

UDC 801.559-862-84
Original scientific paper
Accepted for publication 3. 10. 1996

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A contrastive analysis of verbal inflection classes in Polish and Croatian

The main goals of this contribution are 1) to propose and to illustrate a new model of identifying inflection classes, which is based on inflectional productivity, 2) to show the importance of language contact studies for the identification of productivity, 3) to elaborate on the consequences for contrastive typology, 4) to define and contrast morphological richness of two closely cognate languages: Polish and Croatian.

With this contribution we want to pay homage to the pioneering role of Rudolf Filipović in contrastive linguistics and in contact linguistics (particularly to their connection), by applying contrastive analysis in a new way to the area of inflectional morphology.¹ Focus is laid on the question how the inflectional system of genetically cognate languages should be compared in a synchronic, contrastive-typological way. For reasons of space, this issue will be limited to problems of verb classes. Our investigation is based on principles of Natural Morphology (cf. Dressler et al. 1987; Kilani-Schoch 1988) and further develops a specific approach to inflection, as in Dressler & Thornton (1991, 1996) and Dressler et al. (1996).

The establishment of inflectional classes often follows historical traditions and thus risks to obtain anachronistic results, for example, when Italian is supposed to have basically a similar verbal class division as Latin (cf. Dressler & Thornton 1996). In other models of inflectional morphology, emphasis is

1 This contribution is related to the first author's work on inflectional morphology in general and on comparative analysis of its acquisition, to the second author's work in contrastive linguistics and on the acquisition of Polish morphology, and to the third author's work on the acquisition of Croatian, particularly of its verbal system.

laid on simplicity criteria of the distribution of patterns or rules, irrespective of whether they are productive or not. An example from structuralist morphology is Jakobson (1948/1971). Descriptive parsimony is the hallmark of class divisions by Carstairs (cf. recently Carstairs-McCarthy 1994). In many recent publications, the concept of default plays a great role (e. g. Corbett & Fraser 1995; Fraser & Corbett 1994; D. Bittner 1994): the respective default is determined according to descriptive simplicity (e. g. elsewhere condition), again without consideration for productivity.

In contrast to such models, we postulate that productivity is both a primitive and a core property of inflectional morphology, in strict parallel to all other components of grammar. In order to show what this means, we start with the following definitions:

A) An *inflectional paradigm* comprises all inflectional forms of one word or (more precisely) of one base (word, stem, or root, according to the type of inflection) within the same inflectional system (e. g. conjugation of verbs vs. declension of nouns). Thus *the cut-s* belongs to another paradigm than *(s)he cut-s*. Suppletive paradigms are those which contain more than one root, and where these root alternants are in complementary distribution, e. g. *to go, went* (strong suppletion), *gone* (weak suppletion).

B) Sets of similar paradigms form *classes* (in the generic sense), in hierarchical order: macroclass, class (in the specific sense: similar to the traditional term of, e. g., the five Latin declension classes, where not all nouns of one class inflect in exactly the same way), (sub)subclass, microclass.

C) An inflectional *microclass* is the smallest subset of an inflectional class above the paradigm, definable as the set of paradigms which share exactly the same morphological generalizations, but may differ via the application of phonological processes (in the sense of Natural Phonology, which corresponds roughly to Kiparskyan postcyclic phonological rules). Thus phonological assimilation of voicedness in *top-s* [tOps] vs. *dog-s* [dOgz] does not establish a different plural microclass, whereas morphonological assimilation in *wive-s* [waivz] does.

The bases of a microclass may be either simplex words or complex words (as the results of word formation rules). In the extreme case they may consist of the outputs of just one word formation rule, such as within the masculine macroclass of Polish declension, the microclass of ethnics (etc.) formed with the suffix *-anin*, e. g. *Amerykanin* 'American', *wegetarianin* 'vegetarian', Nom. Pl. *Amerykan-ie, wegetarian-ie*.

D) An *isolated paradigm* is a paradigm which differs morphologically or morphonologically from all other paradigms. It does not form a microclass of its own but is considered a satellite to the most similar microclass(es). All suppletive paradigms are isolated paradigms.

E) An (implicational) *paradigm structure condition* (PSC) is a condition whereby one (or more) inflectional form(s) unambiguously predict(s) (an)other inflectional form(s) of the same paradigm or class. For example, if the Polish Gen. Sg. marker is *-u*, then the Dat. Sg. marker is *-owi* (e. g. *teatr* 'theater',

G. *teatr-u*, D. *teatr-owi*). Macroclasses and their subclasses are defined by specific shared PSCs; isolated paradigms may or may not share them.

F) *Productivity* as a *primitive* is assumed for the core of each grammar component, i. e. within language as potential system and not of language as norm or social institution (cf. after F. de Saussure and L. Hjelmslev particularly Coseriu 1975 and the partially comparable Chomskyan distinction between internal and external language). If one assumes rules to be constitutive for grammar, then they must be potentially applicable in the potential system and thus have to be productive. Of course productivity may be limited on the level of the grammatical system, e. g. through competition or antagonism of rules.

G) *Criteria of inflectional productivity* can be hierarchically ordered:

(a) Wurzel's (1984) secondary productivity in the integration of loan words (Unfitting phonological or gender criteria of the source language words, i. e. those criteria which do not fit the target language are fitted, i. e. accommodated to the target language);

(b) Wurzel's (1984) primary productivity in the integration of loan words (LWs) with fitting criteria;

(c) assignment of indigenous neologisms (except e below);

(d) inflection class change from a less productive to a more productive class (or from an isolated paradigm); a microclass which loses paradigms, is a *recessive* class, its inverse is a *dominant* microclass;

(e) word formation productivity of affixations.

Thus integration of loan words represents the hierarchically most important criteria (a, b), as it shows productivity at work under the most difficult circumstances. This shows the importance of the pioneering work of Filipović (e. g. 1986) even for the theory of inflectional morphology.

H) For the descriptive characterization of a *macroclass*, we propose that the (sub)classes of a macroclass share at least a) one exclusively identical unmarked–category realization, b) one exclusively identical paradigm structure condition, and that c), typically, recessive microclasses lose paradigms to dominant microclasses within the same macroclass.

A first consequence for class identification and characterization is that productive microclasses are central, whereas unproductive microclasses or even isolated (e. g. suppletive) paradigms are peripheral, even if they have high token frequency, such as many English and German strong verbs, modal verbs and auxiliaries. This fits well to realistic psycholinguistic models, according to which isolated paradigms and unproductive microclasses **MUST** be lexically stored, whereas productive microclasses **MAY** be not.

A second consequence for a model of Natural Morphology is that language-specific system adequacy (as first modelled by Wurzel 1984, cf. modifications in Dressler & Thornton 1991, 1996) must be constructed on the basis of productive microclasses.

These productive microclasses form the core of hierarchically higher classes, up to macroclasses (cf. Dressler & Thornton 1996 for their establishment). As a further consequence each macroclass must contain at least one productive microclass.

In accordance with the above we establish the following class hierarchy of **Polish** synthetic verbal inflection, taking as sources Grzegorzczkova et al.'s (1984) grammar, reference dictionaries (incl. reverse dictionaries), publications on new words (e. g. Witaszek-Samborska 1993; Sękowska 1993; Kwiek-Osiowska 1992; Laskowski 1987, Borejszo 1981)², and native speakers of Cracow and Poznan. Verb forms given below are (maximally): Inf., 1. Sg., 3. Sg., 3. Pl. Pres., 2. Sg. Imp., 1. Sg. masc. Past, PPP; PSCs = macroclass-defining implicational paradigm structure conditions:

MACROCLASS I

Inf. *-ać(-eć)*, 1. Sg. *-ę* & 3. Sg. *-e* & 3. Pl. *-ą* (in productive classes preceded by thematic *-j-*), Imp. *-Vj!* (with few, unproductive exceptions), Past *-ałem*, PPP *-any*.

PSC for I & IV: If Inf. *-ać*, then Imp. *-Vj*, then past *-ałem*, then PPP *-any*.

PSCs for I: If the present has an antesuffixal thematic *-Vj-*, then the Imp. has the same *-Vj* ending, then past *-ałem*, then PPP *-any*. If Inf. [high]Vwać, then thematic present marker *-uj-*. These PSCs define class 1a, b.³

Class 1) a) most productive microclass (with derivational suffix *-ow/uj-*):

kup-ow-ać, kupuje/-e, kupują, kupuj!, kupowałem, kupowany 'to buy'.

cf. LWs: *blef-ow-ać* 'to bluff', *reflektować się* 'to be interested in buying smth', *filmować* 'to film', *flirtować* 'to flirt', *za-[seiv]ować* 'to save (computerese)', G. *schmink-en, sorg-en* → *szmink-ow-ać* 'to put on lipstick', reg(ional) *zorgować* 'to save money'.

b) productive microclass (*-yw/uj-*):

pis-yw-ać, pis-uj-e 'to write':

productive iterative formation from perfective verbs.

c) unproductive microclass:

da-w-ać 'to give', *sta-w-ać* 'to stand' (also with prefixes).

d) productive microclass:

siwieć, siwieje/-e/-ą, siwiej!, siwiałem, siwiano 'to turn grey'. Productive denominal and deadjectival formation: *idiota, torf* → *idiocięć, torfieć* 'to turn idiot; peal'; deadj. *cukrowacieć, normalnieć, banalnieć, realnieć, infantylnieć* 'to turn sugar; normal; banal; real; infantile'.

Class 2) unproductive microclass:

siedzi-eć, siedzę, siedzi, siedzą, siedz!, siedziałem, siedziany 'to sit'.

Class 3) unproductive microclass:

grzać, grzeje, grzeje, grzeją, grzej! 'to heat'.

2 We would like to thank Małgorzata Fabiszak for her cooperation in data collection for this paper, in particular for her search through the literature on modern loan words in Polish.

3 An alternative suggested by R. Laskowski (pers. comm.) is to identify the Imp. in *-Vj* as identical with the Present stem (with the exception of 1c: *daj < D197* 'to give' vs. *dawaj!*) and some verbs in 4. This identity would also hold for Macroclass III and II. 1b, II. 2.

4) family of isolated paradigms: *brać*, *biorę*, *bierze* (dial. *biere*), *biorą*, *bierz!*, *bratem*, *brany* 'to take'; *rwać*, *rwę*, *rwie*, *rwą*, *rwij!*, *rwąłem*, *rwany* 'to tear'.

MACROCLASS II

Inf. (default) *-ać*, Pres. *-ę/-ie/-ą*, Imp. *-ij!*, Past (default) *-ąłem*, PPP *-ty*
PSC: If Inf. *-ać*, then Imp. *-ij!*, then PPP *-ty*, whereas the reverse holds only for the productive microclass.

Class 1) Inf. *-ać*: a) productive microclass:

krzyk-nąć-ć, *krzyknę/-ie/-ą*, *krzyknij!*, *krzyknąłem*, *krzyknięty* 'to shout'.

cf. LWs: 'to fund' → *fundnąć* (impf. *fundować* I. 1. a), *kliknąć* 'to click'; earlier G. *rügen* → *rugnąć* (impf. *rugać* IV. 1. a) 'to tell off', *kucken* → *kuknąć* (*zakuknąć*, iter. *zakukiwać* I. 1. b) 'to peep', (*auf*)*pumpen* → *pompnąć* (impf. *pompować* I. 1. a) 'to pump'; 'to save' → *computerese* [seiv]nąć-ć, Imp. [seiv]nij! (cf. I. 1. a).

b) unproductive microclass:

sunąć, *ptynać* 'to glide; flow'.

c) recessive & unproductive microclass:

styg/mok/kis/bieg-nąć 'to cool; get wet; turn sour; run'.

Class 2) unproductive microclass (without the two defaults):

bić, *biję*, *bije*, *bija*, *bij!*, *biłem*, *bity* 'to hit'; *kryć*, *psuć*; *myć*, *czuć*, *gnić*, *pić*, *żuć*, *szyć* 'to conceal; destroy; wash; feel; rot; drink; chew; sow'.

3) isolated paradigms: *dać*, *dme*, *dmie*, *dma*, *dmij!*, *dałem*, *dęty* 'to blow'; *trzeć*, *trę*, *trze*, *tra*, *trzyj!*, *tarłem*, *tarty* 'to rub'; *ciąć* 'to cut'.

MACROCLASS III

Inf. *-yć*, 3. Sg. *-y* (plus 1. Sg. /3. Pl. *-ę/-ą*), Imp. final palatal, Past *-yłem*, PPP *-ony* (phonological variant Inf. *-ić*, 3. Sg. *-i*, phonological surface palatalization before 1. Sg. /3. Pl. *-ę/-ą*), Imp. final palatal, Past *-iłem*, PPP *-ony* (root-final consonant palatalized)

PSCs: If thematic vowel *-i/y-* in present, then also Inf., past, then PPP *-(i)ony*; if 3. Sg. pres. *-i*, then prod. Inf. *-ić*, then past *-iłem*, then PPP *-iony*, then Imp. final palatal (multidirectional implications).

a) productive microclass:

ważyć, *ważę*, *waży*, *ważą*, *waż!*, *ważyłem*, *ważony* 'to weigh'.

Phonologically determined variant (root-final consonant palatalized) *czynić*, *czyni-ę*, *czyni*, *czyni-ą*, *czyni!*, *czyn-i-łem*, *czyniony* 'to do'; *gonić* 'to chase'.

b) Morphologically determined variants, such as: *nosić*, *noszę*, *nosi*, *noszą* 'to carry'; *prosić*, *chodzić*, *zgodzić* 'to ask for smth; walk; agree'. cf. productive denominal verbs: *cukier* → *cukrzyć* 'to sugar', *gubernatorzyć*, *nowatorzyć*, *faktoryzyć*, *wynaturzyć*, *awanturzyć się* 'to govern; novelize; factor; degenerate; make a row'.

MACROCLASS IV

Inf. *-ać*, 1. Sg. *-am*, 3. Sg. *-a*, Imp. *-V_j*, Past *-a_{tem}*, PPP *-any*.

PSC for I & IV: If Inf. *-ać*, then Imp. *-V_j*, then past *-a_{tem}*, then PPP *-any*.

PSCs for IV: If 1. Sg. *-m*, (then prod. Inf. *-ać*, then Imp. *-aj!*) then Imp. *-V_j!*, then past *-a_{tem}*, then PPP *-any*; if thematic vowel *-a-* in present, then also in Inf, Imp., Past, PPP;

a) productive microclass:

kochać, kocha-m, kocha, kocha-ja, kochaj!, kocha_{tem}, kochany 'to love'; *nai-gra/ywać; trzymać* 'to ridicule; hold'. cf. German LWs: *sprech-en, spar-en, kuck-en* → *szprechać, szparać, kukać* 'to speak German; save money; peep'; deadj. *utelewizyjniać* 'to impose TV on somebody', *upartyjniac* 'to indoctrinate with party politics' = *u-X-ać* (*u-lepsz-ać* 'to improve' from comparative 'more beautiful').

b) unproductive recessive microclass (transitional to I. 3, I. 4):

pis-ać, piszę, pisze, pisać, pisz!, pisa_{tem}, pisany 'to write'.

Mistakes: *siorbać, siorbię, siorbie, siorbia, siorb!* 'to slurp' → *siorbam, siorba, siorbaja, siorbaj!* (IV. a).

c) small unproductive microclass:

umieć, umie-m, umie, umie-ja, umiej!, umia_{tem}, umiany 'to know' (mistakes: 1. Sg. *umie*, 3. Pl. *umia* like I. 3); *rozumieć, śmieć* 'to understand; dare'.

Stagnant/recessive root-inflected CLASS (with many irregularities)

piec, piekę, piecze, pieka, piecz!, piek_{tem}, pieczony 'to bake'; *gryź ć, gryzę, gryzie, gryzą, gryż!, gryż_{tem}, gryziony* 'to bite'; *móc* 'to be able'; *wlec* 'to drag', etc.

Analogously we establish the following class hierarchy of written standard **Croatian** synthetic verbal inflection, taking as sources mainly the grammar by Babić et al. (1991), the word formation by Babić (1991), publications on new words such as Kuzmanović (1970) and loans such as Filipović (1986), Velčić (1982) and Vilke (1982), and native speakers of Zagreb.

The Croatian verbs have two (main) thematic vowels and/or thematic consonants /j, v/, *V_i* of the infinitive, *V_j* for the present (3. Pl. only default). In two prod(uctive) microclasses they are identical, in several there is no additional thematic vowel.

Verb forms given below are (maximally): Inf., 1. Sg., 3. Pl. Pres., 2. Sg. Imp., 3. Sg. fem. (compound) Past (auxiliary *je* is dropped here), passive participle (PP). Prosodic differences are not considered, since quantity distinctions do not establish microclasses (the lects which have relevant pitch differences, may have a further subdifferentiation in microclasses, which would elevate some of the microclasses below to the status of subclasses).

MACROCLASS I

Inf. V_i -*ti*, 1. Sg. *-j-em*, 3. Pl. *-j-u*, Imp. *-j*, Past V_i -*la*, PP default *-v-an*.

PSCs: 1) If thematic / V_{iv} / in Inf., then also in Past and PP, then thematic /uj/ in Pres. and Imp.; 2) If thematic /j/ in Pres., then no suffix (zero) in Imp.

Class 1 (PP *-v-an*): $-V_{xv}$ -*a-ti*, *-uj-e-m*, *-uj-u*, *-uj!*, $-V_{xv}$ -*a-la*, $-V_{xv}$ -*an*

a) prod. microclass: $V_x = -o-$

kup-ov-ati, *kup-uj-e-m/-uj-u/-uj!*, *kup-ov-a-la*, *kup-ov-a-n* 'to buy'.

LWs *bager-ov-ati* 'to bagger', *linč-ov-ati* 'to lynch'; prod. indigenous denominal: *miting-ov-ati* 'to hold a meeting' (LW *miting*), cf. Filipović 1986: 138f, Babić 1991).

b) prod. microclass: $V_x = -i-$:

impfv. *do-pis-iv-a-ti*, *dopis-uj-em/-uj-u/-uj!*, *dopis-iv-ala*, *dopis-iv-an* 'to correspond'.

Prod. indigenous iterative and/or imperfective formation, e.g. *po-dribl-iv-a-ti* 'to dribble a little again and again' (← perfective *po-dribl-a-ti*).

c) microclass: $V_x = -e-$: (less productive variant of a) after palatal consonants and /r/):

voj-ev-a-ti, *voj-uj-em/-uj-u/-uj!*, *voj-ev-ala*, *voj-ev-an* 'to fight'. The verb *carevati* 'to reign as an emperor' has the variant *carovati* (a).

d) unprod. microclass: $V_x =$ root-final *-u-* or *-a-*:

plju-v-a-ti, *plju-j-e-m/-j-u/-j!*, *plju-v-a-la*, *plju-v-a-n* 'to spit'; *da-v-a-ti*, *da-j-e-m*, *da-j-u*, *da-j!*, *da-v-a-la*, *da-v-a-n* 'to give'.

Class 2: a) unprod. microclass with root-final *-i-*, *-u-*, sometimes *-e-* (PP *-v-en* varying with *-j-en*, archaic *-t*):

pi-ti, *pi-j-em*, *pi-j-u*, *pi-j!*, *pi-la*, *pi-j/v-en* 'to drink'.

cf. *li-ti* 'to pour', *kri-ti* 'to hide', *ču-ti* 'to hear'.

b) unprod. microclass with root-final *-j-*:

brij-a-ti, *brij-e-m/-u*, *brij!*, *brij-a-la*, *brij-a-n* 'to shave'; *grij-a-ti* 'to warm'.

MACROCLASS II

Inf. V_i -*ti*, 1. Sg. C_i -*em*, 3. Pl. C_i -*u*, Imp. C_i -*i*, Past V_i -*la*, PP default V_i -*t*.

PSCs: 1) (for prod. microclass) If thematic /n/, then thematic /e/ in Pres.. 2) If thematic Pres. /e/, then this /e/ is replaced by /u/ in 3. Pl. Pres.

Class 1: subclass A) $C_i =$ /n/ (default) or /m/:

a) prod. microclass with thematic /n/: pfv. (perfective aspect):

mak-nu-ti, *mak-n-em*, *mak-n-u*, *mak-n-i!*, *mak-nu-la*, *mak-nu-t* 'to move'.

LWs *boks-nu-ti*, *blef-nu-ti* (Filipović 1986: 143), reg. *cvik-nu-ti* (<G. *zwick-en*), Slang neologisms *kid-nu-ti* 'to run away', *drm-nu-ti* = *maz-nu-ti* 'to steal' (cf. Kuzmanović 1970: 132).

b) unprod. microclass: *poč-e-ti*, *poč-n-e-m*, *poč-n-u*, *poč-n-i!*, *poč-e-la*, *poč-e-t* 'to begin'; *zap-e-ti* 'to be stuck'.

c) unprod. microclass with thematic /m/:

uz-e-ti, uz-m-e-m, uz-m-u, uz-m-i!, uz-e-la, uz-e-t 'to take'; *ot-e-ti* 'to take away'.

Unprod. subclass B) C_i = postconsonantal /r/:

mrj-e-ti, mr-e-m, mr-u, mr-i!, mr-la, -t 'to die'; *pro-strj-e-ti* 'to unfold'.

Unprod. Class 2: V_i = /a/, before other vowels C_i undergoes morphonological palatalization, PP *-an* (very few archaic variants *-t*)

a) microclass:

mic-a-ti, mič-em, mič-u, mič-i!, mic-a-la, mic-a-n 'to move', *vez-a-ti, pis-a-ti, skak-a-ti* 'to bind; write; jump'.

b) unprod. microclass without (or with empty) palatalization: *kašlj-a-ti, kašlj-e-m, kašlj-u, kašlj-i!, kašlj-a-la, kašlj-a-n* 'to caught'. Recessive, transition to IV): *kašlj-a-m*.⁴

c) unprod. ablauting microclass:

br-a-ti, ber-e-m, ber-u, ber-i!, br-a-la, br-a-n 'to collect'; *pr-a-ti* 'to wash'.

MACROCLASS III

Inf. V_i -*ti* (prod. V_i = themat. V /i/), 1. Sg. *-i-m*, 3. Pl. *-e*, Imp. *-i*, Past V_i -*la* (default: V_i = themat. V /i/), PP $-V_j$ -*n* (default V_j = /e/ with morphonological palatalization).

PSCs: 1) If 1. Sg. *-i-m*, then 3. Pl. *-e* and vice-versa. 2) If thematic /i/ in Pres., then this /i/ is replaced by /e/ in 3. Pl. Pres., then no suffix (zero) in Imp. (from underlying *-i*).

Class 1: prod. Inf. choice and defaults hold: slightly prod. microclass: *nos-i-ti/-im, nos-e, nos-i!, nos-i-la, noš-e-n* 'to carry'. Neologisms: slang *šiz-i-ti* 'to panic', *kuž-i-ti* 'to understand', *ćop-i-ti* 'to steal', *u-hep-i-ti se* 'to get happy' (cf. Kuzmanović 1970: 132).

Class 2: Both defaults hold, thematic /je/ for V_i : unprod. microclass *vid-je-ti, vid-i-m, vid-e, vid-i!, vid-je-la, vid -e-n* 'to see'. Recessive, transition to 1: *vid-i-ti*.

Class 3: $V_1 = V_j = /a/$:

unprod. microclass a): *blej-a-ti, blej-i-m, blej-e, blej-i!, blej-a-la, blej-a-n* 'to gape'; *zuj-a-ti* 'to buzz'.

b) Morphonological drop of thematic V after root-final /oj/ in the Imp.: unprod. microclass: *bojati se* 'to fear', Imp. *boj se!*, 1. Pl. *boj-mo se*, 2. Pl. *boj-te se*. (cf. the isolated paradigm *staj-a-ti* 'to stand', *stoj-i-m, stoj-e, stoj!*, *staj-a-la*).

4 This verb is the most liable to shift to IV in colloquial speech. The transition occurs to the most similar macroclass, because it cannot shift to the constitutive nasal suffix of the only productive microclass of the same macroclass II.

MACROCLASS IV

Just one (productive microclass). Both thematic vowels /a/:

Inf. *-a-ti*, 1. Sg. *-a-m* (default), 3. Pl. *-a-ju*, Imp. *-a-j*, Past *-a-la*, PP *a-n* (unprod. variant *-a-t* with few verbs)

PSCs: If thematic /a/ everywhere, then this /a/ is amplified with suffix /j/ in Imp., and this, in its turn, by /u/ in 3. Pl. Pres.

rib-a-ti/-m/-ju/-j! /-la/-n 'to fish'.

LWs *startati*, *boksati*, *driblati*, *lobati* (Velčić 1982: 425-427), *flirtati*, *filmati*; *servir-ati*, *nokaut-ir-ati*, *boks-ir-ati* (Velčić 1982: 427: also variant *boks-ov-ati* Macroclass I⁵), *kidnap-ir-ati*, *bankrot-ir-ati*, *tank-ir-ati* (also *tank-a-ti*).

Here belong also those verbs with suffixal *-iv-* which does not alternate with *-uj-* (as in I. 1. b): *kaz-iv-ati* 'to recite', *dar-iv-ati* 'to present', *osn-iv-ati* 'to found'.

Stagnant/recessive root-inflected CLASS (with many irregularities): *peći*, *pečem*, *peku*, *peci!*, *pekla*, *pečen* 'to bake'; *tući*, *gristi*, *grepsti*, *tresti*, *plesti* 'to beat; bite; scratch; shake; plait', etc. Two isolated paradigms have even 1. Sg. Pres. *-u*: *htjeti* 'to wish', *moći* 'to be able', 1. Sg. Pres. *hoć-u*, *mog-u*.

A contrastive (synchronic-typological) analysis within the realm of inflectional morphology can be based on all three subtheories of Natural Morphology:

I) With the subtheory of universal markedness, one can study on which parameters of universal preferences which language is more natural: for example, Polish has two suffixes of the 1. Sg. Prs., Croatian a unique one (with the exception of two isolated paradigms), which is more natural on the (bi-)uniqueness parameter, but this is compensated by the existence of two allomorphs in the Croatian aorist, which has no correspondence in Polish.

II) With the subtheory of typological adequacy, one can study how far the two morphologies deviate from the ideal type of an inflecting language, e. g. by allowing periphrastic (analytic) constructions (more in Polish than in Croatian).

III) With the subtheory of system-adequacy, one can notably compare the system-defining properties of Polish and Croatian morphologies. For example, as to inflectional categories, Polish and Croatian share the number and the markedness relationships of persons, numbers, gender (in past) and synthetic moods. But Polish has only the two synthetic tenses present and past (where univerbation is not yet complete). Croatian, however, has the three synthetic tenses present, imperfect and aorist, whereas the past tense is still analytic (periphrastic). Croatian also has more infinite categories. As a result, Croatian verbal paradigms appear to have more inflectional forms than Polish ones. We should consider, however, that imperfect and aorist are unproductive in spo-

5 This variant is now identified as Serbian. More on such class variation in Filipović (1986: 137f).

ken Croatian and stylistically marked in written Croatian. Thus if we only count the productive categories of Croatian, then verbal paradigms contain more synthetic forms in Polish than in Croatian.

Here we want to concentrate on class differentiation. Both languages have the same number of macroclasses (plus the unproductive remnants of consonant-final root-inflection). If we want to compare microclasses, then there comes immediately the problem that Polish verbs have a fixed penultimate accent, whereas Croatian has a relatively “free” accent (certain lects also pitch). And whereas Polish vowels have no quantity opposition, many Croatian lects have a quantity opposition (cf., e. g., Magner 1966). Thus a number of microclasses might be differentiated solely on prosodic distinctions, whereas they are indistinguishable on the segmental-phonological level. Since consideration of such prosodic distinctions might vitiate the comparison, we have left out prosodic distinctions deliberately⁶; otherwise Croatian lects without unstressed quantity and pitch distinctions would appear to have a considerably different morphology than Croatian lects with full quantity and pitch oppositions.

If we concentrate on productivity, as the core of morphology, we find seven productive microclasses in Polish (I. 1. a, I. 1. b, I. 1. d, II. 1. a, III. a, III. b, IV. a). In Croatian, we have established five (I. 1. a, I. 1. b, II. 1. a, III. 1. a, IV). We think that this comparison is more important for the contrastive characterization of the contemporary morphologies of the two Slavic languages than a contrastive counting of which and how many consonant-final root-verbs still exist. The difference in the number of productive microclasses (7 vs. 5) is one criterion for considering Polish inflection “richer” than Croatian inflection. A second criterion has been mentioned already: the greater richness (in terms of forms expressing productive categories) of a Polish than of a Croatian verbal paradigm. A third criterion can be added from declension, where Croatian⁷ — and Slovenian, but not Polish — neuters have lost their productivity of integrating loan words (cf. Dressler et al. 1996: 6, 13). Returning to the classification of Polish and Croatian verbal inflection we could think of other important criteria (in addition to the number of macroclasses and of productive microclasses): 1) the hierarchical depth of classification: in Polish we need only three ranks, i. e. macroclass, class, microclass, in Croatian also the intermediate rank of subclass (as in the Italian second verbal macroclass). This is paradoxical (see 2 below). 2) the horizontal branching structure: In Polish we needed the intermediate rank of class five times, in Croatian seven times. Thus on this parameter, as in the previous one, paradoxically, Croatian morphology seems to be richer than Polish morphology. But notice that this difference in branching structure is due to distributional criteria and technical necessities of classification, however without consideration for productivity.

6 Note that also traditional classifications of literary standard Croatian verb paradigms do not use prosodical differences as systematic classificatory criteria.

7 This holds at least for a certain number of lects and seems to be predominant in Zagreb, whereas, e. g., in Dalmatia loan words may be integrated into the neuter: *ovo auto/kino* ‘this (neuter) car/cinema’ instead of *ovaj auto/kino* ‘this (masc.) car’.

Therefore such criteria should not be allowed to counterbalance results from the contrastive analysis of productive categories and microclasses. Our classification of Polish and Croatian verbal inflectional morphology differs from traditional class divisions. Its virtue lies in its emphasis on what is the core of morphology (as of any part of grammar), i. e. productivity. And we have tried to show that this has also consequences for contrastive analysis.

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*Kontrastivna analiza glagolskih infleksijskih padeža
u poljskom i hrvatskom*

Glavni ciljevi ovoga priloga su: 1) predložiti i ilustrirati novi model utvrđivanja infleksijskih padeža koji se temelji na infleksijskoj produktivnosti; 2) pokazati važnost istraživanja lingvistike jezika u kontaktu za utvrđivanje produktivnosti; 3) razmotriti posljedice za kontrastivnu tipologiju; 4) definirati i usporediti morfološko bogatstvo dvaju bliskih jezika: poljskoga i hrvatskoga.