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**Review of Universals in Comparative Morphology**

**Reviewer:** M Ryan Bochnak  
**Book Title:** Universals in Comparative Morphology  
**Book Author:** Jonathan D. Bobaljik  
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**Summary**

This monograph proposes several morphological universals in the realm of suppletion in adjectival gradation structures based on a typological survey of 302 languages. Bobaljik (henceforth B) sets out to address two main goals. The first is the development of a formal generative typology of suppletion in the domain of adjectival comparison, taking up the challenge posed by Baker & McCloskey (2007) and Baker (2009) of unifying the results of both formal generative research and large-scale typological studies. The second stated goal is to contribute to the search for morphological primitives in natural language. The central generalization B seeks an explanation for is the fact that in paradigms of absolute-comparative-superlative grades of adjectives, the patterns AAA, ABB and ABC are found in natural language (where A, B, C represent distinct suppletive forms of a single adjective root), while the patterns *ABA and *AAB are "virtually unattested" (p. 2).

This research monograph is directed at and suitable for quite a wide-ranging audience. The typological generalizations, accompanied with appendices containing the relevant paradigms from the languages included in the survey, will appeal to typologists and researchers interested in cross-linguistic morphological patterns. Morphologists (and syntacticians) will find interest in the development of a formal theory that aims to capture cross-linguistic generalizations, couched within the realizational framework of Distributed Morphology (DM). Those formal theoretical details, however, are presented in a clear and straightforward manner, presupposing only a basic background in generative syntactic theory. While it is not designed as a textbook, the book could be used in an advanced morphology course as a case study on how data from a particular empirical domain (comparatives) come to bear on the choice of theory. Semantics working on gradability will also find value in this book, as the morphosyntactic results have implications for the structures that form the input to the interpretive module of grammar.

Chapter 1 "Introduction" outlines the proposed morphological universals in the domain of comparative suppletion, and the main theoretical background. B identifies three main theoretical assumptions that form the basis of the analysis: late insertion; underspecification and elsewhere ordering; and locality. B argues that the proposed universals follow from these key assumptions, together with the Containment Hypothesis (CH): "The representation of the superlative properly
contains that of the comparative" (p. 4). That is, a structure along the lines of *[[ADJ] SPRL]* is unavailable in natural language. Surface forms that appear to be evidence for such a structure (e.g. English small-est), are argued to universally contain a comparative morpheme (which may be phonologically null), and have a structure of [[[ADJ] CMPR] SPRL]. This chapter also outlines B's methodology in constructing the cross-linguistic databases upon which the typological generalizations are based. Strikingly, the suppletion facts appear mostly limited to languages in a "Greater European Sprachbund," i.e., languages historically originating from Europe and its close neighbors. (An important exception is Cherokee.) To mitigate against the possibility of borrowing and/or common inheritance as a source for the patterns observed, B uses cognate sets rather than individual languages for counting attested patterns. For example, English better-best and German gut-besser-(am) besten count as only one example of a suppletive triple.

Chapter 2 "Comparative Suppletion" discusses the first proposed universal, the Comparative-Superlative Generalization (CSG), which comes in two parts: CSG1: If the comparative degree of an adjective is suppletive, then the superlative is also suppletive (with respect to the positive); and CSG2: If the superlative degree of an adjective is suppletive, then the comparative is also suppletive (with respect to the positive). That is, there are three possible patterns for positive-comparative-superlative paradigms: AAA (no suppletion), ABB (suppletion in comparative and superlative grades, where these share a common base), and ABC (suppletion in comparative and superlative grades, where all three grades have distinct bases). (Putative counterexamples are discussed in later chapters.) B argues that the data constitute evidence for UG, by way of a "poverty of the stimulus"-style argument. The data from individual languages seem too sparse to be significant; it is only in the broader cross-linguistic context that the force of the generalization is revealed. B proposes rules of exponence together with Elsewhere Condition reasoning to account for the AAB suppletion pattern. For example, for the Czech triple špatn-`horší-nejhorší `bad-worse-worst' can be analyzed with the following rules of exponence: SPRL -> nej-; CMPR ->-ší; BAD ->hor- [[[CMPR]]; BAD -> špatn- (p. 33). Given CH, the superlative necessarily embeds the comparative, so the form hor- is predicted to occur in both the comparative and superlative. Elsewhere reasoning predicts that the form špatn- occurs in all other contexts, since the more specific rules must apply first. Such a system explains the ABB pattern, and excludes *ABA and *AAB patterns. ABC patterns can be explained by adding another rule of exponence that derives a third form in the more specific environment [[[CMPR]SPRL].

In chapter 3 "The Containment Hypothesis", B introduces morphological and semantic evidence in favor of CH. First, many languages transparently display containment in their superlative forms, e.g., Persian: X-tær `X-CMPR' and X-tær-in `X-CMPR-SPRL', where X is an adjective base. An apparent counterexample of this affix ordering comes from some Fennic languages, where the superlative appears closer to the adjective root than the comparative morphology. B analyzes such cases as exemplifying a branching affix structure, which would not render such data true counterexamples of CH. B also discusses two more generalizations in relation to CH. First, the Root Suppletion Generalization: adjectival root suppletion is limited to synthetic comparatives. This generalization falls out automatically as a corollary of the locality condition that a morpheme (or feature) may only condition allomorphy of a root if a maximal projection (or cyclic node) does not intervene. Thus, in periphrastic comparatives, the comparative morpheme is not local enough to trigger allomorphy on the adjective. Second, the Synthetic Superlative Generalization (SSG): no language has morphological superlatives, but only periphrastic comparatives. Under CH, a morphological superlative is derived by successive operations of Merger, which together with the common assumption that Merger cannot skip intervening heads, derives the SSG. An apparent counterexample from Armenian is tentatively analyzed as containing a null comparative affix, with the optional comparative marker 'aveli' involving reinforcement, rather than carrying the comparative semantics itself. B also makes the observation that a suppletive root in a synthetic comparative may or may not appear in a suppletive form in a periphrastic superlative (e.g., Modern Greek vs. Russian). The first case involves Merge of the adjective root and the CMPR morpheme, which is then embedded under SPRL. The second involves Merge between CMPR and SPRL, to the exclusion of the adjective root, in which case CMPR is not in a local enough relation to trigger allomorphy on the root.

Chapter 4 "The Comparative-Superlative Generalization: The Data" discusses the empirical basis of the CSG, which holds for over 100 distinct triples in the sample. The generalization is shown to hold for qualitative adjectives (e.g., good-better-best), adverbs (well-better-best), and quantifiers (many-more-most). A possible counterexample, displaying the "ABA pattern, comes from Basque, which possesses the triple on--hobe--on-en ("good-better-best") in southern dialects. B proposes a possible solution, which rests on the observation that the superlative on-en in Basque is also a genitive marker. Thus, the form "hobe" is simply a genitive-marked adjective and not a true superlative, and does not contain a comparative morpheme, thus no suppletion is expected. For adverbs, B points out that languages differ as to whether comparative adverbs (e.g. worse) have a structure of [[[ADJ] CMPR] ADVERB] or [[[ADJ] ADVERB] CMPR]. Karelian and Georgian are examples of the first type, while Basque is an example of the second
which B claims there is no language-external, functionalist explanation for the
restrict person feature combinations that are attested in natural language, for
degree achievement verbs). B notes that something similar must be going on to
representations like *[ADJ SPRL] to derive superlatives (and likewise *[ADJ VΔ]
be bundled together in the same morpheme, ruling out the possibility of
"portmanteau" morphemes are inserted in the derivation. Nevertheless, such a
system still does not rule out the *AAB pattern, for one could imagine a set of
exonence rules where the spell-out of ADJ+CMPR has a suppletive form in the
environment _[SPRL], but is non-suppletive otherwise. B suggests that there is an
extra principle that prevents the existence of a context-sensitive exonence rule
without a corresponding context-free rule. B also discusses the application of
Merger between CMPR and ADJ in English, which appears to result in a paradox.
Namely, whether Merger applies determines which adjectives take the
comparative suffix -er and which appear with periphrastic comparisons (e.g., smart-er vs.
more intelligent). Merger applies before vocabulary insertion; however, the
conditioning environment of -er vs. more appears to be phonological (i.e., only
monosyllabic adjectives and disyllabic adjectives ending in -y take -er). Given the
architecture of DM, B is forced to say that, synchronically, Merger is not
phonologically conditioned, and that adjectives where Merger applies must be
marked with a diacritic in the lexicon. B points to experimental evidence by
Graziano-King (1999) in favor of this view.

In chapter 6 "Getting Better: Comparison and Deadjectival Verbs", B introduces a
generalization that mirrors the CSG: The Comparative-Change-of-State
Generalization (CΔG): "If the comparative degree of an adjective is suppletive,
then the corresponding change-of-state verb is also suppletive (i.e., with respect to
the positive adjective)" (p. 171). An example of this generalization from English is
the triple bad-worse-worsen. B proposes that the theory developed to account for
the CSG can be used to explain the CΔG as well. Specifically, the structure of
such change of state verbs (‘degree achievements’ of Dowty (1979) and Kennedy
& Levin (2008)) is [[[ADJ] CMPR] VA], where VA is a change-of-state verbalizing
head. As was the case for the CSG, some languages show this morphological
derivation overtly (e.g., Latin bonus—mei-ior—mei-ior-are ‘good-better-to better),
while for others a null comparative morpheme must be posited (e.g., most English
cases, though note the non-suppletive triple low-lower-to lower). In this sense, the
verbalizing morphology is structurally parallel to superlative morphology, and
indeed there are other common aspects of these morphemes, e.g., their inability to
license than-phrases. B notes that the generalization is based on comparatively
less data, since reference grammars typically do not contain very much information
on de-adjectival verbs. Much of the chapter is devoted to semantic considerations
that also point to the conclusion that a comparative semantics is implicated in the
change of state verbs, following Kennedy & Levin (2008). Importantly, where B
departs from Kennedy & Levin by arguing that the comparative morpheme must
be structurally present in the representation of degree achievement verbs. One
apparent counterexample is the English form "badden", which is expected not
to exist since the comparative form of "bad" is suppletive (bad-worse-worsen).
Indeed, my word processor identifies this word as misspelled as I type this. As B
points, to the extent it is acceptable, this verb has a specialized semantics that has
to do with one’s image or personality, where being "bad" is taken as a positive
attribute. But under this meaning of "bad", the suppletive forms are not used in the
comparative either (cf. bad-badder-baddest), and so this apparent counterexample
turns out not to be exceptional after all.

Chapter 7 "Complexity, Bundling, and Lesslessness" concludes the book, with B
raising the important question of "How should the Containment Hypothesis be
expressed formally, and why should it hold?" (p. 210). His tentative answer resides
in a complexity condition borrowed from Kayne (2005): "UG imposes a maximum
of one interpretable syntactic feature per lexical or functional element" (p. 212). B
in fact is not committed to the strict "maximum of one" part of this condition, and
instead favors a more conservative version relative to some measure of semantic
complexity. In any case, under this view, the features CMPR and SPRL, with
meanings roughly paraphrased as "->" and "than all others", respectively, cannot
be bundled together in the same morpheme, ruling out the possibility of
representations like [[[ADJ SPRL] to derive superlatives (and likewise [[[ADJ VA]
for degree achievement verbs). B notes that something similar must be going on to
restrict person feature combinations that are attested in natural language, for
which B claims there is no language-external, functionalist explanation for the
The advantage of stating the generalizations observed in this book in terms of an independently-motivated complexity condition, B argues, is that CH then does not need to be stated directly in UG: a structure like "[ADJ] SPRL" will simply be uninterpretable. Further evidence for the the complexity condition comes from another universal generalization, Lesslessness: No language has a synthetic comparative of inferiority (p. 214). Interestingly, this is the only universal proposed in this book that has no apparent counterexamples in the database. The complexity condition-based explanation is that UG can't lexicalize in a single morpheme CMPR plus a polarity switch feature.

**EVALUATION**

This book is an excellent example of research at the intersection of detailed typological and formal research. At 302 languages considered, the scope of B's study is impressive, and larger than Stassen's (2011) chapter on comparative constructions in WALS at 167 languages. The range of data considered is particularly laudable in view of the lamentable situation, pointed out several times throughout the book, that it is common for reference grammars to lack detailed information on comparatives and superlatives.

While B puts forth several generalizations as candidates for linguistic universals, of course a few apparent counterexamples show up in the data. B takes these challenges seriously, without simply sweeping them under the rug, and offers solutions and re-analyses of the problematic data. Although in most cases the arguments seem plausible enough to convince the reader that the apparent counterexamples should not be considered exceptional, certain solutions remain quite tentative (which B himself admits). For instance, to account for Bulgarian and Macedonian many-most-most paradigm (p. 131-2), B must posit a null comparative morpheme to account for an apparent “ABA pattern, and assign the clitic po-, which appears in the comparative form of adjectives, the role of reinforcement. Although B points out that Bulgarian and Macedonian are unique within Slavic for losing comparative morphology, thus providing a historical explanation for the pattern, it is not clear whether a child learning the language has the right kind of evidence to posit this null morpheme instead of assigning this role to po-, and this case remains somewhat problematic.

An important issue is whether certain languages should really be considered to have a superlative morpheme. B notes that a common strategy for creating a superlative meaning is to combine a comparative with a definite article (chapter 3, pp. 53-5). What is often unclear from grammatical descriptions is whether this strategy has been fully grammaticalized as a dedicated superlative morpheme in these languages, or whether such a construction comes close enough to a superlative semantics without actually involving a semantic superlative operator. B himself is unsure whether such a distinction is meaningful to his study (p. 54), though I believe the distinction is important. What it comes down to is whether a superlative semantics is asserted or merely entailed by using such a construction. If a superlative semantics is indeed asserted in this construction, then there is evidence for the existence of a SPRL morpheme in the language, and such languages should be submitted for scrutiny under the proposed universals. If not, then the language cannot be said to have a true superlative morpheme, and such languages cannot be used to provide evidence or counterevidence for the proposed universals (or, these languages may be taken to trivially satisfy them). To answer these questions for each language requires much more research on the semantics of these constructions in the individual languages, which of course is outside the scope of this project. In any case, this issue by itself does not detract from the major findings of this book; there are still many languages that unambiguously display the relevant properties described in the generalizations.

The book is also intended to serve as an argument in favor of the realizational framework of Distributed Morphology. While B does indeed show that DM has all the right tools to account for the generalizations, the book lacks a sustained argument for where competing theories go wrong. For example, within a discussion of how DM can account for the ABB and ABC patterns while ruling out “AAB and “ABA patterns in chapter 5, B states that “[t]heories that deny [a hierarchical arrangement of features] (notably word-and-paradigm theories …) are, it seems, unable to accommodate generalizations of this sort” (pp. 149-50), but there is no further explanation of how these theories cannot account for the facts. This claim would be more convincing if some expansion on this point was offered. On the last page of the conclusion (p. 225), B does briefly identify aspects of competing theories that make it difficult for them to explain the generalizations discussed, but the argument that the apparatus of DM is necessary to capture the generalizations is somewhat weakened by the limited evaluation of alternative theories.

The empirical generalizations of the book raise important questions for future research, particularly for theories of the semantics of comparatives and related constructions. As B notes, standard semantic theories, which are based mostly on data from English and German, posit that comparative and superlative morphology stand in complementary distribution, as part a paradigm of degree morphemes that target a single degree argument of the adjective (e.g., Heim 2000, Hackl 2009). In light of the data and analysis in this book, the superlative must contain the
comparative, and semantic theories should be revised accordingly, along the lines of Stateva (2002) and Szabolcsi (2012). Likewise, in the case of degree achievement verbs, Kennedy & Levin (2008) incorporate a comparative semantics in the derivational morphology that creates verbs from their corresponding adjectives, but B's proposals require a decompositional analysis, whereby the comparative morpheme must be part of the derivation. B furthermore indicates in chapter 4 that recourse to the POS morpheme is problematic for the proposed theory, since the Elsewhere Condition would fail to trigger suppletion in the _CMPR environment. The POS morpheme is posited under the degree analysis of gradable predicates to bind the degree variable and introduce the standard. Famously, overt POS is unattested cross-linguistically, and if B's proposal is correct, this would amount to further evidence against its existence, and perhaps in favor of a theory whereby POS is viewed instead as a type shifter without a syntactic correlate, as argued recently by Grano (2012).

This book furthermore serves as an invitation to investigate comparatives and superlatives in understudied languages in greater depth. The number of languages considered is limited to those for which detailed enough descriptions of the relevant paradigms are available. B notes in footnote 10 (p. 16) that languages of the Americas are particularly underrepresented in his survey, due to lack of information in descriptive grammars on comparative constructions. The importance of further fieldwork in this area is twofold. First, further investigation may reveal new counterexamples to the morphological universals proposed here. While these may very well be unexceptional, as B argues for several apparent counterexamples throughout the book, if it turns out that there are systematic exceptions to the proposed universals, the new data would call for alternative generalizations that the formal theory will have to account for. Second, on the flip side, more detailed fieldwork may provide further evidence that certain apparent counterexamples should not be considered exceptional after all. Such was the case for Karelian, discussed in chapter 4 (pp. 126-31), where further fieldwork revealed that the grammatical descriptions that identified an apparent *ABA pattern were flawed. Indeed, a typological study such as this one is only as good as the descriptions of languages from which the data are drawn, and comparatives in particular are a domain which often gets overlooked in language documentation. Echoing the sentiments of the previous paragraph, semantic theories of comparatives and degree constructions can also benefit from such work. Recent studies such as Beck et al. 2009, Bochnak 2013, Bogal-Allbritten 2013, Francez & Koontz-Garboden 2013 have begun to bring in data from understudied languages to bear on semantic theories of gradability and comparison, but much of the cross-linguistic richness in this domain still remains untapped.

In sum, B indeed succeeds in attaining his stated goals: he develops of a formal generative typology of suppletion in comparative and superlative constructions; and he contributes to research on the search for morphological primitives. With respect to the first goal, he proposes several morphological universals, as well as a theory that not only accounts for the attested patterns, but also explains why the unattested patterns should not exist. With respect to the second goal, B hypothesizes that a superlative meaning of “more than all others” is too complex to be lexicalized in a single morpheme, and must be decomposed into distinct comparative and superlative morphemes. An important question that arises in this respect is how many and what types of semantic features can be encoded in a single morpheme. This book thus provides an excellent resource on both the typology of comparative constructions and the theoretical apparatus of DM, and furthermore raises several important questions for future research on the morphology and semantics of comparative constructions cross-linguistically.

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Bobaljik (2012 - Universals in Comparative Morphology) presents and defends a set of generalizations about suppletion in comparative adjectives robust enough to contend as linguistic universals. We find analogues of good - better - best, but not patterns like good - better - goodest. The explanation offered in that work led to the postulation of sometimes hidden morpho-syntactic structure even in simple words, ending with the suggestion that such structure is motivated by universal limits on functional morphemes. The explanation of why patterns like "good-better-goodest do not occur provides us in his new book, Universals of Comparative Morphology: Suppletion, Superlatives, and the Structure of Words (MIT Press, 2012), Jonathan Bobaljik reassesses the terrain, and argues that there are hard limits on the extent to which languages can vary in the morphological domain. The book is a comparative study of comparatives and superlatives with a broad typological base. Bobaljik's contention is that, at an abstract cognitive level, the representation of the comparative is contained within that of the superlative. Universals in Comparative Morphology is based on a detailed investigation of over three hundred languages and includes novel contributions to the understanding of many important issues in morphology, syntax, and semantics. Morris Halle. Institute Professor and Professor of Linguistics, Emeritus, Department of Linguistics, MIT.