Integration of comparative degree into the adjective paradigm. A case of simple affixation with complex alternations.

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In grammatical tradition, qualitative adjectives are gradable. They share this feature with adverbs. However, it is not always clear, if gradability is fully inflectional or essentially derivational—grammars tend to concern it as lexical derivation, pointing at its irregularity, and semantic, rather than formal, limitations (Szober, 1923; Heinz, 1961; Saloni & Świdziński, 2001; Grzegorczykowa et al., 1998). In consequence, comparatives and superlatives are linked to positive degree adjectives as separate entries in dictionaries or listed as quasi-suppletive forms (ISJP; SGJP3).On the other hand, adverbs are traditionally regarded as a different, inflexible class of lexemes, although they are regularly derived from adjectives and despite the fact that they do generate degree forms. Some grammarians regard them as neutral (to the case, number, and gender) form of the adjectives (Tokarski, 1973; Saloni, 1976; Saloni & Świdziński, 2001; SGJP3).

We aim to present, how to include comparative and superlative degrees into formally defined adjective patterns. We also demonstrate that such paradigms can be extended to adverbs.

Polish has singular and plural, seven cases and no less than five genders (Mańczak, 1956; Corbett, 1983; Saloni & Świdziński, 2001). Adjective syncretisms resulting in the split of the masculine in virile, animate and inanimate, is crucial in syntax, but not in paradigmatic inflection, because accusative is always syncretic with a form already present in the grid. In the plural, the virile is opposite to all other (i.e., non-virile) genders. It has unique nominative and maintains accusative-genitive syncretism. So there are three sets of forms in the singular: masculine, feminine and neuter, and two in the plural. Due to the syncretism of masculine(s) and neuter forms in the singular and virile and non-virile in oblique cases in the plural, only 11 forms fill in all 70 (7·2·5) slots in the paradigm, cf. Tab. 1 (Saloni, 1992; Blevins, 2003).

	vir	manim	m -anim	f	n	vir	-vir
N		ciepły (1)		ciepła (2)	ciepłe (3)	ciepli (9)	=(3)
G		ciepłego (4)		ciepłej (5)	=4	ciepłych (10)	
D		ciepłemu (6)		=(5)	=(6)	=(8)	
A	=(4)		=1	ciepłą =(7)	=(3)	=(10)	=(3)
I		ciepłym (8)		=7	=(8)	ciepłymi (11)	
L		=(8)		=(3)	=(8)	=(11)	
V		=(1)		=(2)	=(3)	=(9)	=(3)

Table 1: Characteristic forms of adjective.

Ten of these forms are attached by one variant of the stem (S1), only one (form 9)—by the other (S2). Endings' variants depend on the final consonant of the stem (soft, hardened, hard, velar stop), resulting in the inflectional types showed in Tab. 2.

Positive degree is the base for the comparative, that is made up either by affixation (ex. 1) or periphrastically (ex. 2-3). The choice between the two depends mainly on factors outside morphology. However, if an adjective (or an adverb) allows suffixation, it is possible to make a periphrastic comparative (sometimes not entirely plausible, but frequent in everyday speech). The scope of periphrastic comparison includes degree forms of (adjectivized) participles or even relative adjectives (otherwise not gradable, ex. 3-4; cf. Grzegorczykowa et al. 1998) and also

| type | stem1 | | | | | | | | | | stem2 |
	1	2	3	4	5	6	7	8	10	11	9
I: soft	-i	-ia	-ie	-iego	-iej	-iemu	-ią	-im	-ich	-imi	-i
II: hardened	-y	-a	-e	-ego	-ej	-emu	-ą	-ym	-ych	-ymi	-i
III: k, g	-i	-a	-ie	-iego	-iej	-iemu	-ą	-im	-ich	-imi	-y
IV: hard	-y	-a	-e	-ego	-ej	-emu	-ą	-ym	-ych	-ymi	-y

Table 2: Types of adjective paradigms.

enables negative comparison (ex. 3, cf. Tokarski, 1973). However, this kind of comparison is not about wordform construction, so we put it away in the current discussion.

(1) Jan　　　　jest　　　　wyższy　　　　　od　brata.
John.NOM.SG be.PRES.3.SG tall.NOM.SG.COMP than brother.GEN.SG

‘John is taller than his brother’.

(2) Jan　jest　　　　bardziej / mniej stanowczy　　　　od　brata.
JOHN be.PRES.3.SG more　/ less　resolute.NOM.SG.POS than brother.GEN.SG

‘John is more / less resolute than his brother’.

(3) Jan　jest　　　　bardziej / mniej wykształcony　　　od　brata.
JOHN be.PRES.3.SG more　/ less　educated.NOM.SG.POS than brother.GEN.SG

‘John is more / less resolute/educated than his brother’.

(4) Lektor　　　　　ma　　　　　bardziej drewniany　　głos　　　　niż
announcer.NOM.SG have.PRES.3.SG more　wooden.ACC.SG timbre.ACC.SG than
lektorka.
announcer.FEM.NOM.SG

‘The announcer’s timbre is more hollow than those of the other one (female)’.

The comparative suffix has two variants: short (-sz-, e.g., *gruby → grubszy* ‘fat, fatter’), mainly for single consonant ending stems, and vocalized (-ejsz- *ładny → ładniejszy* ‘pretty, prettier’), for stems with a consonant group. The suffix triggers alternations (e.g., *długi → dłuższy* ‘long(er)’) or reductions (e.g., *krótk–i → krót–szy* ‘short(er)’). Some adjectives apply both (e.g., *miękki → miększy / miękciejszy* ‘soft(er)’ (Rothstein, 1993; Grzegorczykowa et al., 1998). As final consonant of the stem determines endings, all comparative and superlative forms belong to inflectional Type II (cf. Tab. 2). In consequence, the paradigm of the gradable adjective typically consists of four adjective stems and two sets of endings, as presented in Tab. 3.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
S1	wysok-	-i	-a	-ie	-iego	-iej	-iemu	-ą	-im		-ich	imi
S2	wysoc-									-y		
S3	wyższ-	-y	-a	-e	-ego	-ej	-emu	-ą	-ym		-ych	-ymi
S4	wyżs-									-i		

Table 3: Characteristic forms of *wysoki* ‘high’ in positive and comparative degrees.

Adverbs are regularly derived from adjectives with the use of one of the two suffixes (from lexical derivational position)/endings (from the inflectional stand): *-o* and *-e*. In some cases any of them can be attached; the resulting adverbs differ in meaning (ex. 5 and 6).

(5) Pilnie /*pilno potrzebuję nowego samochodu.
urgently.ADV /*in a hurry.ADV need.PRES.1.SG new.GEN.SG car.GEN.SG

'I need a new car urgently'.

(6) Pilno /*pilnie mi do domu.
In a hurry.ADV /*urgently.ADV I.DAT to.PREP home.GEN.SG

'I am in a hurry to go back home'.

Comparative degree exponent of the adverb is *-ej* (e.g., *głośno → głośniej* 'loud(er).ADV'). Both positive and comparative endings can trigger alternations (e.g., *mądry → mądrze* 'smart.ADJ → .ADV', *rozmaity → rozmaicie* 'various.ADJ → .ADV', *gęsto → gęściej* 'thick(er).ADV', *śmiało → śmielej* 'brave(r).ADV'), and comparison also reductions (e.g., *wysoko → wyżej* 'high(er).ADV'). Adverbs with *-o* ending have S1 stem, with *-e* have S2, so they fit as form 12 in the relevant column of Tab. 1, but the comparative form needs a separate stem (S5 in Tab. 4).

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
S1	wysok-	-i	-a	-ie	-iego	-iej	-iemu	-ą	-im		-ich	imi	-o
S2	wysoc-									-y			-e
S3	wyższ-	-y	-a	-e	-ego	-ej	-emu	-ą	-ym		-ych	-ymi	
S4	wyżs-									-i			
S5	wyż-												-ej

Table 4: Modified paradigm of *wysoki* 'high'. Adverb is form (12).

Morphological superlative results from the prefixation of comparative (Rothstein, 1993; Grzegorczykowa et al., 1998). The prefixation does not affect stem (cf. ex. 1 and 2), so the rule is general: *naj-* prefix +comparative form (e.g., *najlepszy ← lepszy* 'best, better', *najzieleńszy ← zieleńszy* 'greenest, greener', *najgłośniej ← głośniej* 'loudest, louder.ADV').

We presume that any adjective form is tripartite (cf. design of SGJP database in Woliński, 2009). We distinguish the longest string common to all wordforms of a lexeme, that is a *root*, and the altering part, that is a *root extension*. The root and the root extension form together the stem. For example, *wysoki*'s 'high' root is *wy∼*, its extensions are *∼sok-*, *∼soc-*, *∼ższ-* and *∼ż-*, (cf. Tab. 4); *zły* 'bad' has empty (∅) root (i.e. no string is common to all forms of a lexeme), *zł-* (*zły, zła, złe...,*, Type IV in Tab. 2) and *źl-* (*źli*, adverb *źle*) as extensions of positive degree and *gorsz-* (*gorszy, gorsza...*), *gors-* (*gorsi*), *gorz-* (*gorzej*) of comparative degree. Tab. 5 presents complete patterns for *mały* 'little', *twardy* 'hard' and *suchy* 'dry'. The first one of these is individual, but the others are models for their respective types, e.g., *twardy, hardy* 'haughty', *młody* 'young', *chudy* 'thin'; *suchy* 'dry', *kruchy* 'fragile, frail, brittle', *cichy* 'quiet'.

Because similar alternations (in smaller or larger extent) also occur in other Slavic languages (cf. BCS *gust → gušči* 'thick', *skup → skuplij* 'expensive', Belorussian *багаты → багацей* 'rich' *высокі → вышей* 'tall', Czech *hebký →hebčí* 'supple', *suchý → sušší* 'dry'), we suppose the model may also be valid for these languages.

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	root	extension	endings
mały 'small'	m~	~ał- ~al-	-y, -a, -e, -ego,… -ym, -ych, -ymi, -o -i
naj- (SUP) / ∅		~niejsz- ~niejs- ~ni-	-y, -a, -e, -ego,… -ym, -ych, -ymi -i -ej
twardy 'hard'	tward~	~∅ ~z-	-y, -a, -e, -ego,… -ym, -ych, -ymi, -o -i
naj- (SUP) / ∅		~sz- ~s- ~zi-	-y, -a, -e, -ego,… -ym, -ych, -ymi -i -ej
suchy 'dry'	su~	~ch- ~s-	-y, -a, -e, -ego,… -ym, -ych, -ymi, -o -i
naj- (SUP) / ∅		~chsz- ~chs- ~sz-	-y, -a, -e, -ego,… -ym, -ych, -ymi -i -ej

Table 5: Paradigms with tripartite forms of adjectives.

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