

DIRECT KIND PREDICATION AND TRANSITIVITY

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**Introduction.** Kind-referring bare plurals are worse as direct objects (Os) compared to subjects, (1a–b), and they are worse than definite singulars, (1b–c). Why is that?

- (1) a. Transistors were invented by Shockley. (Krifka et al. 1995:p.71)  
 b. Shockley invented {?transistors, the transistor}. (Krifka et al. 1995:ex.112c)  
 c. Pollutants are decimating {?squids, the squid}. (Lyons 1999:§4, fn.8)

As an alternative to appealing to topicality (Krifka 2003) or null determiners (Oosterhoff 2008), we appeal to Transitivity (Hopper & Thompson 1980).

**Topicality.** Krifka (2003) proposes that bare NPs can be kind-referring only as topics, and that the degradation in (1b–c) is because O is not a regular topic position. However, this misses the observation that kind-referring bare mass singulars are not degraded as Os, (2).

- (2) The Americans invented chewing gum. (Krifka et al. 1995:ex.112a)

We found via a questionnaire that among the minimal pairs of bare singulars and plurals in (3a) as Os, the average preference for the singular was significantly greater with the kind-level verbs in (3b) compared to the instance-level verbs in (3c).

- (3) a. armed conflict(s), contamination(s), deforestation(s), desertification(s), expulsion(s), extinction(s), flooding(s), genocide(s), oppression(s), persecution(s), poisoning(s), pollution(s), torture(s), war(s)  
 b. criminalize, forbid, illegalize, outlaw, decimate, eradicate, stamp out  
 c. catalogue, chronicle, document, record, disrupt, intercept, interrupt

48 self-reported native monolingual US English completed word-preference tasks as below.

The UN criminalized _____.							
	1	2	3	4	5	6	7
torture	<input type="radio"/> tortures						

The verbs in (3b) and (3c) had the respective mean ratings of 2.74 (SE=.35) and 3.64 (SE=.25) (closeness to 1 indicates preference for the singular). The difference is statistically significant ( $p=.0053$ ) in a mixed-effects model translated as: rating ~ condition + (1|subject) + (0+condition|subject) + (1+condition|item). (4) summarizes these results as a judgment.

- (4) a. The UN criminalized {torture, ?tortures}. b. The UN catalogued {torture, tortures}.

To account for (4a) with topicality, one could posit that bare singulars are easier to parse as topics than plural counterparts, but this is ad-hoc.

**Null determiners.** Of the 29 speakers of varieties of Dutch and Frisian in Oosterhof (2008), 8 rated (i) the bare plural subject in (5a) as at least intermediately acceptable (3/5), and (ii) the definite plural O in (5b) as better than the bare O by at least 2 points.

- (5) a. Telefoons zijn uitgevonden door een Schot. ‘Telephones were invented  
 telephones are invented by a Scotsman by a Scotsman.’  
 b. Die Schotse leraar heeft #(de) telefoons uitgevonden. ‘That Scottish teacher  
 that Scottish teacher has (the) telephones invented. invented (the) telephones.’

5 other speakers rated (i) the bare mass subject in (6a) as at least intermediately acceptable, and (ii) the definite mass O in (6b) as better than the bare O by at least 2 points.

- (6) a. Koffie is uitgevonden door de Arabieren.  
 Coffee is invented by the Arabs ‘Coffee was invented by the Arabs.’  
 b. Die Duitse banketbakker heeft #(de) marsepein uitgevonden. ‘That German confectioner  
 that German confectioner has (the) marzipan invented. invented (the) marzipan.’

Under Oosterhof, (6) results from the language variety having the null determiner 0[+R, –count, –pl] which cannot be governed by the verbal head V (+R: the determiner has a (kind-)referential interpretation). Likewise, (5) results from the language variety having the null determiner 0[+R, +count, +pl] which cannot be governed by V. English having the latter predicts the bare plurals in (1b–c) to be ungrammatical, which is at odds with Lyons (1999): “I find [*squids* in (1c)] less

good than [*the squid*], but not impossible.” (§4, fn.8).

**Transitivity.** (1b–c) is predicted by Transitivity (Hopper & Thompson 1980), a cluster of clausal properties including (7) which are predicted by (8) (ibid. ex.9) to pattern together.

	<i>high Transitivity</i>	<i>low Transitivity</i>	
(7) a. affectedness of O(bject)	totally affected	unaffected	(H&T 1980:ex.1)
b. number of O	singular	plural	(H&T 1980:ex.2)
c. definiteness of O	definite	non-definite	(H&T 1980:ex.2)

(8) If two clauses (a) and (b) differ in that (a) is higher in Transitivity according to any of the features [in (7)], then, if [another feature] appears elsewhere in the clause, [it] will also show (a) to be higher in Transitivity.

To illustrate (7–8), *drink up* is a marker of high transitivity under (7a) in marking O as totally affected by the drinking action. (8) predicts (7c) to show a clause with *drink up* to be high in Transitivity, i.e. the O should be definite. This is borne out in *I drank up ?(the) milk*

(7–8) have five correct predictions for direct kind predication. First, the bare plurals in (1b–c) denote kinds which are totally affected by the inventing and decimating actions, i.e. these clauses are high in Transitivity under (7a), so (8) correctly predicts the Os to be better as singular definites over plural non-definites. Second, (7–8) predict the bare plurals in (1) to be improved by interpretations which reduce the affectedness of the kind. Indeed, Krifka et al. (1995:71) report *transistors* in (1b) as improved under the interpretations in (9).

(9) a. ‘Shockley invented a number of kinds of transistors.’ *taxonomic*  
 b. ‘Shockley built a number of transistor units.’ *instance-level*

Third, (7–8) predict kind-referring bare plural Os to be good when the kind is less affected by the action, as is borne out by the felicity of *Shockley explained transistors* (kinds are relatively unaffected by actions of explaining things about them). Fourth, (7–8) predict bare singular kind-referring Os to be better than plural counterparts, as is borne out by the word-preference task questionnaire. Fifth, (7–8) predict that among the 29 speakers in Oosterhof (2008:§5.5), the preference for definite over bare kind-referring NPs should be greater among Os compared to non-Os (subjects and genitives). This is borne out: The mean ratings in the plural and mass conditions are in (10), which include (5) and (6), and ANOVA tests on mixed-effects model with random intercepts for participants found significant interactions between form (definite vs. bare) and position (O vs. non-O): (10a),  $F(1,142)=4.2004, p=.0422$ , (10b),  $F(1,170)=4.2771, p=.0401$ . Thus, Transitivity makes correct predictions beyond (1).

(10) a.	bare plural		definite plural	b. bare mass	definite mass
object	1.45	2.41		3.14	3.97
subject & genitive	2.66	2.74		4.00	3.76

**Advantages.** Transitivity has advantages over the two alternatives. First, Transitivity inherently appeals to number, (7b), while topicality does not, so only the former predicts (4a). Second, Transitivity is a pragmatic-discourse notion, so it predicts degradation in (1b–c) rather than the ungrammaticality predicted by Oosterhoff’s (2008) appeal to null determiners.

**Sequentiality.** Under Hopper & Thompson (1980:§4.3), the markers of high Transitivity in (7) increase the likelihood of a clause receiving a sequential interpretation. Under this hypothesis, the degradation in (1b–c) is due to a clash between two tendencies: Clauses with totally affected Os being sequential, and clauses with plural non-definite Os being not-sequential.

Hopper, P. J. & S. A. Thompson. 1980. Transitivity in grammar and discourse. *Language* 56(2). 251–299. • Krifka, M. et al. 1995. Genericity: An introduction. In G. N. Carlson & F. J. Pelletier (eds.), *The generic book*, 1–124. Chicago: University of Chicago Press. • Krifka, M. 2003. Bare NPs: Kind-referring, indefinites, both, or neither? *SALT* 13, 180–203. Ithaca: Cornell University. • Lyons, C. 1999. *Definiteness*. Cambridge: Cambridge University Press. • Oosterhof, A. 2008. *The semantics of generics in Dutch and related languages*. Amsterdam: John Benjamins.