to take the form of individual relations between reified "concepts" and real kinds.

We can expect, however, that the external objects will play a crucial role in learning in the very bootstrapping processes I just described. Somehow our interactions with the external world lead us to form one set of ontological convictions, one theory, rather than another. Even if knowing our theories is all we need to explain our current psychological functioning, we may well need to invoke relations to the external world to explain why we have those theories rather than others. These learning processes have been almost completely neglected in cognitive psychology. If Millikan's externalism forces us to solve the problem of how our interactions with the world lead to conceptual change, she will have provided an important service to psychology as well as philosophy.

Staying in touch: Externalism needs descriptions

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Abstract: Externalism cannot work as a theory of concepts without explaining how we reidentify substances as being of the same kind. Yet this process implies just the level of descriptive content to which externalism seeks to deny a role in conceptual content.

The recent antidescriptionist, externalist program for concepts has impressed few empirical psychologists, as might be expected given that it takes the most interesting question – Why do we have the concepts that we do? – and seeks to provide an answer that has little use for (or of) psychological inquiry. The question is what truly constitutes or defines the content of a concept. Descriptionists look to answer the question by identifying the collected set of beliefs that a person has gathered about a class or type of thing. Thus, to a descriptionist the concept "milk" is the set of property descriptions which tend (generally) to hold true of a particular class of stuff. According to which descriptionist theory you espouse, these descriptions may involve a greater or lesser degree of theoretical elaboration or stored experience. They may also be partial or incomplete.

The problem with this descriptionist view, as identified by Millikan and others, appears to be that it puts the cart before the horse. How are we able to accumulate a set of beliefs about a substance concept, if we cannot first have a reasonably reliable means of knowing that a new experience is of the *same kind* as an earlier one? How can we add a new belief to the set without independently first identifying what our belief is about? To Millikan the ability to reidentify something as an instance of the same class is logically prior to the acquisition of descriptive properties that may be generally true of the class. Conceptual content is constituted by the real nature of the class that gives rise to these (fallible) acts of reidentification. All our internal concepts do is point to real classes in nature.

The problem of reidentification is clearly central to Millikan's argument. Yet how exactly can the process occur without involving some form of descriptive representational format? As Millikan points out, the ways in which we reidentify Mama, a cat, or a glass of milk will all depend on different aspects of the perceptual and sensorimotor information presented to us. Yet how are we to know anything at all about a newly experienced object without transducing its physical characteristics through our sensory organs and perceptual apparatus, thereby deriving a mental representation of it? There can surely be no identification or reidentification without a concomitant creation of a mental description.

Millikan answers this question by stating that such a description need not imply property concepts since "the thought of a property is not just a reaction caused by a property; it must play an appropriate representational role "(sect. 5, para. 7). She proposes that descriptions may be used in reidentification, but that they should not be representable in thought. It is puzzling how this distinction between the "aspects" of objects used to identify them and true "property concepts" that can also be represented in thought is meant to be cashed out. Perhaps being representable in thought means that a property can be isolated by attending to it as a separable dimension (i.e., making judgments about it independently of other dimensions), as well as being able to label it with a language term.

Yet why should descriptionist accounts of concepts be limited in their descriptive vocabulary to such a limited range of descriptive power? It should be clear that there are many crucial aspects of conceptual knowledge that fail this test. The way that we represent the shape of "cat," or the taste of "milk," or the face, voice, and smell of "Mama" are most unlikely to involve independently isolated features or dimensions representable in thought. But why should we not consider these concepts to involve descriptive information, and why should we suppose that we perform the recognition independently of the descriptive information we have already stored with the concept?

A descriptionist account of concepts could not possibly get off the ground if its representational power did not include the ability to store and represent this kind of imagistic information. We are clearly capable of representing a wide range of information that could not be expressed in language. Verbal concepts must be grounded in experience at some level. Given a realistic version of descriptionist concept representation, it is hard to make sense of Millikan's distinction between unanalysed reidentification aspects and "concepts of properties." Millikan's argument relies on a notion of *description* that is so restrictive as to rule out any account of concepts other than those nominal concepts with explicit definitions such as *prime number*.

The target article also fails to address a major critique of externalist theories, which should be familiar to all followers of this debate. It is just not true that all of our concepts are tracking real classes in the world. We may concede that natural kinds have an independent existence as classes, but the majority of concepts involved in everyday thought are not natural kinds. Take some of the political and moral issues that have divided society in recent years. Externalism seems to require that in each and every case there be a real and objective answer as to which side is correct; there is an external "good," which we attempt to track through our fallible concepts. This is an extreme position to be forced into. Other concepts are defined relative to the possessor. Thus "home town" and "favorite food" are defined relative to the person whose home town or favorite food it is. For these concepts it is clearly false to say that each concept possessor is tracking the same externally real class. Yet how could the concepts then be defined except through their descriptions, as they exist within that individual?

In summary, whatever the merits of the "pointing" view of concepts as an account of very young children's first attempts to construct concepts, any psychologically adequate theory of the full range of adult concepts will need to incorporate a strong descriptionist component.

Reidentification and redescription

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Abstract: Millikan's account of substance concepts fails to do away with features. Her approach simply moves the suite of relevant features into an encapsulated module. The crux of the problem for scientists studying human infants and nonhuman animals is to determine how individuals reidentify objects and events in the world.