

## Why Changes Go Unnoticed

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# Why Changes Go Unnoticed: The Role of Adaptation in Translation-Induced Linguistic Change

## Abstract

5 Although adaptation is widely recognised by contact linguistics as an important mechanism of language change, previous studies examining the relationship between translation and language change in the target language normally ignore its role. The present study aims to address this gap and expand the application of the Code-Copying Framework (Johanson 1993, 1999, 2002b) to the study of translation as a language contact phenomenon by  
10 examining how the frequential copy of the passive voice reporting verbs in Greek popular science has been combinationally adapted regarding word order. By examining the role that adaptation plays in translation-induced change, we can gain a complete understanding not only of the complex mechanisms that govern the relationship between translation and language change, but also shed light on the nature of the translation activity. The paper  
15 provides a strong argument that translation can be understood using existing concepts of contact linguistics, most notably the Code-Copying Framework.

**Keywords:** corpus-based translation studies, word order, passive voice, popular science, reporting verbs, English-Greek, Code-Copying Framework

## 20 1. Introduction

The investigation of translation as a potential site of language contact capable of encouraging linguistic change in the target language has by now received close attention (Baumgarten 2009; Becher, House, and Kranich 2009; Kranich, House, and Becher 2012; House 2003; House 2006; House 2008; Amouzadeh and House 2010; Hansen-Schirra 2011; Sidiropoulou 25 2017). Evidence suggests that translation might be at least partly responsible for introducing linguistic developments in the target language. However, the majority of previous studies in the field focus primarily on examining how certain linguistic features have changed over time in the target language, rather than on which of their aspects have remained unaltered. While it is natural of studies focusing on change to focus on instability, a study of stability might 30 reveal how specific linguistic features ultimately enter the target language. In other words, by examining how linguistic loans (or copies as these will be referred to in this paper) are adapted to fit the patterns of the target language can offer valuable information about the processes that govern translation as a language contact phenomenon, but also shed light on the nature of the translation activity.

It is generally agreed that language change is not easily detected by speakers of the receiving language (Guy 1990; Mair 1997; Coulmas 2013; Mufwene 2008), while Keller (1994, 13) argues that “[m]ost changes go unnoticed”. This is because linguistic developments do not happen overnight, but require years or even decades to become established. For example, Labov (1981, 177) argues that the appropriate time span for the observation of developments 40 in a language is “from a minimum of half generation to a maximum of two”. Another reason why most changes go unnoticed is adaptation. When new linguistic elements are introduced, they are typically adapted to the receiving language’s patterns. Adaptation can occur at different levels (e.g. phonetics, morphology, syntax, semantics) and degrees (minimum to high) (McMahon 1994; Johanson 1999; Aitchison 2001; Haspelmath 2009). For example, 45 some lexical copies from English into Greek have been minimally adapted on the phonetic level (e.g. *volley* /'vɒli/ becomes βόλεϊ /'volei/), while others can undergo heavier adaptation on the level of morphology (e.g. *tourist* becomes *τουρίστας* - *turistas* (masculine) or *τουρίστρια* – *turistria* (feminine)). Often, some instances of adaptation might even conceal the original form of the linguistic item (McMahon 1994). One such example is the Greek 50 *ουρλιάζω* – *urliazo* (to scream) which is a copy from the Italian *urlare*. Evolutional approaches to language change (Croft 2000; Lass 1990) place particular emphasis on

adaptation claiming that it increases the chances of new linguistic elements surviving in the receiving language, very similar to how the evolution of species works.

55 While the role of adaptation has been widely recognised in contact linguistics, it has been until now largely neglected in studies focusing on translation-induced language change. At the same time, while, as I will argue in this paper, adaptation bears a resemblance to the concept of translation shifts, the potential link between adaptation, as understood in contact linguistics, and shifts, as understood in translation studies, has not been explored. This state of affairs might explain why until now it has been challenging to identify clear instances of  
60 change through translation. The present study aims to address this gap by expanding the application of the Code-Copying Framework to translation, which I argue is an effective mechanism for understanding translation-induced change (Author 2016). In a previous paper, I presented some of the basic concepts of the Code-Copying Framework (which will also be briefly summarised here) and examined the frequential copy of the passive voice reporting  
65 verbs in Greek popular science. In this study, I will examine how the frequential copy of the passive voice has been adapted to fit Greek native patterns regarding the word order of the constructions. Methodologically, this study employs the same corpus (i.e. the TROY corpus) and investigates the same concordance lines (i.e. most frequent reporting verbs) as the earlier study. However, the focus of the analysis is different from frequential code-copying to  
70 combinational adaptation.

This is the first study to examine adaptation in linguistic developments encouraged by translation. On the one hand, this will offer a complete understanding of the complex relationship between translation and language change and the mechanisms that govern it. On the other hand, it will shed light on the techniques that translators employ during translation,  
75 approaching these using concepts of contact linguistics. Ultimately, the present study will strengthen the argument that translation can be understood using existing concepts of contact linguistics, and that the Code-Copying Framework is a suitable framework for analysing translation as a language contact phenomenon. Therefore, this study makes a contribution to both translation studies and contact linguistics offering a strong vantage point for the  
80 understanding of the mechanisms that allow languages to interact, not least through translation.

## 2 Adaptation in the Code-Copying Framework

The Code-Copying Framework presents numerous advantages that allow it to differentiate itself from previous models and theories, making it particularly suitable for the examination  
85 of language change through translation. It is a holistic, unified, dynamic framework which uses simple terminology and can be easily applied to a wide range of contact situations. The notion of *code-copying* that Johanson introduces has a wide scope, ranging from traditional concepts of borrowing to calquing, to allow for similar phenomena to be accounted for within the same paradigm (Johanson 2002a; Verschik 2008). It is also a successful metaphor of the  
90 mental operations that take place in the mind of the users, that is, units are imitated and not taken over, imported or borrowed from another language. The success of the Code-Copying Framework lies in the fact that it provides not only new terminology but also a new understanding of the linguistic outcome of language contact (Verschik 2008).

According to the Code-Copying Framework, we need to distinguish between the Basic Code,  
95 which is the receiving language, and the Model Code, which is the donor language. Typically, elements are inserted from the Model Code into the Basic Code, and these elements are called copies. Different types of copies are possible, namely *material* (i.e. phonic aspects), *semantic*, *combinational* (i.e. collocational patterns and syntax), and *frequential*. A significant contribution of the Code-Copying Framework is that it identifies  
100 that linguistic change progresses in a continuum. Copies begin as momentary copies, that is, the first instance a copy occurs. These are followed by habitualised copies, which are being regularly used by a specific group (this process is referred to as habitualisation). The next stage is conventionalised copies, which means that they are generally integrated and accepted by the community (this process is referred to as conventionalisation). These might then  
105 develop into monolingualised copies, which are also used by monolinguals users (this process is referred to as monolingualisation).

A central aspect of the Code-Copying Framework is adaptation, that is, “various modifications in the direction of the Basic Code” (Johanson 1999, 43). Copies are not identical with their originals, and there are numerous kinds and degrees of difference between  
110 the two. As for degrees of difference, copies can be fairly close to their originals, resulting in reproduction (Johanson 2002a). For instance, the example of *volley* - βόλεϊ mentioned above is only marginally adapted regarding material properties. Properties of the Model Code may also be substituted for Basic Code properties, resulting in differences due to adaptation to

115 reduce the “grammatical and lexical incongruence between the two codes” (Johanson 2002a, 206). For instance, in the example of *tourist* - *turistas* (masculine) or *τουρίστρια* – *turistria* (feminine) mentioned above, a suffix is added to signal gender, but also to allow the noun to enter the Greek declension system. Johanson (2002a) notes that the distance from reproduction to substitution should be understood as a continuum ranging from reproduction to sweeping change and creative reshaping. According to the Code-Copying Framework, four  
120 types of adaptation are possible: *material*, *semantic*, *combinational* and *frequential* (Johanson 2002a; Johanson 1993), which match the four different types of code-copying, thus allowing the framework to be a truly coherent model. Different types of code-copying exclude some kinds of adaptation, e.g. frequential copies cannot be frequentially adapted, etc.

*Material adaptation* affects the phonic properties of the copy, that is, the phonic Model Code  
125 properties are replaced by Basic Code properties. Examples from English include the word *cafeteria* /kæfi'tɪəriə/ which is a copy from the Spanish *cafetería* /kafete'ria/, and *bruschetta* /bru'skətə/ or sometimes /bru'ʃətə/, which is a copy from the Italian *bruschetta* /bru'skɛtta/. Systemic differences between the two codes in question are responsible for differences in the phonic properties (Johanson 1993). This kind of adaptation can be particularly strong in the  
130 first stages of code-copying (Verschik 2008).

In *semantic adaptation*, the semantic properties of Model Code units, especially the denotative and connotative meaning, are adjusted according to Basic Code properties. For example, English words such as *goal*, *corner*, and *out* have been copied into many languages of the world. However, in those languages, these words have a more restricted denotative  
135 meaning compared to English and are typically limited to sports terminology, particularly football.

*Combinational adaptation* involves combinational properties being adjusted or even replaced according to the patterns of the Basic Code so that copies can be used more effectively once they enter the Basic Code. This category also includes changes made on the morphological  
140 level. For instance, the different copies from French denoting colours, such as *mauve*, *beige*, *maroon*, *turquoise*, and *lilac* have been adapted to the syntactic patterns of English and typically appear before the noun, contrary to French where they typically appear after the noun. Similarly, when the English nouns *confrontation* and *ambition* are copied into Russian, they become *конфронтация* (*konfrontacija*) and *амбиция* (*ambicija*) respectively – in both  
145 cases the suffix *-ия* (*-ja*) is added.

Finally, in the case of *frequential adaptation*, a copy may acquire different frequential properties, resulting in a higher or lower frequency than that of the original. A typical example is the Greek noun *στόρι* (*stori*), which is a copy from the English *story* and is used to signal a plot in a film sequence. The frequency of this item is lower than in English since the  
150 Greek equivalent *υπόθεση* (*ipothesi*) is also frequently used.

The most important aspect of adaptation is that it allows original units to be effectively incorporated into the Basic Code. Original units are neither juxtaposed to the units of the Basic Code nor embedded as foreign elements. According to Johanson (1999), the only thing that is foreign about them is their etymology, i.e. their origin. The process of code-copying  
155 “does not produce any fusion or amalgam of codes, nor any ‘mixing’ with two participating languages” (Johanson 1999, 39–40), in the sense that the two codes do not interact to produce mixed utterances involving different components. Differences will always be observed between copies and originals, though some may be more or less significant, even in the most high-copying languages. These differences are “structurally motivated” (Johanson 2002a,  
160 297).

The degree of adaptation is typically dependent on the typological distance between the two codes (Johanson 2002a). The greater the typological distance between them, the greater the need for adaptation and restructuring. Johanson (2002b) argues that, on the one hand, due to adaptation, even very different elements can be incorporated into the Basic Code, especially  
165 in long and intense contact situations. On the other hand, relatively similar codes that are usually mutually intelligible and structurally similar do not require high degrees of adaptation. Other factors may also affect the degree of adaptation, such as the stage of linguistic development of the Basic Code, as well as specific circumstances of language policy. Languages may display high tolerance towards foreign units at a particular stage of  
170 their development (Johanson 2002a). At later stages, the same code may display less tolerance, a fact usually associated with conservative linguistic policies. This may result in extensive and in many cases unpredictable levels of adaptation. Finally, adaptation does not depend on the competence of the users of the Basic Code in the Model Code (Johanson 2006). Although copies often develop from less structurally integrated to more integrated  
175 units, this does not correlate with an increasing degree of bilingualism. There are cases where new copies have been highly adapted and integrated, whereas older copies remain less adapted. Similarly, adaptation should not be related to errors resulting from imperfect learning.

### 3 From Code-Copying to translation

180 As I argue in my earlier paper (Author 2016), translation can be understood as a social  
circumstance facilitating code-copying, where elements can be copied from the source  
language (Model Code) into the target language (Basic Code). Translation should not to be  
considered as a cause of change, but rather as an instance of contact during which code-  
copying may manifest itself and language change may proliferate through language since  
185 translated texts can be widely circulating texts that are likely to exert a powerful (linguistic)  
impact on a large audience. This is even more so the case when the source language is  
English, if we consider its dominance and prestige as a lingua franca. If we acknowledge  
translation as a site of language contact, translators have the option of either introducing new  
linguistic elements together with all their properties (material, semantic, combinational, and  
190 frequential), resulting in global copies, or introducing only some of these, resulting in  
selective copies. In the case of the latter, it is likely that these new linguistic elements will be  
adapted regarding the remaining properties. For example, a semantic copy through translation  
(e.g. a new word such as *modem*) is likely to be materially and combinationally adapted  
(regarding collocational patterns and syntax) so that these fit the patterns found in the target  
195 language. It is worth noting that material adaptation can occur in translation, but only through  
graphology and spelling.

In translation, as in other language contact situations, the degree of adaptation depends on a  
number of factors. The most important of these is the typological distance between two  
languages. The more distant two languages are, for example regarding the word order of  
200 sentence constituents, the more likely translators are to adapt copies in that respect.  
Adaptation imposed by the differences between two languages is of course not something  
new in translation. Shifts in translation, defined as deviations from the source text either  
regarding form or meaning, have been extensively studied in the past (Krein-Kühle 2011;  
Halverson 2007; Blum-Kulka 1986; Munday 1998; Mason 1995; Vinay and Dalbernet 1995;  
205 van Leuven-Zwart 1989; Catford 1965) and different types of shifts have been identified.  
Such shifts might be, for example, dictated by the different morphological, syntactic,  
discourse or other preferences of the two languages and can help the target text achieve its  
intended function in the target environment. Thus, the way in which shifts have been  
understood in translation is not very different to the way in which adaptation has been  
210 understood in contact linguistics and the Code-Copying Framework in particular, offering  
additional evidence that translation can be understood using concepts of contact linguistics.



For example, a translator might render the French *le livre noir* into English as *the black book*, placing the adjective before the noun. Similarly, the noun *beige*, which has been copied from French into English, typically appears before nouns in English. In both cases, the syntactic properties of the adjective have been adapted to fit native patterns. Even though adaptation focuses on matches with the Basic Code (i.e. target language), while shifts focus on departures from the source text, in essence, these concepts aim to examine similar phenomena. However, this potential similarity between translation and contact linguistics has not been explored in detail before.

The stage of linguistic development is another relevant factor affecting adaptation in translation. Kenny (1998) explains that translation might be responsible for introducing new genres, and, particularly in the early stages of this phenomenon, the reading public might get used to the new style being introduced, considering it as appropriate for the genre in question (Rabin 1958). Thus, linguistic systems tend to be more open to linguistic innovation at the early stages of development of a new genre through translation, and higher degrees of adaptation are likely to be observed. Finally, the skills and competence of the translator must not be associated with the degree of adaptation, in the same way as adaptation must not be related to the degree of bilingualism. However, it must be noted that in cases where texts are translated by non-professional translators, their linguistic skills might have an impact on the degree of adaptation, with typically lower adaptation observed.

#### **4. The TROY corpus**

The methods employed in this study belong to the discipline of corpus linguistics, which employs large electronic collections of text, i.e. corpora, to examine patterns in language. The corpus examined is the TROY (TRanslation Over the Years) corpus, which consists of non-translated and translated Greek popular science articles and the English source texts of the translations, and has been purposefully created for this project. It consists of approximately 500,000 words, covers a 20-year period (1990-2010), and is divided into three parts, i.e. corpus components. The first component consists of non-translated Greek popular science articles published in 1990/1991, 2003/2004, and 2009/2010. The second component consists of non-translated and translated Greek popular science articles published in 2003/2004 and 2009-2010. The third component consists of translated Greek popular science articles and the English source texts of the translations published in 2003/2004 and 2009/2010. The years

2003/2004 are included because translations from English popular science publications  
245 started to circulate more widely in Greece during those years than in previous decades, while  
at the same time a considerable number of non-translated publications was founded.  
Therefore, they will allow for a closer investigation of potential differences in the degree of  
adaptation through the years, the assumption being that adaptation might be higher in more  
recent years, when the genre is more established. Articles in the corpus are taken from a  
250 range of publications, both newspapers and magazines. For more details on the TROY  
corpus, see Author (2016).

The present study is based on the results generated during an earlier study, which found that  
passive voice reporting verbs constitute an instance of frequential copy in Greek from  
English and that habitualisation, a process that is significant for the development of new  
255 reporting patterns, is related to translated texts. Specifically, the frequency with which  
reporting verbs appear in the passive voice in Greek popular science articles has decreased in  
the 20-year span examined (1990-2010), and this decrease is likely to have been encouraged  
by translations of similar texts from English. If we consider the status of English as a *lingua*  
*franca*, at least as far as the production of scientific discourse is concerned, it is not surprising  
260 that Greek, as the Basic Code, has been found to copy elements from English, which serves  
as the Model Code, through translation. However, the process of monolingualisation was  
found to be still in progress, at least in 2009/2010.

English and Greek are considered to be typologically distant languages, especially based on  
qualitative criteria (Comrie 1981). One significant difference between the two languages is  
265 that English is a Subject-Verb-Object (SVO) language, whereas Greek allows for many more  
possibilities.<sup>1</sup> Since Greek allows for more syntactic flexibility, the frequential copy of the  
passive voice is likely to have been combinationally adapted, thus allowing the subject to  
appear in a range of positions or even be omitted. However, due to the general prestige that  
English enjoys and its cultural dominance, especially regarding scientific research, relatively  
270 high tolerance towards English linguistic elements may also be observed. If combinational  
adaptation has not taken place, the SV word order, which is typically used in English, is  
expected to have become more frequent over time, as a result of code-copying. In that case,  
Greek will have copied from English not only the frequency of the passive voice but also the

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<sup>1</sup> Although SVO is considered as the basic word order in Greek, numerous studies indicate that the VS order is quite common in both main and subordinate clauses (Philippaki-Warbuton 1985; Philippaki-Warbuton 2001; Philippaki-Warbuton and Spyropoulos 2001; Roussou and Tsimpli 2006).

word order, leading to a copy that combines both the frequency of the passive voice  
 275 construction and the frequency with which the SV is being used in English. Thus, this study  
 will focus on the degree of combinational adaptation regarding the word order of passive  
 voice constituents, particularly the position of the subject, and to what extent this has changed  
 through the years.

To examine the word order associated with passive voice constructions in the concordances  
 280 generated during the previous study, each concordance line is analysed separately. In the case  
 of Greek, attention is mainly paid to the position of the subject, i.e. whether it is included and  
 if so whether it appears before or after the passive verb form. In other words, three  
 possibilities are examined: Subject-Verb (SV), Verb-Subject (VS) and Verb (V). In the  
 examination of passive word order, no reference is made to other possible constituents of a  
 285 sentence, such as the object or the agent. The English concordance lines are analysed only to  
 establish that they all follow the SV order since this is the typical word order for affirmative  
 and negative constructions.<sup>2</sup> In total, 699 concordance lines are analysed of both English and  
 Greek passive voice instances (Table 1).

	<b>GREEK</b>	<b>no. of instances</b>	<b>no. of passive voice instances</b>	<b>ENGLISH</b>	<b>no. of instances</b>	<b>no. of passive voice instances</b>
1.	Λέω (say/tell)	452	86	Say	709	6
2.	Θεωρώ (consider)	225	121	Know	231	74
3.	Απαιτώ (demand)	216	108	Call	179	141
4.	Υποστηρίζω (maintain)	190	14	Think	158	9
5.	Γνωρίζω (know)	187	2	Suggest	91	1
6.	Αναφέρω (report)	163	69	Tell	87	9
7.	Εξηγώ (explain)	149	6	Mean	86	1
8.	Διαπιστώνω (ascertain)	127	36	Ask	68	6
9.	Δηλώνω (state)	100	1	Learn	67	4
10.	Μαθαίνω (learn)	99	1	Explain	62	4

<sup>2</sup> Interrogatives, for examples, allow for more possibilities where the agent might appear before the verb.

<b>Total</b>	<b>1908</b>	<b>444</b>	<b>1738</b>	<b>255</b>
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Table 1: Top ten reporting verbs in Greek and English in the TROY Corpus

290 Of particular importance for the present study is also the V construction, which is typical of  
 pro-drop languages and directly reflects the rich morphology of Greek, where information  
 about the subject of the verb is encoded in the inflection. The focus of the analysis is whether  
 and to what extent the frequency of this particular construction has changed, i.e. decreased, in  
 Greek, and if so, whether it is accompanied by an increase in the SV construction as this  
 295 would suggest influence from the English texts, where a subject always has to be included,  
 even in the form of the dummy *it*. If such an increase is observed, it will be an indication of  
 some influence from English, where similar constructions are quite frequent.

Each corpus component described earlier is examined separately and, therefore, analysis  
 consists of three stages. The results from the first two stages of analysis (diachronic non-  
 300 translated and comparable) involve quantitative data, while the results from the third stage  
 (parallel) mostly focuses on qualitative data. Since we are dealing with quantitative data, the  
 chi-square test is employed, without Yate's correction (Oakes 1998; McEnery, Xiao, and  
 Tono 2006) to examine the statistical significance of any differences observed. The null  
 hypothesis ( $H_0$ ) is that any difference observed is due to chance. The alternative hypothesis  
 305 ( $H_1$ ) is that the difference is not due to chance, and is most likely related to language change  
 through translation.

## 5. Results

### 5.1 Diachronic analysis

310 The first stage of analysis focused on the examination of the word order of the passive  
 constructions in the non-translated Greek popular science articles produced at three points in  
 time, namely 1990/1991, 2003/2004 and 2009/2010 (Table 2).

	<b>Non-translated 1990/1991</b>	<b>Non-translated 2003/2004</b>	<b>Non-translated 2009/2010</b>
SV	53/99 (53.5%)	41/88 (46.6%)	55/94 (58.5%)
VS	22/99 (22.3%)	37/88 (42.0%)	31/94 (33.0%)

V	24/99 (24.2%)	10/88 (11.4%)	8/94 (8.5%)
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Table 2: Passive word order in Greek non-translated popular science articles

The most frequent word order in all three corpus components is SV, which accounts for 53.5% of all passive voice constructions in articles published in 1990/1991, 46.6% in those published in 2003/2004, and 58.5% for 2009/2010. Even though some subtle differences are observed across the twenty year period (1990/2010) regarding the distribution of this pattern, these differences are not statistically significant, i.e.  $\chi^2=0.2712$ , d.f.=2, p=0.0964, and are thus most likely attributed to chance. What can be seen from this analysis is that the frequency with which the SV order is being used in Greek non-translated popular science articles has not changed diachronically, which is a first indication that the frequential copy of the passive voice is most possibly combinationally adapted to meet the native preferences of the Basic Code regarding word order.

Regarding the V order, it was found that its frequency has been decreasing over time, by 52.9% between 1990/1991 and 2003/2004 and by a further 25.4% between 2003/2004 and 2009/2010. Overall, it has decreased by 64.8% in the twenty-year period under scrutiny here. This difference is statistically significant ( $\chi^2=10.68$ , d.f.=2, p=0.0048) and might be connected to influence from English communicative conventions, where the subject is always included. However, the fact that this decrease of the V structure is not accompanied by an expected increase in the SV order, but in the VS order, seems to suggest that some process, other than the influence of English, might also be involved. This might be a result of an internally motivated change in Greek or a reflection of the discourse conventions of popular science in Greek which have undergone change as the genre developed.

Despite the fact that important changes were not observed regarding of word order, this does not provide sufficient evidence that the frequential copy of the passive voice has been combinationally adapted in Greek non-translated popular science articles. It is necessary to examine the translated popular science articles to establish whether similar patterns can be observed. If similar patterns are not observed, it will be an indication of a possible combinational copy of the passive word order in Greek that has been habitualised in the context of the translation, without reaching the stage of monolingualisation and thus not found in non-translated texts.

## 5.2 Comparable analysis

To investigate whether and to what extent the word order of the passive constructions has been combinationally adapted in translated texts, the word order of the passive voice occurrences in the translated Greek popular science articles was analysed, and the results were compared to those extracted from the non-translated popular science articles (Table 3).

	<b>Non-translated 2003/2004</b>	<b>Translated 2003/2004</b>	<b>Non-translated 2009/2010</b>	<b>Translated 2009/2010</b>
SV	41/88 (46.6%)	48/90 (53.4%)	55/94 (58.5%)	42/73 (57.5%)
VS	37/88 (42.0%)	22/90 (24.4%)	31/94 (33.0%)	12/73 (16.5%)
V	10/88 (11.4%)	20/90 (22.2%)	8/94 (8.5%)	19/73 (26.0%)

Table 3: Word order of passive constructions in Greek non-translated and translated popular science articles

As can be seen, SV is the most frequent pattern in translated popular science articles, which is employed with approximately the same frequency as in the non-translated texts. In particular, SV accounts for 46.6% of the passive constructions found in non-translated texts published in 2003/2004 and 53.4% in translated ones. For articles published in 2009/2010, this pattern accounts for 58.5% of the passive constructions found in non-translated texts and 57.5% of such constructions found in translated texts. The subtle differences between translated and non-translated articles published 2003/2004 and 2009/2010 are not statistically significant, and thus attributed to chance, i.e. for 2003/2004  $\chi^2=0.37$ , d.f.=1,  $p=0.3681$  and for 2009/2010  $\chi^2=0.02$ , d.f.=1,  $p=0.8875$ . This finding provides further support for the claim that the frequential copy of the passive voice has been combinationally adapted. It is also an indication that adaptation takes place immediately after the copy is introduced to the Basic Code, during the stage of habituation, long before it reaches the stage of monolingualisation. What this suggests is that in cases where the translators have to render a passive voice sentence that follows the SV order in English, they tend to transform it into a different word order where necessary, namely VS or V, following the Greek syntactic patterns.

365 As far as the V pattern is concerned, important differences can be observed between the translated and the non-translated articles. In particular, it was found to be more frequent in translated texts than in non-translated ones by 64.3% in 2003/2004 and 101.5% in 2009/2010. The difference is statistically significant only in more recent years ( $\chi^2=8.75$ , d.f.=1,  $p=0.0031$ ), providing evidence that the  $H_0$  can be refuted. In that sense, the V structure is a  
 370 characteristic of the language of translation, at least in 2009/2010. While English favours constructions where the dummy subject *it* or a generic subject, such as *we* and *you*, is used, in Greek, the latter can be encoded in the inflection of the passive voice verb. It is possible that translators tend to omit the subject in such cases, employing a V structure, since including the subject of the verb phrase would most likely place additional emphasis on it. We will  
 375 examine these issues in more detail, when we discuss data from the third stage of analysis (see Section 5.3).

The VS pattern seems to be used less frequently in translated texts than in non-translated ones, possibly as a consequence of the increased use of the V pattern. In particular, the VS construction is used less frequently in translated texts compared to non-translated ones by  
 380 53.0% in 2003/2004 ( $\chi^2=6.47$ , d.f.=1,  $p=0.011$ ) and 66.7% in 2009/2010 ( $\chi^2=5.88$ , d.f.=1,  $p=0.0153$ ), and the differences are found to be statistically significant. These results refute the  $H_0$  that the differences might be due to the inherent variability in the corpus. Relating this finding to the decreasing frequency of the V construction in non-translated articles, discussed earlier, suggests that the translated texts might have influenced to some extent the non-  
 385 translated ones, at least regarding the use of the VS and V patterns.

### 5.3 Parallel analysis

The third stage of analysis involved the quantitative examination of the English popular science articles to establish that SV is the only pattern found, which was confirmed to be the  
 390 case (Table 4), but also the qualitative examination of the English source texts and their translations into Greek, which offers some clear indication of the way in which the process of combinational adaptation takes place.

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<b>Source texts</b>	<b>Source-texts</b>
<b>2003/2004</b>	<b>2009/2010</b>

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SV	121/121 (100.0%)	134/134 (100.0%)
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Table 4: Word order of passive construction in English popular science articles

395 Since the quantitative data confirm the expectation that English relies heavily on the SV order, more emphasis is placed here on the results from the qualitative analysis, which can provide some valuable examples as to how the SV passive constructions found in the English source texts have been translated using different word order patterns in Greek translated texts. Typical examples of the shift that occurs in translation regarding word order are the two examples below. Here, the English SV pattern has been adapted into a VS pattern in Greek.

400 (1) Around 30 similar instances of chimerism **have been reported**.  
[New Scientist, 15/11/2003]

**Έχουν αναφερθεί** τουλάχιστον 30 ανάλογες περιπτώσεις χμιαρισμού.  
[Vima Science, 21/12/2003]

405 Are reported at least 30 similar instances of chimerism.  
[near-literal translation]

(2) Obviously, more research **is needed**.  
[Scientific American, 3/2003]

**Απαιτείται**, συνεπώς, περισσότερη ακόμη έρευνα.  
[Scientific American GR, 10/2003]

410 **Is demanded**, thus, more research.  
[near-literal translation]

415 In these examples, the subject of the passive voice construction in Greek is included after the passive voice verb form and towards the end of the sentence. Another type of adaptation can be found in Example 3, where the dummy subject *it* in the English source sentence is implied by the inflection of the verb, i.e. -ε, in the target sentence and the passive voice construction can be fully comprehensible by the verb form alone, since the verb can be inflected to specify the subject.

420 (3) In 2008, for instance, **it emerged** that the US had "forgotten" how to make a secret ingredient of some nuclear warheads, dubbed Fogbank.

[New Scientist, 2/2/2010]



Το 2008, για παράδειγμα, **μαθεύτηκε** ότι οι Ηνωμένες Πολιτείες είχαν «ξεχάσει» πώς να κατασκευάζουν ένα μυστικό συστατικό για κάποιες πυρηνικές κεφαλές ονόματι Fogbank.

425

[Vima Science, 14/2/2010]

In 2008, for example, **it was learned** that the United States had "forgotten" how to build a secret ingredient for some nuclear warheads named Fogbank.

[near-literal translation]

430 Similarly, in Example 4, English SV pattern has been adapted into Greek as a V pattern, with the subject being implied by the morphology of the verb.

(4) While many candidate genes **have been suggested** to affect lifespan, very few have been consistently verified in multiple populations.

[New Scientist, 7/9/2009]

435 Για πολλά γονίδια **έχει υποστηριχθεί** ότι σχετίζονται με τη διάρκεια της ζωής, η σχέση όμως αυτή **έχει επαληθευθεί** για ελάχιστα σε πολλαπλούς πληθυσμούς.

[Vima Science, 13/9/2009]

For many genes, it **has been suggested** that they are related to the duration of life, but this relationship has been verified for very few in multiple populations.

[near-literal translation]

440 In this case, the subject *genes* is transformed into a prepositional phrase, and the subject of the construction is implied by the inflection of the passive verb form. Thus, even though semantically *genes* is the subject of the translated sentence, strictly syntactically it is omitted by being relegated to the position of the object of a prepositional phrase. This reflects the high degree of combinational adaptation that the frequential copy of the passive voice in  
445 Greek can undergo, namely that extensive changes might take place to allow for a V pattern to be employed, instead of an SV one.

These examples confirm that the frequential copy of the passive voice is combinationally adapted even at the stage of habitualisation, that is when the copy is regularly and frequently employed in the translated texts. This combinational adaptation then carries on to the stage of  
450 monolingualisation, as the results from the diachronic analysis indicate.

## 6. Is translation a Trojan Horse?

The corpus analysis suggests that, as far as the frequential copy of the passive voice reporting verbs in Greek popular science is concerned, adaptation is initially observed in translated texts, where the patterns employed seem to follow closely those found in non-translated texts.

455 The relatively high degree of adaptation observed in the data is due to the typological difference between English and Greek regarding word order and is an important process for the introduction of the frequential copy of the passive voice to Greek since it allows it to be effectively incorporated into the language. Relatively high degrees of adaptation, as attested here, may explain why most linguistic changes go unnoticed and require careful investigation  
460 to be identified. Finally, some potential influence from translated texts upon non-translated texts was identified in the case of the VS and V patterns, but this should be attributed to the language of translation, rather than any direct influence from English. Therefore, it is not strictly speaking an instance of combinational code-copying.

If we compare adaptation diachronically between 2003/2004 and 2009/2010, even though the  
465 differences are not statistically significant, it appears that adaptation is lower in more recent years. This refers to both the slightly increased proportion of the SV pattern in Greek non-translated texts, and the slightly decreased proportions of the VS and V patterns. Similar observations can be made regarding Greek translated texts, except the V pattern, which has been found to be slightly more frequent in 2009/2010. This seems to contradict the idea that  
470 linguistic systems might be more open to new linguistic items, i.e. adapt less, at the early stages of the development of a genre. However, the available data and the statistical results are not sufficient to arrive at robust conclusions; nonetheless they “may be useful as an indication of where to start doing further research” (McEnery and Hardie 2012, 51). Thus, future research might focus more closely on how the degree of adaptation might change  
475 diachronically as well as the factors that might affect this change, for example, the site of publication.

More importantly, the question that we still need to address is what this high degree of adaptation means for translation. Firstly, it demonstrates that translation can be effectively understood using a wide range of concepts from contact linguistics, including that of  
480 adaptation, which bears a strong resemblance to the notion of translation shifts. More specifically, it offers clear, additional, evidence that the Code-Copying Framework is a powerful descriptive mechanism for examining translation as a language contact

phenomenon. Secondly, translation is found not only to convey new ideas to the receiving culture but also bring with it changes that affect its linguistic system in potentially profound ways. These changes can be efficiently effected partly due to the process of adaptation. In that respect, translation “may act as a Trojan horse, by instigating change either through the introduction of new patterns, or by accelerating change through activation of latent possibilities” (Apostolou-Panara 2004, 182). Therefore, any attempt at examining translation as a potential site of language contact can be seen as an attempt at uncovering some aspects of what is inside the Trojan horse. However, the concept of the Trojan horse has negative connotations, referring to deceiving means employed to cause damage from the inside. By employing this metaphor, translation from English could be seen as a potential threat to multilingualism and local cultures, along the lines discussed by Bennett (2007). The responsibility to avoid this, according to Bennett, rests with translators, among other policy makers, who are “the border police” entrusted to “flush out any unwanted ideology that might be trying to slip in unseen” (2007, 154)

A more moderate approach is adopted by House, who stresses the importance of finding a new way to talk about English as a *lingua franca*, that is, a way that does not blame English for linguistic imperialism, but rather accepts it “in toto for its benefits” (2003, 574). House argues that emotional discussions that focus on the (neo)imperial and (neo)colonial threat to multilingualism posed by English are politically naïve and that it is possible for English to co-exist with other local languages without necessarily threatening them, along the lines discussed by Fishman (1977). However, she does not deny the fact that the status of English as a *lingua franca* may have significant implications for local languages. As has been shown in this study, translation can play a critical role in the way in which these implications are realised.

My personal stance is closer to House’s view, since I regard code-copying a natural process, whether encouraged by translation or direct contact between languages, which is a result of the communicative nature of human interaction. This view is in accordance with how most prominent historical linguists view language change (e.g. Labov 1981; McMahon 1994; Keller 1994; Mair 1997) As Keller (1994, 93) puts it “[w]e find some of them [i.e. language changes] irritating or unpleasant, and consider others desirable; but in general, we cannot prevent a particular change, nor can we produce it on purpose.” Historical linguistics has for decades now agreed on this and McMahon argues that the “notion of progressive historical decay” is an idea that “historical linguistics can well do without” (1994, 325), and I would

argue that the same is true of translation studies. Thus, to answer the question set in the title of this section, translation can be considered as a Trojan horse, only if we view language change as having negative implications. An alternative view is to see translation as part of the flux of language, which constantly changes, and never stands still. While it is important to stay curious and critical of language change through translation, and aim at a fuller understanding of its mechanisms, we should also bear in mind that any attempt at controlling or stopping it is unlikely to be successful.

## 7. Conclusion

This paper aimed at expanding the application of the Code-Copying Framework to the study of translation as a language contact phenomenon by examining how the frequential copy of the passive voice reporting verbs in Greek have been combinationally adapted regarding word order. It has demonstrated for the first time how exactly adaptation works in practice and it revealed that this bears very strong resemblance to translation shifts. Thus, the present paper recognises the important role that adaptation plays in translation-induced language change, which has never been examined in the context of translation as a language contact phenomenon. This is both surprising and problematic if we consider that adaptation has been widely recognised as a powerful mechanism by historical linguists. These findings challenge existing approaches to translation as a language contact phenomenon for two main reasons. Firstly, they suggest that if we want to achieve a complete understanding of translation as a language contact phenomenon, any future study needs to focus on both change and stability. This can be achieved by examining both what is copied during translation, but also how it is adapted. Secondly, we do not require new theories to account for translation-induced change, since existing theories, most notably the Code-Copying Framework, can successfully cater for different aspects of this phenomenon, as well as concepts from translation studies, such as shifts. Similarly, translation-induced change should not be understood as distinctly different to other instances of change, and there are important lessons that translation scholars can learn from examining how linguistic change has been approached in historical linguistics.

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