Superlative adjectives reveal the FOFC in morphology - Colin Davis - Nord University

1 INTRODUCTION I observe and analyze a pattern in the morpheme order of certain superlative adjectives. Bobaljik (2012) shows that in many languages, superlative (SPRL) adjectives are built from comparative (CMPR) forms (1). Using suppletion data, he argues that such forms contain a superlative phrase dominating a comparative phrase, which in turn contains the adjective (2):

(1) *Examples of comparative (underlined) contained by superlative (boxed)*

	Plain	CMPR	SPRL
Persian	kam (small)	kam-tar	kam-tar-in
Ubykh	nüsə (pretty)	ç'a-nüsə	a-ç'a-nüsə
Hungarian	nagy (big)	nagy-obb	leg-nagy-obb

(2) [$_{SPRLP}$ SPRL^0 [$_{CMPRP}$ CMPR^0 ADJP]] (*Structural template, neutral about linear order*)

I argue that the order of comparative and superlative morphemes in such examples is principled, in that **they cross-linguistically obey the Final-over-Final Condition (FOFC)**:

(3) *The FOFC:* A head-initial phrase cannot be dominated by a head final phrase (within the same 'extended projection'). [Paraphrased from Sheehan at al. (2017) p. 1]

Most research on the FOFC focuses on the phrasal level, with few exceptions (see Myler 2009). However, **we also expect the FOFC to apply to morpheme order, if morphology realizes syntax**, as in theories like Distributed Morphology (Halle & Marantz 1993, a.o.). I argue that the cross-linguistic data about morpheme order in examples like (1) verifies this prediction.

2 BACKGROUND ON THE FOFC The FOFC predicts the patterns in (4) below. Structures that are totally head-initial (4a) or head-final (4b) are permitted, but the only possible mixed structure is head-initial over head-final (4c). A head-final phrase over a head-initial one is banned (4d). Thus a final head always dominates another final head, as the term 'FOFC' describes:

(4) a. *Initial over initial* [$_{XP}$ **X** [$_{YP}$ **Y** ZP]] c. *Initial over final* [$_{XP}$ **X** [$_{YP}$ ZP **Y**]]
b. *Final over final* [$_{XP}$ [$_{YP}$ ZP **Y**] **X**] d. *No final over initial* *[$_{XP}$ [$_{YP}$ **Y** ZP] **X**]

In Distributed Morphology, it is hypothesized that every morpheme typically realizes a syntactic head. Thus if superlatives as in (1) above are realizations of the structure in (2) above, and the FOFC constrains ordering, then we make the prediction in (5) below. I argue that this is correct:

(5) *Correct prediction of the FOFC*
Since SPRLP dominates CMPRP, if CMPRP is head-initial, SPRLP must be as well. If CMPRP is head-final, SPRLP can be head-initial or head-final.

3 DATA In (6-8) below, I show the relevant cross-linguistic data from Bobaljik (2012). Example (6) shows forms where both the comparative and superlative are initial and thus prefixal. In contrast, in (7) both are final and thus suffixal. Finally, in (8) there is a suffixal comparative with a prefixal superlative. The morpheme orders we see here obey the FOFC, as I describe below.

(6) *Prefixes for comparative and superlative*

	Ubykh (Caucasian)	Georgian (Kartvelian)
CMPR	ç'a-ADJ	u-ADJ-es-*i*
SPRL	a-ç'a-ADJ	sa-u-ADJ-es-*o*

(7) *Suffixes for comparative and superlative*

	Persian (Iranian)	Cimbrian (Germanic)	Lithuanian (Baltic)	Batsbi (Caucasian)
CMPR	ADJ-tar	ADJ-ar	ADJ-iau	ADJ-vx
SPRL	ADJ-tar-in	ADJ-ar-ste	ADJ-iaus-ia	ADJ-vx-č

(8) *Comparative suffix with superlative prefix (also in Polish and other Slavic languages)*

	Hungarian (Uralic)	Czech (Slavic)	Latvian (Baltic)	Chukchi (Chukotkan)
CMPR	ADJ-obb	ADJ-š-*í*	ADJ-âk-*ais*	ADJ-əŋ
SPRL	leg-ADJ-obb	nej-ADJ-š-*í*	vis-ADJ-âk-*ais*	ənan-ADJ-əŋ

Bobaljik also discusses Cherokee and Svan, but observes that they do not have transparent morpheme segmentation, so they are inconclusive for the current analysis. However, the patterns in (6-8) are morphologically straightforward. The italicized suffixes, which I set aside for now, are agreement in Czech (De Clercq & Wyngaerd 2017), Latvian (Praulinš 2012) and Georgian (Hewitt 1995). Hewitt (1995) states that for Georgian adjectives that have synthetic comparative/superlative forms, the comparative is a circumfix *u- -es*, which is preceded by *sa-* in the superlative (6). For explicitness, I propose that *u-* is the actual CMPR affix since it resembles the Georgian adverb *upro* ('more') used in analytic comparatives, and I analyze the co-occurring *-es* as the comparative allomorph of an adjectival categorizing head (*little* a^0, Embick 2010).

4 Analysis The FOFC readily predicts the patterns in (6) through (8) above, as (9) below shows. Since SPRLP dominates CMPRP their heads can both be prefixes, in which case the superlative prefix precedes the comparative one, as in (6) above and (9a) below. Both can also be suffixes, in which case the superlative suffix is last, as in (7) and (9b). Also, CMPRP can be headed by a suffix and SPRLP by a prefix, as in (8) and (9c). **Importantly, the FOFC correctly predicts the absence of examples where SPRLP is headed by a suffix and the CMPRP that it dominates is headed by a prefix**, as (5) above previewed, and (9d) illustrates:

(9) a. *Initial over initial* - Matches (6)
[$_{\text{SPRL}P}$ **SPRL** [$_{\text{CMPR}P}$ **CMPR** ADJP]]

b. *Final over final* - Matches (7)
[$_{\text{SPRL}P}$ [$_{\text{CMPR}P}$ ADJP **CMPR**] **SPRL**]

c. *Initial over final* - Matches (8)
[$_{\text{SPRL}P}$ **SPRL** [$_{\text{CMPR}P}$ ADJP **CMPR**]]

d. *Final over initial - Unattested!*
* [$_{\text{SPRL}P}$ [$_{\text{CMPR}P}$ **CMPR** ADJP] **SPRL**]

4.1 Deriving another order In Finnish, SPRL and CMPR are suffixes, with CMPR outermost (Hakulinen 1975, Bobaljik 2012). Following Caha (2017 p. 891), I argue that in Finnish SPRL and CMPR are head-initial, with SPRL structurally higher as expected, though ADJ moves from below CMPR to a position above SPRL (10). This structure is, regardless, FOFC-compliant:

(10) [**ADJP** [$_{\text{SPRL}P}$ -i$_{\text{SPRL}}$ [$_{\text{CMPR}P}$ -mpa$_{\text{CMPR}}$ $\boldsymbol{t}_{\textbf{ADJP}}$]]] (Finnish, from Caha 2017 ex. 39)

4.2 Resolving an exception Bobaljik (2012) reports (based on Egli 1990) that in Paiwan, there is a CMPR prefix *tja/ka-* (11a), which in the superlative occurs with a SPRL suffix *-an* and an emphatic particle *la* (11b). If here we have a CMPR prefix and SPRL suffix, this violates FOFC:

(11) a. **tja/ka**$_{\text{CMPR}}$-ADJ (*Paiwan comparative*)
b. **tja/ka**$_{\text{CMPR}}$-la$_{\text{EMPH}}$ -ADJ-**an**$_{\text{SPRL}}$ (*supposed Paiwan superlative*)

I argue that *-an* is not SPRL. Ferrel (1982 p. 17) shows that *-an* marks specificity/focus, among other meanings. Thus I argue that Paiwan adjectival forms as in (11b) are not superlatives, but rather focused comparatives—a natural view given that they also contain an emphatic particle.

5 Implications Superlative morphology obeys the FOFC, in alignment with theories in which morpheme ordering usually reflects syntax, as expected given the *Mirror Principle* (Baker 1985). However, other requirements can create orders that do not reflect syntax. See for instance McCarthy & Prince (1993, 1998) on infixes as phonologically shifted affixes, and Hyman (2003) on rigidly-ordered templatic morphology. I relate these results to findings of Julien (2002), who documents FOFC-like effects in verbal morphology, expanded upon by Myler (2009) in an analysis of morphological FOFC and its exceptions. SELECTED REFS: Bobaljik, J. 2012. *Universals in Comparative Morphology*. MIT Press. / Halle, M. and A. Marantz. 1993. Distributed Morphology and the pieces of inflection. *The View from Building 20*. MIT Press. / Sheehan, M. et al. 2017. *The Final-over-Final Condition: A Syntactic Universal*. MIT Press.