

# The semantics of verb-forming suffixes in Modern Greek

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**Abstract:** Based on a list of 2390 verbs extracted from Anastassiadis-Symeonidis (2002) *Reverse Dictionary of Modern Greek*, this paper examines the semantics of verb forming processes in Modern Greek (MG) comparing the meanings of verbs formed by the suffixes *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno*, *-áro* and the confix (semi-suffix) *-pió*. We claim that MG verb-forming suffixes and the confix *-pió* do not express the same range of related concepts but seem to share a common causative/resultative meaning. Additionally, we propose a unified analysis of the meanings of all verb forming suffixes (and *-pió*) and their derivatives in MG and show that not all semantic categories are equally possible and/or probable for all verb forming processes.

**Key words:** derivation, verb-forming morphemes, suffixation, semantics, phonological properties, Modern Greek (MG).

## 1. Introduction

This paper<sup>1</sup> investigates the derivatives involving the Modern Greek (MG) verb-forming suffixes *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno*, *-áro*, and the confix *-pió*<sup>2</sup>. Although these derivatives are extremely heterogeneous in terms of their semantics, syntax and types of bases they attach to, they have not been a favourite topic for investigation so far. Recent theoretical analyses, including those by Αναστασιάδη-Συμεωνίδη (1986), Giannakidou & Merchant (1999), Γιαννουλοπούλου (2000), Alexiadou & Anagnostopoulou (2004), Charitonidis (2005) and Πάλλη (2005), characterize *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno* and *-pió* as causativisation morphemes, but do not investigate in detail the semantic relations between the various meanings expressed by those morphemes.<sup>3</sup> Therefore, in this piece of research, an attempt will be made to investigate the meaning of each morpheme on the basis of a large collection of forms. The comparison of their semantic properties is expected to reveal that the morphemes do not express the same range of related concepts but seem to share a common causative/resultative meaning.

## 2. Methodology

Our data have been extracted from Αναστασιάδη-Συμεωνίδη (2002) *Reverse Dictionary of Modern Greek*<sup>4</sup> (RDMG). From the resulting list of raw data the following forms were removed: a) those that did not feature the suffix *-ízo*, *-óno*, etc. (such as borrowings like *frizáro* ‘curl, frizze’), b) those that were derived by prefixation, composition or parasynthesis, e.g. *kse-klid-óno* ‘to unlock’ (*klid-óno* ‘to lock’), *kse-*

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<sup>2</sup> Greek examples are given a broad phonological transcription.

<sup>3</sup> The process of noun to verb conversion in MG (e.g. *agápi* ‘love’-*agapó* ‘to love’) is also not without interest (cf. Αναστασιάδη-Συμεωνίδη, Ευθυμίου & Φλιάτουρας 2004). Note, however, that no particular theoretical attention has been paid to this (not particularly productive) process in the literature.

<sup>4</sup> See Plag (1999) for the advantages and disadvantages of the use of dictionaries in productivity studies.

*floud-ízo* ‘peel’ (*flóuda* ‘skin’ (\**floud-ízo*))<sup>5</sup>, c) those that have passive forms without active correlates, (i.e. all deponent verbs) (*erotévome* ‘fall in love’), d) those that are –*arízo* formations via the aorist of verbs in –*áro* (cf. *konservaro/konservarizo* ‘can, tin’).

The number of –*ízo*, –(*i*)*ázo*, –*óno*, –*évo*, –*éno*, –*áro* and –*pió* verbs as attested in the reverse dictionary is summarized in table (1):

Table 1. Data extracted from Αναστασιάδη-Συμεωνίδη (2002) *Reverse Dictionary of Modern Greek*

<u>verbs in</u>	<u>raw data</u>	<u>scrutinized data</u>
– <i>ízo</i>	3507	approx. 650
– <i>ázo/iázo</i>	2260	approx. 470
– <i>óno</i>	2106	approx. 500
– <i>évo</i>	1207	approx. 320
– <i>áro</i>	547	approx. 150
– <i>pió</i>	252	approx. 200
– <i>éno</i>	687	approx. 100

The figures in table 1 allow the following generalizations: a) Of all verb-forming suffixes –*ízo* seems to be the most productive, followed by –*óno*, –(*i*)*ázo* and –*évo*. b) The number of verbs in –*éno*, –*áro*, and –*pió* appears to be rather small in comparison to the number of verbs in –*ízo*, –(*i*)*ázo*, –*óno* and –*évo*.

For the analysis of the data, following Plag (1999), Lieber (2004), Charitonidis (2005) and Gottfurcht (2008), the theory of lexical conceptual semantics developed by Jackendoff (1983, 1991) will be used. All MG verbs will be coded according to the semantic categories established by Plag (1999).

### 3. The meanings of –*ízo*, –(*i*)*ázo*, –*óno*, –*évo*, –*éno*, –*áro* and –*pió*

Let us now turn to the structural and semantic properties of –*ízo*, –(*i*)*ázo*, –*óno*, –*évo*, –*éno*, –*áro*, and –*pió* derivatives. As we will see, these derivatives show a wide variety of meanings.

#### 3.1 –*ízo* derivatives

According to ΙΝΣ (1998) (*Dictionary of Standard Modern Greek*), the MG suffix –*ízo* (–ιζω) developed mainly from the Ancient Greek suffixes –ιζω and –ω. In MG, the vast majority of –*ízo* derivatives are derived from nouns. Phonologically, –*ízo* attaches primarily to consonant-final bases and avoids attaching to bases ending in /z/<sup>6</sup>.

The meanings of the vast majority of –*ízo* derivatives can be described as following:<sup>7</sup>

RESULTATIVE<sup>8</sup> (turn into x, make (more) like x)<sup>9</sup> and/or INCHOATIVE (become x):<sup>10</sup> *mavrízo* ‘(cause to) become black, blacken’ (*mávros* ‘black’), *kaθarízo* ‘to clean’

<sup>5</sup> Ευθυμίου (2001, 2002) and Αναστασιάδη-Συμεωνίδη & Μασούρα (2009), following D. Corbin’s model, characterize the segment –*ízo* in a verb like *kse-floud-ízo* ‘peel’ as a class marker serving to indicate verbal category (cf. Corbin (1987)).

<sup>6</sup> Only *bezízo* ‘look like beige’ (*bez* ‘beige’) was found in our corpus.

<sup>7</sup> All semantic category labels are found in Plag (1999), Lieber (2004) and Gottfurcht (2008).

<sup>8</sup> RESULTATIVE is a label for both causative and resultative meanings.

<sup>9</sup> Following Gottfurcht (2008: 96), the idea of identity and similarity will be treated equivalently across all semantic categories.

<sup>10</sup> Many verbs can be interpreted both in the causative and in the inchoative sense, e.g. *asprízo* ‘(cause to) become white, whiten’. There are also many verbs that can be interpreted both in the ornative and in the resultative sense, e.g. *ceróno* ‘cover with wax, become pale like candle’, *neróno* ‘add water into a liquid, become like water, to water’. For discussion, see Plag (1999), Lieber (2004) and Gottfurcht (2008).

(*kaθarós* ‘clean’), *sapízo* ‘go rotten, decay’ (*sápços* ‘rotten’), *nostimízo* ‘to flavor’ (*nóstimos* ‘tasty’)<sup>11</sup>

SIMILATIVE (do/make/act in the manner of/like x): *piθicízo* ‘imitate ape’s behavior, to ape’ (*piθikos* ‘ape’), *amerikanízo* ‘americanize’ (*amerikanós* ‘american’)

INSTRUMENTAL (use x): *sapunízo* ‘to soap’ (*sapúni* ‘soap’), *sfugarízo* ‘to sponge, to mop’ (*sfugári* ‘sponge’), *vurtsízo* ‘to brush’ (*vúrtsa* ‘brush’)

PERFORMATIVE (perform/do/make x): *γavjízo* ‘to bark’ (*γav* ‘woof’), *njaurízo* ‘to miaow’ (*njáu* ‘miaow’)

ORNATIVE (provide with x): *alatízo* ‘to salt’ (*aláti* ‘salt’), *skonízo* ‘to cover with dust, to dust’ (*skoni* ‘dust’), *xromatízo* ‘to colour’ (*xróma* ‘colour’), *oplízo* ‘to arm’ (*óplo* ‘arm’)

LOCATIVE (put in(to) x): *filacízo* ‘to jail’ (*filací* ‘jail’).<sup>12</sup>

It is worth pointing out that in our list of *-ízo* derivatives the most productive patterns are the SIMILATIVE, INSTRUMENTAL, PERFORMATIVE and RESULTATIVE patterns. According to Charitonidis (2005:151), there are many neologisms in MG which mean that someone shows a certain behavior or is similar to another entity.<sup>13</sup> Finally, we must notice that *-ízo* is basically the only suffix among the suffixes of our corpus that forms verbs with the meaning ‘act like’ and attaches to onomatopoeic words.

### 3.2 *-(i)ázo derivatives*

According to INΣ (1998), the MG suffix *-(i)ázo* developed from the Ancient Greek suffixes *-άζω/-ιάζω* and *-ῶ*<sup>14</sup>. The relationship of *-ázo* to *-iázo* and *-ízo* has been traditionally regarded as unclear. According to INΣ, *-iázo* derived from the attachment of *-ázo* to stems ending in *-i*. On the other hand, in Τριανταφυλλίδης (1991), *-(i)ázo* and *-ízo* are considered as different forms (i.e. allomorphs) of the assumed suffix *-ζω*. Moreover, INΣ has two different homonymous lemmas, one for [*ázo/jázo*] and a second for the learned [*ázo/iázo*]. Finally, INΣ (1998) and Μελισσαροπούλου (2007) treat *-(i)ázo* and *-ízo* as different suffixes. In this paper, we accept the INΣ analysis, but we strongly believe that further research is called for to explain the distribution of these suffixes.

The suffix *-(i)ázo* combines with adjectival and nominal bases, but in our list the majority of *-(i)ázo* derivatives are derived from nouns. Phonologically, *-ázo/iázo* seems to attach primarily to consonant-final bases<sup>15</sup>. Note also that the number of *-ázo* forms is very small. The form *-ázo* appears with feminine nominal bases in *-í* (stressed on the last syllable) or in *-a* (stressed on the penultimate syllable) and with adjectival bases in *-os* stressed on the antepenultimate syllable. When the vowel of the preceding syllable is /a/ then, the suffix has (almost) always the form *-iázo*. In general, *-(i)ázo* attaches

<sup>11</sup> In this paper I will not discuss the alternations in which the derived verbs participate. These alternations have been the subject of extended discussion in linguistic theory, see for example Alexiadou, A. (2010), Alexiadou, A & E. Anagnostopoulou (2004), Charitonidis (2005), Θεοφανοπούλου-Κοντού (2000).

<sup>12</sup> There are also a few derivatives (four verbs) that express a PRIVATIVE meaning: *psirízo* ‘delouse’ (*psíra* ‘louse’), but we must notice that all these verbs are [-learned] and have parallel synonymous and more frequent rival prefixed verbs with privative *kse-*: *ksepsirízo* or *ksepsirjízo* (cf. Ευθυμίου 2001, 2002). The features [-learned], [+/- learned], [+learned] are found in Αναστασιάδη-Συμεωνίδη & Φλιάτουρας (2003).

<sup>13</sup> i.e. they express similitive meanings.

<sup>14</sup> A number of AG *-ῶ* verbs turned into MG *-άζω/-ιάζω* verbs.

<sup>15</sup> *-(i)ázo* tends to avoid bases ending in /z/ (see also *-ízo*). Only four examples ending in [zjízo] were found in our corpus (e.g. *rizjízo*, ‘take root’). Note also that half of them have an alternative and more frequent synonymous form in *-óno*: *rizóno* ‘take root’.

primarily to nominal feminine bases in *-a* or neutral bases in *á+C+i* (stressed on the penultimate syllable) (e.g. *komatçázo* ‘brake/tear into pieces’ < *komati* ‘piece’), to feminine nouns in *-iá* and *-i* (stressed on the final syllable) (e.g. *angaljázo* ‘to embrace’ (*angaljá* ‘arms’)), to bases in *-io(s)* (e.g. *diplasiázo* ‘to double’ (*diplásios* ‘double’)) and to imparisyllabic masculine nouns (e.g. *papuðjázo* ‘become like an old person’ (e.g. *papús* ‘grandfather, old person’)).

The principal meanings found with *-(i)ázo* derivatives are:

RESULTATIVE: *etimázo* ‘to prepare, to ready’ (*étimos* ‘ready’), *komatçázo* ‘brake/tear into pieces’ (*komati* ‘piece’)

INCHOATIVE (become x/be provided with x): *ksiljázo* ‘be numb/stiff’ (*ksílo* ‘wood’), *kurkutçázo* ‘get muddled’ (*kurkúti* ‘batter’), *skulicázo* ‘be wormy/wormeaten’ (*skulíci* ‘worm’), *ritiðjázo* ‘to wrinkle, become wizened’ (*ritíða* ‘wrinkle’)<sup>16</sup>

SIMILATIVE: *neázo* ‘act as a young person’ (*néos* ‘young, new’)

ORNATIVE: *dropçázo* ‘to disgrace’ (*dropí* ‘disgrace’), *onomázo* ‘denominate’ (*ónoma* ‘name’)

LOCATIVE: *tsuvaljázo* ‘to bundle into a sack’ (*tsuváli* ‘sack’), *angaljázo* ‘to embrace’ (*angaljá* ‘arms’)

INSTRUMENTAL: *niçázo* ‘scratch with one’s nails’ (*níçi* ‘nail’)

PERFORMATIVE: *jortázo* ‘celebrate’ (*jortí* ‘celebration, saint’s day’), *sineðriázo* ‘hold a meeting’ (*sinéðrio* ‘meeting, conference’), *kuvendjázo* ‘chat, discuss’ (*kuvénda* ‘chat’).

The most robust semantic pattern of *-(i)ázo* derivatives is INCHOATIVE (be provided with (usually unwanted endogenous) x). We must also notice that *-(i)ázo*, when pronounced [jázo] (or [çázo]), but not in the form *-ázo*, usually attaches to (nominal and adjectival) [-learned] bases denoting something negative and derives verbs characterized as [-learned]<sup>17</sup>.

### 3.3 *-óno* derivatives

According to INΣ, the suffix *-óno* (*-ώνω*) developed mainly from an Ancient Greek ending *-όω>ῶ* (through the aorist form *-ωσα*) and achieved separate suffix status in Medieval Greek by the 8<sup>th</sup> century. The suffix *-óno* prefers attaching to nouns, but there are also adjectival bases. Phonologically, *-óno* attaches both to consonant-final and vowel final bases (but not to bases in /a/).

The meanings of *-óno* derivatives can be described as:

ORNATIVE: *vutiróno* ‘to butter’ (*vútiro* ‘butter’), *ladóno* ‘to oil, bribe’ (*láði* ‘oil’)

INSTRUMENTAL: *karfóno* ‘to nail’ (*karfí* ‘nail’), *tsekuróno* ‘cut/strike with an axe’ (*tsekúri* ‘axe’), *kliðóno* ‘to lock’ (*kliði* ‘key’), *kumbóno* ‘to button’ (*kumbí* ‘button’), *yandzóno* ‘to hook’ (*yándzos* ‘hook’)

INCHOATIVE/RESULTATIVE: *malakóno* ‘soften’ (*malakós* ‘soft’), *kokalóno* ‘turn into a bone/ begin to have properties of bone, be stunned’ (*kókalo* ‘bone’), *zaxaróno* ‘to crystallize, to sugar’ (*záxari* ‘sugar’), *payóno* ‘freeze’ (*páyos* ‘ice’), *zaróno* ‘to wrinkle’ (*zára* ‘wrinkle’), *rizóno* ‘take root’ (*ríza* ‘root’)

LOCATIVE: *tsepóno* ‘to pocket’ (*tsépi* ‘pocket’), *facelóno* ‘keep a file on someone, put something into an envelope’ (*fácelos* ‘envelope, file’), *stavróno* ‘crucify’ (*stavrós* ‘cross’).<sup>18</sup>

<sup>16</sup> In this paper we consider the meaning ‘be provided with (usually unwanted endogenous) x’ as the inchoative/anticausative version of the ornative pattern.

<sup>17</sup> For this suffix, see also Efthymiou (2010).

<sup>18</sup> The derivatives of this semantic category are characterized as [- learned] or [+/- learned].

The ORNATIVE pattern seems to be the most robust pattern for *-óno* derivatives. Note also that no SIMILATIVE or PERFORMATIVE meanings are attested for these derivatives. These findings seem to support Anastassiadis-Symeonidis & Masoura's claim (in Αναστασιάδη-Συμεωνίδη & Μασούρα 2009) that *-óno* derivatives are basically 'change of state' verbs.<sup>19</sup>

### 3.4 *-évo* derivatives

The suffix *-évo* (*-εύω*) derived productively denominal verbs in Ancient Greek. Modern Greek *-évo* combines usually with nominal [+animate] [+masculine] bases, as well as with adjectival bases. The vast majority of *-évo* verbs are intransitive verbs formed on nominal bases. Phonologically, *-évo* attaches to consonant-final bases: the only vowel allowed to appear before *-évo* is /i/ (*αγριέvo* 'make/become fierce').

The meanings of *-évo* derivatives can be described as:

SIMILATIVE/STATIVE (carry out the official activities of x/act like x): *pritanévo* 'be dean, act as a dean' (*prítanis* 'dean'), *proedréro* 'to chair, preside' (*próedros* 'president'), *vasilévo* 'to reign' (*vasiljás* 'king')

INCHOATIVE/RESULTATIVE: *çiroterévo* 'worsen, deteriorate' (*çiróteros* 'worse'), *xorjatévo* 'become a/like peasant' (*xorjátis* 'peasant'), *αγριέvo* 'make/become fierce, get/look/make angry' (*áγrios* 'fierce, wild'), *σιγurévo* 'ensure' (*σίγyros* 'sure'), *jenicévo* 'generalize' (*jenikós* 'general')

PERFORMATIVE: *taksiidévo* 'to travel' (*taksiði* 'travel'), *xorévo* 'to dance' (*xorós* 'dance')

ORNATIVE: *xajdévo* 'to caress' (*xádi* 'caress'), *dezμέvo* 'bind, tie, commit' (*dezμός* 'bond')

LOCATIVE: *ipothicévo* 'to mortgage' (*ipothíci* 'mortgage'), *pajidévo* 'to trap' (*pajída* 'trap')

INSTRUMENTAL: *toksévo* 'shoot with a bow' (*tókso* 'bow'), *tornévo* 'turn' (*tórnos* 'lathe').<sup>20</sup>

The SIMILATIVE 'carry out the official activities of x' and the INCHOATIVE patterns seem to be the more robust patterns for *-évo* derivatives. Note also, that *-évo* is almost the only verb forming suffix among the verbal suffixes under discussion that attaches to nouns denoting a profession or an office in order to express this meaning.<sup>21</sup>

### 3.5 *-éno* derivatives

According to INS, the suffix *-éno* (*-αίνω*) was already used as a suffix in Ancient Greek in order to form deadjectival and denominal verbs. In Modern Greek, however, there are also some *-éno* derivations that are historically derived from Ancient Greek verbs in *-ino* (*-ύνω*) and *-no* (*-νω*). Note also that Τριανταφυλλίδης (1991) presents *-óno* and *-éno* as different forms (probably allomorphs) of the assumed suffix *-no*. The majority of *-éno* derivatives in use in today's Greek have disyllabic adjectival bases in *-os* or *-is* (stressed on the final syllable) and express RESULTATIVE or INCHOATIVE meaning: *γlicéno* 'sweeten' (*γlikós* 'sweet'), *xondréno* 'get/grow fat, thicken' (*xondrós* 'fat, thick'), *vaθéno* 'deepen' (*vaθís* 'deep'), *zesténo* 'heat, hot/warm up' (*zestós* 'hot'), *mikréno* 'shorten, dwindle' (*mikrós* 'small, short'). There are also a few derivatives that express an ORNATIVE meaning: *ripéno* 'pollute' (*rípos* 'dirt, pollution'), *lipéno* 'lubricate, fertilize' (*lípos* 'fat, oil'). The suffix *-éno* is no longer productive in present day Greek.

<sup>19</sup> According to Μελισσαροπούλου (2007) the suffix *-óno* is no longer productive in Modern Greek.

<sup>20</sup> The derivatives of this semantic category are characterized as [+learned] or [+/- learned].

<sup>21</sup> With the exception of a few verbs in *-áro* (e.g. *pilotáro* 'to pilot').

### 3.6 –áro derivatives

As already noticed by Αναστασιάδη-Συμεωνίδη (1994), the suffix –áro is of Italian etymology and entered Greek through borrowings of Italian verbs in –are and French verbs in –er. It is attached mainly to nominal bases of non-Greek origin (usually to bases of Italian and French origin, but also to bases of English origin), but some examples derived from Greek bases are also found (e.g. *centráro* ‘to center’ (*céntro* ‘center’)). The suffix is very productive in forming neologisms in MG and usually forms [-learned] derivatives. Note also that many –áro derivatives have an alternative form in –arízo (formed via the aorist form): *freskáro/freskarízo* ‘to refresh’.<sup>22</sup> Phonologically, the suffix –áro attaches usually to feminine and neutral nominal disyllabic bases stressed on the penultimate syllable, to monosyllabic bases (*sok* > *sokáro* ‘to shock, scandalize’), and to a small number of adjectival bases in /e/ (*drapé* > *drapáro* ‘to drape’) stressed on the final syllable.

The meanings of –áro derivatives can be described as:

RESULTATIVE and INCHOATIVE: *kopčáro* ‘to copy’ (*kópça* ‘copy’), *freskáro* ‘to refresh’ (*fréskos* ‘fresh’), *snobáro* ‘to snub’ (*snob* ‘snob, snobbish’), *aleýráro* ‘cheer up’ (*aléýros* ‘cheerful’)

ORNATIVE: *puðráro* ‘to powder’ (*púðra* ‘face powder’), *sokáro* ‘to shock, scandalize’ (*sok* ‘shock’), *ýrasáro* ‘to grease’ (*ýráso* ‘grease’), *kritikáro* ‘criticize’ (*kritici* ‘criticism’), *komplimentáro* ‘to compliment’ (*kompliménto* ‘compliment’), *flertáro* ‘to flirt’ (*flert* ‘flirt’), *stresáro* ‘to stress’ (*stres* ‘stress’)

PERFORMATIVE: *valsáro* ‘to waltz’ (*vals* ‘waltz’), *zumáro* ‘to zoom’ (*zum* ‘zoom’), *manouvráro* ‘to manoeuvre’ (*manúvra* ‘manoeuvre’)

LOCATIVE: *centráro* ‘to center’ (*céntro* ‘center’), *konserváro* ‘put into a can’ (*konsérva* ‘tin, can’), *pacetáro* ‘to put into packet, pack’ (*pacéto* ‘packet’)

INSTRUMENTAL: *limáro* ‘to file’ (*líma* ‘(nail) file’), *frenáro* ‘to brake’ (*fréno* ‘brake’)

SIMILATIVE: *patronáro* ‘patronize’ (*pátronas* ‘patron’), *pilotáro* ‘to pilot’ (*pilótos* ‘pilot’).

–áro derivatives seem to have been attested with interpretations from all semantic categories discussed above: RESULTATIVE, INCHOATIVE, ORNATIVE, LOCATIVE, INSTRUMENTAL, SIMILATIVE and PERFORMATIVE. Note, however, that ORNATIVE, LOCATIVE and PERFORMATIVE patterns seem to be the most robust patterns for these derivatives.

### 3.7 –pió formations

The confix –pió developed from the Ancient Greek verb *poió* (ποιῶ ‘make/do’). As already noticed by Αναστασιάδη-Συμεωνίδη (1986), it attaches both to nominal and adjectival bases.<sup>23</sup> The majority of the adjectival bases are relational adjectives in –ikós. All –pió formations are transitive verbs and their meanings can be described as:

RESULTATIVE: *aplopió* ‘simplify’ (*aplós* ‘simple’), *elaçistopió* ‘minimize’ (*eláçistos* ‘minimal’), *stereopió* ‘solidify’ (*stereós* ‘solid’), *ýramatikopió* ‘grammaticalize’ (*ýramatikós* ‘grammatical’), *prosopopió* ‘personify, impersonate’ (*prósopo* ‘person’)

LOCATIVE: *perithoriopió* ‘marginalize’ (*perithório* ‘margin’), *omadopió* ‘divide into sets, groups’ (*omáda* ‘group’)

ORNATIVE: *morfopió* ‘to shape’ (*morfi* ‘form’).

<sup>22</sup> For the alternation –áro/–arízo see Βελούδης (2009).

<sup>23</sup> For –pió formations see also Γιαννουλοπούλου (2000).

According to Αναστασιάδη-Συμεωνίδη (1986), *-pió* is extremely productive in forming neologisms with resultative meaning in MG, and thus, it enters in competition with older denominal verb forming processes. For example, in MG, the neologism *elinopió* ‘turn into a Greek’ has begun to replace the older synonymous form *ekselinízo* (*Élinas* ‘Greek/Hellene’). Αναστασιάδη-Συμεωνίδη points out that *-pió* is more productive than formations derived from parasynthesis like *eks-elin-ízo*, because it is less sensitive to phonological, morphological and lexical restrictions and the resulting *-pió* formations are more transparent and more predictable in meaning than parasynthetic formations. She also suggests that another reason for the productivity of *-pió* is that this confix is more likely to be phonotactically signaled because of the presence of the linking vowel *-o-*.<sup>24</sup> Notice, also that no SIMILATIVE, PERFORMATIVE, INCHOATIVE meanings are attested for *-pió* formations in our corpus. However, this is not surprising, since *-pió* is restricted to forming transitive verbs and bears the status of a confix developed from a transitive verb with the meaning ‘make’.

#### 4. Generalizations and discussion

Having discussed the semantic and structural properties of *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno*, *-áro* derivatives and *-pió* formations in our corpus, the following picture emerges: The meanings of *-óno*, *-éno* and *-pió* are much more restricted than the meaning of *-ízo*, *-(i)ázo*, *-évo* and *-áro*. RESULTATIVE, INCHOATIVE, ORNATIVE, LOCATIVE, PERFORMATIVE, INSTRUMENTAL and SIMILATIVE meanings are expressed by four suffixes: *-ízo*, *-(i)ázo*, *-évo* and *-áro*. *-óno* derivatives express only RESULTATIVE, INCHOATIVE, ORNATIVE, INSTRUMENTAL and LOCATIVE meanings, whereas *-éno* derivatives express RESULTATIVE, INCHOATIVE and ORNATIVE meanings. On the other hand, *-pió* formations are restricted to RESULTATIVE, ORNATIVE and LOCATIVE meanings. The meanings of *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno*, *-áro* derivatives and the confix *-pió* formations have been summarized in table (2):

Table 2. The meanings of *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-éno*, *-áro* derivatives and *-pió* formations

	<i>-ízo</i>	<i>-(i)ázo</i>	<i>-óno</i>	<i>-évo</i>	<i>-éno</i>	<i>-áro</i>	<i>-pió</i>
RESULTATIVE	✓	✓	✓	✓	✓	✓	✓
INCHOATIVE	✓	✓	✓	✓	✓	✓	
ORNATIVE	✓	✓	✓	✓	✓	✓	✓
LOCATIVE	✓	✓	✓	✓		✓	✓
PERFORMATIVE	✓	✓		✓		✓	
SIMILATIVE	✓	✓		✓		✓	
INSTRUMENTAL	✓	✓	✓	✓		✓	

Taking into account all the meanings of our corpus, we suggest that the morphemes *-ízo*, *-(i)ázo*, *-óno*, *-évo*, *-áro*, *-éno* and *-pió* do not express the same range of related concepts, but seem to share a common causative/resultative meaning. Thus, following Plag (1999), Lieber (2004) and Gottfurcht (2008: 121), we propose a unified analysis of the meanings of all verb forming processes in Modern Greek. All denominal and deadjectival verbs share the same underlying semantic structure:

<sup>24</sup> Here, we can add another factor that might influence the productivity of *-pió*: *-pió* is a consonant-initial confix. As Hay (2000) claims, consonant-initial suffixes are more productive than vowel-initial ones, because they are more likely to provide phonotactic boundary signals.

CAUSE [x BE y LOC z]<sup>25</sup>

The semantic interpretation of a given verb depends upon 1) the extend to which the Lexical Conceptual Structure (LCS) is fully expressed and 2) which argument is filled by the noun base. Thus, for a RESULTATIVE interpretation, the y argument is filled by the noun base:

CAUSE [x BE [noun base] LOC-TO z].<sup>26</sup>

INCHOATIVE/SIMILATIVE interpretations are achieved when the noun base is the y argument but the CAUSE x portion is not realized:

BE [noun base] LOC-TO z.

For a PERFORMATIVE interpretation, the noun base is the only internal argument and the BE portion is not realized:

CAUSE [[noun base]].

ORNATIVE interpretations result from the full expression of the structure. In this case, the base noun is the x argument co-indexed with the y argument:

CAUSE [[noun base]<sub>i</sub> BE y<sub>i</sub> LOC-TO z].

For a LOCATIVE interpretation, the base noun is the z argument:

CAUSE [x<sub>i</sub> BE y<sub>i</sub> LOC-TO [[noun base]]].

Lastly the INSTRUMENTAL interpretation arises with the addition of the WITH primitive preceding the noun base:

CAUSE [x BE y LOC z WITH [noun base]]

However, the analysis of our data has shown that not all semantic categories are equally possible and/or probable for all verb forming processes. Moreover, the data from table 2 reveal that RESULTATIVE and ORNATIVE are more preferred to PERFORMATIVE and SIMILATIVE.<sup>27</sup> Moreover, our corpus study shows that there is enough variation in the semantic category distribution of each verb formation process: *-ízo* is more likely to participate in SIMILATIVE, PERFORMATIVE (and INSTRUMENTAL) interpretations, *-(i)ázo* is more probable as INCHOATIVE, *-óno* is more likely to be either ORNATIVE, RESULTATIVE or INSTRUMENTAL, *-évo* is more probable in SIMILATIVE and INCHOATIVE interpretations and *-pió* is more probable as RESULTATIVE. Furthermore, the analysis of our data has shown that a) *-(i)ázo* seems to be the prevailing default verb forming suffix for the INCHOATIVE interpretation ‘be/become provided with’, b) *-évo* seems to be prototypically associated with the SIMILATIVE meaning ‘carry out the official activities of x’, and c) *-ízo* is the only suffix that derives verbs with the SIMILATIVE meaning ‘act like’. In addition, we must notice that, in general, Modern Greek suffixes don’t seem to select the same type of base. For example, *-ízo* is basically the only suffix among the suffixes of our corpus that attaches to onomatopoeic words, and *-évo* is the only suffix that attaches to nouns denoting an office. There are, however, a few doublets like *nostimízo/nostimévo* ‘flavor, become tasty’ derived from the adjective *nóstimos* ‘tasty’ (or *luluðízo/luluðjázó* ‘blossom, bloom’ (*luluði* ‘flower’)), which reveal that verb formation processes are in competition in certain domains (e.g. resultative domain) but, usually, when two suffixes attach to the same base, the meaning of the derivatives is not the same: e.g. *xrisóno* ‘cover with a layer of gold, gild’ vs *xrisízo* ‘look like gold’, *γlicéno* ‘sweeten’ vs *γlicízo*

<sup>25</sup> Following Gottfurcht (2008), I propose that in this structure the verb has three arguments (x,y,z) and makes use of the semantic primitives CAUSE, BE, LOC. LOC indicates an underspecified location between two arguments.

<sup>26</sup> The dashed line represents the optionality of the function CAUSE, BE or LOC when the inchoative, the performative or the resultative form is desired.

<sup>27</sup> These conclusions support Gottfurcht’s claim that ornative and resultative are the most preferred patterns for denominal verb interpretations.



‘be sweetish’, *ritiðjázō* ‘to wrinkle’ (intransitive/-learned) vs. *ritiðónō* ‘to wrinkle’ (transitive and intransitive/+learned), *laspónō* ‘bemire’ vs *laspázō* ‘become mash’ (*láspi* ‘mud’), *asçimízo* ‘make ugly’ vs *asçiméno* ‘make ugly, become ugly’ (*ásçimos* ‘ugly’).

To summarize, the analysis of our data has shown that Modern Greek verb-forming suffixes (and the confix *-pió*) are not completely synonymous. They can derive forms that overlap in meaning or function, but the semantic domains in which two verb formation processes are actual rivals is rather restricted. As already seen, the phonological restrictions on the suffixes (and the confix *-pió*) further diminish the potentially overlapping domains.

## 5. Conclusion

In this paper an attempt has been made to put forward a unifying analysis of *-ízo*, *-(i)ázō*, *-ónō*, *-évo*, *-éno*, *-áro* derivatives and *-pió* formations in Modern Greek. Following Plag (1999), Lieber (2004) and Gottfurcht (2008), it was suggested that all Modern Greek verb forming processes that have been discussed here share the same underlying semantic structure. Furthermore, I have shown that not all semantic categories are equally possible or probable for all verb forming processes and proposed that Modern Greek verb-forming suffixes are not completely synonymous. But of course, there is more to be done. The following issues need further investigation: 1) the semantics of each MG suffix in question, in order to find out why their semantic behavior is not identical, 2) the phonological properties of each suffix, in order to decide whether some of the affixes behave like phonologically conditioned allomorphs, 3) the history of each verb forming process, in order to find out if the correlation between the existing forms and the newly created forms of each time period is significant, and 4) the extend to which native speakers are sensitive to the semantic category distribution of existing denominal or deadjectival derivatives.

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