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Generic Reference

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Forms of Generic Reference

Generic reference is the term commonly used to describe noun-phrase reference in sentences that express generalizations (*see Generics, habituals and iteratives* (00256)). Some common examples are found in (1)–(3):

- (1) *Potatoes* are native to South America.
- (2) *The lion* is a fearsome beast.
- (3) *A pencil* is used for writing.

Generic reference is usually understood as making reference to kinds of things (*see also Natural kind terms* (01198)). When we speak of “kinds,” we intend a classification system that is based on the denotations of nominal expressions, or sortals, of the language (for one view, see Gupta, 1980).

It is now commonly accepted that reference is not only limited to individuals or pluralities of individuals, but also to kinds or types of things as well. This is most evident in noun phrases of the type “this kind of animal,” which evidences an overt postdeterminer of the class of “kind,” “type,” “sort,” “species,” and so on.

- (4) *This kind of animal* hibernates in the winter.

These kind-referring phrases can appear in quantified contexts as well. The analysis then is that the quantifier ranges over kinds of things, just as it ranges over individuals in the more usual instances.

- (5) *Three kinds of swallows* are found in the northeastern United States.
- (6) *Every type of tree* exchanges carbon dioxide for oxygen.

When the postdeterminer element is removed, there remains the possibility of interpreting the noun phrase as referring to or quantifying over kinds. This normally results in a type/token ambiguity. For instance, in (7) one could be talking about individual flowers in a given context or kinds of flowers; similarly for (8). This reading is called a *taxonomic reading* in Krifka *et al.* (1995).

- (7) Sharon photographed *every flower*.
- (8) *Several penguins* inhabit this frozen wilderness.

Examples such as (7) and (8) are ambiguous between a “kind” reading and the more common

individual reading. On the taxonomic reading, the denotation of the head noun is partitioned into subkinds, though this is done contextually since there are multiple ways to naturally partition any domain. For instance, automobiles can be partitioned according to body style (sedan, sports car, station wagon, etc.) or by manufacturer (BMW, Mazda, Volvo, etc.), among other ways. It is commonly noted that if one takes a mass term and syntactically treats it as a count term, by pluralizing it or pairing it with a determiner that selects for singular count nouns only, a taxonomic reading may emerge. Thus, in (9) we are speaking of kinds of wine, and in (10) of kinds of metal:

- (9) *Three wines* are stored in the cellar.
- (10) *Every metal* conducts electricity to some degree.

Another means by which kinds are referred to in natural language is by definite singular noun phrases. In English, this has a stylistically technical tone, but this is not a general feature of other languages. Three possible examples are:

- (11) *The computer* has changed society in many ways.
- (12) Scientists have now documented the entire life cycle of *the three-toed sloth*.
- (13) *The self-cleaning plow* was invented by John Deere.

These exemplify the definite generic on the most natural readings of the noun phrases in these examples. This reading appears in addition to the much more frequent individual-denoting use of the definite article, and often results in ambiguity. Generally unambiguous is the use of the definite article with only an adjective (e.g., “*The rich* are often oppressors of *the poor*”). Other types of definite kind reference include uses of the proximal and distal demonstratives (*this, that*) in the plural. The demonstrative is not, on one interpretation, an actual indexical; instead, it colloquially conveys an emotional attitude toward the kind (Bowdle and Ward, 1995). It appears to be the same use of the demonstrative as when it accompanies a proper name (e.g., “*That Roberto* has done it again”).

- (14) *Those spotted owls* (i.e., the kind spotted owl) are constantly being talked about by environmentalists.
- (15) Who invented *these machines*, anyway? (e.g., speaking of computers)

In addition, there are noun phrases that employ adjectives like “typical,” “average,” or “normal,”

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which have a kind-reference reading, as in “*Your typical businessperson* takes eight plane trips per year.” Supplementing definite generics are the consciously introduced Latinate natural kind names, lacking a definite article, which always have an elevated scientific tone no matter the language. This includes examples like “*felis domesticus*” (cat) or “*acer saccharum*” (sugar maple tree). These are unambiguous and always denote kinds. Though not of consciously Latinate origin, the use of “man” in English as a generic functions in much the same way.

Beyond these are additional means of kind reference in natural language. Bare plurals—that is, plural noun phrases lacking a determiner or quantifier element, at least on one reading—may refer to kinds. The following are three examples:

- (16) *Airplanes* have made intercontinental travel a common event.
- (17) *Lions* once ranged from the tip of Africa to eastern Siberia.
- (18) *Hunting dogs* are most closely related to *wolves*.

Functioning much the same as bare plurals are undetermined mass expressions (in French, the definite article must be employed), which allow for generic reference to unindividuated domains.

- (19) *Water* is a liquid. (cf. Fr. “*L'eau est un liquide*”)
- (20) *Hydrogen* is the most common element in the universe.

Finally, the singular indefinite article allows for a generic usage, as in the following:

- (21) *A triangle* has three sides.
- (22) *A potato* contains vitamin C.

The bare plural and the indefinite singular are commonly distinguished from the definite singular in English in that the former two usually allow for additional descriptive material in the form of modification, whereas the noun phrases in the definite generic instance are much more limited.

- (23) *A cake without baking powder/Cakes without baking powder* fails to rise properly in the oven.

Unlike the bare plurals or indefinite singulars, the definite singular is basically limited to expression of well-established kinds, those taken to be already familiar from one’s background knowledge. Furthermore, as Vendler (1971) notes, it does not appear they can be “too general.” Thus, alongside “the parabola” and “the circle,” one does not find generic

reference to “the curve.” Currently, a full account of these facts is lacking.

Cross-linguistically, generic reference is carried out by noun phrases with definite and indefinite articles and with determinerless expressions quite generally. In languages without articles, the determinerless form typically has a generic interpretation in at least some sentence positions. While in English the plural form of the definite has generic reference only marginally at best, in German, which is closely related to English, the plural definite may take generic reference quite easily (Delfitto, 1998). If there are languages with articles or other determiners specific to generic reference, they have yet to be brought to general attention, or they may not exist at all.

It is important to distinguish generic reference from the type of sentence in which the expression appears. While generic reference takes place most commonly within the context of a generic or habitual sentence, not all generic or habitual sentences have a noun phrase with generic reference, and generic reference may take place within sentences that are episodic or that make reference to specific events. The clearest examples of this are sentences with the definite singular generic exhibiting the avant-garde reading (Krifka *et al.*, 1995). Consider the following example:

- (24) *The horse* arrived in the New World around 1500.

This means that some horses were introduced about that time, but implies that the event was the first time any modern horses had been in that area. To observe a shipment of horses arriving in the Western Hemisphere in 1980 and use (24) modified by “in 1980” to describe that event would be inappropriate. Other instances where there is kind-reference in episodic sentences, on at least one reading, include three of the following examples:

- (25) Today, Professor James lectured to us on the history of *dinosaurs*.
- (26) Marconi invented *the radio*.
- (27) *Monkeys* evolved from *lemurs*.

Theory of Generic Reference

While most semanticists agree that at least certain noun phrases refer to (or quantify over) kinds of things, there is a tradition in which apparent kind reference is treated in terms of quantification over individuals. Stebbings (1930), for instance, suggests that the sentence “The whale is a mammal” expresses a universal proposition (similar to “All whales are mammals”), as does “Frenchmen are Europeans.” Russell comments that the sentence “Trespassers

will be prosecuted” “means merely that, if one trespasses, he will be prosecuted” (1959: 00), which reduces the analysis of the apparent kind reference (*trespassers*) to an indefinite in a conditional. However, Moore (1944), in response to Russell’s theory of descriptions, cites examples like “The triangle is a figure to which Euclid devoted a great deal of attention” and “The lion is the king of beasts,” both of which convincingly resist implicit quantificational or conditional analyses.

The most convincing evidence for kind reference in the semantics stems from predicate positions that select for something other than individuals and pluralities of individuals and that readily accept the types of noun phrases reviewed earlier. These are called kind-level predicates. Examples (26) and (27) contain kind-level predicates. While an individual might invent something, the direct object must express a kind of thing and not a particular individual or set of individuals. The verb “evolve” relates species and other levels of biological classes to other such classes, but not individuals to individuals. The following are other examples of kind-level predicates:

- (28) Dogs are *common/widespread/rare*.
- (29) Insects are *numerous*.
- (30) The elm is a *type/kind of tree*.
- (31) The gorilla is *indigenous to Africa*.
- (32) The Chevrolet Impala *comes in 19 different colors*.

Kind-level predicates are relatively infrequent in the any language. Most predicates fall into the classes of either individual level or stage level. Roughly speaking, stage-level predicates speak of highly temporary events and states, such as running across a lawn, eating a sandwich, or being asleep. Individual-level predicates, on the other hand, speak of more permanent states of affairs, such as knowing French, liking the opera, or being intelligent. Typically, the predicates of a habitual or generic sentence (“x cooks wonderfully”) are individual level. These are discussed in more detail in Carlson (1980), Kratzer (1995), Fernald (2000), and by others. Both stage-level and individual-level predicates select for noun phrases that denote individuals and pluralities of individuals. However, kind-denoting expressions appear with these predicates naturally as well. With both stage-level and individual-level predicates, a quantificational analysis of kind-denoting phrases (quantifying over individuals of that kind) becomes easily possible.

The kind-level predicates do not typically allow for the use of the indefinite singular. An example like (33) is generally deemed not very acceptable:

- (33) ?*A lion is a species of animal. (cf. the lion, lions)*

A continuing controversy centers on the analysis of the English bare plural construction, which has an unlimited distribution in comparison to bare plurals in other languages with articles, such as Spanish or Italian (e.g., Laca, 1990). English bare plurals appear to have different interpretations in different contexts. With individual-level predicates, they have a general interpretation, one that is quantificationally similar to “all” or “most.”

- (34) Cats (roughly, all or most cats) sleep a lot.
- (35) Hammers (roughly, all or most hammers) are used for driving nails.

On the other hand, bare plurals also have an existential interpretation in other contexts that is similar to “some” in force.

- (36) *Priceless works of art* (i.e., some works) were delivered to the museum yesterday.
- (37) The rioters threw *stones* through *shop windows*, shattering them.

The primary question is whether in these instances, as well, the bare plural construction is kind-denoting, as most believe it is with kind-level predicates. Carlson (1980) and Chierchia (1998) argue that such a unified analysis is not only possible but also desirable, and both present analyses showing how it can be accomplished. However, others argue that more adequate insight can be gained through an analysis that differentiates true instances of kind reference from those instances where bare plurals appear with individual-level and stage-level predicates and that a quantification over individuals approach is better taken (see Wilkinson, 1991; Diesing, 1992; Krifka *et al.*, 1995).

See also: Aspect and aktionsart (00261); Generics, habituals and iteratives (00256); Natural kind terms (01198).

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Abstract:

Generic reference is typically understood making reference to kinds of things, as when we talk about “the lion” as a species and not as an individual lion. In English, and in many other languages, this can be accomplished in a variety of ways making use of the definite and indefinite articles and determinerless expressions, and by other means. One theoretical question is whether there is truly kind reference, or whether any apparent kind reference can be reduced to quantification over individuals. The existence of kind-level predicates strongly motivates generic reference, leaving open the question of which contexts allow for true reference to kinds.

Biography:

Greg Carlson (M.A. University of Iowa, 1974; Ph.D. University of Massachusetts, Amherst, 1977) has been at the University of Rochester in Rochester, New York, since 1987, where he is Professor of Linguistics, Philosophy, and Cognitive Sciences. He served as chair of both the Linguistics and Foreign Languages Departments, and is currently chair of the Department of Linguistics. He also taught at the University of California at Irvine (the University of Iowa (1985–1987), Wayne State University (1978–1985), the LSA Summer Institute, the European Summer School, the University of Wisconsin, the University of Trondheim (Norway), and visited at the Max Planck Institute (Nijmegen). His research interests include natural language semantics and focusing on the semantics of generics, bare plurals, and related issues. He also conducts research in experimental psycholinguistics and has a strong interest in both philosophy and computer science. Much of this research has been supported by NSF and NIH. His publications include *Reference to kinds in English* (Garland, 1980), “Marking constituents” (1983), *The generic book* (Chicago, edited with F. J. Pelletier, 1995), “Generic passages” (*NLS*, 1997), and “The average American has 2.3 children” (*Journal of Semantics*, 2002). He served as editor in chief of *Linguistics and Philosophy* (1992–1997).



Keywords: articles, bare plurals, generics, habituals, individuals, kinds, mass terms, predicates, quantification, reference

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