# PRODUCTIVITY, CREATIVITY AND ANALOGY IN WORD FORMATION (WF) DERIVATIONAL INNOVATIONS IN HUNGARIAN POETIC LANGUAGE<sup>1</sup>

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#### 1. Introduction

The main purpose of this paper is, on the one hand, to show a sample of some characteristic types of derivational innovations in Hungarian, and, on the other hand (reconsidering the productivity—creativity opposition), to propose a hypothetical productivity—creativity scale. The field of investigation is poetic language (some material collected from modern Hungarian poetry) that looks to be a promising area for examination from a derivational point of view because,

due to his profession to concentrate on the poetic function (in the sense of R. JAKOBSON) and on *langage* itself, the poet (always including the literary writer) can fulfill the possibilities of *langue* (and *langage*) better than other language users (Dressler 1981:423);

and also because, as a consequence of this, in poetic language there is a higher ratio of more specific ways of WF (cf. Dressler 1993, Vinogradova 1992).

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# 2. Productivity, creativity and analogy in derivational morphology

There are several ways of forming new words with complex (derived) morphological structure. Derivational innovations called nonusual words as opposed to existing words which are a part of the norm (cf. Coseriu 1975) fall into two main types: 1) actualizations of potential words of the language system derived via productive rules, and 2) occasionalisms, i.e. either derived words following unproductive rules or formations derived via defaults of individual (complex) words or derivatives of different mixed types (cf. Zemskaja 1992). (Sometimes actualizations of potential words are also called occasionalisms as contrasted with neologisms formed by productive rules that are already accepted by the norm, cf. Dressler 1993, Christofidou 1992).

The main question discussed in this paper is what role productivity and creativity play in different types of derivational innovations referred to above. One of the factors that may contribute to our understanding of this problem is how we define the role of analogy in derivation — since (concerning productivity and creativity) the question of what types of patterns the language user follows when producing a new word also seems to be important.

# 2.1 Analogy

In derivation, the notion of analogy is usually connected with that of creativity, and both of them are opposed to the notion of productivity. The foundation of this view is that analogy is often conceived as a surface means to produce occasionalisms via (not productive rules but) particular defaults (cf. Motsch 1981).

In comparison with Motsch, in Dressler & Ladányi (1998) there is a more subtle approach to analogy. According to it,

within the competence of creating new morphologically complex or derived words, we must distinguish a) surface analogy vs. b) analogy via schema vs. c) rule productivity.

a) in surface analogy (cf. Motsch 1981) an actual model is necessary...;

c) with rule productivity, there is no necessity of an actual model, the rule-governed creation of a new word depends on the precise abstract pattern (describable in a rule format)...;

b) in analogical creation via schema (cf. Köpcke 1993), performance depends on prototypes identifiable as actual words, but no exact pattern can be described because of non-prototypical members of the schema... (Dressler & Ladányi 1998:35)

Zemskaja (1992) goes further claiming that Motsch's view on analogy — i.e. considering analogy to be a surface means to produce occasionalisms via (not productive rules but) particular defaults — is not adequate. In her opinion, the notion of analogy has to be reconsidered; her claim is that analogy is the most important means of derivation including both its productive and unproductive forms. The only difference between the two is that, in the case of productive derivations, analogy works via rule types, while in the case of unproductive derivation it usually works via defaults of individual (complex) words.

Neither the notion of analogy nor the notion of creativity has such an important role in modern theoretical grammar as the notion of productivity. The reason for this is that on the basis of productivity — due to the regular character of productive rules — a high degree of generalization can be reached which is a basic requirement in a theory, especially in the competence-oriented generative grammar. Performance-oriented connectionist approaches, by contrast, seem to assign a much more important role to the notion of analogy in language, e.g. concerning the mental lexicon (see Derwing & Skousen 1989; cf. also Beard 1998). Derwing and Skousen also underline that a description based on the notion of analogy (defined in a more scrupulous way than before) may become a real alternative to a description based on (productive) rules.

Concerning analogy, in this contribution I will only deal with some different types of surface analogy connected to unproductive derivation. Nevertheless, in addition to other reasons we will talk about later on, both Zemskaja's view about the general role of analogy in WF and the connectionists' notion of analogy as an alternative means in language description may be taken as a kind of motivation to reconsider the traditional productivity—creativity opposition.

# 2.2 *Productivity*

At present, the notion of morphological productivity is widely discussed. Instead of going into the details of the speculation, I would like to sum up one of the approaches to morphological productivity that I agree with. This method was elaborated by Dressler (1997) for inflectional morphology in a Natural Morphology framework and has also been adapted for derivation (Dressler & Ladányi 1998, Dressler & Ladányi, in print). According to his views, morphological productivity has to be taken as a

basic notion which cannot be derived from the type or token frequency, regularity or the default status (see Dressler 1997:4–5). Productivity (just like several other notions in Natural Morphology) is also gradual. This gradualness corresponds to a hierarchy of linguistic criteria which reflects the degrees of difficulties the application of a derivational rule is able to meet. The criteria for the degrees of productivity of derivational rules (from the highest to the lowest degree) are, schematically, as follows<sup>2</sup>:

a) The highest degree of productivity can be characterized by Wurzel's (1984) secondary productivity: in this case even foreign words with unfitting properties can be integrated into the system by the given derivational rule. For example, E. shopping ['jopin] with unfitting phonetical/phonological properties [p] and [n] can be integrated into the Hungarian system as a verb by an obligatory derivation with suffix -(V)l (in Hungarian \**shopping* does not exist as a noun): E. *shopping* [' $[ppin] \rightarrow H$ . verb shopping-ol ['[opingol]); similarly: E. save [seiv] with unfitting property  $[e_I] \rightarrow H$ . verb szév-el ['se:vɛl] 'to save'. b) The second highest degree of productivity can be characterized by Wurzel's (1984) primary productivity, i.e. integration of loan words with fitting properties by the given derivational rule; e.g. the E. noun surf [sə:f] has been integrated into Hungarian as szörf [sørf] which phonetically/phonologically fits the Hungarian system, and the integrated noun with fitting properties can serve as a basis for a verbal derivation:  $sz \ddot{o}rf$  'surf'  $\rightarrow sz \ddot{o}rf - \ddot{o}l$  'to surf'); similarly E. darts [da:ts]  $\rightarrow$  H. noun darts [darts]  $\rightarrow$  H. verb darts-ozik 'to play darts'.

c) The third degree of productivity can be stated by the possibility of using the given derivational rule with indigenous abbreviations (as marked bases within the language), e.g. *kft*. [ka:efte:] 'ltd. company'  $\rightarrow kft$ -zik 'to be/work in an ltd. company'. Similarly: *Fidesz* = Fiatal Demokraták Szövetsége 'Allience of Young Democrats'  $\rightarrow fidesz$ -ezik 'to work for the party Fidesz'.

d) The fourth degree of productivity can be stated by the shift of a derivative to the domain of the given (more productive) WF rule from

<sup>&</sup>lt;sup>2</sup> All examples are taken from Hungarian productive verbal derivation with suffixes -

<sup>(</sup>V)z(ik) and -(V)l. Notational convention: V stands for linking vowels a, o,  $\ddot{o}$ , e, i.e. -

<sup>(</sup>V)z(ik) = -(a/o/ö/e)z(ik) and -(V)l = -(a/o/ö/e)l. Verbs are in Present SG3 inflectional form which is usually formed by a zero morph and is the dictionary form for Hungarian verbs; in Present SG3 -*ik* is an optional inflectional ending.

another (less productive) one within a derivational class. For instance, several earlier loaned verbs integrated with the suffix *-íroz* have shifted to the productive subclasses with -(V)z or -(V)l, e.g. *vagon-íroz*  $\rightarrow$  *vagonoz* 'to load into a train-carriage', *park-íroz*  $\rightarrow$  *park-ol* 'to park'.

e) The lowest degree of productivity can be stated by the possibility of using a derivational rule with indigenous unmarked bases, e.g. *gördeszka* 'skateboard'  $\rightarrow$  *gördeszká-zik* 'to skateboard'.

(For more details about morphological productivity see the articles referred to above.)

Productivity is a prototypical property of morphological rules, but this does not mean that regularity and productivity always go together: there also exist morphological rules that are regular but not productive. Productive derivational rules are of greater importance than unproductive ones, however, because (by producing potential words) they serve as the most effective means for the enrichment of the lexical stock of language.

# 2.3 *Creativity*

All derivational innovations have a creative element in them. Productivity is usually associated with rules (since productive WF is always regular) and creativity with rule violation/deviation. However, productivity can also be understood in Bauer's (1983) way as rule-governed creativity (cf. also Rainer 1993). As Dressler shows, morphological innovations (even if derived via productive derivational rules) always violate (at least a part of) lexical norms (see Dressler 1981: 427, 1993:5028). In this way, productivity is "a hyponym of both creativity and regularity, whereas rulechanging creativity is not regular" (Dressler & Ladányi 1998: 34).

In addition to approaches to analogy referred to earlier, the above statement can also be taken as a kind of motivation to argue that productive and creative ways of WF need not to be opposed to each other rigidly. I think that they may be arranged along a scale instead, and the real question is what this scale should be like.

In the case of productive rules, it may be assumed that productivity and creativity are inversely proportional to each other (i.e.: less productive  $\rightarrow$  more creative, and the other way round). Consequently (similarly to derivational productivity), derivational creativity may also be taken as gradual. In this manner, productivity and creativity form a continuum that forms the basis of the proposed productivity—creativity scale.

However, the question about how unproductive ways of WF may be arranged along the proposed scale has to be solved as well. Later on we will return to this question.

# 3. Derivational innovations in Hungarian poetic language

# 3.1 *Neologisms formed by productive rules: actualizations of potential words*

It is quite natural that in poetry (just like in colloquial language) we can find a high number of actualizations of potential words formed by productive derivational rules. Sometimes it is difficult even to realize that we have come across a newly derived word (cf. Zemskaja & Kitajgorodskaja & Širjaev 1981). Derivational processes with strong productivity are not far from being automatic — that is why they have to be at the maximum productivity/minimum creativity end of the productivity— creativity scale. At this time, I cannot devote a separate chapter to productive derivations (for more details concerning productive WF rules in Hungarian see Kiefer 1998 and Kiefer (ed.) in print). In the following section, however, I will give some examples of productive derivations contrasting the two types (i.e. fully regular and partly irregular productive ways of derivation) in connection with different types of rule violation.

# 3.2 *Productive rules and their violation*

In the case of productive rules, violation means violation of the domain constraints of the rules. In what follows, I am going to contrast some derivatives formed by productive rules and derivatives violating the domain constraint(s) of the same rules.

3.2.1 Productive rules and domain constraint violation

 $-nyi_{N \rightarrow Adj^3}$ 

The form of the WF rule is:

(1)  $[X]_{N} + [-nyi]_{N \to Adj} \Rightarrow [[X]_{N} + [-nyi]_{N \to Adj}]_{Adj}$ 

The domain of the productive suffix *-nyi* is the group of concrete nouns (see Kiefer 1998:241). Its WF meaning is 'N-sized'. Some examples of

<sup>&</sup>lt;sup>3</sup> Notational convention: syntactic category labels of suffixes contain both the input and the output categories of WF rules, according to the view that affixes (contrasted with lexemes) are relational (cf. Aronoff 1976).

PRODUCTIVITY, CREATIVITY AND ANALOGY IN WORD FORMATION actualizations of potential words formed by this rule in poetic language are in (2)– $(7)^4$ :

- (2) bogár-nyi
  beetle-suff.<sub>N→Adj</sub>
  'beetle-sized'
  [... bogárnyi embervállamon... (Határ Győző, Szv 94:70)]
- (3) egér-nyi mouse-suff.<sub>N→Adj</sub>
  'mouse-sized' [Isten, ha mersz, ölyvnek legyél egérnyi. (Tandori Dezső, Szv 97:199)]
- (4) ország-nyi -suff.<sub>N→Adj</sub>
  'country-sized'
  [... körülül országnyi terített asztalt ...(Eörsi István, Szv 94:36)]
- (5) mező-nyi -suff.<sub>N→Adj</sub>
  'field-sized'
  [... a mezőnyi virággal telehintett ... ágyon ... (Takács Zsuzsa, Szv 95:55)]
- (6) napraforgó-nyi -suff.<sub>N→Adj</sub>
  'sunflower-sized':
  [... azt suttogja gyóntatója / napraforgónyi fülébe ... (Tőzsér Árpád, Szv 95:155)]

<sup>&</sup>lt;sup>4</sup> In the examples I also give the context and the source of derived words, but I have translated only the complex words under examination and not the whole quotation. The abbreviation Szv stands for *Szép versek* ('Nice Poems'), a selection of Hungarian poems published every year.

(7) nyírfasöprű-nyi -suff.<sub>N→Adj</sub>
'birch-broom-sized':
[... nyírfasöprünyi farka alól Csokonaiként szellentgetett / rám ... Tőzsér Árpád, Szv 95:93)]

The examples (8)–(11), however, violate the domain of the rule; in the derived words the bases are not concrete but abstract nouns (usually deverbal nouns in  $-\dot{A}s^{5}$ ):

- (8) merít-és-nyi draw-suff.<sub>V→N</sub>-suff.<sub>N→Adj</sub>
  'draw-sized', i.e. 'so near that you can draw from it' [... vaksi állatok merítésnyi / halálközelben.(Rába György, Szv 89: 288)]
- (9) halál-nyi death-suff.<sub>N→Adj</sub>
  'death-sized', i.e. 'as long as death' [Aludtam halálnyit ... (Csiki László, Szv 94:28)]

# (10) pöndöröd-és-nyi

dry up (and roll)-suff.<sub>V $\rightarrow$ N</sub>-suff.<sub>N $\rightarrow$ Adj</sub> 'dry-ing up (and roll-ed)-sized', i.e. 'as small as a thing dried up and rolled' [... *pöndörödésnyi* leszek csak köztük ... (Tandori 1976:111)]

(11) szellent-és-nyi
wind break-suff.<sub>V→N</sub>-suff.<sub>N→Adj</sub>
'breaking wind-sized', i.e. 'as short as breaking wind'
[... szellentésnyi volt a lét ... (Baka István, Szv 95:63)]

3.2.2 Rivalry between productive rules and domain constraint violation. In the case of rival rules/suffixes, one of the rules/suffixes represents the

<sup>&</sup>lt;sup>5</sup> Notational convention: big letters stand for the vowels of binary suffixes; here letter  $\hat{A}$  stands for vowels of *-ás/-és*.

general case, while the other represents the special case — which means that the latter one can only be applied under special conditions (see Rainer 1988:174). Usually violation of the domain means that the special rule is applied in a general case.

 $-(V)z(ik)_{N \to V}$  and  $-(V)l_{N \to V}$ 

The forms of the two word formation rules (WFRs) are in (12) and (13):

(12) 
$$[X]_{N} + [-(V)z(ik)]_{N \to V} \implies [[X]_{N} + [-(V)z(ik)]_{N \to V}]_{V}$$

(13) 
$$[X]_{N} + [-(V)l]_{N \to V} \implies [[X]_{N} + [-(V)l]_{N \to V}]_{V}$$

Out of the two suffixes -(V)z(ik) represents the general case, while -(V)l represents the special case (see Rainer 1988:174), which means that the latter one can only be used productively in special circumstances:

a) with monosyllabic roots (except those ending in -l and -r) and usually in lexical fields other than playing games, eating or drinking something, using some instruments or materials where -(V)z(ik) is used productively also with monosyllabic roots (in these lexical fields parallel derivatives are also possible, e.g. *szörf* 'surf'  $\rightarrow$  *szörf*-*özik* and *szörf*-*öl* 'to surf');

b) another domain for -(V)l are a group of English loan words: deverbal nouns in *-ing* (e.g. E. *shopping, jogging, deep-jumping*  $\rightarrow$  H. *shopping-ol, jogging-ol, deep-jumping-ol*), and

c) loan verbal roots which can only be integrated into the Hungarian verb system with an obligatory derivation (e.g. verbs *print-el* 'to print', *klikk-el* 'to click', *menedzs-el* 'to manage', *edit-el* 'to edit' — *\*print, \*klick, \*menedzs, \*edit* etc. do not exist in Hungarian either as nouns or as verbs).

The domain of -(V)l is quite restricted compared with -(V)z(ik), nevertheless, according to the criteria mentioned earlier it cannot be said to be less productive than -(V)z(ik), since integration of loan verb roots means a)-type (i.e. the highest degree of) productivity or (in case we take verbal roots as quasi-nouns, cf. Moravcsik 1975, 1978) b)-type (i.e. the second highest degree of) productivity, while -(V)z(ik) is b)-productive, too, because from loan words integrated into Hungarian as nouns (e.g. *e-mail, darts, jet-ski*) new verbs can be derived with -(V)z(ik): *e-mail-ezik, darts-ozik, jet-ski-zik*). (For more details see Ladányi 1999 and Kiefer & Ladányi, in print.)

The general WF meaning of both -(V)z(ik) and -(V)l is 'doing something with N', e.g. supplying something with N, dealing with N or using N. Some examples from poetic language with productive -(V)z(ik) are in (14)–(18). These poetic innovations are actualizations of potential words derived with the appropriate productive WF rule.

(14) *kikelet-ez(ik)* 

spring-suff.<sub>N $\rightarrow$ V</sub>

'to do smth in connection with spring' (in the given context: 'to behave like in spring')

[Ámbár az aranyeső bokor annyit *kikeletez*ik ... (Döbrentei Kornél, Szv 87:100)]

(15) *barlang-oz* 

cave-suff.<sub>N $\rightarrow$ V</sub>

'to do smth in connection with a cave' (in the given context: 'to cover with darkness like that of a cave'

[... ide barlangoz a kámzsa setétség ... (Határ Győző, Szv 94:71)]

# (16) *radar-oz*

radar-suff.<sub>N $\rightarrow$ V</sub> 'to use a radar' (in the given context: 'to behave like a radar') [... repkény sűrűjét *radaroz*za feje ... (Ágh Attila, Szv 87:16)]

(17) balladá-z

ballad-suff.<sub>N $\rightarrow$ V</sub>

'to do smth in connection with a ballad' (in the given context: 'to behave in such a way as the players of a special ballad do'): [A háztetőkön / galambok *balladáz*nak: / "Nézz a fejembe!" (Utassy József, Szv 89:405)]

# (18) ablak-oz

window-suff.<sub>N $\rightarrow$ V</sub>

'to do smth in connection with a window' (in the given context: 'to be visible like through an open window'):

[...ősléktől ... ablakzik a/ tragédia. (Döbrentei Kornél, Szv 87:101)]

Concerning rivalry of equally productive rules,

lexical retrieval is necessary in production in order to decide which rule to apply on the level of language as norm and in performance. Thus this necessity is only relative, it might be canceled if the speaker feels unbound by norms ... (Dressler & Ladányi 1998:38–39).

Some examples for such type of violation (i.e. when one of the rival suffixes violates the domain constraint) can be found in (19)-(20); here -(V)l (the special case) occurs in a general case where suffix -(V)z(ik) should be used.

- (19) autóká-l (instead of autóká-z) car-suff.<sub>N→V</sub>
  'to use a car':
  [... pusztán egy hóvirág-grupp mentőautókál ... (Döbrentei Kornél, Szv 87:99)]
- (20) kör-öl (instead of kör-öz) circle-suff.<sub>N→V</sub>
  'to circle': [Nem köröli, nem tapodja ... (Szécsi Margit, Szv 89:343)]

 $-cskA_{N \rightarrow N}$  and  $-kA_{N \rightarrow N}^{6}$ The forms of the two WFRs are:

- (21)  $[X]_{N} + [-cskA]_{N \to N} \implies [[X]_{N} + [-cskA]_{N \to N}]_{N}$
- (22)  $[X]_{Adj} + [-kA]_{N \to N} \implies [[X]_{Adj} + [-kA]_{N \to N}]_N$ (both rules with diminutive WF meaning)

From the two diminutives *-cskA* can be used without constraint, while *-kA* cannot be attached to monosyllabic nouns ending in consonants and to polysyllabic ones ending in plosives (with the exception of nasals). In (23), however, suffix *-kA* (the special case) — violating the domain constraint — occurs in a general case (instead of suffix *-cskA*).

<sup>&</sup>lt;sup>6</sup> Notational convention: letter A stands for vowels of binary suffix -ka/-ke.

(23) agy-ka (instead of agy-acska) brain-dimin.
'small brain' (in the given context: dull people)
[... a bátrabban félni / nem merő hős agykák ... (Bella István, Szv 87:30)]

3.2.3 Domain constraint violation in complementary (productive and unproductive) rules.  $-Vdik^{7}_{Adj\rightarrow V}$  and  $-Ul^{8}_{Adj\rightarrow V}$ 

The forms of the two WF rules are:

(24)	$[X]_{Adj} + [-Vdik]_{Adj \to V} \Rightarrow$	$[[X]_{Adj} + [-Vdik]_{Adj \rightarrow V}]_V$
(25)	$[X]_{Adi} + -[Ul]_{Adi \to V}  \Rightarrow $	$[[X]_{Adi} + -[Ul]_{Adi \rightarrow V}]_{V}$

The WF meanings of both WF rules are: 'to become Adj'. They mostly are in complementary distribution with each other: the domain of -Ul is typically the group of monosyllabic adjectives, while the domain of -Vdik is the group of polysyllabic ones (see Kiefer 1998:245). In spite of their complementary distribution, we cannot consider both of the rules to be productive (cf. Kiefer & Ladányi, in print; in Kiefer 1998 both -Ul and -(V)dik are said to be productive).

Productive rules always take members of open classes as their bases. At first sight, the potential domain of the rule with the suffix -*Ul* (i.e. monosyllabic adjectives) also seems to be open. Although there are no new indigenous monosyllabic adjectives (since all derived adjectives as indigenous neologisms are polysyllabic in Hungarian), the group of loan adjectives (including monosyllabic ones) can increase the number of its elements. Nevertheless, since -*Ul* cannot be attached even to monosyllabic loan words, it has to be considered unproductive:  $b\acute{e}zs$  'beige'  $\rightarrow$ \* $b\acute{e}zs-\ddot{u}l$  'to become beige', *khaki* [keki] 'khaki'  $\rightarrow$  \**khaki-ül* [kekiül] or \**khak-ül* [kekül] 'to become khaki'.

<sup>&</sup>lt;sup>7</sup> Notational convention: letter *V* stands for vowels of ternary suffix *-odik/-edik/-ödik*.

<sup>&</sup>lt;sup>8</sup> Notational convention: letter U stands for vowels of binary suffix -ul/-ül.

Concerning loan words, the same constraint is valid for -Vdik: *modern* 'modern'  $\rightarrow$  \**modern-edik* 'to become modern', *privát* 'private'  $\rightarrow$  \*privát-odik 'to become private'. On the other hand (in contrast with -Ul), some groups of derived adjectives as indigenous neologisms can serve as possible domains for the -Vdik type derivation. Apparently -Vdik (especially together with the preverb *el* 'away, perf.') can be attached to a considerable amount of derived denominal adjectives with productive suffixes -tlAn and -(V)s (mostly meaning negative evaluation), e.g.: bátor 'brave'  $\rightarrow b \acute{a}tortalan$  'timid'  $\rightarrow el-b \acute{a}tortalan-odik$  'to loose courage/to become timid',  $er \ddot{o} \rightarrow \text{'strength'} er \ddot{o} tlen \text{'weak'} \rightarrow el-er \ddot{o} tlen-edik$  'to become weak', sekély 'shallow'  $\rightarrow$  sekélyes 'shallow/superficial'  $\rightarrow$  elsekélyes-edik 'to become superficial'. In spite of the fact that there also are several cases when it is at least questionable whether new derivatives with -(V)dik could be evaluated as well-formed or not even if their bases have the required morphological structure (e.g.: kritika 'criticism'  $\rightarrow$  kritikátlan 'uncritical'  $\rightarrow */?el$ -kritikátlan-odik 'to become uncritical', hála 'gratitude'  $\rightarrow h \dot{a} l \dot{a} t lan$  'ungrateful'  $\rightarrow */?el h \dot{a} l \dot{a} t lan o d i k$  'to become ungrateful', *veszély* 'danger'  $\rightarrow$  *veszélyes* 'dangerous'  $\rightarrow$  \*/?*el-veszélyes-edik* 'to become dangerous', szánalom 'pity'  $\rightarrow$  szánalmas 'pitiful'  $\rightarrow$  \*/?elszánalmas-odik 'to become pitiful'), there is at least one subgroup of -(V)s derivatives where the -(V)dik rule (especially together with the preverb be 'into, perf.') is always applicable, namely when the adjective denotes saturation with the thing, material, etc. referred to in the base noun, e.g.: pára 'mist'  $\rightarrow$  párás 'misty'  $\rightarrow$  (be)párás-odik 'to become misty, mist up',  $k \ddot{o} d$  'fog'  $\rightarrow k \ddot{o} d \ddot{o} s$  'foggy'  $\rightarrow (be) k \ddot{o} d \ddot{o} s - \ddot{o} d i k$  'to become foggy',  $v \dot{z}$  'water'  $\rightarrow$  vizes 'watery, wet' $\rightarrow$  (be)vizes-edik 'to become wet'. This is the reason why the rule with -(V)dik (in contrast with the rule with -Ul) can be called productive.

Some examples of the distribution of the two suffixes in poetic language are in (26)–(29). (The example *boldog-odik* is especially interesting because it can be contrasted with the lexicalized normative word *boldog-ul* 'to get on with something'. In *boldog-odik* we find the original WF meaning of the derivational rule: 'to become Adj'.)

- (26) párhuzamos-odik parallel-suff.<sub>Adj→V</sub>
  'to become parallel'
  [... vizszintes ráncok / párhuzamosodnak az orrnyeregre gyürüdő / bőrlebennyel ... (Keresztúry Dezső, Szv 89:182)]
- (27) boldog-odik
  happy-suff.<sub>Adj→V</sub>
  'to become happy'
  [... mind, ami nélkülem magává / boldogodhatott ... (Bella István, Szv 89:32)]
- (28) szent-ül holy-suff.<sub>Adj→V</sub>
  'to become holy' [Élezett kaszától tán szénává szentül ... (Vári Attila, Szv 89:419)]
- (29) nagy-ul
  big-suff.<sub>Adj→V</sub>
  'to become big'
  [...feltámadási sziklává nagyul ... (Döbrentei Kornél, Szv 94:47)]

The domain of both rules consists of adjectives only (see MMNy.: 132 and Kiefer 1998:224, 245–246). In the examples (30)–(32), however, the suffixes are attached to nouns and violate the domain constraint. (In (31) there is double violation of the rule since -Ul is attached to a polysyllabic noun.) The derived words are used instead of the normative syntactic structure válik valamivé 'to become something':

(30) angyal-odik, ördög-ödik, sátán-odik angel-suff., evil-suff., Satan-suff.
'to become an angel', 'to become evil', 'to become Satan' [De mifelé tágul az ördögi körből a spirál: angyalodik, vagy ördögödik? Istenül-e, vagy sátánodik? (Mezei András, Szv 89:232)]

(31) asszony-ul

woman-suff. 'to become a woman': [*Asszonyult* lányom közös takaró alatt hál a meggybefőttel. (Csiki László, Szv 87:55)]

(32) *íz-ül*joint-suff.
'to become/be a joint'
[...pedig bürkéje befogja / hol a tarkó *ízül* ... (Határ Győző, Szv 97:214)]

In examples (33)–(35) we can find a special type of rule violation connected with the two suffixes discussed above, where one of them is replaced with the other (this phenomenon is similar to the rivalry of productive rules):

- (33) *feket-ül* (vs. normative prefixed verb *meg-feket-edik*)
  black-suff.<sub>Adj→V</sub>
  'to become black':
  [... míg az ajkadra *feketül*... (Péntek Imre Szv 94:155)]
- (34) beteg-ül (vs. normative prefixed verb meg-beteg-edik) ill-suff.<sub>Adj→V</sub>
  'to become ill'
  [... jelenné betegült világ ... (Lászlóffy Aladár Szv 94:114)]
- (35) *el-facér-ul* (vs. expected but non-existing prefixed verb *el-facér-odik*)
  pref.-out of work-suff.<sub>Adj→V</sub>
  'to become unemployed or non-functional'
  [... ahogy *elfacérul* a forma... (Kányádi Sándor, Szv 94:80)]

Some derivatives formed from adjectives with complex morphological structure in (36):

 $(36) \quad [[X]_{N \text{ or } Adj} + [-(V)s]_{suff, N \to Adj}]_{Adj}$ 

e.g. sekély 'shallow'  $\rightarrow$  sekélyes 'shallow/superficial', unalom 'boredom' $\rightarrow$  unalmas 'boring' can be interpreted in two ways, i.e. the morphological structure of the existing word (el)sekélyesedik or that of the potential word (el)unalmasodik can be interpreted both as in (37) and in (38):

- (37)  $[[X]_{N \text{ or } Adj} + [-(V)s]_{suff, N \to Adj}] + [-Vdik]_{suff, Adj \to V}]_{V},$  i.e.  $[[sek\acute{e}ly + es] + [edik]]$
- (38)  $[[X]_{N \text{ or } Adj} + [-VsVdik]_{suff, N \text{ or } Adj \rightarrow V}]_{V},$  i.e.  $[[sek\acute{e}ly] + [esedik]]$

It seems that, due to the possibility of this double interpretation, from such derivatives there has been extracted a new suffix -(V)sVdik which can be attached immediately to nouns or simple adjectives without -(V)s. Also the meanings of such derivatives prove the interpretation with a new, complex suffix which appears to be productive with nationalities meaning 'to become a person with the given nationality' (see Kiefer & Ladányi, in print).

3.2.4 Reactivation of unproductive irregular suffixes. Unproductive verbal suffixes. In poetic language, there also are several occasionalisms with unproductive suffixes. One very characteristic type of it is reactivation of old durative-frequentative suffixes, such as -dAl, -Vng, -icsAl or -igAl, e.g. in (39)–(42):

(39) néz-del (instead of normative néz-eget) look-durat.
'to keep looking at smth'
[... a semmit nézdelem ... (Bella István, Szv 87:40)]

- (40) fütty-öng (instead of normative fütty-ög) whistle-freq.
  'to keep whistling' [Itt füttyöng első barátom ... (Garai Gábor, Szv 87:119)]
- (41) morg-icsál (instead of normative morg-olódik) grumble-durat.
  'to keep grumbling'
  [... mit morgicsál ez itt? (Határ Győző, Szv 94:69)]
- (42) szám-igál (instead of normative szám-ol-gat) count-freq.
  'to keep counting'
  [... feketézők és tolvajok / számigálják a pénzüket ... (Kányádi Sándor, Szv 89:171)]

Unproductive nominal suffixes -At and -mÁny. According to a Handbook of Hungarian (MMNy.:134), these suffixes are relatively frequent and can be considered productive but, since there are no verb groups to the members of which these suffixes could be attached freely, and since frequency was excluded from the productivity criteria, too, I consider them unproductive. In (43)-(44) there are examples for reactivation of the above-mentioned unproductive suffixes:

- (43) *rikkan-at* (instead of *rikkant-ás*) cry out-suff.<sub>V→N</sub> 'crying out' [... fácán*rikkanat*okkal megkaristolt tavaszba ... (Döbrentei Kornél, Szv 87:99)]
- (44) csavar-int-mány (instead of csavar-ás or csavarint-ás) twist-once-suff.<sub>V→N</sub> [with unproductive suffix -int] 'what is twisted' [... testetlen csavarintmányaid útján ... (Marsall László, Szv 89:223)]

3.5.1 Surface analogy in context (structural parallelism according to the syntagmatic axis of language). Among others, Zemskaja et al. (1981) points out that structural parallelism often plays an important role in producing occasionalisms. Dressler (1993:5029) also underlines the role of context in producing (and interpreting) poetic occasionalisms, and mentions "the usage of a derivational semantic relation as the leitmotiv of a poetic text" as an extreme case of surface motivation (Dressler 1981:419). In (45) the poetic occasionalism is an example of this phenomenon.

(45)  $kap-at (kap 'get' + suff_{V \rightarrow N})$ get-Suff. 'what is got': [... becses adat-kapat ... (Tandori 1976:156)]

-At is not a productive suffix in Hungarian. Surface analogy works between existing words ad 'to give'  $\rightarrow ad$ -ás 'the act of giving', kap 'to get'  $\rightarrow kap$ ás 'the act of getting', and ad 'to get'  $\rightarrow ad$ -at WF meaning: 'what is given', lexicalized meaning: 'data' (cf. 46a). The effort to produce syntagmatic morphostructural parallelism with the same WF meaning (ad-at  $\rightarrow X$ -at) results in a new derived word (kap-at) via default of an existing word (ad-at) as in (46b):

(46) (a) ad 'to give'  $\rightarrow ad$ -ás 'the act of giving'; ad 'to give'  $\rightarrow ad$ -at 'what is given', 'data'

 $\downarrow\uparrow$ 

*kap* 'to get'  $\rightarrow$  *kap*-*ás* 'the act of getting'; *kap* 'to get'  $\rightarrow$  ?

(b) *ad-at* WF meaning: 'what is given'; lexicalized meaning: 'data' (existing word)  $\rightarrow kap-at$  'what is got' (occasionalism)

3.5.2 Surface analogy without context (structural parallelism according to the paradigmatic axis of language). As mentioned earlier, in the case of unproductive derivations surface analogy usually works via defaults of individual (complex) words. The poetic occasionalism in (47) is an example of analogical derivation of this kind.

 (47) egyszerű-bb-ség simple-comparative-suff<sub>V→ N</sub> approximately: 'simplericity' [... számos egyszerűbbség végett ... (Tandori 1976:88)]

Concerning this irregular form, the lexicalized word *kisebbség* 'minority' (*kis* 'small', *kis-ebb* 'smaller') served as a model — that is not in the context of the newly derived occasionalism. This word can serve as default for derivation of an occasionalism only according to the paradigmatic axis of language (cf. 48).

(48)	[kis 'small' $\rightarrow$ kis-ebb 'smalle	$r' \rightarrow ]$ kis-ebb-ség (existing word with		
		lexicalized meaning: 'minority');		
		non-existing,		
		compositional meaning:		
	'small-er-icity'			
	$\downarrow\uparrow$			
	$[egyszerű$ 'simple' $\rightarrow egysze$	$er$ "u-bb 'simpler'] $\rightarrow egyszer$ "u-bb-ség		
		'simpl-er-icity'		
		(occasionalism)		

There is a similar example in (49):

(49) sárg-all (instead of normative sárg-áll(ik)) yellow-suff.<sub>Adj→V</sub> 'shine yellow'
[... [egy] villamos: begerjedten sárgall ... (Döbrentei Kornél, Szv 87:100)]

*Sárgall* is the result of an analogical derivation on the basis of a concrete model *zöld-ell* 'to grow green' (cf. 50):

# PRODUCTIVITY, CREATIVITY AND ANALOGY IN WORD FORMATION (50) $z\ddot{o}ld \rightarrow z\ddot{o}ld$ -ell

 $\downarrow\uparrow$ 

 $sárga \rightarrow sárg-all$ 

3.5.3 *Contamination, play on words.* According to Zemskaja's definition, in the case of contamination occasionalisms are produced via combining two existing (i.e. usual) words in such a way that some parts of the words are lost. This is the reason why this way of producing new words is often called a "play on words" (see Zemskaja 1992:191, ill. Zemskaja 1996:135–138). Producing new words by this strategy can be considered as a special type of surface analogy working via two default words. Some examples of this type are in (51)–(55):

(51)	demokrációs	$(\leftarrow$	<i>demokrácia</i> 'democracy' and <i>demarkáció-s</i> [vonal] 'cease-fire [line]')	
	[ vagy kisétálsz és megállsz a <i>demokrációs</i> vonalon (Szőcs Géza, Szv 89:355)]			
(52)	eukaliptikus	(←	<i>eukaliptusz</i> 'eucalyptus' and <i>apokalip-tikus</i> 'apocalyptic')	
	[ [bizonyos] medveféleségek "őse" az <i>eukaliptikus</i> koala. (Tandori 1976:148)]			
(53)	fogyvást	$(\leftarrow$	<i>fogy-va</i> 'losing weight' and	
	[ ne táncol	jon <i>fog</i>	<i>yvást</i> mérlegeken! (Tandori 1976:201)]	
(54)	eukaktusz.	$(\leftarrow$	<i>eukaliptusz</i> 'eucalypt' and <i>kaktusz</i> 'cactus')	
	[ eukaktusz-füzért (Tandori 1976:209)]			
(55)	tetszhetős	(←	<i>tetsz-het</i> 'like-possibilitive suff.', i.e. 'may be liked' and	
	Г	1144	tehetős 'rich')	
	I tetsznetos	s naiott	$\dots$ (Tandori 19/0:215)	

#### 4. Productivity—creativity scale: results, problems, and perspectives

Now we return to the idea that productive and creative ways of WF may be arranged along a scale. The question is what the productivity—creativity scale should be like.

The two ends of the scale seem to be beyond dispute: on the one end of the scale there have to be derivational rules with strong productivity actualizing potential words of language, while on the other there have to be such nonce-formations which deviate from principles of universal grammar (cf. Dressler 1993). (Individual plays on words are e.g. this type of violation.)

Concerning productive rules, using the hierarchy criteria, degrees of productivity (from strong to slight) can be determined. As noted, in these cases it may be assumed that productivity and creativity are inversely proportional to each other — so here (on the basis of degrees of productivity) degrees of creativity may also be defined. However, creativity is a wider notion than productivity because it is characteristic of all ways of derivation (at least to a certain extent) while productivity does not characterize unproductive and irregular ways of derivation. It means that in these cases degrees of creativity should be defined independently from degrees of productivity.

According to Dressler (1981: 428), derivational innovations formed by means of unproductive rules are more audacious than those formed by productive ones. In accordance with this statement, in the cases other than productive derivation we may define the degrees of creativity relying on the presupposition that the more audacious a linguistic form, the more creative way it is formed. A higher degree of audicity (in addition to the association with a lesser degree of productivity) may be associated with a lesser degree of regularity, as well, i.e. on a hypothetical productivity—creativity scale not only productive (= regular) ways of derivation should precede unproductive regular ways of derivation but also unproductive regular ways of derivation should precede unproductive irregular ways of derivation. Taking into consideration all the factors mentioned above, my proposed (hypothetical) productivity—creativity scale concerning the investigated

phenomenon in this contribution<sup>9</sup> looks as follows (from minimum to maximum audacity/creativity):

- A) Productive ways of WF:
  - 1) productive rules (hierarchy from strong to slight productivity, cf. 2.2.)
  - 2) productive rules with some type of violation
- B) Complementary (productive and unproductive) rules with some type of violation
- C) Unproductive ways of WF:
  - 1) unproductive rules
  - 2) unproductive rules with some type of violation
  - 3) reactivation of unproductive irregular suffixes
  - 4) types of surface analogy
    - a) surface analogy in context
    - b) surface analogy without context
    - c) play on words

Evaluation tests would be needed to prove whether the proposed scale from less to more audacious ways of derivation is valid or not. On the basis of a presupposition, according to which the more audacious (i.e. formed in a more creative way) a linguistic form, the more difficult it is to understand, the degrees of creativity could also be measured through perception tests. While the former is a linguistic task, the latter may be a challenge for psycholinguists.

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<sup>&</sup>lt;sup>9</sup> There are several other types of extreme derivation, such as back-formation, tmesis etc.

<sup>(</sup>cf. Dressler 1981, 1993). A task for further investigation could be to find the place of other special ways of derivation not discussed here on the proposed scale.

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