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# Does morphology play a role in L2 processing? Two masked priming experiments with Greek speakers of ESL

Madeleine Voga, Anna Anastassiadis-Symeonidis & H el ene Giraudo

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Commentaire [DA1]:   remplir

## Introduction

In the domain of bilingual and second language processing, the question of the existence, exact nature and role of linking representations between the two languages summarizes the questioning of a large body of psycholinguistic research over the past years. As far as the role of morphology is concerned, the *whole-word listing vs mandatory parsing* problem constitutes a great part of the discussion, which, from the scope of processing, can be resumed in the following terms: on the one hand, tenants of the decompositional approach (Taft & Forster, 1975; Rastle & Davis, 2008; Crepaldi, Rastle, Coltheart, & Nickels, 2010) posit the existence of a mandatory affix stripping mechanism intervening during the first stages of lexical access and which can be assimilated to the morpheme-based theory of morphology propounded by linguists (e.g., Halle & Marantz, 1993). On the other hand, those who privilege a whole-word-access comparable to the word-based approach (see Chap. 3 in Haspelmath & Sims, 2010). A quick review of the psycholinguistic literature of the last 20 years reveals that the decompositional account or one of its variants dominates primarily for monolingual (e.g. with English materials Rastle, Davis & New), and subsequently for bilingual and L2 processing (e.g. Diependaele, Du nabeitia, Morris & Keuleers, 2011). We wish to remark at this point that proponents of decomposition appear somewhat reluctant to take into account important data undermining its basic principles : for example, Pastizzo & Feldman's (2002) data on English past tense, showing robust morphological priming for non-decomposable past tenses (e.g. *fell-fall*) relative to orthographic controls (e.g. *fill*) have to wait until 2010 (Crepaldi et al. 2010) to be taken into consideration by the tenants of decomposition, who, replicating the experiments they had previously strongly criticized because of minor

methodological pitfalls, find exactly the same results as the initial Pastizzo & Feldman study (see Giraudo & Voga, 2013).

Besides the whole-word vs decomposition problem, what is of considerable interest for our study is cross-language priming, in which both languages of the bilingual/2<sup>nd</sup> language speaker are presented and within which masked priming is the preferred technique. The aim here is not to review the albeit very interesting literature in this domain, but to insist on the following points: first, cross-language morphological priming effects, mostly derivational, are found in studies in the direction from L1 to L2, where the prime is in L1 and the target of the recognition is in L2, (e.g. S anchez-Casas & Garc ıa-Albea, 2005; Voga & Grainger, 2007; Voga 2005; Voga 2014); second, in the opposite priming direction (L2 to L1), an asymmetry seems to arise, i.e. the effects – not only morphological – obtained in the L1 to L2 direction seem to vanish (e.g. Gollan, Forster & Frost, 1997), or diminish drastically (Dimitropoulou, Dunabettia & Careiras, 2011, for Greek (L1) – Spanish (L2)). Third, this asymmetry seems related to factors relevant to the morphological organisation of the stimuli taken into account. An example of such a factor is the etymological origin of the materials: Voga (2013), with advanced Greek learners of French (L2), in the L2 to L1 priming direction, finds significant derivational priming effects for materials of L1 etymological origin (e.g. *id ee* – *ιδ έα*, *id ea*, *idea*), whereas etymologically French (L2) stimuli (ex. *cuisine* – *κουζ ıνα*, *kouz ına*, *kitchen*) exhibit the well-documented asymmetry and, subsequently, no effect. To cite another example, Morphological Family Size (MFS, Schreuder & Baayen, 1997), a no-parsing variable, has been shown to influence cross-language priming, for ex. Dijkstra et al. (2005), in a lexical decision experiment ran with English-Dutch bilinguals, find facilitatory effects of Dutch MFS for interlingual homographs; Voga & Anastassiadis-Symeonidis (2012) and Voga (forthcoming) focus on the study of MFS and provide evidence in favor of the role of this variable in processing derivations in the L2 (French) to L1 (Greek) direction. The point we wish to make here is the following: as far as cross-language priming is concerned, there is evidence, from same-script as well as cross-script protocols, that non-parsing morphological factors (etymological origin and MFS in the examples cited here) do play a role in both directions of priming. In other words, cross-language priming provides data that the decompositional approach cannot integrate and this in a protocol (masked priming) where the participant is not even aware of the existence of the prime. Moreover, the above data advocate for an organisation of the lexicon in which variables extending beyond the limits of individual words exert influence: in the case of the MFS, this influence comes from outside the word-to-be-parsed, thus

leading to the conclusion that L2 processing cannot be viewed merely through parsing processes.

### 1. The Silva & Clahsen (2008) study and related studies

A promising line of research recently developed upon the hypothesis of a permanently impaired underlying syntactic component in L2 speakers: in this context, a set of papers examining L2-L2 priming (for a review, Clahsen, Felser, Neubauer, Sato & Silva, 2010), suggest that L2 learners, given their inability to rely on the computational component, depend on declarative memory and are inclined to list forms in the lexicon rather than create them with stems and affixes as native speakers do. The data put forward confirm this hypothesis: Silva & Clahsen (2008, henceforth S&C), in a L2-L2 masked priming protocol with a 60 ms prime duration, found no evidence for inflectional facilitation. In their study, advanced English learners with a rich morphological marking system in L1 (German) did not perform better than learners with morphologically poor L1 systems (Chinese) in processing English inflections. In other words, the prime *walked* failed to induce facilitation on processing the target *walk* for both types of subjects and across experiments. On the other hand, the results for derivational priming (e.g. *loudness-loud*) indicated arithmetically important effects, which the authors admit as reflecting morphological parsing. One of the important claims issued from this study is what we could call an “insensitivity to inflectional priming in L2”, based on what S&C call an “attenuation of the procedural and enhancement of the declarative system” (p. 246). This insensitivity implies that the L2 processing system would be fundamentally different to that of L1, whereby many studies show that past-tense primes, whether regular (e.g. Drews & Zwitserlood, 1994), or irregular (e.g. Rueckl, Raveh, Milner & Mars, 1997; Pastizzo & Feldman, 2002; Voga & Grainger, 2004), induce robust effects.

The set of data presented by S&C has been challenged by two kinds of studies: first, by protocols where the performance of native and non-native English speakers is compared. Diependaele, Duñabeitia, Morris & Keuleers (2011) in a derivational priming study (e.g. *walker-walk*) find similar priming patterns for the native (English) participants and the two groups of bilinguals (Spanish-English and Dutch- English) i.e., no significant differences in the magnitude of the morphological priming effects. This comes in contradiction to the S&C study which finds dissimilar derivational patterns for native and non-native speakers, i.e. derivation that does not differ from identity conditions for native speakers versus significant derivational priming different from identity conditions for non-

native speakers (“partial priming”), for both German and Chinese. Diependaele et al. (2011) interpret their results following the classic decompositional approach: at medium and high levels of L2 proficiency, derived words from a non-native language are decomposed early and accessed through the constituent morphemes in a fashion similar to that of a native language.

A much more direct challenge comes from Rehak & Juffs (2011) who ran a “modified replication” of the S&C study, which was nevertheless identical to the experiments of our interest, in which they obtain the opposite pattern for regular inflections to that of S&C’s. However, the data reported by Rehak & Juffs (2011), both for L1 and L2 participants, need to be considered with caution, as we shall see further. Given the importance of inflectional and derivational priming in morphological processing, we seek to reproduce the experiments described in S&C, with a different population with respect to the languages in question, namely advanced speakers of English whose first language is Greek.

## **2. Experiment 1a (derivation) and 1b (inflection)**

### **2.1. Method**

#### *2.1.1. Participants*

One group of subjects participated in the two experiments presented below. The group was formed by 34 undergraduate and post-graduate students from the Aristotle University of Thessaloniki, 26 female and 8 male, aged 21 to 38 years (mean age: 26 years), who reported normal or corrected-to-normal vision. Participants had never lived in the UK/USA or other English speaking countries for more than 4 months, and had all been exposed quite early to English as an L2 (mean age for age of onset: 8.5 years, range: 6 to 11), conforming to how English is taught in Greece, where children start quite early to attend classes in small private schools called *frontistiria*, usually starting with one or two hours per week. The aim is usually to pass, after 8-10 years, one of the two degrees of ESL: the Cambridge Lower diploma (15 participants, among which three reported having started preparing for Proficiency during their school years), or the Cambridge Proficiency diploma (18 participants). One participant had the English Advanced diploma.

#### *2.1.2. Stimuli and design*

Twenty-one words and twenty one pseudowords were used as targets in each experiment. Each target was given three types of prime: an identity prime, a morphologically related prime, and an unrelated prime. The morphologically

related prime was a *-ness* derivation in exp. 1a and the past tense regular inflection in exp. 1b (see Table 1 for examples). The 21 words for each one of the two experiments were identical to those used by S&C (see section 4.2, p. 249 of the S&C study for detailed report on the stimuli used). One critical item in experiment 1a (derivation) was different in our study, given that in S&C's appendices the 21st critical item was not reported. The 21 pseudoword targets for each one of the two experiments were primed exactly as words (with identity, morphological and unrelated primes): the morphological-like primes for exp. 1a were constructed with the suffix *-ness*, whereas the inflectional-like primes for pseudowords of exp. 1b were constructed with the *-ed* suffix. Three experimental lists were created by rotating targets across the three priming conditions using a Latin-square design, so that each target appeared only once for a given participant, but was tested in all priming conditions across participants. Participants were randomly assigned to one of the three lists. 42 filler items were included in each experiment.

Table 1: Stimuli sample for the three priming conditions of experiment 1a (identity, derivation and unrelated) and 1b (identity, inflection and unrelated)

Words	Primes		
Targets (exp. 1a)	Identity	Morph./derivation	Unrelated
WEAK	weak	weakness	numb
LOUD	loud	loudness	fit
Targets (exp. 1b)	Identity	Morph./inflection	Unrelated
REST	rest	rested	watch
DRAG	drag	dragged	bump

### 2.1.3. Procedure and apparatus

The experiment was conducted on a PC computer using the DMDX software (Forster & Forster, 2003). Each trial consisted of three visual events. The first was a forward mask consisting of a row of nine hash marks that appeared for 500ms. The mask was immediately followed by the prime. The prime was in turn immediately followed by the target word which remained on the screen until participants responded. The prime duration used in this experiment was 50ms. Primes were presented in lowercase characters (Arial 12) and targets in uppercase (Arial 16). Participants were seated 50 cm from the computer screen. They were requested to make lexical decisions ("is it a word? Yes/No") on the targets as quickly and as accurately as possible, by pressing the appropriate button of the gamepad. They were unaware of the fact that primes would appear after the mask and before the target, for a duration that would prevent conscious identification of primes. After 20 practice trials, participants received the 84 items of each experiment in one block. Half of the voluntary participants started from the

derivation experiment (1a) and half of them from the inflection experiment (1b). In comparison to the S&C study, the most notable difference of the procedure was a 10ms difference in the prime duration (SOA, 50ms in our study versus 60ms in S&C). This minor difference due to technical aspects of the hardware used in our experiments (i.e. the tick duration, 16.6ms versus 13ms) should not influence the results. Moreover, increasing the SOA (while keeping it under the threshold of conscious perception) increases the amplitude of morphological effects (Forster, Mohan & Hector, 2003), given that the system has more time to process the prime (e.g. in cross-script morphological priming: Voga & Grainger, 2007; same-script morphological priming, Giraudo & Grainger, 2001).

## 2.2. Results

### 2.2.1 Exp. 1a: Derivational priming

Correct response times (henceforth RTs) were averaged across participants after excluding outliers (RTs >1300ms, less than 1% of the data). The results are presented in Table 2. Two items were excluded from analysis (*fond*, *limp*) because of high error rates (more than 20%). An ANOVA was performed on the remaining data with prime type (identity, derivation, unrelated) as within-participant factors. In what follows, we report separate subject and item analyses, so that our data can be compared to those of S&C.

Table 2: Reaction times (ms) for lexical decisions for the three priming conditions (identity, morph-derivation and unrelated) of experiment 1a and comparison with Silva & Clahsen's (S&C) results.

Priming conditions				Net priming effects	
	Ident. (Id)	Morph. (D)	Unrel.(U)	U-Id	Un-D
Our study (Greek)	703	707	754	51*	47*
S&C Chinese	642	745	842	200*	97*
S&C German	548	617	669	121*	52*

There was a significant main effect of prime type,  $F(2, 66) = 6.58$ ,  $p < .01$ ,  $F(2, 36) = 5.03$ ,  $p < .05$ . Global planned comparisons show that identity as well as derivational primes induce significant facilitation relatively to unrelated controls, for identity  $F(1, 33) = 15.62$ ,  $p < .001$ ,  $F(1, 18) = 6.76$ ,  $p < .05$  and for derivations,  $F(1, 33) = 7.36$ ,  $p < .01$ ,  $F(1, 18) = 6.4$ ,  $p < .05$ . Identity did not differ from morphological conditions, both  $F_s < 1$ .

### 2.2.2 Exp. 1b: Inflectional priming

Two subjects were excluded from the analysis because of high error rates (more than 50% in the critical conditions). For the rest, the analysis was exactly the same as for exp. 1a, outliers represented less than 1% of the data. The results are presented in Table 3.

Table 3: Reaction times (ms) for lexical decisions for the three priming conditions (identity, morph-inflection and unrelated) of experiment 1b and comparison with Silva & Clahsen's (S&C) results

Priming conditions				Net priming effects	
	Ident. (Id)	Morph. (Infl.)	Unr. (U)	U-Id	Un-Fl.
Our study (Greek)	677	665	731	54*	66*
S&C Chinese	646	757	730	84*	-27
S&C German	553	618	612	59*	-6

The main effect of prime type was significant,  $F(2, 62) = 12.73$ ,  $p < .0001$ ,  $F(2, 40) = 6.87$ ,  $p < .01$ . Global planned comparisons show that identity as well as inflectional primes induce significant facilitation relatively to unrelated controls, for identity  $F(1, 31) = 18.89$ ,  $p < .001$ ,  $F(1, 20) = 6.76$ ,  $p < .05$  and  $F(1, 31) = 22.63$ ,  $p < .001$ ,  $F(1, 20) = 12.29$ ,  $p < .001$  for inflections. Once again, identity did not differ from morphological conditions, both  $F_s < 1$ .

## 2.3. Discussion of our results

The priming effects of experiment 1a and 1b bear evidence for significant and robust derivational and inflectional priming in the L2-L2 direction: our Greek (L1) speakers of English exhibited morphological priming statistically equivalent to identity priming for all materials, regular inflections (exp. 1b) as well as *-ness* derivations (exp. 1a). Both derivational and inflectional priming were statistically equivalent to identity priming, as is usually the case with data for native speakers (e.g. Drews & Switserlood, 1994).

### 2.3.1 Comparison with the S&C study

As stated before, the two experiments presented here aimed to reproduce experiments 3 (*-ness* derivations) and 1 (regular inflections) of the S&C study: As is clear from our results, the important finding of S&C's exp. 3 is replicated: *-ness* derivations induce significant priming, 97ms for Chinese, 52ms for German and 47ms for our Greek subjects. However, in the S&C study, derivation priming is



only “partial”, in the authors’ own terminology, i.e. morphological priming is not as important as identity priming (see table 2). In our study, derivations induced statistically equivalent facilitation to that of identity conditions (51vs 47ms), i.e. derivations induced what S&C would call “full priming”. Nevertheless, the distinction that S&C operate between “full” and “partial” priming seems methodologically and statistically insufficient, especially if morphological priming is our focus: an absence of difference between two conditions (here identity and derivation) validates the null hypothesis, according to which the experimental hypothesis (namely that the two conditions differ significantly) is refuted; Validating the null hypothesis does not mean that the opposite of the experimental hypothesis is true (i.e. that the two conditions, here identity and morphological, are the same). In any case, we cannot consider the “full priming” we find versus the “partial priming” of the S&C study for derivations as a divergent result. Accordingly, the comparison of reaction times (RTs) between the unrelated baselines in our derivation experiment (754ms) and the S&C study shows that the three populations are comparable: the RTs for the unrelated condition were exactly the mean of the two equivalent conditions of the S&C study (842ms for Chinese and 669ms for German learners).

With respect to the most impressive of S&C’s findings, i.e. “inflectional blindness” for L2 learners, our second experiment (1b) yielded a completely different pattern to that of S&C’s study. As results of Table 3 show, we obtained robust priming from regular inflections (66ms), statistically equivalent to identity priming (54ms), i.e. what S&C would call “full priming”. This is not the case of S&C who obtain no inflectional effect in exp. 1. However, there is a discrepancy between the two studies which could be responsible for the divergent results: our participants in the inflection experiment were exactly the same as those in the derivation experiment, but this was not the case in the S&C study, where some of the subjects were the same and some weren’t. This is reflected in S&C’s unrelated baselines’ RTs, which, contrarily to what is implied in their analysis, is and should remain the main baseline condition in the experiments reported here, simply because it expresses the zero-overlap condition. The identity condition cannot be taken (exclusively) as an equivalent baseline condition, given the complex set of activations in presence of form effects (Forster, 1999), crucial for whole-word processing. We therefore remark that for our subjects, it takes approximately the same time to make lexical decisions in the inflectional and the derivational experiment (731 and 754ms respectively), whereas S&C’s subjects exhibit great differences between the inflection experiment (where RTs for the unrelated baseline are 730ms for Chinese subjects and 612ms for German), and the derivation experiment (842ms and 669ms respectively). Consequently, a possible

source for the divergent pattern of results may be the fact that in our study the same participants exhibited the derivational and the inflectional priming, whereas in the S&C study the subjects who exhibited derivational priming were different than those who failed to exhibit inflectional priming. Furthermore, on the basis of the baseline RTs, we cannot say that our Greek subjects were much more competent than their Chinese or German counterparts in the S&C study, given that our subjects' RTs match perfectly the Chinese subjects' unrelated baseline (730 and 731ms respectively) and are quite close with respect to identity conditions (677 and 646ms respectively); finally, they are slower than those of S&C's German subjects. In other words, our Greek subjects follow the pattern of S&C's native speakers for inflectional priming, i.e. they are not at all "inflectionally blind", while their global pattern of RTs demonstrates that they are of equivalent competence than S&C's Chinese subjects.

### 2.3.2 Comparison with the *Rehak & Juffs (2011)* study

As mentioned in section 1, *Rehak & Juffs (2011)* ran a modified replication of S&C's study, nevertheless identical to the experiments of our interest: exactly the same critical prime-target pairs than S&C, same prime duration (60ms), and, importantly, same number of filler items, in order to dilute the critical prime-target pairs in a great mass of non-morphologically related pairs of stimuli. Before comparing the two sets of data, we have to draw attention to an inconsistency between the data reported by these authors for English native speakers, and what is usually found in the literature (e.g. *Marslen-Wilson, Tyler, Waksler & Older, 1994; Pastizzo & Feldman, 2002*), as well as in the S&C study: *Rehak & Juffs* do not report any inflectional facilitation for the native English subjects, and this despite the fact that an arithmetically important facilitation is found (62ms), apparently not significant, if we take the summarizing table (table 15) into consideration, in which it is stated that no priming is found for the L1 group. This result is rather strange and leads us to exercise some methodological precautions for this study's results, though it could be explained, as we shall see below, by the large number of filler items. However, what happens in the inflectional experiment for the non-native Spanish speakers of English (exp. 1) is very similar to the pattern observed with our Greek subjects: the Spanish *Rehak & Juffs'* subjects present a 67ms inflectional facilitation which is statistically equivalent to identity priming (46ms), with RTs in the unrelated baseline condition being very close to those of our subjects' (mean: 738ms versus 731ms). The pattern reported for derivational *-ness* effects is nevertheless dissimilar to ours as well as to S&C's: morphological conditions induced no priming for Spanish learners of English, whereas native English speakers exhibit robust derivational priming. To

summarize, and beyond some criticisms we can express towards Rehak & Juffs' settings and results, we observe that inflectional L2-L2 priming occurs for their Spanish subjects, and this priming is of the same amplitude and significance as in our study (exp. 1b). On the other hand, the *-ness* derivation experiment did not yield similar results to ours, neither to those of the S&C study.

### 3. General discussion

In this paper we presented two experiments, the objective of which was to explore inflectional and derivational priming in the L2-L2 direction, not taken into account in the literature until recently. Given the small number of studies examining this direction as well as the divergent results reported, we reproduced the conditions and stimuli of the S&C study. Our masked priming protocol was conducted in accordance with the vast majority of masked priming studies (both monolingual and cross-language), i.e. with not as many filler items as S&C, and with an SOA of 50ms (vs 60ms in the S&C study). The difference in the number of filler items may indeed be the source of the divergent results between our study and S&C's (42 in each experiment versus 282 for S&C); Note however that if we assume this, we should also assume that the massive presence of filler items affects only inflectional priming (i.e. where our results diverge from S&C's), and leaves derivational priming unaffected (where our results converge with S&C's). The population examined in our study, Greek ESL speakers, was of equivalent competence to S&C's participants, as demonstrated by the comparison of proficiency level and RTs. However, the two populations were not identical, with respect to the profile of ESL acquisition, based mostly on formal teaching for our participants, who learned English and were tested in Greece, while S&C's Chinese and German participants were already living in the UK for several months and thus may differ in terms of naturalistic exposure. Note, however, that naturalistic exposure should have led S&C's participants to display more native-like abstract syntactic processing (Pliatsikas & Marinis, 2013).

Before going further, let us briefly dissipate what seems to be a misunderstanding induced by the indeed extremely rich as well as impressive literature on morphological effects under masked conditions: taking a morphological effect estimated upon the unrelated baseline in a masked priming experiment as direct evidence for mandatory morphological decomposition, as S&C do, is to our mind erroneous, since it is based upon a methodological error. This error, which should have been resolved since the studies by Giraudo & Grainger (2001) for French derivations and Pastizzo & Feldman (2002) for

English past tenses, consists in underestimating the participation of orthographic factors in this protocol (Forster, 1999), which is why the above authors recommend using both unrelated and orthographic controls. Subsequently, a facilitation induced by morphological conditions relative to unrelated ones cannot be taken as irrefutable evidence of mandatory prelexical parsing. Conversely, its absence cannot be taken as evidence that the L2 advanced learner is insensitive to morphology, as S&C claim in their interpretation. The results presented here widen our understanding of processing morphology in L2, but cannot constitute, given the materials (regular morphology) and design (absence of orthographic control), irrefutable evidence in favor of or against decomposition or whole-word processing.

Another finding that has to be discussed is the priming difference between inflections and derivations found in the S&C study, but that our results do not validate. We cannot say whether or not this difference is due to their different groups' competence, as can be hypothesized on the basis of their unrelated RTs. In order to answer the question of processing differences between inflections and derivations, one should examine exactly the same group of participants, which our study did. Our pattern of results, i.e. no notable difference between inflectional and derivational priming effects, is in accordance with previous data: e.g. Raveh (2002) who argues that this difference becomes relevant only when the semantic level of processing is involved. More recent findings (always in L1 priming) render the picture increasingly complex: inflectional and derivational paradigms affect word recognition differently; the influence of the former depends on its inflectional entropy (i.e., a token-weighted inflectional family size measure), and that of the latter is dominated by its MFS (e.g. Moscoso del Prado Martin, Kostic, & Baayen, 2004). This kind of factor, extending beyond the limits of a given inflection or derivation and based on a paradigmatic approach of morphological effects in lexical access, was not controlled in the studies reported here.

If we go back to the interpretation of our data, what seems important to us is to accept that there is no *a priori* reason to assume that the attested preference of our Greek speakers for whole-word processing, at least for L1 (Voga, Giraudo & Anastassiadis-Symeonidis, 2012) and cross-language protocols, (e.g. Voga, 2013, and other references cited in the introduction) renders them, after some years of learning and practicing English, insensitive to co-occurrences between meaning and form (e.g. *walked* - *walk*), as suggested by S&C's interpretation of inflectional results. In fact, we consider the opposite schema far more plausible: instead of going increasingly insensitive to inflectional morphology as ESL progress is achieved, the interpretation we propose is that the robust inflectional and derivational effects we demonstrated spring from the connections across

multiple sets of words established through ESL acquisition (Bybee, 1988, p. 127), which form the set of morphological relations, thanks to which morphological representation emerges in L2 lexicon (Dal Maso & Giraudo, this volume). This line of interpretation is totally compatible with data in favor of sensitivity to (or clustering on the basis of) morphological families and which has been shown to affect not only monolingual protocols (e.g., Feldman, O'Connor & Moscoso del Prado Martin, 2009; Pastizzo & Feldman, 2009; Schreuder & Baayen, 1997), but also cross-language priming (Voga & Anastassiadis-Symeonidis, 2012; Voga, 2013); finally, with respect to derivational effects, the theoretical framework of Constructional Morphology presented by Corbin (1987; 1991), based on word-lexemes instead of morphemes, is fully compatible with the effects reported here.

### **Conclusion**

The question relative to morphological representation and processing in non-native speakers is, similarly to what happens in the monolingual psycholinguistic literature, inspired and constrained by the dominant decomposition model, claiming that morphological information has to be represented at a sublexical level of processing. The rationale on the basis of this model arises from a confusion of the morphemic unit as a subpart of a word and its linguistic function: starting from the general postulate that cognitive models of information processing are coding input from basic and primary features (e.g., letter features) to the most complex characteristics (e.g., concepts), the morpheme, a unit perceptively smaller than the word, is taken to be the entry to morphological representation. There is nevertheless another way to contact morphological representation: the interpretation of our L2-L2 priming results, similar to those of S&C's study for derivations, but divergent for inflections, is conducted within a framework based on paradigmatic relations, while avoiding reducing the systematic co-occurrences between form and meaning present in regular morphology to the status of low-level perceptual units. Bringing out the organisational functions at the interface of form and semantics, which constitute the core of morphological representation, requires us to keep working on variables related to the lexical status of items, as well as paradigmatic relations and factors outside the word-to-be-studied.

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**Abstract**

*Does morphology play a role in L2 processing? Two masked priming experiments with Greek speakers of ESL*

Two masked priming experiments with Greek advanced ESL speakers were run in order to reproduce the experiments reported by Silva & Clahsen (2008): our data yielded similar derivational priming but divergent results for inflectional priming. After comparing the two sets of results and examining some discrepancies between the two studies, we provide an interpretation outside the decompositional framework: morphological priming effects are not viewed as low level perceptual saliency effects but rather as the result of the form-meaning systematic relations.

**Keywords:** Morphological processing, masked priming, L2 lexicon, inflection, derivation

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