# MODERN GREEK LANGUAGE: ACQUISITION OF MORPHOLOGY AND SYNTAX BY NON-NATIVE SPEAKERS

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## Abstract

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This study investigated the performance of native and non native speakers of Modern Greek language on morphology and syntax tasks. Non-native speakers of Greek whose native language was English, which is a language with strict word order and simple morphology, made more errors and answered more slowly than native speakers on morphology but not syntax tasks. It seems that Greek free word order is not a problem for non-native speakers who come from a country where the language spoken has strict word order. However, complex morphology of Modern Greek, such as plural markers, causes difficulties to non-native speakers whose native language has simple morphology.

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## Introduction

Language is a very complex system which is composed of various functional components. One of its components is morphology. Morphology is concerned with the internal organization of words. Although the term seems familiar and straightforward, it appears to be rather difficult to provide a satisfactory definition that is applicable to all languages (Cruse, 2001). For the needs of our analysis, and keeping in mind the potential limitations, we adopt the flexible definition by Trask (1999), who defines *word* as the "linguistic unit typically larger than a morpheme but smaller than a phrase" (p. 342). Words consist of one or more smaller units called morphemes. Morphemes are of two varieties, free and bound. Free morphemes are independent and can stand alone. In the English language we can find a lot of examples of free morphemes, such as 'toy,' 'big,' 'boy,' and 'cat,' while in the Greek language there are not many free morphemes. Some examples in Greek are /ti/ which means what, /pu/ which means where and /ne/ which means yes. Bound morphemes are grammatical tags or markers that cannot function independently. They must be attached to free morphemes or to other bound morphemes (Pinker, 1995).

Bound morphemes can be either derivational or inflectional in nature. Derivational morphemes include both prefixes and suffixes. Inflectional morphemes can be suffixes only and include tense markers, such as *-ed* in English or *-isa, -ika* in Greek, plural markers, such as *-s* in English or **-es, -oi, -ta** in Greek. Every word, except those which are free morphemes themselves, is composed of a lexical and a

grammatical morpheme. For example, in the English word *played,* 'play' is the lexical morpheme and *-ed* is the grammatical morpheme and in the Greek word *kitazun,* which means "they are looking", *kita* is the lexical morpheme and *-zun* is the grammatical morpheme which shows the third plural person of present tense.

Another component of language is syntax. Syntax contains the rules which govern the form or structure of a sentence. These rules specify word order, sentence organization and the relationships between words, word classes and other sentence elements. Syntax specifies which word combinations are acceptable or grammatical and which are not. In addition to word order rules, syntax specifies which word classes appear in noun and verb phrases and the relationship of these two types of sentences. Each sentence must contain a noun phrase and a verb phrase. The mandatory features of noun and verb phrases are a noun and a verb respectively (Owens, 1996).

Languages can be divided into those with so-called free word order and those with word order rules (Goodluck, 1986). The Greek language has a relatively free word order. The same sentence may be expressed in several different word orders. For example, you can say /agorasame mila xthes/, which means we bought apples yesterday and serves as the most neutral structure, but the sentences /mila agorasame xthes/ and /xthes agorasame mila/ are also considered correct, although the emphasis is laid on the product bought and on the time of purchase respectively. The subject is completely omitted in the above mentioned sentences and this is usually the case in Greek because each person in either singular or plural of each tense is showed by a different morpheme in Greek. For this reason, Greek is labelled as a pro-drop (pronoun drop) language since the subject is not compulsory. On the contrary, English sentences always require a subject (Cook, 2001), otherwise an unacceptable structure that violates language rules will occur. Conversely, in English, which is among word order languages, words follow a strict word order in a sentence, which is subject, verb, object (SVO). For example, the sentence /we bought apples/ is the only acceptable one because it follows the rule SVO.

It is obvious, that languages often differ in their relative dependence on the syntactic and morphological components. In Greek, meaning is changed through the use of many morphological endings. In contrast in English, word order is used more than morphological additions to convey much of the meaning of the utterances. Native speakers of a language are aware of the morphology and syntax which are language specific. For example, native speakers of Greek are aware of its complex morphology and use prefixes and suffixes such as tense or plural markers correctly from an early age (Stephany, 1981). However, those who learn Greek as a second language may be confused by its complex morphology or its free word order, especially when their first language is a language with very simple morphology and strict word order, such as English.

The aim of the present study was to examine further whether it is the complex morphology or the free word order or both that create difficulties in non-native Greek modern language speakers. We assumed that English speakers learning Greek as a foreign language will face difficulties with both. Three questions guided this research:

1. Does Greek complex morphology affect the performance of English speakers of Greek as a foreign language given that their native language has simple morphology?

2.  Does Greek free word order affect the performance of English speakers of Greek as a foreign language given that their native language is characterized by a strict word order?

3.  Do both Greek complex morphology and free word order affect the performance of English speakers of Greek as a foreign language?

## **Method**

*Subjects*

A total of 60 high school students participated. All subjects had normal or corrected-to-normal vision. They were strongly right-handed as assessed by the Edinburgh Handedness Inventory (Oldfield, 1971). They were divided into two groups according to whether their native language was Greek or English. One group included 30 native Greek speakers (mean age of 13.11 years) and the other 30 native English speakers (mean age of 14.2 years) who moved to Greece the last four years and attended the Greek school. There was an equal number of males and females per group.

*Materials and Procedure*

One ZETT ROYAL AFS 150 tach-projector was used to present the stimuli, a method previously used by other researchers (Babkoff & Faust, 1998; Karapetsas & Andreou, 1999), at a viewing distance of 57 cm. Each subject was tested on both morphology and word order tasks in Greek. In the morphology task, a Greek singular noun was presented first and 1 sec later one test word was presented in the plural number for an exposure of 1.5 sec. A total of 30 words were presented. The subjects were instructed to press as quickly as possible the key number 1 on the keyboard they had in front of them, if the test word was the correct plural number of the noun they had earlier seen and the key number 2, if it was not. In the word order task, a short Greek sentence was presented for an exposure of 2.5 sec and the subjects were instructed to press as quickly as possible the key number 1 if the word order of the sentence was correct and the key number 2 if it was not. A total of 30 sentences were presented. (For a sample of words and sentences presented in the Plural Markers Task and Word Order Task, see Table 1.)

*Data Analysis*

Data were initially analysed by a mixed-design analysis of variance (ANOVA) using language (native Greek vs non-native Greek), type of task (morphology vs word order) and sex (males vs females) as factors. The dependent variables were reaction time (RT) and errors performed for each task. Statistically significant interactions ($p < .05$) were further evaluated by post hoc Scheffe F test.

**Table 1**

*Sample of Words Presented in the Plural Markers Task*

| Singular nouns | Plural nouns (Test words) |
|---|---|
| Άνθρωπος (person) | Άνθρωποι |
| Έθνος (nation) | Έθνη |
| Τάξη (class) | Τάξεις |
| Άνδρας (man) | Άνδρες |
| Τείχος (wall of a city) | Τείχη |
| Τοίχος (wall of a house) | Τοίχοι |
| Ναύτης (sailor) | Ναύτες |

*Sample of Greek Sentences Presented in the Word Order Task*

Πήγαμε βόλτα (We went for a walk) (correct word order)
Αγόρασε ποδήλατο το παιδί (The child bought a bicycle) (correct word order)
Γάλα ήπια (I drank milk) (correct word order)
Φύγε εδώ από (Go away from here) (incorrect word order)
Εσύ φάε ψωμί τυρί και (Eat bread and cheese) (incorrect word order)

## Results

A within-subjects 2 (Language: native Greek vs non-native) x 2 (Type of Task: morphology vs word order) x 2 (Sex: males vs females) mixed-design ANOVA revealed statistically significant (p< .05) main effects for language [F(2000) = 38.706] and type of task [F(2000) = 28.224] but not for sex alone. However, there was a statistically significant interaction of sex with both language [F(2000) = 4.195] and type of task [F(2000) = 5.784]. Furthermore, a within-subjects mixed-design ANOVA (language x type of task x sex) was performed on both RT and errors. Mean reaction times and errors for all factors are presented in Table 2. A statistically significant main effect for both errors and RT was obtained for type of task [RT: F(1) = 32. 563, errors: F(1) = 23. 572], indicating that RT was generally faster for word order than morphology (1.04 vs 2.18) and fewer errors were made for word order than morphology (1.64 vs 2.53). A two-way significant interaction of type of task x sex was obtained for errors only [F(1) = 5.645].

**Table 2**

*Mean RTs and Errors for Type of Task and Sex in Native and Non-native Speakers of Modern Greek Language*

| | Plural markers | Word order | Males | Females |
|---|---|---|---|---|
| Native Speakers | | | | |
| RT* | 1.93 | 1.00 | 1.08 | 1.00 |
| Errors | 2.03 | 1.19 | 2.30 | 2.10 |
| | | | | |
| Non-native Speakers | | | | |
| RT* | 2.43 | 1.09 | 1.37 | 1.95 |
| Errors | 3.03 | 2.09 | 3.48 | 2.99 |

* Reaction time is in seconds

Post hoc Sheffe F test performed on both RT and errors of the above significant interactions revealed the following results: Native Greek speakers were faster than non-native speakers in giving their answers in Morphology 1.93 vs 2.43) and made fewer errors (2.03 vs 3.03). They were also faster in giving their answers in the word order task (1.00 vs 1.09) and made fewer errors (1.19 vs 2.09). Native Greek males generally gave faster responses than non-native males (1.08 vs 1.37) and made fewer errors (2.30 vs 3.48). Native Greek females generally gave faster responses than non-native females (1.00 vs 1.95) and made fewer errors (2.10 vs 2.99).

## **Discussion**

Our results show that complex morphology in Greek modern language causes more problems than free word order in subjects whose native language is English. Although English follows a strict word order, it seems that subjects whose native language is English and learn Greek as a second language quickly get used to its free word order. Free word order probably acts as a facilitatory factor in mastering the Greek modern language because non-native speakers just have to get used to it and not learn another strict word order other than the one they had in their native language.

Conversely, complex morphology such as plural markers in Greek seem to cause problems, especially to those subjects whose native language has simple morphology, like English. More specifically, plural markers in English are restricted to an -*s* added to the end of nouns, with the exception of irregular nouns which usually take no -*s* and they are acquired by native English speakers at an early age. However, in Greek modern language plural markers constitute a difficult morphological feature to acquire since there is a great variety of them, each indicating a different gender and case. Thus, non-native Greek subjects, especially those whose native language is one with simple morphology, face difficulties in learning the whole variety of plural markers correctly. As a consequence, the complex morphology of Greek modern language acts as an inhibitory factor in mastering the language.

Sex interacted significantly both with language and type of task, which means that it generally played a significant role in our results. However, post hoc analysis did not reveal any statistically significant differences between the sexes. It has been proved in previous studies (Berninger & Fuller, 1992; Farhady, 1982; Halpern, 1986; Kimura & Clarke, 2002) that females perform better than males on native and second language tasks and show a more automated processing of language (Daltrozzo, Wioland, & Kotchoubey, 2007) but this was not the case in our study. This happened probably because it was the difficulty of type of task, plural markers, which strongly influenced the reaction time and the errors made on the part of both sexes. The only differences we found concerned the RT and the number of errors made by native Greek males and females compared to non-native Greek males and females. Native Greek males and females generally gave faster responses and made fewer errors than non-native Greek males and females. This is justified by the fact that non-native speakers, whether males or females, who come from countries with languages with different syntactical and morphological rules such as the subjects in our sample, face problems especially in the morphology domain when they have to deal with complex morphological features much more complex than the ones in their native language.

## **Conclusion**

The goal of our study was to investigate the impact of Greek free word order and complex morphology on speakers whose native language is dominated by the opposite rules, that is strict word order and simple morphology. We assumed that both factors would affect in a negative manner the way Greek learners acquired word order and complex morphological structures. Our findings verified partly our research questions. In particular, only the first question of our research was confirmed regarding the negative impact of Greek complex morphology on our subjects' overall performance. The second and the third question that guided our research were not verified by our findings since it was only Greek morphology and not Greek free word order that had a negative impact on our subjects' performance.

To sum up, the present study provides evidence for difficulties in acquiring the complex morphology of Modern Greek language on the part of non-native speakers who are used to simple morphological features in their native language. It also suggests that Greek syntax, and especially free word order, does not cause any problems to non-native speakers who are used to strict word order in their native language.

Furthermore, our results have certain pedagogical applications. Language instructors should alert their students to the similarities and differences between Modern Greek and the speakers' native language regarding the word order. Our findings suggest that learners get used to the Greek word order through exposure to the language. Therefore, it seems legitimate for the teachers when uttering a question or a sentence to point at the acceptable alternative structures. This way, students will get easily used to this Greek feature and the focal differences that come with it. On the other hand, with respect to complex morphology and especially the plural markers, a convenient way to sensitize students is to design a noun classification that will represent the host of Greek noun forms. A functional noun classification that can serve as a basis for further elaboration is the one provided by Babiniotis (1998). Babiniotis divides Greek nouns into two major categories, namely two-ending nouns and three-ending nouns. We think that this typology based on noun endings will make the task of learning noun morphology easier and more productive.

Based on our findings, future research should be directed towards finding similarities and differences in syntax and morphology between Greek and other languages, not only English, which are encountered as native languages of students attending Greek schools. The results of such research would help language instructors create a curriculum based on features inherent in each language and therefore facilitate the learning of Greek as a second language.

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