

The polysemy of *-ize* derivatives and the ModGreek counterpart *-pi`o*

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Abstract

Derivatives involving the suffix *-ize* in English are extremely heterogeneous with regard to their semantics, syntax and the types of bases the suffix attaches to. A similar claim can be made for the ModGreek counterpart *-pi`o*. In this study I argue that the case of *-ize* and *-pi`o* derivatives has implications for morphological theory with regard to the status of the derivational affix in general, and word-formation rules (WFRs) in the lexicon, as well as the role of semantic and pragmatic information in lexical morphology. Based on the theory of Lexical Conceptual Semantics (LCS) (Jackendoff 1990; Plag 1999), I show how the meaning of the derived verbal is compositional and results from the interaction of the meaning of the stem with the semantic structure of the potential *-ize/-pi`o* derivative.

Key words: lexical conceptual semantics, causative, resultative, decomposition

1. Introduction

The status of affixes and word formation rules (WFRs) in the lexicon, and the role of semantic and pragmatic information in word formation are of primary importance as they have particular implications for morphological theory. With a most productive overt verb-forming suffix, such as *-ize* in English and *-pi`o* in Modern Greek (MG), the meaning of the derivative verb results from the interaction of the meaning of the base with the semantic structure of the all possible *-ize* and *-pi`o* derivatives.

In an earlier paper (Mela-Athanasopoulou 2004), I gave a whole range of meanings for the three major verbal derivatives in English, *-ize*, *-ify* and *-ate*, together with other most productive suffixes. The scope of that article was to test the power of productivity of the derivational suffix in English by applying it to pseudo-stems. In this study, I will argue on the heterogeneity of the meanings of *-ize* and the MG counterpart *-pi`o*. In my analysis, I will apply Jackendoff's (1990) theory of Lexical Conceptual Semantics (LCS) repeated to some extent in Plag (1999) and Lieber (1998). Whereas Plag collapses all the meanings of *-ize* under one single semantic representation, Lieber, following Pinker (1989), suggests that all *-ize* derivatives are action verbs and, according to Pinker, they share the semantic function ACT. She further supports that they are similar to verbs formed by X → V conversion. In particular, they are like Noun to Verb (N → V) conversion in the sense that part of the Event of the verb is left to pragmatic inference, i.e. the interpretation of denominal *-ize* verbs is not quite predictable, as is the case of adjectival *-ize* verbs.

Let us now consider both Plag's and Lieber's configurations:

- (1) LEXICAL CONCEPTUAL STRUCTURE (LCS)

of locative / ornative / causative / resultative / inchoative *-ize* verbs

[[]_{BASE} *-ize*]_v

{NP_i __ NPTheme, NPTheme __, NP_i __ }

CAUSE ([], [GO ([Property, Thing] Theme / Base; [TO ([Property, Thing] Base/ Theme)])])

Plag, I., (1999: 136)

In non technical terms the structure of (1) looks as in (2) for the semantic representation of the sentence, John *anthropologized* (in the field).

(2) LEXICAL CONCEPTUAL STRUCTURE (LCS)

John *anthropologized* (in the field).

(2a) CAUSE ([John]_i, [GO ([anthropology] Base; [TO ([]Theme)])]) ‘ornative’

(2b) GO ([John]Theme; [TO ([anthropology] Base)]) ‘inchoative’

Plag, I., (1999: 138)

As the object is not overt here, we have only two syntactic structures to map onto the semantic configuration of (1), that is, [NPTheme __] and [NP_i __]. In this case, then, John can be either interpreted as [NP_i] in (2a), meaning, ‘John applied anthropology to something (an unmentioned object)’ or interpreted as [NPTheme __], meaning, ‘John became anthropology’, an interpretation automatically ruled out on pragmatic grounds. I will discuss Plag’s descriptions of LCS in detail further on together with Lieber’s suggestions.

Now consider Lieber’s notations in (3a-d). She proposes four different LCSs of *-ize* derivatives which share the semantic function of ACT as mentioned before, i.e. “all *-ize* verbs are action verbs of some sort” (Lieber 1998:20).

(3a) {EventACT ([Thing], [EventINCH [StateBE ([Theme], [PlaceAT ([Thing, Property base N, A])])])])}

(*unionize, civilianize, epitomize, velarize*)

(3b) {EventACT ([Thing], [EventGO [Thing base N], [Path TO/ON/IN ([Thing)])])}

(*carbonize, texturize, apologize*)

(3c) {EventACT ([Thing], [EventGO [Thing], [Path TO ([Thing base N])])])}

(*summarize, hospitalize*)

(3d) {EventACT ([Thing], [MannerLIKE ([Thing, Property base N])])}

(*canibalize, economize*)

According to Lieber, what follows the ACT function may be either a Manner function (3d), or another Event function, in which case the *-ize* derivative verb can be causative or causative-inchoative (3a)-(3c). The inadequacy of such an account is that this second Event function must be fixed for each individual verb, depending on the category of the base. Further, whereas the interpretation of denominal *-ize* verbs is left to pragmatic inference, the interpretation of de-adjectival *-ize* verbs is much more uniform and predictable in meaning (than denominal *-ize* verbs), because adjectives normally denote properties and the event corresponding to a property is the coming into being of that property. That’s why with adjectival stems, Lieber says, the event must be INCHOATIVE –BE.

In my analysis, I will move within Jackendoff’s lexical conceptual semantics theoretical framework, following a schema more or less closer to Plag’s than Lieber’s because I have found it more self-explanatory and illustrative and more appropriate for

an in-depth analysis of the exact counterparts of MG for *-ize* derivatives. Why, for example, isn't the Greek *izo* (from which *-ize* actually derived¹) the exact equivalent of the English *-ize* in its most productive senses, and instead it is the archaic verb stem *-pi`o* < AG (Ancient Greek) *ποιῶ* 'do, act' (in the sense of creating something) used as a designated extremely productive suffix for the MG counterparts? Moreover, even the bound stem *-pió*, an actual verb in Ancient Greek, does not satisfy all the senses of Jackendoff's LCSs schema of the *-ize* derivatives. Instead, the second productive verbal suffix (equivalent to *-ize*) *-`ono* (e.g. *spitono* 'put into a house' in the sense of *hospitalize* is used. Finally, it will also be shown, in this study, that *-pi`o* derivatives are always transitive whereas the MG *-izo*, though marginally productive, produces both transitive and intransitive verbs, e.g. *furnizo* 'put into an oven', but *kokinizo* 'paint something red' or 'become red'.

2. The present study

To start with, both *-ize* and *-pi`o* can be characterized as semantically indeterminate. In her analysis, Lieber does admit that there are no fixed LCSs for *-ize* derived verbs within her own framework analysis of *-ize* as an N to V conversion. "Semantically determinate affixes have lexical conceptual structures which are entirely fixed [...]. In contrast, semantically indeterminate methods of word formation have Lexical Conceptual Structures which are in some way unfixed. The most extreme case might be a method of word formation like noun to verb conversion" (Lieber & Baayen 1993: 69). As will be shown, it is fairly clear that the two suffixes in question are not completely semantically determinate.

In what follows, I will attempt to present an illustrative picture of the semantic categories of *-ize* in the framework of Plag's analysis.

Table 1. Semantic categories of *-ize* according to Plag's (1999: 125) analysis

<i>Semantic category</i>	<i>Paraphrase</i>	<i>Example</i>
Locative	Put into X	hospitalize
Ornate	Provide with X	patinize
Causative	Make more X	randomize
Resultative	Make into X	peasantize
Inchoative	Become X	aerosolize
Performative	Perform X	anthropologize
Similative	Act like X	powerize

Plag has subsumed each of these categories under a single LCS shown in (4).

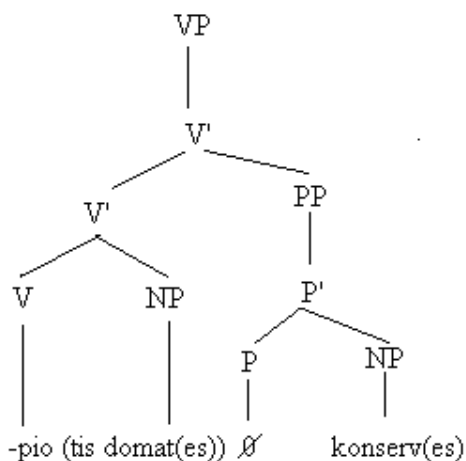
(4) LCS of *-ize* verbs (generalized)

[[]BASE *-ize*]_v
 {NP₁ __ NP_{Theme}, NP_{Theme} __, NP₁__}
 CAUSE ([]_i, [GO (Property, Thing] Theme/Base; [TO [Property, Thing]
 Base/Theme]))

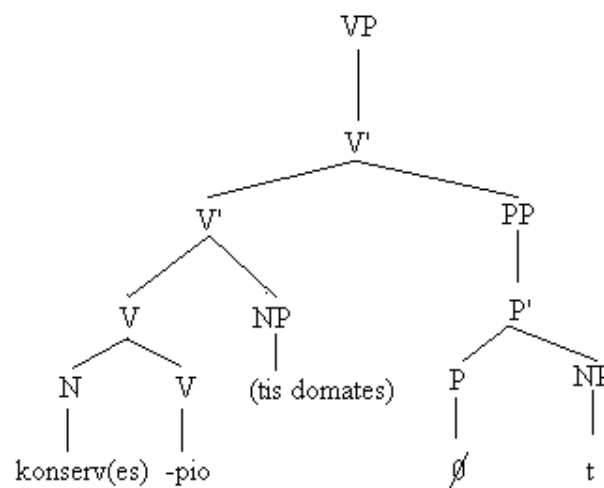
Let us put this framework into practice and choose one of the semantic categories of *-ize* shown in Table 1, for example, the causative meaning, of the derivative verb

¹ cf. Marchand (1969: 255): "ize /aiz/ is ultimately OGr [Old Greek] *-izo*, a suffix with both transitive and intransitive verbs".

(8a)



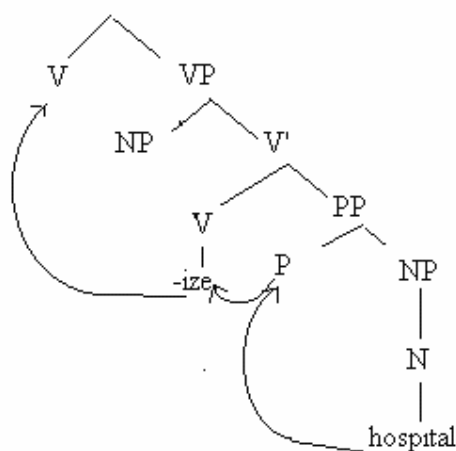
(8b)



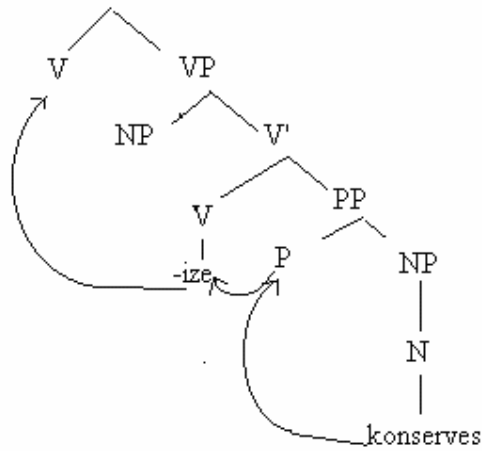
Note here that the Noun stem is the Goal rather than the Theme. Farrell (1998:43) provides a more simplified picture for Goal-centered verb formation, such as *hospitalize* (9a). We will attempt this with *konservopi`o* (9b).

(9)

(9a) VP



(9b) VP



Coming back to the locative category of *-pi`o*, interestingly enough, *-pi`o* is very often substituted by *-`ono* as mentioned earlier (e.g. *spitono* ‘put into a house’) or even *-izo* (e.g. *furnizo* ‘put into an oven’) or *-iazo* (e.g. *tsouvaliazo* ‘put into a bag’). But our main concern here is to test all the potential categories of *-pi`o* as an equivalent of the very productive *-ize*. Certainly, a similar claim can be made about the ornate meaning of *-ize* and *-pi`o*. For instance, *-`ono*, *-iazo*, or another archaic stem used as a suffix, *-krato*, for example, may be used, as in *oxidono*, ‘oxidize’, *emvoliazo* ‘vaccinate’ and *tromokrato* ‘terrorize’. In this study, however, I will confine myself only to *-pi`o* based on both empirical data as well as the Greek Reverse dictionaries (Κουρμούλη 1967; Μπαλαφούτη 1996; Αναστασιάδη-Συμεωνίδη 2002).

Moving now to the ornate meaning of *-pi`o* we have the following picture:

‘provide with X’; e.g. impregnate with X *?oxygonopi`o*

CAUSATIVE *-pi`o* ‘make more X’; *kinopi`o* ‘publicize’
 ‘make something look like X’; *arenopi`o* ‘masculinize’

(13) LCS of causative *-pi`o* verbs

[[]Stem *-pi`o*]_v
 NP_i ___ NPTheme

(13a) CAUSE ([], [GO ([]Theme; [TO [Property/Thing kino-]Stem]])

(13b) CAUSE ([], [GO ([Property/Thing kino-]Stem; [TO []Theme]])

In (13a), the Stem is an Adjective and renders the Theme its properties (hence the Property reading: something is made *kino-*). In (13b), the Stem is a Noun to which the news will be transferred (the Thing reading). If we follow the Adjectival reading, we have an abundance of causative *-pi`o* derivatives.

Table 2. Causative *-pi`o* derived from adjectives

<i>Adjective</i>	<i>Stem - linking Vowel <o></i>	<i>Derived Verb</i>
kinos ‘common, public’	kin’<o>	kinopi`o ‘publicize’
γnostos ‘known’	γnost’<o>	γnostopi`o ‘make known’
nomimos ‘legal’	nomim’<o>	nomimopi`o ‘make legal’
γelios ‘ridiculous’	γε’li<o>	γeliopi`o ‘make redicule’
pangosmios ‘world wide’	pangosmi<o>	pangosimiopi`o ‘globalize’
megalos ‘big’	megal<o>	megalopi`o ‘make bigger’
steganos ‘water proof’	stegan<o>	steganopi`o ‘make water proof’
aplos ‘simple’	apl<o>	aplopi`o ‘make simple’
refstos ‘liquid’	refst<o>	refstopi`o ‘make liquid’

We will analyze now, the resultative meaning of *-pi`o* ‘make into X: convert into X’ (Marchand 1969: 258), e.g. *poltopi`o*. Here the process is A → B. The LCS is illustrated in (14) and (14a-b).

(14) LCS of resultative *-pi`o* verbs

[[]Stem *-pi`o*]_v
 NP_i ___ NPTheme

CAUSE ([], [GO ([Property, Thing] Theme/Stem; [TO [Property/Thing] Stem/Theme]])

(14a) CAUSE ([], [GO ([charti]Theme; [TO [Thing polto] Stem]])

(14b) CAUSE ([], [GO ([Property polto]Base; [TO [charti] Theme]])

‘pulp’ ‘paper’

Now, the crucial difference between the causative and the resultative categories lies in the syntactic category of the stem: the causative is de-adjectival (as already shown), meaning “make more X”, e.g. *refstopi`o* ‘liquidize’, *nomimopi`o* ‘legalize’, etc., and the resultative is denominal, meaning “make into X”, e.g. *koniortopi`o* ‘pulverize’, *poltopi`o* ‘turn into pulp’, *?robotopi`o* ‘robotize’, etc. The productivity of *-pi`o* with both a causative and a resultative meaning is vast if one can think of already established,

forms such as *γeliopi`o* ‘ridicule’, *steyanopi`o* ‘make waterproof’, *pangosmiopi`o* ‘globalize’, *aplopi`o* ‘simplify’, and *ilopi`o* ‘materialize’, *pragmatopi`o* ‘realize, etc.

Consider now, the inchoative category of *-piume* verbs, the Middle Voice of *-pi`o*, used intransitively and paraphrased as ‘become X’. Here the active *-pi`o*, producing only transitive derivative verbs, as it has been shown, and functioning as the exact equivalent of *-ize* with most of its semantic categories, fails as a counterpart of the inchoative *-ize*. For example, *primitivize* ‘become primitive’ does not find the equivalent *protogonopi`o*. Rather the Middle Voice *-piume* as an inchoative ‘become X’, is significantly productive with de-adjectival derivatives, e.g. *prothimopiume* ‘become willing’, *diaforopiume* ‘become different’, etc. The gap of the inchoative *-pi`o* is also filled up here by the marginally productive *-izo*, used both transitively and intransitively, e.g. *kokinizo* ‘become red’ and ‘make something red’ (a change of state); *gializo* ‘shine; become shiny’ and ‘make something shiny; polish’.

It is worth noting here that together with *-piume* and *-izo*, another verb root, with inchoative meaning, used as a verbal suffix in the place of *-pi`o*, is *-ferno* <Archaic, *fero* ‘carry’, e.g. *ginekoferno* ‘derog. (of a man) to behave like a woman’ (cf. *womanize*, usu. derog. (of a man) ‘to habitually pay attention to many women for sexual purposes’, Longman Dictionary 1990: 1211). It wouldn’t be farfetched here to add the Middle Voice suffix *-onome* (cf. *-ono*, Active) as in *fantasionome* ‘fantasize’.

In the analysis of the LCS of inchoative *-ize*/MG *-piume*, *-izo* verbs the function CAUSE is missing and as a result there is no Agent argument of CAUSE. Further, the Theme occurs in the surface subject position and not in the object position.

(15) LCS of inchoative *-izo*, *?piume* verbs

[[]Stem **-pi`o* /*-piume*, *-izo*]V

NP Theme ____

[GO ([Thing Property]Theme; [TO [Thing, Property]Stem]])

[GO ([Thing Property]Theme; [TO [kokino]Stem]]) ‘inchoative’

A similar picture of *-pi`o* is observed with the performative and similitive semantic categories of *-ize*. Consider the illustration of the performative first.

(16) LCS of performative verbs

[[]Stem **-pi`o* /archaic verb stem X’o, e.g. *-loyo*, *δoto_v*, (philo-)sopho <philosphos_N

Here X’o can be an archaic verb root, used as a suffix as an exact substitute for *-pi`o* (Mela-Athanasopoulou 2000), e.g. *iθikoloyo* ‘moralize’, *loyoδoto* ‘account for’, *filosopho* ‘philosophize’:

{NP_i ____ NPTheme, NPTheme ____, NP_i ____}

CAUSE ([], [GO ([Property, Thing Theme/Stem; [TO [Property, Thing Stem/Theme]]])

The LCS of (17) would be:

(17) O fititis filosofi pano sto θema.

The student philosophizes on the subject.

(17a) CAUSE ([o fititis]_i, [GO ([philosophy] Stem; [TO []Theme]])])

(17b) GO ([o fititis] Theme; [TO [philosophy]Stem]])

This can be roughly interpreted as

- (18a) *o fititis skeftete filosofika to thema,*
the student thinks of the subject in a philosophical way,
i.e. *eksetazi to thema se vaθos*
i.e. he examines the subject in depth
- (18b) *o fititis simperiferete san filosofos*
the student acts in a way characterized by philosophical thought
i.e., becomes a philosopher

All the archaic roots already mentioned (i.e. *-loyo*, *δoto*, etc.) fall under the same analysis of (17) and can be used both transitively and intransitively. Interestingly enough, for this group of the intransitive *-ize* verbs (with the performative reading) the MG counterpart would be the Middle voice of *-pi`o*, i.e. *-piume*, combined with a preposition and yet, having a purely lexicalized meaning, e.g. *prospiume* ‘pretend’, *apopiume* ‘decline, refuse’ and *antipiume* ‘usurp’, for instance. But such an approach must be ruled out (cf. Αναστασιάδη-Συμεωνίδη 1986:51) because in these forms *-piume* functions as an actual verb stem rather than an affix and, in particular, it is the head of a compound verb (with a non-compositional meaning) with a preposition as a non-head, e.g. [_{PROSPREP} *-piume*_{VERB STEM}] *prospiume* ‘pretend’.

In the case of *-piume* as an inchoative ‘become X’, as already shown, the derived verb is de-adjectival and *-piume* does behave like an affix, in the sense of *-ize*. For example, *prothimopiume* ‘become willing’, *evesthitopiume* ‘become sensitive’, *apostatopiume* ‘become rebellious’, etc.

Coming back to the similitive meaning of *-ize* /*-pi`o* derivatives, i.e. ‘act like X’; ‘imitate X’, we notice that *-izo* and, to a limited extent, the archaic verb root used as a pseudo-suffix (*-ferno*) blocks the productivity of *-pi`o* as a similitive. Consider the data in (19a-b). In (19a) the Stem (X) is a proper name, whereas in (19b), it is an adjective or a name of an animal.

- | | | |
|-------|--------------------|--|
| (19a) | <i>americanizo</i> | act like an American |
| | <i>galizo</i> | act like a French |
| | <i>platonizo</i> | follow the doctrines of Plato |
| | <i>lakonizo</i> | imitate the people of Lakonia (Peloponese) in terms of
concise speech (lexicalized idiosyncratic meaning) |
| | <i>helinizo</i> | act like a Greek |
| (19b) | <i>piθikizo</i> | act like an ape |
| | <i>papayalizo</i> | act like a parrot ‘learn by rote |
| | <i>neanizo</i> | behave like a youth |

The possible analysis of (19a-b) as intransitive similitives yields the following LCS where the Theme occurs in Subject position.

- (20) LCS of similitive *-izo*
[[]Stem *-izo*]_V
{NPTheme ____}
CAUSE ([] ; [GO ([Property, Thing] Theme/Stem; [TO [Property, Thing]
Stem]])

For instance, the LCS of the sentence, *meriki epistimones piθikizun* ‘some scientists act like apes’, looks then as in (21).

- (21) CAUSE ([]; [GO ([meriki.NOM.PL epistimones.NOM.PL] Theme/Stem; [TO [piθikizun.3P]Stem]])

Consider now the LCS of (22), in which *eksislamizo* ‘turn X to Islam’ is a transitive verb.

- (22) i Irani eksislamizoun tus Kalas
the Iranians islamize the Kalas
(22a) CAUSE ([i Irani]_i [GO ([Islam] Stem; [TO [tus Kalas] Theme]])
(22b) CAUSE ([i Irani]_i; [GO ([i Kalas.NOM.PL] Theme; [TO [Islam] Stem]])

In (22a), Islam is induced in the Kalas people, whereas in (22b), the Kalas people are transferred to Islam.

It is worth mentioning here, that the notion of “turn X to Noun” of word forms, such as *eksislamizo*, *ekchrisitanizo*, *eksellinizo*, etc. is also due to the prefix *ek-/eks-* (<Ancient Greek preposition *ek-*) the so-called pre-verb (Ralli 2003) where the stem of, say, (22a) may be a nominal (i.e. *Islam*, *Christian*, etc.). Following Ralli (2003), verbs such as *eksislamizo* may derive from a Noun or Adjective combined with *-ize*, for example, to produce a non-attested verb, e.g. **islamizo* to which *ek-*, *eks-* will attach to yield *eksislamizo*².

Lieber treats both performatives and similatives as ACT verbs, as has already been mentioned earlier in this article. “What follows the ACT function may be either a Manner function in which case we get purely actional verbs like *cannibalize* or *economize*, or another Event function, in which case we derive causative or causative/inchoative verbs” (Lieber 1998:20)

So far, our treatment of the polysemy of *-ize* and *-pi`o* has suggested that whereas *-ize* produces both transitive and intransitive derivatives, the MG counterpart *-pi`o* yields only transitive derivatives due to its syntactic frame: initially an archaic verb stem of transitive nature. On the other hand, the semantic categories of both *-ize* and *-pi`o* are almost identical except for the last three, i.e. the inchoative, the performative and the similative *-ize*. These are filled up by the Middle Voice *-pi`o*, that is, *-piume*, used also as a suffix, or other archaic verb stems used as suffixes such as, *-loyo*, *-krato*, *-doto*, etc. Moreover, the clear suffix *-izo* – from which *-ize* has derived – used both transitively and intransitively does fill the gap of *-pi`o* as far as its inchoative and similative semantic categories are concerned, e.g. *kokinizo* and *amerikanizo*, respectively.

An additional argument for our analysis is that both *-izo* and the MG counterparts are extremely productive and as such, they are semantically highly transparent. This of course does not entail that marginally productive {-th} (e.g. *warmth*) is semantically opaque.

3. Conclusion

In this study I have exposed the semantic categories of the MG pseudo-suffix *-pi`o* as the exact equivalent for the English *-ize*, (actually the more productive of the two rival

² For discussion on the semantics of *ek-/eks-* or *kse-* also see Smyrniotopoulos & Joseph (1998: 484); Κλαίρης & Μπαμπινιώτης (1999: 327); Καραντζόλα & Γιαννουλοπούλου (2000: 198-199); Ralli (2003: 118).

suffixes *-ize* and *-ify*). I have applied the theory of semantic decomposition of verbs put forward by Jackendoff (1990) and the more recent literature. The ideas of LCS have turned out to be extremely useful in the sense that the meaning of the derived verb can be described, predicted, and even formalized in a straightforward way. A more concise analysis of all possible archaic counterparts of *-ize* is beyond the length of this paper. This I have left for future research.

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