

A General Theory of the Excluded Middle

1. Introduction

In this paper I discuss four superficially unrelated constructions that share several peculiar features: definite plural noun phrases, generic bare plurals, conditionals and embedded interrogatives. The first characteristic these constructions share is that, in the absence of an explicit quantificational expression, they display default universal force. For example, when a distributive predicate is predicated of a definite plural noun phrase the result can be paraphrased in terms of a universal nominal quantifier, (1). A sentence like (2) with an embedded interrogative can be paraphrased in terms of universal quantification over propositions. The second feature these constructions share is that their negations are not interpreted as the negation of universals, but rather as universals scoping over negation. That is, each of these constructions obeys the Excluded Middle, (3)-(6). This is well known for three of the constructions: see Stalnaker 1981 on Conditional Excluded Middle; Carlson 1978, von Stechow 1997 on generic bare plurals; Fodor 1970, Löbner 1985 on definite plurals. Less well known is the observation that the negation of a predicate embedding an interrogative can lead to universal quantification over propositions scoping over the negation (cf. (6)) – but see Krifka 1996.

2. Proposed Generalization

I propose that these features of these constructions should receive a unified analysis. Specifically, I propose that each of these cases can be essentially reduced to the case of definite plurals. Definite plurals have been argued to denote pluralities, which I will assume are just sets of objects. For example, the definite noun phrase in (7a) denotes (7b). I propose that each of these constructions involves reference to a plurality. This proposal has been made for each of these constructions independently of the characteristics under discussion. Schlenker 2003 proposes that *if*-clauses denote pluralities of worlds. Lahiri 2002 proposes that embedded interrogatives denote sums of propositions (I will assume that these sums are pluralities, Lahiri takes a different position). Under Chierchia's 1998 Neo-Carlsonian view of generics, bare plurals denote kinds, where a kind is assumed to be a function from worlds to the set of instances of the kind, a plurality. I note in addition to this that generic bare plurals show co-distributive readings (cf. (8)), a characteristic of plurals – not quantifiers (cf. (9)).

3. The Connection between Plurality and the Excluded Middle

In this section I propose a theory of why reference to a plurality in these constructions yields universal quantification and adherence to the Excluded Middle. I assume following Link 1983 that application of a predicate of individuals to a plurality is mediated by a distributivity operator. Following (roughly) Löbner 2000, I assume that the distributivity operator carries an Excluded Middle presupposition that explains the interaction of these constructions with negation, (10). I go further, however, in explaining why the distributive operator carries this presupposition. My proposal is that the distributive operator is the grammaticalization of a pragmatic repair strategy for interpreting a structure in which a predicate that has only individuals in its domain is applied to a plurality, a structure otherwise undefined, (11). Following Lasnik 1993, von Stechow 2004 and Yablo 2005, I assume that there is not a direct mapping between the semantic values 1 and 0 and judgments of truth and falsity. More specifically, I assume that sentences that are semantically undefined may still be judged true or false. The references given above explore the algorithms by which speakers judge undefined sentences such as (12) true or false. Very roughly the algorithm goes like this: if merely granting the truth of a false presupposition makes a sentence clearly true (false), then judge the sentence true (false). If not, do not judge it true or false. In the case under discussion, we have a predicate that presupposes that its argument is an individual applied to an argument that denotes a plurality. Granting the truth of the false presupposition here amounts to granting that the argument does not denote a plurality but an individual (a singleton). But which? Merely granting the truth of the presupposition does not guide us in choosing one member of the set. In this case, I propose a supervaluational strategy is applied and all cases are considered. If the predication is true for each individual chosen, the predication is (super-)true, if false for each, it is (super-)false. In any other case, a judgment cannot be made. This reasoning explains both the universal force of these constructions and the fact that they obey the Excluded Middle, (13)-(15).

