Exceed-comparative languages and the degree abstraction parameter

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The typology of comparatives proposed by Beck et al. (2009) includes two languages with exceed-type comparatives (that is, which use a verb meaning "exceed" to form the comparative), both of which are argued to lack abstraction over degrees in the semantics. Two possibilities present themselves: 1. the morphosyntax of comparative constructions limits the semantic possibilities (i.e. maybe all exceed-type languages lack degree abstraction due to the interface of syntax and semantics); 2. the morphosyntax does not limit the semantics (i.e. exceed-type languages should show the same typological range of semantic properties as non-exceed languages). We argue, in line with Beck et al.'s hypothesis, that the second option is correct. We present novel data from fieldwork on Tswefap (Grassfields, Cameroon), which, though it has an exceed comparative, displays the full range of English-type behavior with respect to diagnosing degree abstraction. We also argue, based on Howell's (2013) account of Yoruba, that the variation between Tswefap and exceed-type languages like Yoruba may be due to differences in vocabulary items rather than a difference in parameter settings of the grammar.

The structure of Tswefap comparatives. Comparatives in Tswefap, as in other exceed-type languages, are typically formed with a serial verb construction (SVC) containing the verb *tchege* 'to pass'. The gradable predicate and *tchege* can form an SVC with the gradable predicate as the main verb, (1). Another option is for the verb *loh* 'take' to be the main verb in the SVC with an infinitival form of the gradable predicate or a differential measure phrase as its object and *tchege* as the second verb in the SVC, (2).

(1) Nkwehnwoh a   seh   n-tchege Chimi (pu ta' tswe)
     K.   FACT be.tall N-pass   C.   with one head
     'Kuamo is (one head) taller than Chimi.'

(2) Chimi a   loh {mbege seh   / ta' tswe} n-tchege Nkwehnwoh
     C.   FACT take INF   be.tall one head   N-pass   K.
     'Chimi is (one head) taller than Kuamo.'

Evidence for degrees in Tswefap. Beck et al. (2009) argue that languages may differ in whether their semantics makes use of degrees (objects of type d), with languages like Motu lacking degrees altogether. Evidence that Tswefap gradable predicates reference degrees and are not simply vague predicates comes from the fact that Tswefap comparatives allow crisp judgments, are not obligatorily norm-related, and allow overt measure phrases which denote (sets of) degrees, (3).

(3) Chimi a   tsey   kilo   ghap
     C.   FACT be.heavy kilogram 10
     'Chimi weighs 10kg.' (*Lit.* 'Chimi is 10kg heavy.')

Evidence for degree abstraction in Tswefap. Beck et al. (2009) propose that even if a language makes use of degrees, it may not allow binding of degree variables. They identify five properties that languages with degree abstraction may have, while languages that do not allow abstraction over degrees will lack. These are direct measure phrases, (3); degree questions, (4); subcomparatives, (5); negative island effects, (6); and scope ambiguities, (7). With respect to all of these diagnostics, Tswefap behaves as an English-type language, showing clear evidence for abstraction over degree variables.

(4) Chimi a   seh ndohk pa'lieh
     C.   FACT tall QUANT how
     'How tall is Chimi?'

(5) Chimi a   seh   n-tchege pa' nkhe Nkwehnwoh ne seh   a
     C.   FACT be.tall N-pass   like rope K.   INF be.tall A
     'Chimi is taller than Kuamo's rope is long.'

(6) * Chimi a   yu ta' nwa'nye mieh teuk   n-tchege yoh yi sop mi   keh yu a
       C.   FACT buy one book   be   expensive N-pass   DEM REL no person NEG buy REL
       Intended: 'Chimi bought a more expensive book than the one no one bought.'
       (cf. English negative island: #*Chimi bought a more expensive book than no one bought.*)

(7) yi me ntchohk nge pa'   yoh loh kwa' sehntimeyteh yeh pege seh   n-tchege pa'
     it.is.required   that building DEM take exactly centimeter   YEH two be.tall N-pass like
     yi   ne mbi ndeh le
     3SG INF be   now LE
     It is required that the building be exactly 2cm taller than it is now.
     ✓ Reading 1: $\forall w > \max$ (the building must be 2cm taller, no more)
     ?✓Reading 2: $\max > \forall w$ (the building must be at least 2cm taller)

The question in (4) involves quantification over degrees. The subcomparative in (5) requires degree abstraction since the standard of comparison is the maximum degree of the rope's length. The sentence in (6) is ungrammatical, as expected if the construction involves abstraction over degrees. This is because the maximum degree of expense of books purchased by no one is undefined (von Stechow, 1984). In languages like Japanese, which Beck et al. (2009) argue lack degree abstraction, such a sentence has the meaning reflected in the intended translation, since comparison involves individuals. In (7), we see that two possible readings are generated due to ambiguity in the scope of the DegP with respect to the intensional operator. Following Heim (2000), this reflects movement of the DegP and binding of a degree variable. Therefore, by Beck et al.'s five diagnostics, Tswefap appears to have degree abstraction.

Comparison to Yoruba. Beck et al. (2009) argue that both Mooré and Yoruba display an exceed comparative and lack binding of degree variables, even though their semantics makes use of degrees. For Yoruba, this observation is based largely on the fact that the language does not display scope ambiguities with DegPs in examples like (8). Only the "exactly" reading, not the "at least" reading is available.

(8) Iwe naa gbodo gun   ju   iyen lọ   pelu oju-ewe marun gerege
     book DEM must   be.long exceed that STD PREP page   five   exactly
     'The paper must be exactly five pages longer than that.'   (Beck et al., 2009, Appendix 2)
     ✓Reading 1: $\forall w > \max$ (the paper must be 5 pages longer, no more)
     # Reading 2: $\max > \forall w$ (the paper must be at least 5 pages longer)

Later work by Howell (2013), argues that Yoruba does allow degree abstraction, as diagnosed by the fact that it has degree questions and subcomparatives, and displays negative island effects. Still, Howell demonstrates that Yoruba lacks scope ambiguities. Instead of taking this to be evidence for a lack of degree abstraction, however, she argues that it results from the unavailability of modified numeral measure phrases, like *exactly 5 pages*, in Yoruba. She argues that Yoruba *gerege* 'exactly' is a sentential operator, rather than a degree operator.

A prediction of Howell's account is that, should a language that allows binding of degree variables also have modified numeral measure phrases, it will display scope ambiguities. In Tswefap, we do find modified numeral measure phrases, such as *kwa' sehntimeyteh yeh pege* 'exactly 2cm' in (7), and we do, in fact, see the type of scope ambiguity that is present in English. This supports Howell's hypothesis that the availability of modified numeral measure phrases, and not just the availability of degree abstraction, is necessary to derive scope ambiguities.

Conclusion. We have provided evidence that the grammar of comparison in Tswefap allows abstraction over degrees, in contrast to the findings of Beck et al. (2009) for the exceed-comparative languages that they surveyed. This suggests that the morphosyntax of comparatives does not limit the availability of degree abstraction in the semantics. Further, we have provided support for Howell's (2013) hypothesis that the presence of scope ambiguities in a language may depend not only on degree abstraction, but also on the availability of modified numeral measure phrases, which Tswefap has but Yoruba lacks. It seems, then, that the variation between Tswefap and Yoruba may, instead, be due to the vocabulary items of the language rather than parameterized settings of the grammar.

References. Beck, S., Krasikova, S., Fleischer, D., Gergel, R., Hofstetter, S., Savelsberg, C., Vanderelst, J., and Villalta, E. (2009). Crosslinguistic variation in comparison constructions. *Linguistic Variation Yearbook.* ● Heim, I. (2000). Degree operators and scope. In, *Proceedings of SALT 10.* ● Howell, A. (2013). Abstracting over degrees in Yoruba comparison constructions. In, *Proceedings of SuB 17.* ● von Stechow, A. (1984). Comparing semantic theories of comparison. *Journal of Semantics.*