abilities' *think* and *want* do just as well. In fact, they probably do better because they are free from some of the natural-language connotations that *belief* and *desire* carry, which are not relevant at this point.

[2] See e.g. Carruthers & Smith (1996), Davies & Stone (1995a&b), Astington et al (1990), Christensen & Turner (1993).

2 Folk psychology (as it is often discussed)

2.1 Problems of terminology

2.1.0 First of all, I would like to draw attention to problems with the term 'folk psychology'. Some problems are stylistic, to do with the connotations the term carries; some are more serious and concern difficulties faced in attempting to identify what the term is used to pick out, and problems that arise when different theorists fail to take this into account.

2.1.1 Connotations of 'folk'. The stylistic problems are mainly to do with 'folk' being part of the label. The following quote illustrates the kind of objection I have in mind:

> *Not* 'Folk Psychology'! This is too 'folksy'; once it is so baptised, it inevitably finds it hard to live down its folksiness. There is an inbuilt temptation to see it as a bit twee, a bit primitive. And that is a very substantial mistake.
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> (Wilkes, 1993, p.168)

I am sympathetic to this point: 'folk' does have strong connotations and they may give rise to inferences that lead to us prejudging the nature of what we are trying to investigate. For example, the expectations activated in one's mind by the word 'folk' might suggest that whatever folk psychology is, it is a relatively simple matter; they might cast doubt on the reliability of the knowledge associated with it, and further might carry implications about how information about it is learned and passed on, and about how cultural factors and traditions can affect its content. These are open questions, and it is complicated enough to think about them objectively, without the extra burden of an unfortunate choice of label colouring the issue.[3]

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[3] This problem is particularly salient if the kind of account you expect to move towards is likely to be more 'technical' (or sub-personal) than would be compatible with the kind of allusions just mentioned. ("If it is a folk theory, then why can no one state what its principles are in any more than the most rudimentary terms?", the objection tends to go). The possibility of tacit knowledge accounting for folk psychological abilities is sometimes discarded because it is seen as incompatible with the kind of connotations mentioned above. Maybe this shouldn't really matter, but since opposers of some kinds of accounts have not refrained from taking cheap shots at them using the connotations carried by 'folk' as the basis for their arguments, perhaps it would be a good idea to remove this ammunition if they cannot be mature enough not to play with it. For example Churchland, who wants to construe folk psychology as a theory in order to then argue that it is false, talks of generations of accumulated wisdom and

Perhaps similar considerations apply to lend support to my suggestion in footnote 1 that *belief* and *desire* should not be used as the paradigmatic mental-state terms. These terms often carry connotations that are not relevant to the kind of straightforward reasoning that is generally at issue in the kinds of practices that folk psychology is supposed to account for. Note that it actually seems rather odd to say something like "I went to the fridge because I *desired* a beer and *believed* I would find one there". While these concepts may be the ones of interest to philosophers, that interest should not lead to super-imposing them onto ordinary people's everyday practice. Informants tend to contest the use of *belief* in sentences like "Certain things follow from my *belief* that the refrigerator is switched on". Not only are these concepts philosophically loaded, so that hoping for answers to independently existing questions might easily sway some accounts into hasty conclusions, but also their use in everyday language carries specific contextual effects. At a very crude level, *belief* is often associated with religious contexts and *desire* with sexual ones. Explaining to an interested novice what the study of folk psychology is about as 'understanding behaviour using concepts like *belief* and *desire*' would probably lead them to draw entirely the wrong conclusions about what such a study is interested in discovering.

2.1.2 'Folk' versus 'lay' psychology.   Another worry about the connotations of 'folk' in the label of 'folk psychology' is the danger of confusing 'folk psychology' with what I would call 'lay' psychology. In certain parts of the world at least there is a wide body of information that is about psychology in some sense and is available to many individuals. The kind of information I have in mind is the sort of thing that gets reported in the science pages of newspapers, or is the subject for discussion in radio review programmes, or spread by popular science books. For example, Pinker's "The language instinct" or any of the books about evolutionary psychology (the newspaper plugs and interviews that surround their publication often ensure that a large number of people may be aware of their gist without having to read the books). The results of psychological experiments are often reported as quirky examples of things that one might never have thought about human nature (e.g. the fact that presented with an array of three apparently identical objects subjects tend to pick the right-most one). Tenets of psychoanalytical theories that now form part of general culture might also fall into this category.

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platitudes learnt at the mother's knee. Such improbable characterizations then become the easy target for those who doubt the status of folk psychology as a theory and point to the difficulties encountered in formulating these alleged platitudes as evidence in favour of a simulation account of folk psychology. (See the discussions in Davies & Stone 1995a (e.g. Goldman "In defense of simulation theory", p.195)).

Now, on some occasions, any of these pieces of information might be called upon in some particular instance of predicting or explaining some piece of behaviour (the neighbours have their au pair talking to their small children in Spanish; the shop assistant arranges the display in a special way; I excuse my friend's behaviour on account of his childhood). Often, to the extent that the information appealed to was reliable and has been accurately reported, the explanation or prediction made on its basis is successful. However, none of this implies that the kind of information I have labelled as 'lay' psychology should be considered as part of 'folk psychology'. Lay psychology is not to do with the individual's "automatic" understanding of the mind; it is a culturally re-elaborated version of scientific understanding. Indeed, to the extent that lay psychology is included in any characterisation of 'folk psychology', I would argue that that notion of 'folk psychology' is ill-defined with respect to the type of naturalistic inquiry I have in mind.

The fact that folk-psychological practice is often hastily glossed as 'predicting and explaining behaviour' should not mean that *whatever* can be called upon in behaviour prediction or explanation is 'folk psychology'. What can be called upon in the practices of 'predicting and explaining behaviour' is of a much wider scope than what can be plausibly assumed to be a universal trait of human beings. This should serve as a warning that the gloss 'predicting and explaining behaviour' does not pick out a set of practices that can be given a homogeneous account. As there do seem to be some traits to do with mindreading that are universal to humans, those are what I aim to characterise.[4]

2.1.3 Physics, biology and psychology. Of course, 'folk psychology' is a term that has been around a while, and its shifting reference is something I will discuss shortly. Note that one reason the 'folk' prefix persists in the case of psychology is because of apparent counterparts to be found in the domains of physics and biology: just as they have a grasp of the mental lives of those around them, humans also have an understanding of the movement of objects and of biological categories. This knowledge and the resulting abilities are often referred to as folk physics and folk biology. These three 'folk' capacities are often considered together in evolutionary psychology. In each case, humans are assumed to have evolved some set of domain-specific abilities (see e.g. Hirschfield & Gelman 1994). However, a closer look at the way the 'folk' prefix is used in these other cases will show that the parallels we might be tempted to draw, given the shared presence of 'folk' in each label, are not always straightforward. It is in fact worth guarding against unqualified comparisons with other 'folk' domains, both because of

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[4] See e.g. Avis & Harris (1991).

differences in how the prefix is used and because of possible differences between domains. I will return to this point after having considered some original uses of 'folk psychology'.

2.2 What does 'folk psychology' refer to?

2.2.0 'Folk psychology' is a very slippery term: it covers many positions and areas of investigation, and in its different guises is tied up in different debates. In this section, I will first rehearse some standard philosophical construals of the term, and the questions that surround these construals, and then compare the terminology and interests of more cognitive approaches. What I want to do eventually is to characterise some specific cognitive ability that can be separated out from everything else that gets discussed under the label 'folk psychology' and investigated in its own right. As noted above, for linguists, a useful parallel might be with attempts to separate out a language faculty from everything that goes under the heading 'language' or 'language use'.

It is worth noting that alternatives like 'commonsense psychology' and 'belief-desire psychology' are sometimes used instead of 'folk psychology'. These alternatives do lose the undesirable 'folksiness' connotations mentioned above.[5] However, they do not seem to carry any systematic theoretical commitment; they neither mark out a particular standpoint, nor do they delimit a more restricted area of investigation. They are not introduced with the explicit purpose of distinguishing between any particular sets of data, or circumscribed aspects of 'folk-psychological-practice'.[6] I will compare the more 'psychological' use of the labels 'theory of mind', 'mindreading', and 'mentalizing' after having sketched a 'philosophical' map.

It is useful to note before proceeding that there are (at least) three different things that might be at issue in discussions of folk psychology:

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[5] Even though arguably they gain others: for example 'belief-desire psychology' to me can lead to presupposing that the concepts of belief and desire will feature in an *account of* the practices that can be *described as* the attribution of beliefs and desires; in other words it assumes that belief and desire are the concepts *used* in the practices, rather than just the concepts talked about.

[6] This 'elegant variation' (Fowler 1965, p. 148) certainly is not constructive; and given that more subtle distinctions do need to be introduced in this field it is a shame to pointlessly multiply terminology. Instead, the many interchanged alternatives are sometimes used with subtly different intention, but without having a systematic referent, in spite of the need for refining discussion.

i) *Sets of practices* that humans engage in;
ii) *Accounts of* what it is that enables humans to engage in those practices;
iii) *That which* (the mechanism, or whatever) underlies the ability to engage in i), and what ii) is actually an account of.[7]

I think that the words 'folk psychology' (and to some extent 'theory of mind') have been used at different times to mean all three of these. While some slippage might be acceptable, I suspect that on occasion such slippage actually has the effect of covering up inconsistencies.

2.2.1 Philosophical issues. Sometimes when theorists say they want to talk about 'folk psychology', they mean that they want to talk about the fact that humans understand behaviour in mental terms, often employing a battery of psychological concepts. In this case 'folk psychology' seems to denote a practice or set of practices that humans engage in. Such practices seem to involve, for example, attributing mental states on the basis of environmental information; predicting what mental states follow from attributed mental states; selecting and integrating relevant background information in order to predict what action might be taken on the basis of these further attributed mental states; taking some piece of behaviour and forming and testing hypotheses about the mental states that might have caused it, probably via a process of inference to the best explanation.

This appears to be the sense in which Baron-Cohen uses 'folk psychology' as an alternative to 'mindreading':

> Mindreading also goes under the name "folk psychology" – and that may be a better term for it, since it reminds us that it is simply our everyday way of understanding people.
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> (Baron-Cohen, 1995, p. 25)

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[7] To illustrate the spirit of the distinctions between i), ii) and iii) a parallel with linguistics might be useful: i) could be linguistic behaviour; ii) could be particular theories (GB, minimalism, Davidsonian theories, use theories, etc.); iii) could be I-language. Already it is clear that the three categories need to be refined a lot and made more specific as they each encompass some quite different possibilities. But I think it is already useful to distinguish between these three different kinds of thing that might be under discussion; and such distinctions are rarely standardly drawn. In fact, it is not always clear how the positions sketched in this paper map onto i), ii) and iii), if at all.

While Baron-Cohen is careful about the scope and level of description of his inquiry, it is still confusing to introduce a term as laden as 'folk psychology', which raises more issues than it resolves, apparently without considering how it might be (mis)understood.

When philosophers use 'folk psychology' it is not always clear whether what is at issue are the practices that humans engage in, or what mediates those practices. Part of the reason for this, I think, is that these two issues are often run together. 'Folk psychology' can refer to what philosophers call 'a commonsense conception of the mind', according to which beliefs, desires and other propositional attitudes feature in everyday understanding of behaviour (see e.g. Rudder Baker, 1995). On the one hand, however, these 'practices' are not very well delimited. What is at issue appears to be how we understand one another's behaviour. Even when this is restricted, as it sometimes is, to explaining, predicting and describing behaviour, it will still be an area of considerable complexity, probably calling upon a wide variety of sub-skills. Bear in mind that huge amounts of information of very different kinds might be brought to bear on this kind of 'interpretation' process. On the other hand, not only is a very wide category of behaviours picked out, but also it is picked out in a way that may well be too restrictive. The interest is taken to be 'understanding behaviour in terms of concepts like *belief* and *desire*'. This is generally understood as 'in terms of the concepts *belief* and *desire* and other concepts like them'. However, I think it would be more open minded to say instead: 'in terms of concepts that are like *belief* and *desire* (i.e. whatever states they are, they are representational states with semantic properties and causal powers)', without presupposing that concepts that are theoretically interesting and sophisticated in philosophy (*belief* and *desire*) will appear in an account of general human cognitive capacities.[8] I will return to this point below.

When 'folk psychology' is talked of as "the commonsense psychology that explains behaviour in terms of beliefs, desires, intentions, etc…" (e.g. Rudder Baker, 1999), it is unclear whether this is supposed to be still a description of practices, or instead refer to whatever is responsible for these practices; to say "*the* commonsense psychology" makes it sound as if there is some thing that is responsible for the practices, and *that* is what is being talked about, whatever it is. If this interpretation is the intended one, it makes it sound as if there is a unified explanation for a set of phenomena that are no more than intuitively related.[9]

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[8] For a proposal that is not guilty of this presupposition, see Grice (1975). For illustration of how Grice's proposal relates to a Chomskyan approach to 'folk psychology', see Nuti (1998).

[9] We can compare the variety of issues surrounding 'language' in some sense, that have interested different theorists and are relevant to completely different studies. Bilgrami describes Chomsky's approach to circumscribing a domain of investigation as "…a soberly made critique based on a realistic

Let us use the following quote to consider these issues further:

> It has come to be a standard assumption in philosophy and psychology that normal adult human beings have a rich conceptual repertoire which they deploy to explain, predict and describe the actions of one another and, perhaps, members of closely related species also. As is usual, we shall speak of this rich conceptual repertoire as 'folk psychology' and of its deployment as 'folk-psychological practice'. The conceptual repertoire constituting folk psychology includes, predominantly, the concepts of belief and desire and their kin – intention, hope, fear and the rest – the so-called propositional attitudes.
>
> (Davies & Stone, 1995a, p. 2)

This kind of statement is widely accepted and at first sight relatively uncontroversial. However, it conceals certain assumptions that I think deserve discussion.

Here, 'folk psychology' is used to refer to precisely the framework of concepts that feature in (verbal) explanations of behaviour. However, we are also told that these concepts are *deployed* in the prediction, explanation and description of behaviour that is folk-psychological practice. If 'this rich conceptual repertoire' is what is supposed to be deployed in these practices, it is presumably (part of) what underlies or accounts for them. So this kind of statement appears to presuppose that the conceptual repertoire that features in verbal reports is in fact what is deployed in explaining and predicting behaviour.

Probably one reason these concepts feature so saliently is that they are the ones provided by natural language, which is so often used as a starting point for philosophical discussions. However the conceptual framework provided by natural language is not a reliable indicator of concepts that might be required in a scientific account. Even if it were acceptable to start from the standpoint of natural language, it is not the case that there is a one-to-one mapping between lexical items and concepts. Single words can be used to stand for concepts that humans recognise and readily manipulate in spite of their not being lexicalised (see Sperber & Wilson 1998). Another consideration that might motivate the presence of concepts like *belief* and *desire* as basic in some kinds of accounts is that an account of concepts like *belief* and *desire* is what many philosophers

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sense of what is theoretically tractable and identifiable. This has given the impression to many that he is narrowing the subject to leave out interesting social and normative elements. Exactly the opposite is true for he has liberated the study of language from a set of unnecessary and ill-described constraints." (Bilgrami in Chomsky 1997, p. 60). The same process needs to be undergone in the domain of 'folk psychology'.

are interested in, so that if these concepts do not in fact feature in some explanation of humans' abilities, then the account will not serve to illuminate independently existing concerns.

For example, 'folk psychology' can also refer to versions of 'theory theory' (see e.g. Fodor 1987, Churchland 1981, Horgan & Woodward 1985). This is a philosophical account of propositional-attitude terms and their relation to behaviour. According to this position, the meaning of terms like *belief* and *desire* is implicitly defined by a network of generalisations containing them; ascribing possession of this theory both justifies ascription of mental-state concepts and accounts for the practices. An instance of such a generalisation might be:

> *If X desires q, and X believes that if p then q, then X will attempt to bring about p, ceteris paribus.*

When 'theory theory' is understood as an empirical psychological theory that is to underlie the practices, it is sometimes claimed to be largely tacit, as these sorts of generalisations are not always easy to formulate, even if they look familiar once spelt out. Often, analogies with linguistics are drawn. However, the theory is standardly constrained to include the concepts listed above, as it is claimed that those are the concepts that folk psychology practices use. By contrast, I would like to put forward the possibility that while elements from this rich conceptual repertoire may feature in introspection and reports of behaviour, they perhaps do so at no more than the level of descriptive adequacy. The generalisations that are standardly listed as part of 'folk psychology' may be no more than a phenomenological description of deeper processes. In much the same way, an informant might claim that she knows the sentence is grammatical because the words are in the right order, instead of appealing to features and traces.

I will be examining detailed ways of exploring parallels between the study of folk psychology and linguistics elsewhere. For now, note that in the literature this parallel is always hastily drawn. Before doing linguistics, linguists decide what notion of 'language' they are investigating. This basic step does not seem to be taken in the case of 'folk psychology'.

2.2.2 Debates.   At this point it is worth distinguishing between two philosophical debates that surround the notions of 'folk psychology'. The first concerns the status of humans' everyday understanding of psychology as the conceptual framework for scientific psychology. The second concerns what account to provide of humans' everyday understanding. The first is about the eliminativist issue of whether the

categories of *belief*, *desire*, etc. are really what is causing the behaviours that are being understood by, on the one hand scientific psychology, and on the other folk psychology. Do beliefs and desires (the categories of folk psychology) really exist? (Presumably the question is whether they exist in the brain of the person who is being understood). The second is about the simulation-theory/theory-theory debate that attempts to illuminate, often at cross-purposes, how to explain different features of folk-psychological practice.

To illustrate how there are two different objects of investigation, and two possible approaches to each one, consider the following diagram:
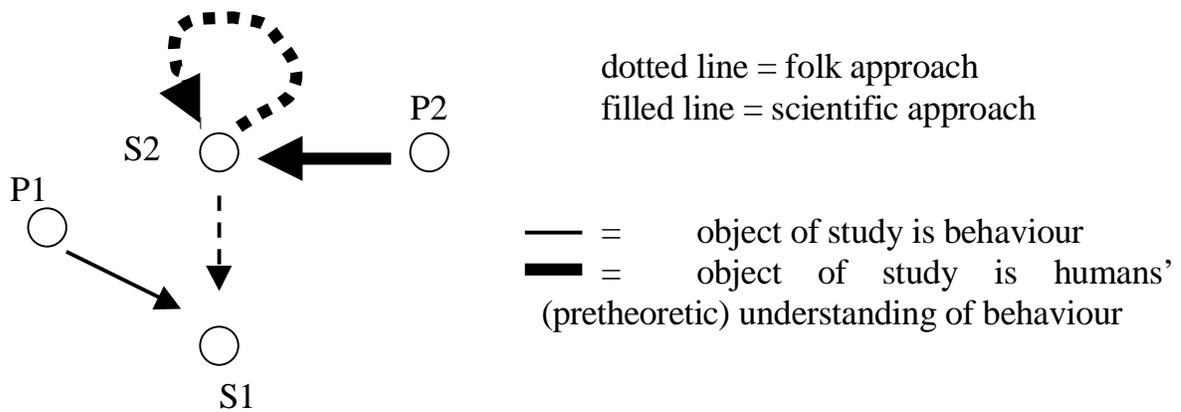
S1 (subject 1) is just behaving. P1 (psychologist 1) is studying S1's behaviour using the apparatus of scientific psychology. S2 (subject 2) is understanding S1's behaviour using her 'folk' psychology. P2 (psychologist 2) is attempting to characterise what is actually going on in S2 when she does this. (We could in fact also draw a thick dotted arrow from S2 back onto S2, as S2 has opinions about how she is understanding S1's behaviour).

It is clearly worth distinguishing between comparing humans' everyday psychology with scientific psychology, and providing an account of humans' everyday understanding of psychology, however flawed that understanding might be. However, these issues are not always kept distinct. I will discuss this in section 3, on how comparisons are drawn between folk psychology and folk physics.

2.2.3 Cognitive issues. When the domain becomes more interdisciplinary, embracing contributions from developmental psychology, primatology, and other branches of cognitive science, the further label of 'theory of mind' appears. This sometimes refers to "the branch of cognitive science that concerns our understanding of the minds of ourselves and others" (Gopnik, 1999) (which should perhaps strictly be 'theory of theory of mind'), and sometimes refers to the mechanisms that are responsible for this

understanding, that can be selectively impaired, as in the 'theory of mind deficit hypothesis of autism' (see e.g. Leslie 1991).[10] Putting to one side the "branch of science" interpretation (to which I will return in my discussion of Atran and folkbiology in section 4), let us concentrate on the "mechanism" interpretation. A note on phrasing. Consider for discussion the following quote from Scholl & Leslie:

> A theory of mind refers to the capacity to interpret, predict, and explain the behaviour of others in terms of their underlying mental states.
>
> (Scholl & Leslie, 1998, p. 4)

But 'theory of mind' itself is not an ability. *Having* 'theory of mind' is *having* an ability to (…), in normal circumstances. Theory of mind is what *underlies* the ability to (…). So perhaps we should say: "Theory of mind subserves the ability to (…)".

  If we can agree that the term 'theory of mind' picks out a mechanism that underwrites some set of abilities, as in the above definition, care needs to be taken in determining what this set of abilities might be. What is it that theory of mind provides one with the ability to do? A fairly neutral characterisation (i.e. one that leaves open both the details of which facts we should properly be trying to account for, and what might account for them), might be:

> Theory of mind is that in virtue of which humans perform certain cognitive tasks that involve the deployment of mental-state concepts in order to make sense of the behaviour of their conspecifics.

But notice that 'theory of mind' is slipperily used too. This can be seen by trying to substitute for 'theory of mind', in the above statement, two other terms which are often used in the same sentence as 'theory of mind' as alternatives or synonyms: 'mindreading' and 'mentalizing'. To say "Mindreading is that in virtue of which …" would no longer quite make sense. I happen to quite like both of these terms, and would be happy for them to appear in a scientific account, provided it was clear what they are to pick out. It is clear, however, that 'theory of mind' is sloppily used if it can appear both in statements like the above, and in the same breath as 'mentalizing' and 'mindreading'.

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[10] 'Theory' is also a misnomer in this case according to those who doubt the strictly theoretical status of whatever will end up accounting for the abilities at issue. Perhaps law-like generalizations will not feature. Those who are happy for 'theory' to apply loosely to any body of knowledge, including mechanism-based, process-driven structures, can ignore this point.

The kind of objections I am raising are against the widespread "metonymic" use of the current terminology.[11] I object to this metonymic use for the following sorts of reasons. If people say 'folk psychology' meaning the practices, and then 'folk psychology' gets interchanged with 'theory of mind' (loosely speaking), but then theory of mind is understood as e.g. a module, then suddenly a domain-specific mechanism is responsible for explaining folk psychology construed in its widest possible sense. And again, if folk psychology is a 'rich conceptual repertoire' and, further, one that is taken to underlie our practice, then tacit theories get lumbered with personal-level, natural-language concepts.

2.3 The (lack of) status of the domain of inquiry

2.3.1 What are theorists trying to explain?
My concerns are not merely terminological. I am interested in exploring the fascinating abilities that humans have in the domain of psychology, and what might account for them.[12] I do believe it is necessary to carry out this kind of pedantic ground clearing in order to make progress and to evaluate existing contributions in the field, without falling into a mesh of cross purposes.

One problem with this field might be that it is possible to latch onto the general area that theorists are interested in investigating more or less immediately, and it is an area that is easy to think about, intuitive and appealing, where even brief and superficial introspection appears to yield insights worth defending. However, I'm worried about whether people know *what* they are talking about, because I suspect they don't, and it concerns me that this doesn't stop the discussion proceeding as if they did, so the problems about working out what they *are* talking about are just passed on and eventually ignored. It is almost as if FOLK PSYCHOLOGY has become an incomplete interpretive concept, like LOVE or ANGEL, (if a less beautiful one).

It may be that there is no single thing that people are talking about. It certainly seems as if there is nothing that could possess all the properties and satisfy all the constraints and provide an answer to all the questions that get discussed under the rubric 'folk psychology' (consider again the comparison introduced above between different notions of 'folk psychology' and the range of issues associated with 'language use'). I certainly would not want a theory of how humans explain behaviour to be constrained by philosophical requirements on how to explicate the notion of belief, any more than

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[11] Metonymic because labels slide between referring to sets of practices, accounts of practices, and mechanisms (i.e. i, ii, iii above).

[12] Cognitive ethologists like Allen and Bekoff (1997) also proceed in a similarly naturalistic vein in investigating the existence and nature of mental states in non human animals.

Chomsky would think a theory about (I)-language should be constrained by, for example, philosophical constraints à la Dummett on how 'knowledge [of language] is delivered' (see Chomsky, 1995, p. 34).

Consider the basic sense of 'folk psychology', described as the framework that is used on a day to day basis to understand behaviour. That is a *huge* area. Indeed, almost the only way to understand the idea of referring to 'my commonsense psychology' is by thinking about examples of the practices I engage in. In other words, my practices are taken to be an implementation of some kind of 'folk psychology'. But now consider the sheer size and complexity of these practices. And then consider the claim that these practices (all of them, indiscriminately, as far as I can tell) are underwritten by a 'folk psychology'. But if a set of practices is identified as practically anything that involves mental states or psychological reasoning, and then attributed to a "folk psychology", what status could this "folk" or "commonsense" "psychology" possibly have?

2.3.2 What might theorists usefully try to explain?   There is some human cognitive ability in the domain of psychology that it would be desirable to provide an account of. In order to find out what it is and how to characterise it, I advocate a Chomskyan approach.

Having noted that an extremely wide range of events is standardly associated with folk psychology, it would be useful, although it is rarely done, to provide a list of examples that illustrate as many as possible of the different and interacting skills that theorists try to explain by appeal to 'folk psychology'.[13] When one starts to do this, it becomes clear that what we have is a range of intuitively related phenomena. Applying the basic principles of a Chomskyan approach involves recognising that, by 'folk psychology', if you want 'folk psychology' to be a naturalistic category, you cannot mean *any old thing* that humans might call upon in understanding one another. Only some of the phenomena that pretheoretically appeared to fall within the domain of investigation will end up sharing a unified account.

In the light of the initial discussion, perhaps it would be better to introduce new terminology, rather than attempt to redefine the old terminology that already has many interpretations and hope that the changes register. I propose for this purpose 'I-psychology'. Partly for its parallels with the terminology in linguistics, which I would like to underline and endorse, but also because of the relative ease with which the three different senses in which 'folk psychology' is often used can be teased out. *I-psychology* clearly refers to the mechanisms in the mind/brain that are responsible for a certain set of human cognitive capacities. There can be different *accounts of I-psychology* and we can

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[13] I am collecting these elsewhere.

also discuss the *I-psychology practices*, made possible by the deployment of (existence of) I-psychology and that the accounts of I-psychology have to capture. Furthermore, given the variety of what can be classed as 'folk psychology', there seems to be counterpart notion of E-psychology, that could also usefully be explored.[14] To sum up, the kind of statement I would like to move towards is then:

> I-psychology is that in virtue of which humans perform certain cognitive tasks that involve the deployment of mental state concepts in order to make sense of the behaviour of their conspecifics.

3 Comparisons between folk psychology and folk physics

I noted above that comparisons are often drawn between folk psychology, folk biology and folk physics. In the case of folk psychology and folk physics, this comparison is standardly drawn in the following way: folk physics is a false theory (often said to be equivalent to medieval impetus theory) and therefore should be abandoned and replaced by scientific physics. In the same way, folk psychology will turn out to be false, and the entities it postulates do not exist. This comparison is, I think, too hastily drawn.

If physical facts are what you are interested in, then it does make sense to abandon the categories of folk physics. If, however, you are interested in how humans think about physical facts, then scientific physics is not the right science for you. The object of investigation has shifted from physics to how humans understand physics. It becomes a study of humans' mental processes rather than of the outside world. So to say that the theory that is our folk physics will be overthrown by scientific physics only makes sense if it is physics that is the object of study. By contrast, the concepts that humans use to understand physics pretheoretically are what they are and cannot be replaced. They can be studied by some branch of scientific psychology or anthropology.

If there is any parallel to be found between folk physics and folk psychology, it needs to be cashed out in this way. Humans have a folk psychology that they use to understand psychological facts. Scientific psychology might come along and show that ideally there are better ways of understanding psychological facts. So much is true if psychological facts are what is under investigation. However, if the focus of study shifts from psychological facts to how humans interpret psychological facts, then we are back to the

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[14] Comparisons between linguistics and folk psychology have been drawn before (see e.g. Stich & Ravenscroft 1993). However, any comparison tends to be dominated by discussions of tacit knowledge, without much consideration of what other methodological insights linguistics could bring to the field, or which concepts might carry over between domains. I am currently exploring the potential of such further analogies.

situation we were in when the focus of study was folk physics. The concepts of folk psychology are what they are. Scientific psychology will not replace them, but might elucidate them with an account that employs theoretical concepts introduced for that purpose.

In order to evaluate whether folk psychology will be vindicated by scientific psychology, we will have to wait for a scientific psychological account of folk psychology and a scientific psychological account of psychological facts, and see whether the two accounts match up. However, if it turns out that humans' folk psychology (understood as what is inside S2) mistakenly ascribes mental states (to S1) in understanding psychological facts, that would not stop the scientific psychological account of how humans understand psychological facts (P2's theory) from being real psychology of a particular human competence. Nor will the scientific psychological account of how humans understand psychological facts in any sense replace the concepts that humans are using to do so. Rather, it will provide a scientific account of what the concepts that humans are using to understand psychological facts are.[15]

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[15] Someone might say that we already know what concepts people use to understand psychological facts: they are concepts like *belief* and *desire*. But these concepts are just part of (some) people's pretheoretic understanding of how they are able to do something. The response that *that* is precisely what folk psychology was supposed to be will not wash. A reminder: I have been using 'folk psychology' to mean 'how humans understand psychological facts'. This was pretty uncontroversial. Interest in folk psychology mainly does seem to be about how humans understand the mental lives of those around them. If it turns to how humans *think* they understand the mental lives of those around them, then the focus of interest has shifted again. We might call it [folk-(folk psychology)]. Note that my 'folk theory about how I understand others' might be wrong in two different ways:

a) my 'folk theory' is wrong about what is inside the 'how to understand others' theory;
b) the 'how to understand others' theory, although truly what I use to understand them, isn't actually a realistic characterisation of what causes others to behave as they do.

So what was lumped together as 'my folk theory about how to understand others', should be '[my folk theory about][how I understand others]'. It is in fact two different theories:

1   whatever underlies the ability to understand others, and
2   a folk theory about how I do that.

Either the eliminativist argument is about b), in which case the counter-argument set out above holds, or it is concerned about a), in which case it is arguably about something different from what psychologists are interested in. Either way, it should certainly be made clear which of 1 and 2 is supposed to be 'folk psychology', or at least which one is under discussion.

So, the domain that is at issue is the ability to understand other minds. Normal adult humans seem to possess something that enables them to do this, more or less successfully. Now, it might be that the knowledge that the average human is using in order to perform this task is defective in some important respects. Perhaps a Martian or a cognitive scientist equipped with an exhaustive human psychology handbook could do a better job at understanding other minds than the average human. However, if what you are interested in is how humans understand other minds, for better or for worse, rather than how and why humans behave in the way they do, then it makes little sense to think of the concepts and processes of folk psychology as being eventually improved upon or replaced. For even if it turns out that folk psychology is radically mistaken about the behaviour of humans and thus makes false statements about the psychology of humans in general, by characterising successfully the principles that constitute folk psychology, theorists would still be doing real psychology of a particular domain. After all, while an individual may be wrong in attributing a particular mental state *x*, or may be wrong in attributing mental states at all, she, applying her theory, cannot be mistaken about the fact that she thought that attributing a mental state was the right thing to do, and that *x* was the right mental state to attribute.

In this respect, the situation for psychological understanding seems similar to the situation for language.

> The claims entailed by the speaker's internalized grammar cannot possibly be wrong about sentences in his own idiolect, since grammatical properties in that idiolect are determined by the internalized grammar of the idiolect.
>
> (Stich, 1996, p. 42)

In producing a grammaticality judgement about a particular sentence, the informant cannot be wrong about that judgement, as the theory in virtue of which she is able to make that judgement exhausts all considerations about whether or not the judgement is correct.

In short, you as an individual cannot be wrong in using the analysis of a situation provided by your (behaviour-understanding dedicated) brain mechanisms, any more than you can be wrong to use the analysis provided by your I-language in deciding whether a string is grammatical (for you). However, you can be wrong about how your brain mechanisms understand behaviour (you might think the concepts of *belief* and *desire* feature in your abilities) in much the same way as you can be wrong about how your brain understands language (you might think the concepts of *word* or *sentence* are important) until you've done some serious linguistics. Whether your brain mechanisms are right about what is in fact causing the behaviour (produced by someone else) that

you (thanks to the mechanisms) are in the process of understanding, is a separate question.

4 Comparisons between folk psychology and folk biology

To further illustrate how comparisons made between domains, on the basis of the prefix 'folk', need to be drawn carefully, let us consider the way in which Atran uses 'folkbiology'. In order to discuss Atran's use of terminology I have set out some quotes which appear to introduce his terms.[16] He first states that:

> a) "Folkbiology is the cognitive study of how people classify and reason about the organic world";

This is then expanded with the following two clarifications:

> b) "Ethnobiology is the anthropological study of folkbiology."
> c) "Naïve biology is the psychological study of folkbiology."

Substituting the definition of folkbiology given in a) into the statements b) and c) gives rise to a rather bizarre understanding of the business of ethno and naïve biology: it suggests that, for example, ethnobiology is something anthropologists do if they look at how cognitive scientists study humans' knowledge of biological categories. This clearly cannot be what is meant; I am just pointing out that the use of these terms deserves more care and attention. I think that what is meant is that ethnobiology is the anthropological study of *the object of study of* folkbiology. In other words, the most charitable interpretation of this set of statements is that 'folkbiology' is an umbrella term for the science that is concerned with studying humans' pre-theoretic understanding of the biological world. There are two different branches of this science: ethnobiology, which consists in an anthropological approach to this cognitive domain, and naïve biology, which consists in a psychological approach.[17]

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[16] The following quotes come from MITECS, the MIT encyclopaedia of cognitive science; I have chosen it as a source because it is both a recent publication, that should therefore be aware of developments in the fields it discusses since the terminology at issue was originally introduced, and an introductory one that presumably should be concerned with strict and clarificatory definitions.

[17] Using this terminology, I imagine the picture goes something like this. Folkbiologists notice that apparently small children have a way of taxonomising living kinds that is similar across individuals and develops at a very early stage. This has been called naïve biology. Humans also develop, at a slightly

Perhaps I am being picky, but notice that if I am right about the interpretation of a), the label 'folk-plus-domain-name', as standardly used in biology, refers to *the science* that studies human conceptions of the world. If this is the case, then parallels between psychology and biology should be drawn carefully. On the equivalent reading, 'folkpsychology' would be not what humans have in their heads, nor some set of abilities, nor any account of these abilities, but rather the label for a branch of scientific psychology that is concerned with the psychological aspect of humans' intuitive understanding of the world. Furthermore, 'folk psychology' on the philosophers' reading appears to translate roughly into ethnopsychology in Atran's terms, while psychologists' interest in 'theory of mind is closer to naïve psychology. However, no systematic distinction of this kind appears to be drawn in the literature.

To sum up: it seems as if we so far have (at least) the following possible understandings of what the 'folk' prefix can mark out:

- Folk-X is some widely construed set of 'everyday' practices;
- Folk-X is some ability that humans have universally enough to think that it is in virtue of some cognitive ability that they have these abilities;
- Folk-X is the science that studies (some aspects of) everyday understanding;
- Folk-X is an account of practices, i.e. a particular theory;
- Folk-X is what enables the practices to be performed, i.e. mechanism;
- Folk-X is how the 'folk' *think* that they perform these practices.

5 Conclusion

Given that there does seem to be a set of cognitive capacities that humans have in virtue of which they are able to conceptualise the world, and given that we might want to investigate what these are, it would be sensible to have a term that picks out this kind of investigation, and an explicit methodology to apply. 'Folk' is a singularly inappropriate term to choose for this purpose (particularly in the case of psychology). What alternative might we use? Chomsky introduces the term 'ethnoscience':

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later stage, a more explicit set of characterisations of the living kinds around them that depends to some extent on an ontology provided by social subjects, on categories that may be culture dependent to some extent, and which different individuals may have more or less access to and be more or less familiar with. This kind of information, which may be organised in terms of law-like generalizations, or as disparate pieces of encyclopaedic information about particular kinds, or some combination thereof, we can call ethnobiology. Perhaps neither of these two kinds of information about biology that humans have access to pre-theoretically actually corresponds to real biology.

> Ethnoscience is a branch of science that studies humans, seeking to understand their modes of interpretation of the world, the diversity of these systems, and their origins.
>
> (Chomsky, 1993, p. 13)

This "…study of common sense concepts as a branch of naturalistic inquiry" (ibid.) needs to be set out with particular care in the case of 'folk psychology', where the concepts of belief and desire have for so long dominated discussion. After all,

> The ethnoscientist seeks to determine what people take to be constituents of the world, however they may talk about it.
>
> (Chomsky, 1995, p. 30)

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