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Developmental changes in the understanding of generics ☆

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Abstract

Generic sentences (such as "Birds lay eggs") are important in that they refer to kinds (e.g., birds as a group) rather than individuals (e.g., the birds in the henhouse). The present set of studies examined aspects of how generic nouns are understood by English speakers. Adults and children (4- and 5-year-olds) were presented with scenarios about novel animals and questioned about their properties, using generic and non-generic questions. Three primary findings emerged. First, both children and adults distinguished generic from non-generic reference, interpreting generics as referring to kinds. Thus, under certain contexts children and adults accepted that "Dobles have claws" even when all the dobles in the available context were clawless. Second, adults further distinguished properties that are inborn from those that are acquired. Inborn properties were judged to be predicated of a generic kind, even when all available instances have lost the property, but this was not the case for acquired properties. Third, children did not distinguish inborn from acquired properties. These data suggest the existence of developmental changes in conceptual or semantic understanding, and are interpreted in light of recent theories of psychological essentialism.

Keywords: Concepts; Generics; Children; Essentialism

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1. Generics and the nature of concepts

In 1961, the children's author known as Dr. Seuss wrote a story called "The Sneetches", about a kind of animal (the Sneetch), some of which are born with stars on their bellies (Geisel, 1961). In the story, the entire social organization of Sneetches centers around the presence or absence of this inborn feature: Sneetches with stars feel superior and socialize only with one another; those without stars feel left out and dejected. Then a character, Sylvester McMonkey McBean, arrives with a machine that can add stars to the bellies of Sneetches that do not have any. The star-less Sneetches eagerly pay money to acquire stars. Now everyone has stars! The interesting point from a psychological perspective is that, despite their perceptual identity, the two groups remain clearly distinct. The ones who originally had stars are enraged that they now look identical to those who had stars added, and pay dearly to have their stars removed so they will look different again. And so on. This story rests on the Kripkean intuition (Kripke, 1980) that just because the groups are defined initially as "those with stars" and "those without", someone can remain a member of a group regardless of whether or not he or she currently has stars.

The present paper examines this intuition in both adults and preschool-aged children. Can a kind in some sense retain a property, even in the face of evidence that individual members of that kind lack the property? And under what circumstances are properties attributed to a kind? For example, in the case of the Sneetches, is the fact that the stars were inborn relevant? We examine these issues by examining how children and adults interpret bare plural generic constructions – henceforth *generics* – such as "Birds lay eggs". Following the work of Prasada and colleagues (1999, 2000; Prasada and Dillingham 2006), we suggest that the understanding of such constructions can provide some insight into the nature of concepts.

Relatively little research has examined the developing understanding of generic constructions. This is in contrast to the large body of research exploring how children understand the role of count nouns ("This is a dog") and proper names ("This is Fido") in making reference to individuals or sets of individuals. But generic sentences are of special interest because they refer to kinds (e.g., dogs generally; Carlson, 1977). Indeed, kind representations are arguably what most scholars have in mind when they study categorization, and are the basis of much of human reasoning, including inductive generalizations (Gelman, 2003; Medin, 1989; Murphy, 2002; but see Sloutsky, 2003).

Whereas sentences such as "All birds lay eggs" and "Some birds lay eggs" both involve the attribution of properties to individual birds, generics such as "Birds lay eggs" involve attribution of properties to the category (or kind) of birds. Because of this, generics have an interesting property – they can express facts that are true of the kind even if they are not true of most of the individual members of the kind. The sentence "Birds lay eggs" is true even though most birds cannot lay eggs (e.g., males and juveniles); such a sentence expresses something like the (true) proposition: "Birds are the kinds of animals such that the mature female lays eggs" (Shipley, 1993). Importantly, however, not every property that is true of some category