Another look at the Mapping Hypothesis: evidence from Hebrew

Overview. The connection between genericty and the Hebrew pronominal copula (Pron) has been the focus of some attention in the literature. In this paper, we argue for a fine-grained generalization of the distribution of Pron, that takes into account its interaction with bare NPs in subject position. This opens up a way for us to account for the connection between Pron and genericity in Hebrew, while reconciling the facts with the conventional view of the syntax-semantics interface of genericity. While serving as further support for that view, it provides us with a tool for understanding it better. **Deising's Mapping Hypothesis.** As pointed out by Carlson (1977) and Milsark (1977), certain sentences in English allow for both existential and generic interpretation of bare plurals (1a), while others only allow for a generic interpretation (1b). A prominent explanation was proposed by Diesing (1992), stating that the two readings are structurally distinguished – NP's must reconstruct into VP to get existential closure, while ones that remain in SpecIP are interpreted in the restrictor of GEN. Convincing evidence for Diesing's *Mapping Hypothesis* came from German scrambling examples (2), in which the surface position of the bare plural subject determines its interpretation. The invailablity of an existential reading in (1b) was explained accordingly by assuming that individual-level predicates do not allow reconstruction of the subject into VP. **Hebrew Pron and genericity.** Greenberg (1998, 2002) presents Hebrew data that seems to pose a challenge for the Mapping Hypothesis. Present-tensed nominal sentences in Hebrew may appear with what looks like a pronoun in the place of a copula, as demonstrated in (3). Doron (1983) analyzes this kind of pronouns as a realization of agreement features in Infl, and terms it *Pron.* Rapoport (1987) and Rothstein (1995) show that +Pron sentences are full IP's, while -Pron sentences correspond to a leaner clausal structure. The distribution of Pron is quite complicated: while in the examples in (3) Pron is optional, some nominal sentences require its presence (4a), and others ban it (4b). Greenberg argues that the governing factor in the distribution of Pron is whether the sentence is generic or not, and proposes the following generalization: A nominal present-tensed sentence is +Pron if and only if it is generic, i.e. headed by a GEN operator. The reason that Pron is optional in examples like the ones in (3), according to Greenberg, is that they are ambiguous between a generic and nongeneric LF. She further argues that the Hebrew data are incompatible with the Mapping Hypothesis, based on examples with overt quantificational adverbs (5a) and with quantifiers in subject position (5b), in which Pron is optional although their subjects must be interpreted in the restrictor of a generic operator. **Revisiting Greenberg's generalization.** We would like to suggest that Greenberg's generalization is too strong – a closer look at the data shows that while +Pron sentences are indeed always generic, -Pron sentences can either be generic or nongeneric. This immediately explains the optionality of Pron in (5), but raises the issue of the obligatory Pron in cases like (4a). We argue that the obligatoriness of Pron in these cases is related to an independent generalization regarding the distribution of bare NP's in Hebrew: Bare NP's cannot appear in the subject position of a nominal sentence without Pron. This is demonstrated in (6). Notice that nothing in these sentences forces a generic interpretation (the English translations may be easily interpreted existentially), therefore their badness is not predicted by Greenberg's generalization (further note that bare plurals can get existential interpretation with stage-level verbal predicates). While the mechanism responsible for this generalization is not clear, Sichel (1997) discusses similar cases and argues for a Case assignment-based explanation. In this spirit, we propose the following constraint: Bare NP's are only allowed in argument position if the Case-assigning head has overt material in it. Evidence that Case assignment considerations are indeed at play here comes from the grammaticality of the same examples, when embedded under an ECM predicate (7) (the adverbs in

parentheses are there to make sure that the complement of the ECM verb is a clause and not a DP, since Hebrew NP-modifiers are postnominal). We thus have an independent explanation for the ungrammaticality of examples like (4a), unrelated to genericity – they contain a bare NP in argument position whose Case-assigning head, I^0 is unrealized. Our constraint can also immediately explain the optionality of Pron in (5b), since the subject there is not a bare NP and thus does not require the presence of overt material in I^0. The optionality in (5a) is more problematic for us, and may indicate a need for refining the constraint. We note, however, that the sentence without Pron is degraded, and even more so if the adverb comes after the predicate (8a), which may indicate a linear adjacency effect. Finally, we note that sentences like (3), with a full DP in subject position, are generally Pron-optional (a notable exception is identity sentences, in which Pron is obligatory; discussing those is beyond the scope of this work). While Greenberg has no choice but to claim that these examples may be nongeneric even with individual-level predicates, our weakened generalization gets them for free. **Accounting for the weakened generalization.** We have proposed that +pron sentences must be generic, while -Pron sentences may be either generic or nongeneric. This might provide us with a way to explain the mechanism behind Greenberg's generalization. The connection between genericity and Pron is not direct, but stems from the syntactic properties of Pron. Specifically, we hypothesize that Pron blocks reconstruction of the subject below SpecIP. Coupled with Diesing's Mapping Hypothesis, this immediately gives us the weaker version of Greenberg's generalization: In +Pron sentences, the subject has to stay in SpecIP and thus be mapped into the restrictor of GEN; in -Pron, it may either reconstruct below SpecIP and get existential closure, or remain in SpecIP. However, this hypothesis bears the prediction that the presence of Pron will cancel the effects of reconstruction in any case in which it's detectable. One such case is the scope ambiguity between a raising modal M and an existential quantifier in subject position E (see Fox, 2000). We predict that a +Pron sentence would only allow $E > M$ reading, while its -Pron counterpart would also allow $M > E$. This prediction is borne out by example like (9): the narrow scope reading of the indefinite is only available in the -Pron sentence. **Theoretical significance.** While the mechanics of this blocking effect are not yet clear to us, its existence points at a structural connection between generic readings and reconstruction. This may be viewed as evidence for the Mapping Hypothesis, and generally for the idea that the syntactic position of the subject determines which implicit operator can bind it. A closer look into the syntax-semantics of Pron might also allow us to acquire a deeper understanding of the nature of this mapping. Furthermore, our analysis of Pron provides us with a general diagnostic for reconstruction, which might be applicable for other cases as well.

References. Carlson, G. N. (1977). *Reference to kinds in English*. University of Massachusetts Amherst. Diesing, M. (1992). *Bare plural subjects and the derivation of logical representations*. Linguistic Inquiry, 23(3):353–380. Doron, E. (1983). *Verbless predicates in Hebrew*. PhD thesis, University of Texas at Austin. Fox, D. (2000). *Economy and semantic interpretation*, volume 35. MIT press. Greenberg, Y. (1998). *An overt syntactic marker for genericity in hebrew*. In Events and grammar, pages 125–143. Springer. Greenberg, Y. (2002). *The manifestation of genericity in the tense aspect system of hebrew nominal sentences*. In Themes in Arabic and Hebrew syntax, pages 267–298. Springer. Milsark, G. L. (1977). *Toward an explanation of certain peculiarities of the existential construction in English*. Linguistic analysis, 3(2):1–29. Rapoport, T. R. (1987). *Copular, nominal, and small clauses: A study of Israeli Hebrew*. PhD thesis, Massachusetts Institute of Technology. Rothstein, S. (1995). *Small clauses and copular constructions.* In Small clauses, pages 25–48. Brill. Sichel, I. (1997). *Two pronominal copulas and the syntax of Hebrew nonverbal sentences*. In Proceedings of the TLS Conference on Predication, pages 295–306.

Examples:

(1) a. Firemen are available.
b. Firemen are tall.

(2) a. ... weil ja doch Kinder auf der
... since indeed children in the
Straße spielen
street play
'... since there are children playing in the street.'
b. ... weil Kinder ja doch auf der
... since indeed in the street
Straße spielen
play
'... since children generally play in the street.'

(3) a. rina (hi) neχmada
Rina (PRON.3SGF) nice
'Rina is nice.'
b. ha praχim ha-ele (hem) yafim
the flowers these (3PLM) pretty
'These flowers are pretty.'

(4) a. orvim *(hem) sχorim
ravens *(3PLM) black
'Ravens are black.'
b. rina (*hi) re'eva aχʃav
Rina (*3SGF) hungry now
'Rina is hungry now.'

(5) a. orvim ?(hem) be-dereχ klal ʃχorim
ravens (3PLM) in-way general black
'Ravens are usually black.'
b. kol yeled ba-kita ʃeli (hu) amits
every boy in-class of-me (3SGM) brave
'Every boy in my class is brave.'

(6) a. *yeladim re'evim
*children hungry
Intended: 'Children are hungry.'
b. *χatul al ha-gag
*cat on the-roof
Intended: 'A cat is on the roof.'

(7) a. dana dimyena yeladim re'evim (be-zman ʃe-hem lomdim)
Dana imagined children hungry (in-time that-they study)
'Dana imagined that some children are hungry (while they study)'
b. miri ra'ata χatul al ha-gag (aχrey ʃe-hu aχal)
Miri saw cat on the-roof (after that-3SGM ate)
'Miri saw a cat on the roof (after it had eaten).'

(8) a. orvim ??(hem) ʃχorim be-dereχ klal
ravens ??(3PLM) black in-way general
intended: 'Ravens are usually black.'

(9) a. eχad me-ha-talmidim ba-kita hu kanire ha-zoχe ba-pras
one of-the-students in-class 3SG.M probably the-winner in-the-prize
✓**Wide-scope:** 'There is a student in class who is probably the winner of the prize.'
*__Narrow-scope:__ 'It is probable that one of the students in class is the winner of the prize'
b. eχad me-ha-talmidim ba-kita kanire ha-zoχe ba-pras
one of-the-students in-class probably the-winner in-the-prize
✓Wide scope, ✓Narrow scope