

desires and fantasies. Or at least this is just as plausible, and does much less violence to common sense, than imagining, as Gopnik does, that we are all totally blind to the intentional nature of our own mental lives.

Of course, none of these objections demonstrates that young persons do use their own first-person experiences as analogical stepping stones toward a more adequate account of the mental lives of others. But neither do the oblique bits of data presented by Gopnik demonstrate that they do not; and it is she, after all, who is suggesting that the emperor has no clothes.

Categorization, theories and folk psychology

Nick Chater

Department of Psychology, University of Edinburgh, Edinburgh EH8 9JZ, Scotland

Electronic mail: nicholas@cogsci.ed.ac.uk

[Gol] Goldman's argument against a functionalist or theory-based account of folk psychological terms is, I shall argue, both question-begging and fallacious. It is question-begging because Goldman begins by assuming, without argument, a *categorizational* view of concepts to the effect that to have a concept is to have an internal state (what Goldman calls a CR) which is active just when concept instances are present. He then argues that this assumption is incompatible with a *theory-based* view of concepts, according to which having a concept involves having an entire theory of the relevant domain. This is because the theoretical properties of a concept instance will generally not be available to the categorization system. An argument parallel to Goldman's, however, could start by assuming that concepts are defined in terms of theories and argue that, since it is not possible to distinguish instances from noninstances of a concept according to their theoretical properties, the categorizational account cannot be correct. Both arguments beg the question of whether a categorizational or theory-based view is more appropriate.

The argument is fallacious because, in any case, Goldman does not establish that the categorizational and theory-based views are incompatible. To see this, consider how Goldman's argument fares with a concept like *mass*, which is, after all, a paradigmatically theoretical term, connected with force, acceleration, gravitational laws, and so on. An object can be classified as having a certain mass purely in virtue of visual or tactile perceptual input, without any knowledge of causes or effects of that object which hold in virtue of that mass (Goldman's first difficulty); without any knowledge of the relevant subjunctive properties of the object, such as how it would move if various forces were applied (Goldman's second difficulty); and without knowing the type identity (i.e., category) of theoretically relevant properties, such as the forces acting on the object, and thus being sucked into a classificatory regress (Goldman's third difficulty). None of these problems arise, because classification is effected by detecting perceptual *correlates* of mass, rather than its constituent properties.

Goldman recognizes this possible rejoinder. He notes that a cube of sugar could be recognized as sugar by its whiteness, hardness, granularity rather than its theoretical properties such as solubility. More generally, a theoretical property *F* can be detected by its correlated perceptible property *E*. Having recognized this possible way out, Goldman then gives a very puzzling argument against it. He claims that this correlation could only be learnt in the first place given that the learner has some independent way of recognizing *F*s, thus bringing back the original problem. This argument assumes that the learning of a correlation must occur by induction from observed *E*, *F* pairs, but this is a very limited view of how learning can occur. For example, the learner could simply be *told* the theory relevant to

*F*s, the role that *F* plays within that theory, and the fact that *F* correlates with *E*. Goldman cannot retort that the learner cannot learn about *F*s because having the concept of *F* presupposes the ability to distinguish *F*s from non-*F*s, as this would just beg the question against a theory-based account of concepts.

Finally, it is worrying that Goldman's argument make no appeal to special properties of folk psychological concepts. If this form of argument were valid, we could conclude that no concepts are theory-based. The argument would be that for all concepts there must be some category representation (CR) which is activated when concept instances are present and not otherwise, and this will simply not be possible for theoretical terms. The conclusion that people cannot have the concepts "proton," "gene," or "force" is counterintuitive enough to provide a *reductio* of Goldman's argument, if one were needed.

How directly do we know our minds?

Maria Czyzewska^a and Pawel Lewicki^b

^aDepartment of Psychology, Southwest Texas State University, San Marcos, TX 78666 and ^bDepartment of Psychology, University of Tulsa, Tulsa, OK 74104

[Gop] In her target article, Gopnik argues that not all psychological states are subject to direct, "first-person" experience and that this is particularly evident in the case of "experience of intentionality." She does not "deny that there are full, rich, first-person psychological experiences of the Joycean or Woolfian kind" and "that there may be cases in which psychological states *do* lead directly to psychological experiences, cases in which there is genuine perception of a psychological state." She believes, however, that in the case of intentionality, we are subject to an "illusion of direct perception" produced by our implicit theory of mind. In this comment, we will focus on Gopnik's assumption that there is a possibility of "direct" and "genuine" access to one's own mental states.

From the perspective of cognitive psychology, all human "psychological states" and "psychological experiences" are indirect in the sense that they are only a final product of many stages of sophisticated cognitive processing. The purpose of these operations is to organize, interpret, and translate the "objective" stimulation into subjectively meaningful experience. Every stimulus that is about to be processed and "become an experience" for a subject (e.g., visual shapes, spoken words, or social events) first, has to be preprocessed by a system of inferential rules (i.e., encoding algorithms, which guide the process of interpretation of stimuli). In other words, the specific aspects of incoming information (stimuli) consciously noticed by the subject and the subjective meaning of that information depend not only on the objective characteristics of the stimuli but also on the preexisting encoding algorithms used to translate the stimuli into subjectively meaningful representations. The outcome of this translation (e.g., emotional reactions, impressions, preferences, judgments, etc.) is determined by the specific inferential rules utilized by the encoding algorithms.

One of the elementary properties of encoding algorithms is their general independence from conscious cognition and consciously controlled belief systems (declarative knowledge). It has been repeatedly demonstrated that people often do not know what specific aspects of information and what kinds of inferential strategies were responsible for their (even very simple) judgments and impressions (e.g., Lewicki 1986; Nisbett & Ross 1980). For example, few people are able to articulate any of the encoding algorithms they use to determine whether a human face is attractive or looks "likable." Although most such inferential rules are unavailable to one's conscious awareness, we clearly must have some working knowledge that produces the meaningful output (i.e., first impressions) "automatically"