



HAL
open science

The processing of morphologically complex words en Italian L2

Serena Dal Maso, H el ene Giraudo

► **To cite this version:**

Serena Dal Maso, H el ene Giraudo. The processing of morphologically complex words en Italian L2. 1st international symposium "Morphology and its interfaces", 2013, Lille, France. hal-00986199

HAL Id: hal-00986199

<https://hal.science/hal-00986199>

Submitted on 1 May 2014

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destin ee au d ep ot et  a la diffusion de documents scientifiques de niveau recherche, publi es ou non,  emanant des  tablissements d'enseignement et de recherche fran ais ou  trangers, des laboratoires publics ou priv es.

The processing of morphologically complex words in Italian L2

Serena Dal Maso (Università di Verona, Italia)

Hélène Giraud (CLLE-ERSS, CNRS & Université de Toulouse, France)

The present research aims at investigating the processing of morphologically complex words in L2 Italian and, therefore, focuses on the interface between the morphological component and the lexicon in the specific setting of Second Language Acquisition.

In the last decades, a certain amount of research has been carried out in describing the building and development of the mental lexicon in the second language (Aitchinson 1987, Singleton 1999, Nation 2001) and in studying the organization of the bilingual lexicon (de Groot 1992, Paradis 2004, Pavlenko 2009).

On the other hand, the interest for lexical morphology has been scarce so far in SLA, because of theoretical and methodological issues. However, interesting aspects about the development of the affix knowledge have been discussed by Lowie 1998, 2000, 2005 (on Dutch learners of L2 English), Lardiere 2006 (a Chinese speaker of Mandarin learning L2 English), Petrush 2008 (English learner of L2 French), Mochizuki 1998 and Mochizuki /Aizawa 2000 (Japanese learners of L2 English).

More recently, psycholinguistic studies have provided a significant contribution to determine learners' sensitivity to word structure at different levels of L2 competence. In a masked-prime experiment, Silva / Clahsen 2008 consider the processing of deadjectival nominalizations with *-ness* (i.e. *kindness*) and *-ity* (i.e. *hostility*) in adult native speakers of English and in two different groups of advanced adult learners of L2 English, Chinese and German native speakers. Results seem to reveal some differences between native and non-native processing of derivational morphology, suggesting that adult L2 learners are less sensitive to morphological structure than native speakers and rely more on lexical storage than on morphological parsing during processing.

Silva/ Clahsen 2008 has been replicated, with some slight modifications, by Rehak/ Juffs 2011 with advanced/proficient Spanish and Mandarin Chinese learners of L2 English. Their results indicate a lack of full priming effects for the derivational suffix *-ness* for both groups. With *-ity*, on the contrary, the authors observe different mean reaction times for the two groups, with the native Spanish performing more like the English speakers than the Mandarin Chinese speakers. According to the authors, this data suggests that L1 Spanish learners transfer morphological processing from their native language while processing the English words primed with *-ity*, because of the (formal and semantic) similarity with the Spanish suffix *-idad*.

Now, hypothesis on non-native processing need to be verified with different L2 and possibly also with a wider range of suffixes. In this perspective, we carried out a first psycholinguistic experiment on L2 Italian. Using a masked priming paradigm (Forster and Davis, 1984) associated with the lexical decision task, we investigated the processing of quality name in *-ità* and in *-ezza* having a high (HF) and low surface frequency (LF) (HF: *velocità*, *curiosità*, *serenità* / LF: *enormità*, *immensità*, *brevità*; HF: *sicurezza*, *bellezza* / LF: *contentezza*, *grossezza*, *magrezza*). We considered items

whose bases have comparable frequency; frequency has been verified on the Colfis database.

Only semantically and formally transparent forms have been selected. Each target was preceded by 4 types of primes (identical, morphologically related – i.e., test-, orthographically related and unrelated). Primes were of 3 or 4 syllables and matched in surface frequency. Finally, nonwords targets constructed according the phonotactic rules of Italian, were included in the Experiments for the purposes of the lexical decision task. Examples of stimuli pairs are presented below:

Word targets

(i)	Identity	<i>vero > vero</i>	<i>sicuro > sicuro</i>
(ii)	Test	<i>verità > vero</i>	<i>sicurezza > sicuro</i>
(iii)	Orthographic	<i>verme > vero</i>	<i>sicario > sicuro</i>
(iv)	Unrelated	<i>edificio > vero</i>	<i>ragazza > sicuro</i>

Nonword targets

(i)	Identity	<i>dalce > dalce</i>	<i>pesmo > pesmo</i>
(ii)	Test	<i>dalcità > dalce</i>	<i>pesmezza > pesmo</i>
(iii)	Orthographic	<i>delcio > dalce</i>	<i>pesio > pesmo</i>
(iv)	Unrelated	<i>bisma > dalce</i>	<i>strodo > pesmo</i>

Participants

22 Italian native speakers (mean age: 25,39) and 22 learners of Italian with different L1 (see table 1) from the University of Verona took part in the Experiments.

Table 1: L2 Italian learners

Code	L1	Other L2	Time in Italy	Length of IT L2 learning
AP01	Russian	-	3 years	1 anno
AP02	Ukrainian	Russian, English	2 years	2 years
AP03	English	French, Spanish	8 months	3 years
AP04	English	Japanese	7 months	4 years
AP05	English	French, Spanish	3 months	2 years
AP06	Hungarian	English	7 months	1,5 years
AP07	Spanish	English, Finnish	1 year	2 weeks
AP08	German	Latin, Greek, English	3 months	2,5 years
AP09	Russian	-	4 years	4 years
AP10	German	English, Russian, French, Spanish	8 months	2 years
AP11	Hungarian	German, English	6 months	2 years
AP12	English	French, Spanish	7 months	2,5 years
AP13	Arabic	French, English	1,7 years	2,7 years
AP14	Spanish	English	9 years	-
AP15	Tartar, Russian	English, German, Uzbekian	5 years	12 years
AP16	Arabic	English, French	3,5 years	2 months
AP17	Albanian	English	9 years	-
AP18	Czech	Slovakian, German, Russian	20 years	20 years
AP19	Spanish	English	5 years	-
AP20	Spanish	French, English	1,5 years	-
AP21	French	English	1 year	5 years

AP22	Chinese	English, German	4,5 years	4,5 years
------	---------	-----------------	-----------	-----------

In order to verify that the lexical items of the experiment were part of the lexical competence of the learners, a lexical test has been proposed after the experiment (table 2). Morphological effects, as a matter of fact, take place only if the speakers have a certain familiarity with the lexical items investigated.

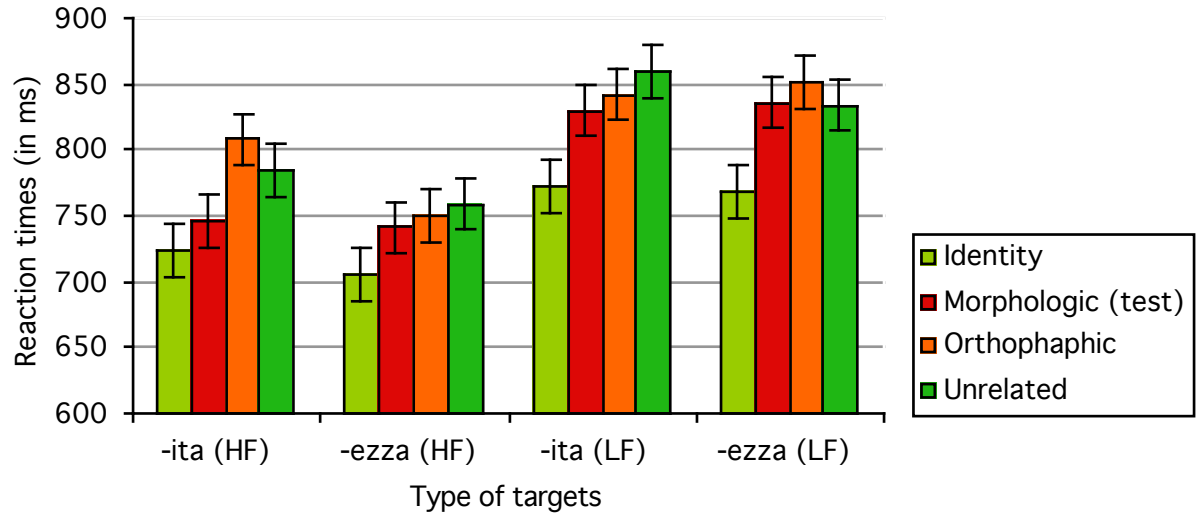
Table 2: Lexical test

Che cosa significano le seguenti parole? [what do the following words mean?]	
Veloce	<ul style="list-style-type: none"> – Rapido – Pesante – Ruvido – (non so)
Felice	<ul style="list-style-type: none"> – Profumato – Contento – Lento – (non so)

Results

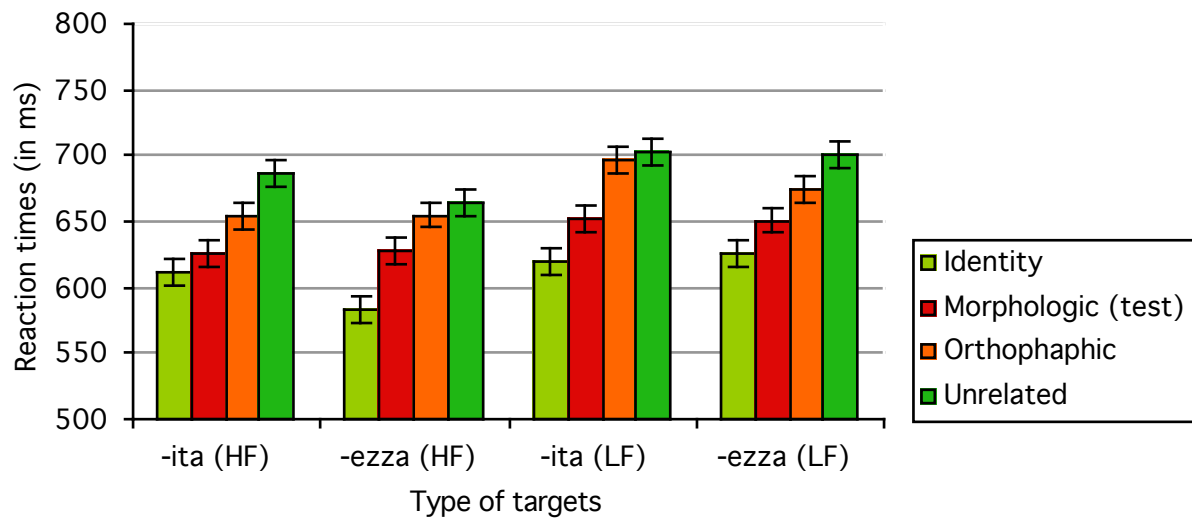
Mean reaction times and percentage of errors were recorded in the Experiments. ANOVA analyses were performed on these two dependent variables according to three main factors: Type of primes (Identical, test, orthographic, unrelated), type of suffix (*-ita* and *-ezza*) and type of prime frequency (High surface frequency vs. Low surface frequency targets). These results for learners and native speakers of Italian are presented in Figures 1 and 2

Figure 1: Learners of Italian



For learners, the two main factors type of target frequency and type of prime were significant ($F(1,18) = 33.67, p < .0001$ and $F(3,54) = 13.36, p < .0001$, respectively). The suffix type factor did not reach significance ($F(1,18) = 1.92, p > .10$) but interacts with target frequency ($F(1,18) = 4.69, p < .05$). Planned comparisons revealed indeed a priming effect of morphologically related primes ending in *-ita* with a HF on target processing that differed significantly from both the orthographic and unrelated control condition.

Figure 2: Native speakers



For native speakers, the effects of three main factors were significant (type of suffix: $F(1,18) = 5.91, p < .025$; Type of prime frequency: $F(1,18) = 20.59, p < .001$; Type of prime: $F(3,54) = 9.45, p < .0001$). As usually found through the literature, morphological related primes facilitated target processing and these effects differed from orthographic controls (all $p_s < .05$).

Taken together, these results show significant morphologically priming effects for native speakers that cannot be attributed to the formal similarity of prime-target pairs but genuinely to their morphological relationships. For learners, our results reveal that morphological priming effects can emerge for certain type of words those ending with the suffix *-ita* and having a high surface frequency in Italian. Unlike previous research, our data seems to indicate that morphology does in deed play a role in processing L2 Italian, at least for very frequent words.

References

- Aitchison J. (1987). *Words in the Mind: An Introduction to the Mental Lexicon*. Oxford/New York, Blackwell.
- Bybee, J. (1988). Morphology as lexical organisation. In: Hammond M. / Noonan M. (eds). *Theoretical Morphology. Approaches to modern linguistics*. San Diego, Academic Press, 119-142.
- Bybee, J. (1995). Regular morphology and the lexicon. *Language and Cognitive Processes* 10,5, 425-55.
- Bybee, J. (2007). *Frequency of use and the Organization of Language*, Oxford, Oxford University Press.
- Bybee, J. (2011). *Frequency and the Emergence of Linguistic Structure*, Amsterdam, John Benjamins Published.
- Clahsen, H. / Felser, C. (2006). How native is non native language processing?. *Trends in*

Cognitive Sciences 10, 564-570.

- Clahsen, H. / Felser, C./ Neubauer, K./ Sato, M./ Silva, R. (2010). Morphological Structure in Native and Non-Native Language Processing. *Language Learning* 60, 21-43.
- Clahsen, H./ Felser, C./ Sato, M./ Silva, R. (2010). Morphological structure in native and nonnative language processing. *Language Learning* 60: 21-43.
- Dal Maso, S. (2009). The Recognition of Prefixed Words by Advanced Learners of Italian L2: A First Survey on Frequency Effect. In: Montermini F./ Boyé G./ Tseng J. (eds.), *Selected Proceedings of the 6th Décembrettes*, Somerville, MA, Cascadilla Proceedings Project, 156-165.
- de Groot, A. M. B. (1992). Bilingual lexical representation: A closer look at conceptual representations. In: Frost, R. / Katz, L. (eds.), *Orthography, phonology, morphology, and meaning*, Amsterdam, North-Holland, 389-412.
- Paradis, M. (1994). Toward a neurolinguistic theory of simultaneous translation: The framework. *International Journal of Psycholinguistics* 9, 2, 133-145.
- Paradis, M. (2004). *A neurolinguistic theory of bilingualism*. Amsterdam, John Benjamins.
- Pavlenko, Aneta (ed.). 2009. *The bilingual mental lexicon*. Clevedon: Multilingual Matters.
- Forster, K.I., & Davis, C. (1984). Repetition priming and frequency attenuation in lexical access. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10, 680-698.
- Giraud, H. / Voga-Redlinger, M. (2007). Lexeme-Based Model vs. Morpheme-Based Model from Psycholinguistic Perspectives. In Montermini, F./ Boyé, G./ Hathout N. (eds.) *Selected Proceedings of the 5th Décembrettes: Morphology in Toulouse*, Somerville, MA, Somerville Proceedings Project, 108-114.
- Klein, W. (1986). *Second Language Acquisition*, Cambridge, Cambridge University Press.
- Lardiere, D. (2006). Knowledge of Derivational Morphology in a Second Language Idiolect. In Grantham O'Brien, M./ Shea C./ Archibald J. (eds.), *Proceedings of the 8th Generative Approaches to Second Language Acquisition Conference (GASLA 2006)*, Somerville, MA, Cascadilla Proceedings Project, 72-79.
- Lowie, W. M. (1998). *The Acquisition of Interlanguage Morphology: A Study Into the Role of Morphology in the L2 Learner's Mental Lexicon*. Ph.D. dissertation, University of Groningen, the Netherlands.
- Lowie, W. M. (2000). Cross-linguistic influence on morphology in the bilingual mental lexicon. *Studia Linguistica*, 54, 2, 175-185.
- Lowie, W.M. (2005). Exploiring a second language. The discovery of morphological productivity. In: Foster-Cohen, Susan H./ García Mayo, M./ Cenoz J. (eds.), *Eurosla Yearbook 5*, John Benjamins Publishing Company, 251-268.
- Mochizuki, M./ Aizawa, K. (2000). An affix acquisition order for EFL learners: An exploratory study. *System*, 28, 291-304.
- Petrush, R.A. (2008) Derivational Morphology in English-French Acquisition. In: Roumyana Slabakova et al. (ed.) *Proceedings of the 9th Generative Approaches to*

Second Language Acquisition Conference (GASLA 2007), Somerville, MA, Cascadilla Proceedings Project, 181-187.

Rehak, K.M./ Juffs, A. (2011). Native and Non-Native Processing of Morphologically Complex English Words: Testing the Influence of Derivational Prefixes. In: Granena G. et al. (eds.) *Selected Proceedings of the 2010 Second Language Research Forum*, Somerville, MA, Cascadilla Proceedings Project, 125-142.

Silva, R. / Clahsen, H. (2008). Morphologically complex words in L1 and L2 processing: Evidence from masked priming experiments in English. *Bilingualism: Language and Cognition* 11: 245-260.

Singleton, D. (1999). *Exploring the second language mental lexicon*, Cambridge, Cambridge University Press.

Voga M. / Grainger J. (2007). Cognate status and cross-script translation priming. *Memory and Cognition*, 35: 938-95.

Voga, M. / Giraud, H. (2009). Pseudo-Family size influences the processing of French Inflections: evidence in favor of a supra-lexical account. In: Montermini F./ Boyé G./ Tseng J. (eds.), *Selected Proceedings of the 6th Décembrettes*, Somerville, MA: Cascadilla Proceedings Project, 148-155.