GENERICITY IS CONCEPTUAL, NOT SEMANTIC

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Abstract. Genericity is not encoded in the syntax semantics interface any more than metaphoricity is, or other forms of sense selection. We observe the overwhelming cross-linguistic lack of encoding of cues which could be understood as a signal of a particular semantic content. We note the ready compatibility of a range of syntactic forms with each of a range of conceptual distinctions one might make about generics. From these observations we argue that genericity is not an issue of semantics. We take the semantics of an expression to be the set of compositionally encoded set of meanings an expression may have. That a sentence may be understood as compatible with some concept that it does not express is not an issue of semantics, but of background conceptual structures or pragmatics. Proclivity to associate certain syntactic forms with certain types of genericity is a reinterpretation of distinctions that exist elsewhere in an exercise of synonymy avoidance.

1. Introduction

Received wisdom about generics in natural language tends to get expressed using the very things that the wisdom is supposed to be about.

(1) When interpreted generically, bare plurals and definite singulars may receive collective readings, e.g. they may be the arguments of predicates such as the intransitive *meet* and *gather*, where as indefinite singulars cannot. (Cohen 1999, p. 43)

(2) In the middle of the Bay is a large submerged rock lying 3′ below the surface called Xareu Rock (named after a local fish that congregates here). (Fretz 2002)

(3) *A lion gathers near acacia trees when it is tired.

The example of bare plural genericity in (1) states a generalization about indefinite singulars in contrast to bare plurals and definite singulars. True to form as a generic, it has attested exceptions such as (2).

Krifka et al. 1995, p.89 attribute to Gerstner a judgement that sentences such as (3), quite like the parenthetical part of (2), are ungrammatical.[1] However, they also note (p. 15) a range of examples using indefinite singulars to demonstrate that indefinite singulars may read in any combination of specific vs. non-specific and kind vs. non-kind referring. An easy interpretation for the indefinite singular is called the *taxonomic* reading in which it refers to a particular sub-kind of lion. The similarly kind-predicating ‘prevent’ sentences

[1]We do not share the judgement.

(Condoravdi et al. 2001) are also acceptable with singular indefinites as objects with both maximal kinds and subkinds. Consider (5) followed by (6.a), which favors an understanding of "a wolf" in (5) as a maximal kind and (6.b), which favors an interpretation of "a wolf" as a subkind; these are both available in spite of (5) also being interpretable with a particular instance of a wolf in mind. Thus, we disagree with Cohen's claim (2001, p. 188), "Generic ISs, on the other hand, cannot denote kinds...."[2] We will be focusing in this paper about the ready availability of such readings, and their availability in contexts outside definitions or articulations of rules and regulations — we take (7.b) to be acceptable with a preference as neither a definition nor as a regulation, but as a statement about a kind.

(5) The fence prevented a wolf from entering the farm yard.

(6) a. Birds were the only sort of unwanted animals intruding.
  b. Timber wolves were thwarted, but the red wolf still penetrated.

(7) a. Two birds became extinct in 1914 (the passenger pigeon and the carolina parakeet).
  b. A lion became extinct in 1920 (the barbary lion).

That received wisdom about generics tends to be expressed using generics is not problematic in itself — it's not like we would expect a theory of noun phrases (or prepositions) to be articulated without noun phrases (or prepositions). However, the tendency of generics not to be falsified by exceptions (8), to be verified by an overwhelming minority of exemplars (9) or even to lack exemplars (10) makes it important to focus on dissociations between parts of the language purported to encode species of genericity and the generics themselves when the theory of genericity is expressed using sentences that are intended to be understood as generic.

(8) Birds fly (penguins don't)

(9) Turtles live to be over 100 years old (most die much earlier)

(10) Unicorns have horns (they don't exist[3])

In fact, a main point we hope to re-emphasize in this paper is that there is a profound lack of syntactic cues to indicate when a sentence is to be interpreted as a generic or what sort of generic is intended. The paucity of syntactic encoding of genericity is cross-linguistic.

Cohen 2001 makes an interesting distinction between inductivist and normative *theories* of generics versus inductivist and normative *readings* of generics. The latter presupposes that certain sentences are inherently generic. Our feeling, given the lack of signals of

[2]ISs are indefinite singulars. Cohen goes on to argue that IS sentences "cannot be topics, hence the option of characterizing sentences is not open to them" (2001, p. 207). However, we feel that the example below demonstrates that IS expressions such as "a situation" can be used to express topics:

(4) What this prevents is a situation that happens entirely to (sic) often where you buy a product from an individual or business, send them a check and then never get the product ordered. (Anonymous 1999)

The further conclusion about the impossibility of a characterizing reading for an IS expression is also at odds with Krifka et al. 1995, p. 19, "The subject (or other NP) of a characterizing sentence may be any type of NP."

[3]Even a nonexisting unicorn might have had its horn bitten off by a minotaur.

genericity, and preponderance of exceptions to generics involving various purported syntactic correlations with species of constraints on genericity, is that there is little (if any) inherent linkage between syntactic variation in sentences that have generic readings and the constraints on those generic readings. We feel that the distinctions that exist among sorts of generics are real, and that it is appropriate to have theories of those distinctions. Moreover, we feel that these conceptual distinctions are far more advanced than the coding of them that at least English provides. Our inclination is to think that the distinctions in the nominal system taken as having a bearing on genericity are actually completely independent of the specific/generic distinction, and are actually more-or-less synonymous when the intended meaning of a sentence is generic. This way of thinking comes with a substantial caveat: *qua* humans, we love distinctions and hate synonyms (Carstairs-McCarthy 1998). To the extent that there are correlations between grammatical distinctions in the language and the conceptual discriminations that the sentences can be understood to be about, we would opt for the weak claim that any such grammaticalization process is only at its start. Mainly, this grammaticalization involves reinterpreting in the context of theories of generics distinctions built into syntax for meaning differences among specifics for other purposes. This claim can be falsified by providing a complete theory of generics that if stated using sentences taken to denote generics, clarifies at each step which sort of generic is denoted in the planks of the theory.

To ground our discussion, we begin with a brief recapitulation of what we take to be uncontroversial about sentences involving specifics; particularly, we focus on properties of nominals in specifics that are often taken to have import for generics. We then review a series of conceptual distinctions that are appropriate to generics. We emphasize dissociations in properties of nominals in sentences read as specifics when applied to generic readings. We argue that the relationships that do exist are a reinterpretation in the domain of generics. We have not formalized an account for the reason that the conceptual distinctions among types of genericity are already quite well studied. What is missing from the literature is a clear argument that the concepts are realized in the semantics of natural language sentences because of the syntax/semantics interface. Our argument on this point is that it doesn't exist, any more than there is a syntax/semantics interface that guides sense selection or literal vs. non-literal interpretation.

2. Specifics

We assume that nothing controversial is expressed in this section. It is included to ground our thoughts about generics in what is accepted about specifics. By specifics, we refer to intended readings of sentences as about particular events or instances of states. We take specific readings as alternatives to generic readings such as habitual interpretations of the same expressions. In a specific, an indefinite singular (IS), indefinite plural (IP), definite singular (DS), definite plural (DP), bare plural (BP) or bare singular (BS) may equally act as subject or object. We ignore here proper nouns, pronouns, expletives, and other nominal forms. Cross-linguistically, there are tendencies towards asymmetry in the expected referential and related properties of subjects versus objects (Keenan 1975); however, there remains a lack of an analytic definition of subject, and as has been noted, tendencies sustain exceptions. The definites presuppose access to an antecedently provided entity (or set of entities) that uniquely satisfies the description within the provided context. Indefinites do not presuppose such uniquely shared information between speaker and hearer, but do implicate a space of possible alternative satisfiers of the descriptions.

As a specific, a sentence like (11) is true if some car or other burned some quantity of oil in some situation involving an unspecified duration.

(11) A car burned oil.

As a specific it is not a habitual.

At a conceptual level, there is a clear distinction between genericity and specificity. From the point of view of evolution of conceptual evolution, it is an open question whether the two conceptual forms emerged in a sequential dependent fashion or in a relatively simultaneous or otherwise independent manner. It isn't absurd to think that genericity follows from specificity in evolutionary terms.[4] For example, many of our most ancient sources of lore (myth, religious tracts, etc.) are couched in specifics — narratives of specific episodes. These specifics, abstracted over, provide a substantial part of each culture's world view. At least one scholar can be seen as taking such specifics, rendered as symbols, as prerequisite to the form of abstract reasoning involved in genericity; the slogan might as well be "myth gives rise to thought" (Ricoeur 1967). Thus, there is reason, albeit here a weak consistency claim, to take the conceptual apparatus required for specifics as prior to that required for generics. On that line, it is all the more reasonable to see the distinctions that are clear for specifics might require reinterpretation when used to discriminate generics.

In the next section we hope to demonstrate that each of these forms (IS, DS, etc.) can be re-used with a generic understanding on virtually any of the sorts of generic conceptual distinctions one might want to make. We claim that under the generic reading, the syntactic variations provide synonymous forms, and that any propensity to use one form more than another is more akin to collocation than syntactic encoding, or to reinterpretation of discriminations that make sense for specifics in the context of generics.

3. Generics

3.1 Kinds of Generics

To allow a self-contained discussion of the relationships between forms of nominals and types of genericity, we briefly recapitulate a range of conceptual distinctions made in the literature about generics (again, uncontroversial). We do not intend to recapitulate formal representations of the distinctions, nor do we claim the list to be complete. However, given our intention in §3.2 to reiterate that the syntactic forms do not encode any of the major conceptual distinctions, we would not expect them to encode any of the distinctions that we have omitted, either.

Generics may express definitions, rules, or tendencies. They may apply to kinds (including empty kinds), every instance of a kind (in the case of definitions), ideal instances of a kind (in the case of rules), and to prototypical instances or probabilistically selected individuals (in the case of tendencies). In the first instance, we do not take the form of the noun phrase (whether in subject or object position) being DS, BP, IS, etc. as determining subkinds of generics.

[4]This is a separate matter from whether a sentence's generic reading must be preceded by a specific reading, analogous to the model of interpretation some have of metaphorical readings following literal readings of sentences. In neither case do we believe the interpretation of any individual sentence to be so ordered.

3.2 Examples

In this section we consider sentences that can be understood as linked to a generic concept. The primary variance in the sentences is in the form of the noun phrase – DS, DP, IS, IP, BP and BS. Variations in the predicates suit the necessary syntactic covariation the subject noun phrase, and in some cases variation is provided to emphasize reference to a kind. In each case, we find the sentences compatible with the form of genericity at issue, and all syntactically grammatical on the claimed understanding of the sentence. Supporting contexts are also provided. The occasional example is attested outside the linguistic literature on genericity.

(12) Definitions:

a. The dinosaur is diapsid.
b. The dinosaurs were diapsid.
c. A dinosaur was diapsid.
d. Three dinosaurs were known in 1842.
e. Dinosaurs were diapsid.
f. Dinosaur is not vegetarian.

Both the DS and DP refer to the kind which is defined in part by the property of being diapsid; similarly the IS. Three different types of dinosaur were known to exist in 1842. The bare plural works easily as a kind. The final example with the BS takes dinosaur as a mass noun, and yields a generic reading akin to a habitual.

(13) Rules:

a. The office location should be safe.
b. The office locations should be safe.
c. An office location should be avoided.
d. Two office locations should be avoided.
e. Office locations should be safe.
f. Office location should be indicated by a sign of a nature and size which allows reasonably easy identification by members of the public seeking it, but not such that constitutes soliciting or importuning members of the public (Anonymous 1995)

These examples involve nonestablished kinds, but are nonetheless acceptable. It's a particular type of office location, or two types of office location that should be avoided. The final example was attested.

(14) Tendencies applying to kinds:

a. The lion is ferocious.
b. The whales are protected.
c. A lion has a mane.

d. Three whales are not protected.
e. Whales are protected.
f. Whale is fatty.

Not all lions are ferocious and not all whales are protected. Some lions lack manes, etc.

(15) Tendencies applying to individuals (prototypical or selected according to chance):

a. The lion has a long tail.
b. The lions protect each others' young.
c. A lion protects its young.
d. Three lions attack each others' young.
e. Lions protect each others' young.
f. Lion is tough.

These are much like the preceding cases. The IS is taken to refer to a type of lion, say a mountain lion, and the IP similarly involves three sorts of lion.

(16) Unambiguous kind predications (subject position):

a. The pelican is not extinct.
b. The dodos were extinct by 1681.
c. A lion became extinct in 1920 (repeated from 7)
d. Two birds became extinct in 1914 (repeated from 7).
e. Dodos are extinct.
f. Dodo is unavailable.

(17) Unambiguous kind predications (object position):

a. Rest prevents the cold.
b. Padding prevents the injuries.
c. Preparation prevented a catastrophe.
d. Aspirin prevents three heart diseases.
e. Exercise prevents illnesses.
f. Vaccinations prevent flu.

(18) Collective predications:

a. The dodo congregated in the open.
b. The two birds congregated at opposite ends of the field.
c. A fish congregated in that bay.
d. Two birds congregated in that field.
e. Birds congregated on the statue.

f. Giraffe congregated in the field for a self-sacrificing offer of dinner as far as Simba could gather.

It was formerly the case (and perhaps cause of extinction) that dodos would gather in open fields. Two distinct types of birds had the habit of migrating together but gathering at opposite ends of a particular field while stopping. A particular sort of fish formerly gathered in that bay. The IP case is sanctioned by the same context as the DP case, and the BP case also works as a kind in the collective predication. In the BS, Simba sees the count noun giraffes in their mass noun form.

Again, the claims in this section are not novel. We hope to have demonstrated that each of the NP forms considered is compatible with the full range of generic types that have been conceptually discriminated. Some forms may be more frequently associated with some types than others, but that is a separate matter. Also note that this is cross linguistic: some languages lack definite articles (e.g. Hindi), others lack indefinite articles (e.g. Irish), still others lack both (e.g. Farsi). Unless the strong version of the Sapir-Whorf hypothesis is correct, and we doubt that it is, it is inconceivable that sentences of those languages cannot be understood in relation to the same range of generic concepts (or specific situations, for that matter) suggested for English.

3.3 Dissociations Between Specifics and Generics

Truth conditions for sentences understood as generics have provided substance for a large part of the literature because of the radical differences from the truth conditions of the same sentences understood as specifics. The mechanisms relating the two via raisings and lowerings on particular logical forms is a large part of the generic industry.

A particular divergence between specific and generic understandings of a sentence that we would like to focus on here is in the area of presupposition. An issue at stake is that expressions which are presuppositional in specifics are not presuppositional in generics, just as they fail to be presuppositional in donkey sentences, sentences with explicit quantification, etc. For example, it is accepted that the sentences, with entrenched understanding as specifics, in (21) presuppose the referent of the subject NP. However, the sentences in (22), under the generic reading, do not presuppose that there is any object satisfying the definite subject NP, and neither do the indefinite subject NPs in (23), and so on. Moreover, it doesn't matter whether the generic reading is definitional, probabilistic or normative.[5] Failure of the definite to presuppose in the generic reading appears linked to the interpretation in relation to a kind (possibly with an empty extension) rather than to implicit quantification over individuals. The prevent sentences involving kinds in object position clearly do not have the same presuppositional properties for their D-expressions (24) as D-expressions have when understood as specific.

(21) a. The King of France is bald.

b. The King of France is not bald.

[5]The following two examples have ready interpretability as conveying rules applying to instances of their subject NPs, and neither presupposes the existence of an object that satisfies the rule.

(19) A gentleman carries a spare handkerchief.

(20) The artist avoids commercialism.

(22) a. The unicorn has a horn

b. The hexagon has 6 sides.

(23) a. A unicorn has a horn

b. A hexagon has 6 sides.

(24) International treaties prevent the onset of nuclear war.

It could be that the sentences (22) and (23) are synonymous, but closer inspection reveals them not to be synonyms.[6] For some, there is a difference in presuppositions between (22) and (23). Just as I-expressions understood as specific implicate alternative individuals and D-expressions presuppose unique satisfiers, under a generic understanding sentences in (23) implicate a larger space of alternative kinds (perhaps without commitment to their being instances of any kind in the type hierarchy), while those in (22) do not.

A negation of an I-generic can still suggest alternative sub-kinds of a larger overarching kind, but negations of D-generics do not. Apparently in both negated and non-negated sentences D-generic readings presuppose, if anything, the maximal kind, but nothing about that kind having any extension. While the negation in (25) does create access to the alternative set of things that do have scales, it does not construct a clear alternative set such as "other mythic animals" based on the subject NP. The situation for I-generics is possibly to be expected given generic sentences with cardinal quantifiers as in (27), and the close relationship between the indefinite article and cardinals—for example, both constituting weak determiners. The sentences in (27) have preferred readings in which three kinds of birds are extinct, and two sorts of polyhedra have fewer than five sides. It doesn't matter that the enumerated kinds may themselves have subkinds.

(25) a. The unicorn does not have scales.

b. The pentagon does not have 6 sides.

(26) a. A unicorn does not breathe fire.

b. A pentagon does not have 6 sides.

(27) a. Three birds became extinct in the first year of the century.

b. Two polyhedra have fewer than five sides.

One approach to the I-generics is to assume that there is an implicit restriction on quantification over individuals (Krifka 1988), perhaps using quantifiers that nonselectively bind variables in the style of Lewis 1975. But noticing the presuppositional difference between D-generics and I-generics suggests an alternative assumption that both sorts of sentences are kind referring, with D-generics (generally) being expressions about maximal kinds and I-generics as submaximal kinds. BP generics can be easily understood either way, while BS generics impose no such implication at all.

In a way, it is a redundancy for a language to have both definite and indefinite articles since one can be taken as the unmarked case, and the other to be marked. Thus,

[6] One of the suggestions we would like to make in this paper is just a reminder that closer inspection often creates distinctions that didn't exist in the first place, and didn't need to. The fact that certain situations are consistent with particular sets of constraints related to a sentence uttered does not entail that the sentence expresses those constraints as one of its readings. We are sympathetic to the similar point made by Verkuyl 1994 in the context of the opposition between collectivity and distributivity.

it's easy to understand that a language might lack one or other, providing a marker only the unusual case. Further, if it is right that the difference between the two is simply a statement about what is supposed to be common knowledge and what isn't, then because common knowledge includes awareness of what is not commonly known, neither marker is actually necessary and one expects some languages to lack such a marker.

I and D generics do not inherently favor kind or individual reference, nor understanding as rules, tendencies or definitions. Any linking is a reinterpretation of presuppositional and implicature properties of nominal forms understood as specifics for use with respect to kinds and their possibly empty extensions. However, the usability of any of the forms to indicate any of the generic understandings suggests exactly that the forms do not encode the understandings as part of their semantic function. Each of the forms is compatible with each of the concepts. Therefore, the conceptual distinctions are not semantic distinctions.

4. Conclusion

Throughout this article we have used expressions like "the sentence may be understood as a generic" or "the example is compatible with an understanding as a rule." We are reluctant to sanction "the reading of a generic as a rule" because of the implication that an expression may be inherently generic and therefore have one or more forms of generic reading. Rather, a sentence may be understood as conveying a generic concept, and in fact it may be compatible with a few different sorts of generic concept. In the absence of any sort of signal that stipulates what sort of generic is at stake, we find it difficult to state that the generic concept is the *meaning* of the sentence. We prefer the locution that has the sentence "compatible with" or "understood as" a generic, just as a sentence like (28) is compatible with a situation in which there are three buckets and a pair of children carrying each, without the sentence declaring that model in particular as its meaning.

(28) Six children carried a bucket.

Speakers of every language would hope to make their interlocutors aware of both generic and specific concepts. Some languages have separate definite and indefinite articles for meanings associated with specific concepts. When applied to generic concepts, either of these syntactic forms is compatible with each of the conceptual distinctions. Understood as generics, they are synonymous. Humans seem to be cognitively driven to draw distinctions when possible to avoid synonymy. Thus, one can easily imagine the arbitrary existence of an indefinite article to be reinterpreted to avoid synonymy with the definite article, thus picking out subkinds rather than individuals.

A consequence for languages like English is artificial complexity. A distinction that is superfluously marked for polar opposites in the case of specifics—a particular individual within common knowledge vs. an (arbitrary) individual introduced into common knowledge—is initially not a source of distinctions for generics, but because the syntactic distinctions remain constant, the forms are discriminated as providing distinct meanings. There is no syntactic marking of genericity vs. specificity, yet the contrast between the definite and indefinite, content-free at the outset, is discriminated, forcing D-generics to be maximal kind referring and I-generics to be proper subkind referring, in keeping with the tendencies of generics with cardinal determiners in the subject to be subkind referring maintaining indefiniteness about which subkind is denoted, and constructive of the contrast class of subkinds not referred to. Our explanation is based on the independence of communicative function and syntactic complexity in language.[7]

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[7] There is no syntactic signal for the meaningful distinction between generics and specifics; grammatical gender signals nothing reliable about semantic notions of gender gender.