Cognitive Context-Sensitivity

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Abstract. This paper introduces a notion of *cognitive context-sensitivity*, in contrast with *linguistic context-sensitivity*. When a sentence is cognitively context-sensitive, the truth-value assigned to the sentence can vary with context, without any corresponding shift in the interpretation of the terms or structure of the sentence. The notion will be deployed to explain the context-sensitivity of generic generalizations.

Keywords: Cognitive context-sensitivity, Generic generalizations, Default mechanism of generalization.

1   Generic Generalizations

Generic generalizations, or simply generics, are generalizations that associate a property with a kind without indicating how many members of the kind must instantiate the property for the generalization to be true. Generics come in a variety of forms. For example:

Bare plurals: Women are bossy.
Definites: The first-born son inherits the father's estate.
Indefinites: A king does not seek permission.

Here, I will focus on bare plural generics. 'Women are bossy' associates the property of *bossiness* with the kind *women* but doesn't indicate how many women must have this property for the generalization to be true. In this respect, it differs from a quantified generalization like 'Women are all bossy', which indicates that every woman must be bossy for the generalization to be true.

The truth-conditions of generics are a matter of debate. The dominant view is that generics involve an implicit operator, 'Gen', that plays the same role as the quantifier in a quantified generalization.[1] The question then becomes the rule by which Gen determines truth-conditions as a function of the predicate and kind-term. Again, there are

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[1] Though see [6], [7] and [2] for dissent.

many views on offer.[2] A somewhat under-explored question, however, is whether context affects the truth-conditions of generics.

The following section introduces Sterken's argument that Gen is an indexical quantifier. Section 3 then introduces the notion of cognitive *context-sensitivity*. Section 4 will then show how cognitive context-sensitivity offers an alternative explanation of Sterken's data.

2   Sterken's Argument for Indexical Generics

Rachel Sterken [8] argues that generics are context-sensitive in that the intuitive truth-value of a generic can shift with context, even when the features of the kind are held fixed. Take the following example (taken from [1]):

1)   Indians eat beef.

This generic seems false in Context 1 but true in Context 2, even though the number of Indians who eat beef is held stable throughout:

Context 1: People throughout the world eat a variety of foods. The French eat croissants. Mexicans eat tortillas. Indians eat beef.

Context 2: Despite the cultural taboo prevalent in India, Indians eat beef, but it is less common than in Europe.

In the first context, it seems that beef-eating must be characteristic of Indians for the generic to be true, which it is not. In the second context, however, a few Indians who eat beef seem sufficient for the truth of the generic. Sterken argues that the context-sensitivity of generics is best explained by taking 'Gen' to be an indexical quantifier. Sterken's key evidence is that the context-sensitivity of generics like 1) is not mirrored in their adverbially-quantified variants:

2)   Indians typically eat beef.
3)   Indians generally eat beef.
4)   Indians normally eat beef.

These generalizations seem false in both contexts. Sterken notes that these adverbially-quantified generalizations are "close in meaning'' to generics. If pragmatic mechanisms were responsible for the context-sensitivity of generics, Sterken argues, then the same mechanisms would render their adverbial variants context-sensitive. Likewise, if the predicate ('eats beef') or the kind-term ('Indians') were context-sensitive, then that context-sensitivity would lead to the adverbially-quantified generalizations shifting their truth-values between Contexts 1 and 2. Sterken therefore concludes that the

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[2] See [4], [5] for an overview of some proposals.

context-sensitivity of 1) must result from the implicit operator 'Gen' and suggests that the operator is best understood as an indexical.

3   Cognitive Context-Sensitivity

Context-sensitivity data is usually explained in terms of *linguistic* context-sensitivity. That is, we identify some expression within a context-sensitive sentence that is interpreted differently between contexts. Sterken argues that the best candidate for a linguistically context-sensitive expression in *Indians* is the implicit quantifier Gen. I suggest another form of context-sensitivity, which I term *cognitive* context-sensitivity. When a sentence is cognitively context-sensitive, its intuitive truth-value may vary without any corresponding variation in the interpretation of any expressions in the sentence.

The account of generics is based on Sarah-Jane Leslie's work ([4], [5]) in which generics are understood as expressing associations between kinds and properties that are produced by the default mechanism of generalization. This mechanism is described as 'default' because it is activated when no quantifier is present to activate an alternative mode of generalizations, such as the universal mode activated by 'all'. The default mechanism of generalization, Leslie argues, is innate and explains the ability of infants to generalize properties to kinds well before they learn to understand even simple quantifiers like 'all' and 'some'. We are disposed to utter and agree with a generic of the form 'Ks are F' when the default mechanism of generalization associates the property F with the kind K.

The default mechanism of generalization is sensitive to the kind of property assigned to a kind. Kinds of cognitively associated with certain characteristic properties. Animal kinds, for example, are cognitively associated with characteristic modes of reproduction but not with characteristic biological sexes. If the property predicated in a generic falls along some characteristic dimension of the relevant kind, then the default mechanism associates the property with the kind so long as some members of the kind have the characteristic property. This explains why we are disposed to agree with

5)   Chickens lay eggs.

but not with

6)   Chickens are female.

despite a higher proportion of chickens being female than laying eggs.

If the property is dangerous or striking, the default mechanism associates the property with a kind when some members of the kind exhibit the property and all members of the kind are disposed to. This explains why we are disposed to agree with

7)   Dogs bite.

but not with

8) Humans bite.

Leslie develops a truth-conditional analysis of generics, though that account is subject to serious problems [9].

I borrow Leslie's notion of a cognitively default mechanism of generalization and add that the properties associated with a kind by that default mode are sensitive to context. We might associate some property F with the kind K in one context and fail to associate the same property with the same kind in another context. In these cases, we will judge the generic 'Ks are F' to be true in the first context but not in the second, despite the terms 'Ks' and 'F' being interpreted as referring to the same kind and property in both contexts. In these cases, the context-sensitivity is not linguistic but cognitive.

4   Responding to Sterken's argument

Applying the cognitive-sensitivity account to the case of 1), neither the kind-term 'Indians' nor the predicate 'eats beef' is context-sensitive. In both Context 1 and Context 2, these terms pick out, respectively Indians and the property of beef-eating. The difference between the two contexts is whether the default mechanism of communication associates the property with the kind. In Context 1 when we have been primed to focus on the characteristic properties of a kind, the default mechanism does not associate these two properties, so we are not disposed to agree with the generic. In Context 2, however, when no such priming has been established, we are willing to associate the kind and property based on relatively few instances, explaining why we are disposed to treat the generic as true.

This account agrees with Sterken that the context-sensitivity of generics is not a function of the context-sensitivity of either the predicate or the kind-term. In both contexts, 'Indians' is interpreted as referring to Indians and 'eat beef' is interpreted as referring to the property of eating beef. This is not taken to indicate that the context-sensitivity results from an indexical quantifier, however. Rather, the context-sensitivity is explained by the context-sensitivity of the default mechanism of communication.

Sterken also argued that the context-sensitivity of generics is not the result of any pragmatic mechanism. Arguably, the context-sensitivity of the default mechanism of generalization is such a pragmatic mechanism. If so, however, then Sterken's argument is insufficient to establish that pragmatic mechanisms are not responsible for the context-sensitivity of 1). Recall Sterken's argument that, if a pragmatic mechanism were responsible, we should expect adverbially-quantified variants of generics to exhibit the same shift in truth-value, yet 2), 3), and 4) are all intuitively false in both contexts. This is easily explained on the present account, as the context-sensitivity is traced to the default mechanism of generalization, and the role of the adverbial quantifiers is precisely to activate an alternative mode of generalization which needn't be context-sensitive in the same way. Whether or not cognitive context-sensitivity is thought of as a pragmatic mechanism, therefore, it explains Sterken's data and provides an alternative to the indexical account of generics.

5   Conclusion

This paper has presented a distinctively cognitive notion of context-sensitivity that is distinct from linguistic context-sensitivity. We have seen how cognitive context-sensitivity can be used to explain Sterken's data about the context-sensitivity of generic sand offer an alternative to her indexical account. In future work, I plan to extend this account to other expressions, notably *code words* such as 'inner city' and 'welfare' that can be used to express off-record content [3].

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