Eitan Grossman, Peter Dils,
Tonio Sebastian Richter & Wolfgang Schenkel (eds.)

Greek Influence on Egyptian-Coptic:
Contact-Induced Change in an Ancient African Language

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The Case of Greek Loan-Verb Integration Strategies in Coptic

Eitan Grossman & Tonio Sebastian Richter[1]

Abstract

This paper proposes a diachronic account of loan-verb integration strategies in Coptic. We argue that the synchronic variation found in the diverse Coptic dialects reflects a gradual change from one integration strategy to another. This change proceeds from the original 'light verb' construction to the 'direct insertion' construction, with a number of dialects showing considerable intradialectal variation and evidence of lexical diffusion. We also use Haspelmath's (2010) distinction between comparative concepts and descriptive categories to state the integration of loanwords into a target language in a precise fashion.

1 Introduction

This paper proposes a diachronic account of loan-verb integration strategies in Coptic. We explore the idea that the synchronic variation found in the diverse Coptic dialects reflects a gradual change from one integration strategy to another. Schematically, the proposed pathway of change is as follows:

	CONSTRUCTION	STRATEGY	EXAMPLE
STAGE 1	Light verb ('to do') + Greek infinitive (with infinitive marker *–n*)	light verb strategy	*r-keleuin* 'do-command'
Change 1	Loss of infinitive marker		
STAGE 2	Light verb ('to do') + bare verbal stem	light verb strategy	*r-keleue* 'do-command'
Change 2	Loss of light verb		
STAGE 3	Bare verbal stem	direct insertion strategy	*keleue* 'command'

Table 1: From light verb strategy to direct insertion strategy

1 Jerusalem (<eitan.grossman@mail.huji.ac.il>) & Berlin (<sebastian.richter@fu-berlin.de>).
This paper has a long and complicated history. The first author wrote it in response to a draft of a paper by the second author (2009), and presented it in 2009 at a conference in Oxford (Beyond Free Variation; Scribal Repertoires from Old Kingdom to Early Islamic Egypt). Both papers have been available to Copticists since at least 2009 (the former as Richter 2009a, the latter as Grossman 2009a), and both have since languished in publication limbo. Some authors (e.g., Almond 2010) have since made reference to the content of these two unpublished drafts (see also Egedi's and Hasznos's articles in this volume). This paper is the joint work of both authors, and supersedes the previous papers. We would like to thank Jennifer Cromwell (Copenhagen) and Stéphane Polis for their detailed comments on earlier drafts of this paper.

This path is reconstructed based on the patterns of synchronic variation observed in a range of Coptic dialects, as well as evidence from late Demotic. Such an approach to exploring language change within Coptic has proved fruitful in previous studies (e.g., Grossman 2009b). This account provides a plausible and coherent answer to a question that has provoked much discussion in Coptic linguistics, namely, the nature of the form of the Greek lexeme borrowed. It also shows how loan-verb integration strategies can change over time, and as such, is intended as a contribution to the typology of verb borrowing in general.

The structure of this paper is as follows. Section 2 describes the usual presentation of loan-verb integration in Coptic, while Section 3 presents the data actually found in the Coptic dialects. Section 4 presents intradialectal variation and lexical diffusion between the various loan verb integration strategies. Section 5 discusses the input form of loan verbs. Section 6 discusses the possible motivations for this change, and section 7 formalizes the notion of loanword integration in terms of the comparison between two language-specific descriptive categories. Section 8 describes the emergence of a loan-verb integration construction for the accommodation of new loan verbs, and Section 9 presents our conclusions and questions for future research. An excursus in Section 3 describes the earliest documented cases of Greek loan verbs in Egyptian in 2nd/3rd-century Demotic texts from Narmouthis (modern Medinet Madi) in the Fayyum oasis. An appendix provides an overview of dialectal variation in Coptic literary texts.

2 The grammatical integration of Greek-origin verb lexemes in Coptic

The usual presentation of the facts is as follows. In the Bohairic dialect, a 'light verb' (ⲉⲣ- *er-* 'to do') derives a verb from a Greek infinitive (1). In this construction, the Greek infinitive behaves like an undetermined noun, e.g., ⲉⲣ-ⲛⲟⲃⲓ *er-nobi*, (do-sin) 'to sin.'[2]

(1) Bohairic
ⲁⲫⲉⲣⲕⲉⲗⲉⲩⲓⲛ (*passim*)
a-f-er-keleuin
PST-3SGM-do-command^{G}
'He commanded'

In the Sahidic dialect, Greek-origin verb lexemes occur in grammatical environments in which Egyptian-origin infinitives occur (2). No light verb occurs. The input form has

2 This strategy for the integration of loan verbs first became widespread in the New Kingdom, when loan verbs were integrated by means of the verb *iri* 'to do.' This strategy had mostly been used in earlier times for verb lexemes with more than three radicals. For the generalization of *iri* periphrasis with the different classes of verbs in LEg, see Winand (1992) where the spread of *iri* is described for each conjugation pattern. Kammerzell (1998) argues that the spread of 'to do' periphrasis in Late Egyptian was not the result of language contact. On verb integration strategies in Late Egyptian, see Winand's paper in this volume, which adduces new material and insights, among them the relative paucity of verb borrowing, in contrast to what has been said in previous literature.

traditionally been considered to be either that of a Greek infinitive or an imperative (see Section 5 for discussion).

(2) Sahidic
ⲁϥⲕⲉⲗⲉⲩⲉ (*passim*)
a-f-keleue
PST-3SGM-command^{G}
'He commanded'

Of the other dialects, some are said to be like Bohairic, e.g., Fayyumic (3), while others are said to be like Sahidic, e.g., Middle Egyptian (4), and yet others show considerable variation, e.g., the Lycopolitan of Kellis (5–6). Note that in the southern dialects, such as Lycopolitan, the form of the light verb is usually ⲣ- *r*-, while in the Fayyumic varieties, it is ⲉⲗ- *el*-, in some corpora varying with ⲉⲣ- *er*-.[3]

(3) Fayyumic
ⲁϥⲉⲗⲥⲫⲣⲁⲅⲓⲍⲓⲛ (John 3:33, ed. Crum & Kenyon 1899/1900)
a-f-el-sphragizin
PST-3SGM-do-seal^{G}
'He sealed'

(4) Middle Egyptian
ϩⲁϥⲕⲉⲗⲉⲩⲉ (Matthew 14:9, ed. Schenke 1981: 86)
ha-f-keleue
PST-3SGM-command^{G}
'He commanded'

(5) L_4 (Manichaean Lycopolitan)
ⲁϥⲣⲕⲉⲗⲉⲩⲉ (ManiH, ed. Polotsky 1934: 91,16)
a-f-r-keleue
PST-3SGM-do-commmand^{G}
'He commanded'

(6) L_4 (Manichaean Lycopolitan)
ⲁϥⲕⲉⲗⲉⲩⲉ (ManiH, ed. Polotsky 1934: 50,21)
a-f-keleue
PST-3SGM-command^{G}
'He commanded'

3 Kasser (1991a) claims that the direct insertion strategy is found in Sahidic (S), Middle Egyptian (M), Dialect W, and Dialect F_{56}, while the light verb strategy is found in dialects Akhmimic (A), Lycopolitan (L), and Bohairic (B). Variation is found in Fayyumic (F), Proto-Theban (P), and Dialect V. Richter (2009a) observes that 'the dialects favouring the 'light verb strategy' do not form a geographic continuum, so that the occurrence of this feature can hardly be explained in terms of convergence, but stands for independent developments of this pattern within Coptic.' In his examination of the Sahidic of the Nag Hammadi codices and Codex Tchacos, written in a 'non- or not-yet standardized Sahidic idiom sharing some features with B and/or L,' Richter observes that the distribution of the two strategies is independent of the semantics or valency of the verb, as well as of the specific TAM pattern involved. This observation is corroborated by Almond (2010).

Reintges (2001) analyzes some of these facts, arguing that all Greek verb lexemes were borrowed as nouns. This leads him to posit that in dialects like Sahidic, a 'covert' light verb was present, which was present in the syntactic structure but not 'spelled out.' There are some problems with this analysis. First, it does not provide any analysis of those dialects in which both an overt and a 'covert' light verb occur. In fact, it does not offer any explanation of why one strategy should be chosen over another in any single case. Second, it replicates Moravcik's (1978) claim that zero NOUN > VERB derivation is necessary in verb borrowing, which Wohlgemuth (2009) shows to be unsupported by cross-linguistic evidence. Third, as Wohlgemuth (2009) puts it, 'It is more than counterintuitive to assume derivation *from* a conceptually more complex designation ('the act of going across') *to* a semantically less complex, primary designation ('go across' or 'cross'), even less so if such derivation would involve no morphology other than a null morpheme'.[4] Fourth, Coptic rarely employs zero derivation for deriving verbs from nouns elsewhere: it is rather by means of various verbal lexemes with meanings like 'to do,' 'to give,' 'to get.' For example, in (7), the verbs 'to teach' and 'to learn' are derived via light verbs from the noun lexeme *sbô*,'wisdom.' In (8), the verb 'to commit adultery' is derived via a light verb from the noun lexeme *naeik* 'adultery.'

(7) Sahidic

ⲥⲃⲱ	ϯⲥⲃⲱ	ϫⲓ-ⲥⲃⲱ
sbô	*tⁱ-sbô*	*či-sbô*
wisdom.FSG	give-wisdom	receive-wisdom
'wisdom'	'to teach'	'to learn'

(8) Middle Egyptian

ⲛⲁⲉⲓⲕ	ⲉⲣ-ⲛⲁⲉⲓⲕ (Matthew 9:138, ed. Schenke 1981: 99)
naeik	*er-naeik*
sin.MSG	do-adultery
'adultery'	'to commit adultery'

Fifth, it does not account for the fact that Greek verb lexemes are very rarely found in nominal environments as infinitives. Rather, there is an overwhelming tendency for Greek action nouns to occur in such environments. For example, in (9), the action noun ⲡⲓⲥⲧⲓⲥ *pistis* 'belief' occurs after determiners, while in (10) the verbal lexeme ⲡⲓⲥⲧⲉⲩⲉ *pisteue* 'to believe' occurs in verbal constructions.

(9) Mesokemic
ⲧⲉⲕⲡⲓⲥⲧⲓⲥ (Matthew 8:13, ed. Schenke 1981: 69)
te-k-pistis
POSS.FSG-2SGM-belief
'your belief'

4 Wohlgemuth continues 'Such an analysis […] would therefore rather look like a sleight of hand performed in order to save an unsustainable argument but not like a convincing explanation of linguistic facts' (2009: 267).

(10) Middle Egyptian
ⲧⲉⲧⲛⲡⲓⲥⲧⲉⲩⲉ (Matthew 9:28, ed. Schenke 1981: 73)
tetn-pisteue
2PL.PRS-believe
'You believe'

Sixth, it is impossible to prove that this 'covert light verb' is in fact there; its existence rests on assertion alone. As such, the covert light verb analysis is at best inconclusive. The fact that Greek verb lexemes in Coptic do not have the same stem-allomorphy as native Coptic lexemes is of uncertain value here: it might only mean that Greek loan verbs were not fully integrated at a morphological level.[5] Also, despite what is said in Reintges (2001: 198), it is not the case that all Greek verb lexemes are unintegrated into Coptic valency patterns: while many Greek lexemes were integrated into the default valency pattern, which marks objects by the accusative marker ⲛ-/ⲙⲙⲟ- *n-/mmo-*, there are plenty of verbs that were integrated into more specific valency patterns devoted to classes of verbs with specific semantics.

For example, Greek διώκειν *diôkein* 'to pursue' (11) takes an accusative-marked complement in Greek, while Coptic ϫⲓⲱⲕⲉ *diôke* takes a complement marked by the preposition ⲛⲥⲁ- *nsa-* 'after' (12), as do native verbs from the semantic domain of pursuit and persecution (13).

(11) Greek

ἐδίωκον	οἱ	Ἰουδαῖοι	τὸν	Ἰησοῦν
edíôkon	*hoi*	*ioudaioi*	*ton*	*Iêsoun*
pursue:IMPF.3PL	DEF.NOM.PL	Jews.NOM.PL	DEF.ACC	Jesus.ACC

'The Jews pursued Jesus.' (John 5:16)

(12) Sahidic

ⲛⲉⲣⲉⲛⲓⲟⲩⲇⲁⲓ	ϫⲓⲱⲕⲉ	ⲛⲥⲁⲓⲏⲥⲟⲩⲥ
nere-n-ioudai	*-diôke*	*nsa-Iêsous*
IMPF-DEF.PL-Jews	-pursue	after-Jesus

'The Jews pursued Jesus.' (John 5:16)

(13) Bohairic

ⲛⲁⲩⲥⲟϫⲓ	ⲛⲥⲁⲓⲏⲥⲟⲩⲥ
na-u-c^{h}oči	*nsa-Iêsous*
IMPF-3PL-pursue	after-Jesus

'They pursued Jesus.' (John 5:16)

The integration of the loan verb into the ⲛⲥⲁ- *nsa-* valency pattern seems to be semantically motivated, i.e., integrated into the valency pattern of a near-synonym, rather than formally motivated, i.e., into the default transitive construction with the accusative marker ⲛ-/ⲙⲙⲟ- *n-/mmo-*, as in (14):

5 See Richter (2015: 233, n. 19), for a single, very late example, whose morphological shape is rather similar to some Coptic verbs anyway.

(14) Sahidic[6]

ⲁⲩⲥⲧⲁⲩⲣⲟⲩ	ⲛⲧⲥⲁⲣⲝ
a-u-staurou	*n-t-sark*^{s}
PST-3PL-crucify	ACC-DEF.FSG-flesh

'They crucified the flesh.' (Galatians 5: 24)

Richter (2009a) puts the facts of Coptic into typological perspective, making extensive use of Wichmann & Wohlgemuth (2008). Wichmann & Wohlgemuth distinguish between four strategies by which loan verbs are integrated into the grammatical structure of a target language ('loan-verb accommodation patterns') and suggest a 'loanword integration hierarchy':

LIGHT VERB STRATEGY < INDIRECT INSERTION < DIRECT INSERTION < PARADIGM TRANSFER

Wichmann & Wohlgemuth explain:

> 'The degree to which a loan verb is integrated into the target language may be considered inversely proportional to the amount of formal mechanics expended by the target language on accommodating the loan verb …. From this point of view, the lowest degree of integration is associated with the light verb strategy, which involves a whole extra constituent for the integration. A somewhat higher degree of integration is associated with indirect insertion, where just an affix is required. In the case of direct insertion we have complete integration: here the loan verb is treated as if it were native' (Wichmann & Wohlgemuth 2008: 108–111).

Of these four strategies, Richter identifies two in Coptic (incidentally, making Coptic into one of the relatively rare languages characterized by more than one strategy):

1. The LIGHT VERB strategy, in the case of Coptic the verb 'do' governing a nominal form. This may be called, for our present purposes, the 'Bohairic strategy.'
2. DIRECT INSERTION, where the loan verb is 'plugged directly into the grammar of the target language with no morphological or syntactic accommodation' (Wichmann & Wohlgemuth 2008: 99) even if some form of phonological adjustment occurs. This is the 'Sahidic strategy,' so to speak.

The other two strategies, *indirect insertion* and *paradigm transfer*, are irrelevant for Coptic.

One of the main points of Richter's article is that it connects the facts of the Coptic dialect continuum to two factors. First is the extent and nature of bilingualism, citing Wichmann & Wohlgemuth (2008: 109): '… if a language has different patterns, these could correlate with the degrees to which the speakers of the target language are exposed to the source language(s) … more bilingualism would mean the choice of a strategy further to the

6 Note a common phenomenon, exemplified by comparing (12) and (13): Sahidic often has a Greek-origin verb where Bohairic has an Egyptian-origin verb.

right in the hierarchy and less bilingualism a strategy further to the left'. Second is the relationship between synchronic variation and diachronic pathways. Richter points out, crucially, that 'The evidence of single Coptic manuscripts exhibiting the use of two loan verb accommodation patterns side by side, makes clear that once a second strategy has emerged in a language, it can be used beside the earlier one in a free variation mode, even by one speaker (or by one author/scribe, in our case)' (Richter 2009a). Richter argues that the direct insertion pattern in Egyptian is a later development, the light verb strategy having preceded it in Demotic.

In other words, the light verb strategy characteristic of Bohairic (and other dialects) is both diachronically earlier (or, in other words, more conservative) and reflects a lesser degree of integration than the direct insertion strategy characteristic of Sahidic, which is also a more innovative state of affairs. Dialects – or manuscripts – embodying a variable state with both strategies are in the midst of a diachronic process like the one discussed in the beginning of the paper.

While Richter's paper puts the facts into the proper perspective, there are some details that might be further clarified. The questions we will be dealing with here are: What is the actual state of affairs in the Coptic dialects? What is the relationship between the various constructions? Is there some sort of explanation for the variation observed between dialects and within dialects?

3 The actual state of affairs in the Coptic dialects

In this section, we address the issue of dialectal variation in Coptic in light of two variables: first, the presence or absence of the light verb ϵρ- *er-* 'to do' and its dialectal variants ρ- *r-,* ϵλ- *el-*, etc. (see above); and second, the presence or absence of the infinitive marker (-ⲛ -*n*) on the Greek-origin loan verb. We leave aside for the moment the question of the final vowel (ϵ/ϵⲓ/ⲓ *e*/*ei*/*i*), as well as the ending -ϵϲⲟϵ -*est*^{h}*e*, which in Greek is a middle voice marker. From a logical point of view, these two variables produce four patterns, represented in Table 2.[7] In the following, LV = Light Verb, IM = Infinitive Marker.

	+IM	−IM
+LV	ϵρ-ⲕϵλϵⲩϵⲓ-ⲛ *er-keleuei-n*	ϵρ-ⲕϵλϵⲩⲓ *er-keleui-ø*
−LV	ⲕϵλϵⲩⲓ-ⲛ *ø-keleui-n*	ⲕϵλϵⲩⲓ *ø-keleui-ø*

Table 2: Patterns of Greek loan-word integration

We refer to these types as follows:

7 The zero mark (ø) is meant only as a diacritic, and does not indicate a structural zero or unpronounced morpheme.

Type	example	properties
Type 1	*er-keleui-n*	+LV, +IM
Type 2	*ø-keleui-n*	−LV, +IM
Type 3	*er-keleui-ø*	+LV, −IM
Type 4	*ø-keleui-ø*	−LV, −IM

Table 3: Co-occurrence of light verb and infinitive marker

However, Type 2 (−LV, +IM) is an extremely rare and sporadic (far less than 1% of occurrences of Greek verbs) variant found in late Bohairic, occurring in texts with a low degree of standardization. Of the three remaining patterns, some dialectal varieties (on dialectal variation in Coptic see the Appendix below) have only Pattern 1 (+LV, +IM), such as B, F_7, and N; others have only Pattern 4 (−LV, −IM), e.g., S, M, and W. However, in a significant number of varieties (F, L, A, P, V, and the Sahidic of Nag Hammadi, an extensive early corpus of Gnostic texts), we find variation. In other words, there is an implicational relationship between the infinitive marker and the light verb: the presence of the infinitive marker entails the presence of the light verb, but the converse does not hold.

First of all, this distribution differs from that noted by Kasser (1991a), which is often cited in the literature. Variation is found in the majority of Coptic dialects. It is only a few dialects that have only one strategy. In fact, we find three major systems – essentially, patterns of synchronic variation – in the Coptic dialects. These systems are represented in Table 4.

System 1	Type 1 (+LV, +IM)	*vs*	Type 3 (+LV, −IM)		
System 2	Type 1 (+LV, +IM)	*vs*	Type 3 (+LV, −IM)	*vs*	Type 4 (−LV, −IM)
System 3			Type 3 (+LV, −IM)	*vs*	Type 4 (−LV, −IM)

Table 4: Systems of synchronic variation in Coptic

Since synchronic variation reflects diachronic processes at work, this means that if two strategies are attested in a single corpus, they should be contiguous in a pathway of development. This is the well-known phenomenon of *layering*, wherein innovative and conservative variants co-exist synchronically. This is shown in Table 5 for the Coptic dialects.

	F_7	N	B_4	F_4	F_5	V_4	S^{nh}	L_4	L_6	L^*	L_5	P	A	W	M	S
Type 1 (+LV, +IM)	+	+	+	+	+	+										
Type 3 (+LV, −IM)				+	+	+	+	+	+	+	+	+	+			
Type 4 (−LV, −IM)					+	+	+	+	+	+	+	+	+	+	+	+

Table 5: Loan-verb integration patterns in the various Coptic dialects

As we have seen earlier, it is more than likely – on typological grounds as well as on the evidence from Demotic (see the excursus below) and early Coptic – that the light verb

strategy with ⲉⲣ- *er*- diachronically precedes the direct insertion strategy. Likewise, it can be assumed that infinitive forms with final -ⲛ *-n* preceded those without. As such, we find only diachronically successive variants within the same system, i.e., no saltations from Type 1 to Type 4.[8]

Excursus: The earliest Greek loan verbs in Egyptian: Scribes in 2nd/3rd-century CE Narmuthis/Medinet Madi (Fayyum) as linguistic innovators

We would like to say a few words about the so-called Demotic[9] ostraca of Narmuthis (modern Medinet Madi), which date to the 2nd/3rd centuries CE, just before the time the earliest extant Coptic texts were being written down (see Kasser 1989: 51; Richter 2009b; see also the articles of Bagnall and Quack in this volume).

These ostraca have drawn considerable interest, due to the fact that Greek loan verbs are attested for the first time in Demotic in these texts. Moreover, the Greek loans are written in Greek script, the rest of the ostracon being written in Demotic (with the consequence of changing of the writing direction from sinistrograde to dextrograde and back again). Finally, much like certain varieties of Coptic, the form of the borrowed verb is clearly the infinitive (ending in -ⲛ *-n*), and they are integrated by means of the 'light verb' (*ir*, the diachronic predecessor of the Coptic light verb ⲉⲣ- *er*-), e.g.:

ἀδικεῖν
ir-ⲁⲧⲓⲕⲓⲛ *ODN* 167,3.10.13
do-injure[G]

ἀντικατηγορεῖν
ir-ⲁⲛⲧⲓⲕⲁⲧⲏⲅⲟⲣⲓⲛ *ODN* 26,7–8
do-accuse_in_turn[G]

ἀπογράφεσθαι
ir-ⲁⲡⲟⲅⲣⲁⲫⲉⲥⲑⲁⲓ *ODN* 186,16
do-register[G]

διαβάλλειν
ir-ⲇⲓⲁⲃⲁⲗⲓⲛ *ODN* 110,5
do-calumniate[G]

8 There is only one corpus for which this observation does not hold, namely P. Mich. 3521 (ed. Husselman), which has been described as one of the 'extremely few literary manuscripts from the early period whose language may be described more or less legitimately as resulting from a situation of indecision or inconsistent practice' (Funk 1988a: 184).

9 It should be said that with regard to Greek loan verbs, as well as other features of grammar (conjugation bases, nominal syntax, existential constructions), the 'Demotic' of these ostraca is much closer to other early Coptic varieties from the general area. We would not hesitate to regard the Narmuthis variety as Coptic written in Demotic script, at least from a linguistic point of view.

διώκειν
ir-ⲇⲓⲱⲕⲓⲛ *ODN* 103,9
do-pursue[G]

εἰσαγγέλλειν
ir-ⲉⲓⲥⲁⲛⲕⲉⲗⲓⲛ *ODN* 114,3–4
do-announce[G]

καταφρονεῖν
ir-ⲕⲁⲧⲁⲫⲣⲟⲛⲓⲛ *ODN* 124,6
do-neglect[G]

καταχωρίζειν
ir-ⲕⲁⲧⲁⲭⲱⲣⲓⲥⲓⲛ *ODN* 112,2–3.9
do-record[G]

μηνύειν
ir-ⲙⲏⲛⲩⲛ *ODN* 160,1–2
do-reveal[G]

παραγράφειν
ir-ⲡⲁⲣⲁⲅⲣⲁⲫⲓⲛ *ODN* 145,5
do-subjoin[G]

παρατίθειν
ir-ⲡⲁⲣⲁⲧⲓⲑⲓⲛ *ODN* 115,5
do-provide[G]

συγχωρεῖν
ir-ⲥⲩⲛⲭⲱⲣⲓⲛ *ODN* 123,5
do-combine[G]

τελείσθαι
ir-ⲧⲉⲗⲏⲥⲧⲁⲓ *ODN* 129,6
do-complete[G]

The state of linguistic innovation attested in the Narmuthis ostraca is in some respects more advanced than F_7, which has the same basic strategy but almost no Greek verbs are attested in this extensive manuscript; more directly comparable is Early Bohairic, which is at Stage 1 (see Section 1 above) but attests several dozen Greek verbs.

On the other hand, they show an earlier, less fixed state of affairs than early Coptic in some respects. For example, the infinitive is not the only verb form that occurs after *ir*; other verbal nouns occur, such as ἀπόρησις *apórêsis* 'difficulty.' Also, importantly, the light verb is not limited to *ir*, as *ti* 'give' also occurs with verbal nouns, e.g, the common μήνυσις mênusis '(make) a denunciation.'[10]

10 For an interesting discussion about syntactic variation in integration strategies in the Narmuthis corpus, see Rutherford (2010: 204).

Of the 1500 or so ostraca from Medinet Madi, only a relatively small part has been published (Bresciani et al. 1983, Menchetti 2005, 2007). Menchetti (2005) published 89 ostraca, all attributed to the same scribe, a certain Phatres son of Hormeinos, mostly dated to the second half of the 2nd century CE. In Phatres' idiolect, evidently in contrast to other scribes, Greek loan verbs are quite common, 13 types with a total of 24 tokens, compared to somewhat less than 100 Egyptian-origin verbs in the corpus. On the other hand, other published corpora of Medinet Madi ostraca attest very few loan verbs.

One must tread carefully here, since the publication of further ostraca may change the picture considerably. Nonetheless, given the extant facts, it appears that Phatres son of Hormeinos was a linguistic innovator, one of the first Egyptian scribes to admit Greek verbs into the written language in any significant number. It would be of considerable interest to investigate the social networks in which he participated, as well as a better idea of education in Narmuthis, but this would require – at the least – the publication of the remaining ostraca. Despite this, this example might give us some idea regarding the propagation, within a single scribal community, of Greek loan verbs and the constructions in which they participate. Fewster's statement that the *ir* + Greek infinitive construction, common to both Narmuthis and Coptic, 'reflects usage in ordinary speech' (2002: 223) is a non-sequitur: the conclusion simply does not follow from the premise. Similarly problematic is Fewster's confidence that 'the likelihood that it was a question of demotic ignoring what was spoken rather than that Greek had not percolated significantly into Egyptian is shown not just by chance evidence such as the Narmouthis ostraca. The best evidence is Coptic, which is peppered with a large number of Greek words' (2002: 228). This does not mesh well with her ample evidence for a general paucity of bilingualism. Nor is Rutherford's conclusion that 'surely the likeliest explanation for this parallel between Coptic and Narmuthian Demotic is that such periphrastic constructions with Egyptian auxiliary and Greek infinitive were established in the ordinary speech in this period, at least in certain parts of Egypt' (2010: 206) justified.

In any event, one would still have to explain why and how Phatres and the other Narmuthis scribes authorized the entrance of Greek loan verbs into Demotic writing for the first time, regardless of whether they existed in the spoken language or not. Narmuthis is likely to be a site of considerable sociohistorical interest for late Demotic and early Coptic, in terms of the high degree of visibility of scribes and the possibility of tracing their role in the rise and diffusion of linguistic innovations in a single place over a limited period of time.

The socio-historical relationship between the scribal community in Narmuthis and the first scribes to translate and copy Christian, Gnostic and Manichaean texts in Egypt – should such a relationship exist – is almost completely obscure. The Greek verbs in the Narmuthis corpus have the same form as those in early Fayyumic and early Bohairic (B_4), the closest dialects in terms of time, space, and integration of Greek verbs; these forms are not identical to those found in contemporary Greek. This fact might hint at a hidden continuity in scribal practice between two otherwise separate scribal communities. At this point, though, we can only wonder what agents might have served as vectors for the transmission of such a practice.

(End of excursus)

The diachronic relations between constructions with and without *er*-, and forms with and without *-n* can be shown as unidirectional pathways:[11]

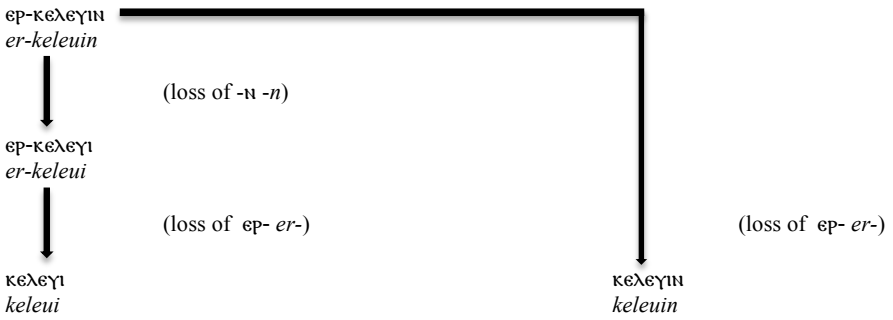

Figure 1: Unidirectional pathways of change

As stated above, the right-hand pathway leading to Type 2 (−LV, +IM) is found only in late Bohairic, and that sporadically, i.e., less than 1% of occurrences. Another way to visualize it, which makes explicit the variable states of most of the dialects, is shown by Table 6.

	Type 1	Type 3	Type 4	Dialects at this stage
Stage 1:	+LV, +IM			(F_7), B_4, N
Stage 2:	+LV, +IM	+LV, −IM		F_4
Stage 3:	+LV, +IM	+LV, −IM	−LV, −IM	F_5, V_4
Stage 4:		+LV, −IM	−LV, −IM	L_4, L_5, L_6, L*, A, P, S^{nh}
Stage 5:			−LV, −IM	S, M, W

Table 6: The diachronic stages of the loanword integration construction

At the initial stage, -(ι)ν *-(i)n*, representing a class of allomorphs, marks the Greek infinitive as such in Greek. A single light verb, out of a class of several, including ϫι- *či*- 'to take,' ϯ- *t*^{i}- 'to give,' ϣⲱⲡ- *šôp*- 'get,' which derive infinitives from nominal roots,[12] is fixed as the sole light verb that integrates Greek loan-verbs.

Evidently due to the shifting relationship of the Greek component to the rest of the Coptic lexicon, this marker became redundant and was lost. Moreover, the infinitive marker of Greek verbs was also gradually lost. In other words, variants without the infinitive marker (-ⲛ *-n*) were propagated at the expense of variants with the infinitive marker, possibly due to economy. It should be stressed that the overwhelming tendency is for the light verb to be lost only in constructions where the infinitive marker has already

11 The sporadic loss of *er*- in late Bohairic, as well as the sporadic presence of *r*- in early Sahidic, corroborate the diachronic pathways proposed here, since otherwise, one would have to postulate that *er*-less variants in late Bohairic are relics and that variants with *r*- in early Sahidic are innovations. This is belied by the evidence from Narmuthis Demotic (N), discussed above.

12 E.g., ϯ-ⲱⲙⲥ *t*^{i}*-ôms* 'give baptism, baptize,' ϫι-ⲱⲙⲥ *či-ôms* 'get baptism, be baptized.'

been lost. As such, there is an implicational relationship between the two changes: loss of the infinitive marker entails the loss of the light verb, but not vice versa, as mentioned above.

Here we find some problems that are far from being solved, but which may now at least be asked. First, Type 3 (+LV, −IM) is a transitional construction, never attested as the *sole* pattern in any dialect. Is this construction somehow diachronically unstable or uneconomical? If so, why is it so prevalent? It is interesting to note that in some dialects from Middle Egypt and the Fayyum (F, M, V, W) this pattern is especially unstable, with variable systems tending towards Types 1 (+LV, +IM) and 4 (−LV, −IM), with but a few occurrences of Type 3 (+LV, −IM). In the dialects of southern Egypt (L_4, L_5, L_6, L*, A, P, S^{nh}), on the other hand, systems with Types 3 and 4 seem to be more stable. Second, what factors led this system to start down the path of the progressive loss of the Greek infinitive endings, on the one hand, and of the of the light verb, on the other?

At present, we have no clear answers. It might be that functional considerations of economy are concerned – double marking of the infinitive category is avoided – but it seems possible that increased intensity of language contact – however this notion is operationalized – acts as a catalyst for language change, making the loan verbs 'more native' and requiring less morphological or syntactic means in order to integrate or accommodate them. This pushes a language to the right along the implicational scale mentioned above, from the light verb strategy to the direct insertion strategy. In fact, 'intensity of contact' means little, and should be read as 'extent, degree, and generality of bilingualism.' However, since caution is needed in postulating widespread bilingualism, it may involve fewer unwarranted assumptions to see this as simply reflecting an ongoing process of 'nativization' of loan verbs.

Sahidic and Middle Egyptian ('Mesokemic,' 'Oxyrhynchitic') are known to be innovative in other morphosyntactic and syntactic regards, independently of the variables investigated here (e.g., the Second Tenses, possessive constructions), although the Coptic dialects are not 'conservative' or 'innovative' in any holistic sense. In any event, it may be that the Stage 5 dialects (S, M, W) exerted an influence over those dialects with variable systems of the Stage 3 type; this would explain the relative paucity of Type 3 (+LV, −IM) there, as opposed to the south.

We now turn to the question of patterns of intradialectal variation and lexical diffusion.

4 Intradialectal variation and lexical diffusion

Most kinds of language change are gradual in some way. One of the ways in which language change is gradual is lexical diffusion: innovations spread gradually across the lexicon, usually depending on the token frequency of individual lexical items. This has been demonstrated for sound change, and seems to occur in morphosyntactic change of the kind described here (Bybee 2007). In some corpora, specific strategies are associated with specific lexemes, as Funk (this volume) shows for a single corpus of Manichaean Lycopolitan (L_4). In such a case, there is no actual variation for individual lexemes. However, in other corpora one and the same lexeme can occur with more than one strategy. The examples given here are but a small selection:

Stage 3

Dialect	Type 1		Type 3		Type 4	Translation
V_4	ⲣ-ⲡⲓⲥⲧⲉⲩⲓⲛ (1Jo 4:16)	*vs.*			ⲡⲓⲥⲧⲉⲩⲉ (1Jo 4:1)	‘believe’
	r-pisteuin				*pisteue*	
F_5	ⲉⲗ-ⲁⲅⲁⲡⲁⲛ	*vs.*	ⲉⲗ-ⲁⲅⲁⲡⲁ	*vs.*	ⲁⲅⲁⲡⲁ	‘love’
	el-agapan		*el-agapa*		*agapa*	
	ⲉⲗ-ⲧⲟⲕⲓⲙⲁⲍⲓⲛ	*vs.*	ⲉⲗ-ⲇⲟⲕⲓⲙⲁⲍⲉ	*vs.*	ⲇⲟⲕⲓⲙⲁⲍⲉ	‘inspect’
	el-tokimazin		*el-dokimaze*		*dokimaze*	
	ⲉⲗ-ⲃⲟⲏⲑⲓⲛ	*vs.*	ⲉⲗ-ⲃⲟⲓⲑⲓ	*vs.*	ⲃⲟⲏⲑⲓ	‘help’
	el-boêt^{h}in		*el-boit^{h}i*		*boêt^{h}i*	

Stage 4

Dialect	Type 3		Type 4	Translation
L_4	ⲣ-ⲥⲧⲁⲩⲣⲉ (ManiH 69:3)	*vs.*	ⲥⲧⲁⲩⲣⲉ (ManiH 13:1)	‘crucify’
	r-staure		*staure*	
	ⲣ-ϩⲁⲗⲉ (ManiH 31:7)	*vs.*	ϩⲁⲗⲉ (ManiH 30:32)	‘sing praise’
	r-psale		*psale*	
	ⲣ-ⲑⲗⲓⲃⲉ (ManiH 15:14)	*vs.*	ⲑⲗⲓⲃⲉ (ManiH 42:29)	‘beset’
	r-t^{h}libe		*t^{h}libe*	
	ⲣ-ⲇⲓⲱⲕⲉ (ManiH 3:10)	*vs.*	ⲇⲓⲱⲕⲉ (ManiH 3:11)	‘persecute’
	r-diôke		*diôke*	
L*	ⲣ-ⲁϫⲓⲟⲩ (P.Kell.Copt. 12:20)	*vs.*	ⲁϫⲓⲟⲩ (P.Kell.Copt. 16:18)	‘deem worthy’
	r-ak^{s}iou		*ak^{s}iou*	
	ⲣ-ⲑⲁⲣⲉ (P.Kell.Copt. 81:14)	*vs.*	ⲑⲁⲣⲣⲉ (P.Kell.Copt. 122:10)	‘be confident’
	r-t^{h}are		*t^{h}arre*	
	ⲣ-ⲡⲉⲓⲑⲉ (P.Kell.Copt. 11:12)	*vs.*	ⲡⲉⲓⲑⲉ (P.Kell.Copt. 73:13)	‘persuade’
	r-peit^{h}e		*peit^{h}e*	
P	ⲣ-ⲡⲗⲁⲛⲁ (P.Bod. VI 2:15)	*vs.*	ⲡⲗⲁⲛⲁ (P.Bod. VI 75:8)	‘deceive’
	r-plana		*plana*	
A	ⲣ-ⲥⲁⲗⲡⲓⲍⲉ (ApcEl 13:16)	*vs.*	ⲥⲁⲗⲡⲓⲍⲉ (Hos. 5:8)	‘play the trumpet’
	r-salpize		*salpize*	
	ⲣ-ⲩⲡⲟⲙⲓⲛⲉ (Mi. 7:7)	*vs.*	ϩⲩⲡⲟⲙⲓⲛⲉ (Mal. 3:8)	‘endure’
	r-ypomine		*hypomine*	
	ⲣ-ⲕⲟⲥⲙⲓ (Rösch 1910, 3:16)	*vs.*	ⲕⲟⲥⲙⲉⲓ (Mi. 6:9)	‘adorn’
	r-kosmi		*kosmei*	
	ⲣ-ⲁⲓⲧⲓ (Rösch 1910, 96:31)	*vs.*	ⲁⲓⲧⲓ (Rösch 1910, 96:32)	‘ask’
	r-aiti		*aiti*	

It is precisely this type of variation that can give rise to a situation in which each lexeme is uniquely associated with a single strategy. Moreover, there are probably situations in which each lexeme is uniquely associated with a single strategy that precede situations in which *all* lexemes are associated with a single strategy, as in Bohairic and Sahidic.

5 Imperative vs. infinitive

A question that has troubled Coptic linguistics for a long time is whether the borrowed form was an infinitive or an imperative. The evidence is overwhelmingly in favor of the former, as we have shown above, but we would like to explain why scholars have entertained the view that the bare root form in the direct insertion strategy found in Sahidic reflects the borrowing of an imperative.[13]

It is commonly assumed that infinitives are somehow basic forms, reflecting the verbal lexeme itself, unmarked for grammatical categories. This is, on empirical grounds, inaccurate. Morphological (i.e., non-periphrastic) infinitives are often marked for numerous grammatical categories, such as aspect (e.g., Polish), voice (e.g., Latin or Hebrew), and even – seemingly paradoxically – person (e.g., Portuguese or Coptic). Moreover, infinitives often are explicitly marked as such, whether by affixes, by non-linear morphology, or by both. On the other hand, imperatives, represented by the second person singular, especially the masculine, are often identical – or nearly so – to a bare verbal stem. This is generally the case for Ancient Greek.

Coptic infinitives are, for the most part, unmarked for any of the above categories, while Greek infinitives are marked for both aspect and voice. It therefore seems part of the process of grammatical integration that Greek infinitives lose the explicit encoding of these categorical oppositions, by analogy to pre-existing Coptic infinitive forms. In the majority of cases, the morphological marking is lost. The rare cases in which explicit morphological marking is preserved do not, nonetheless, encode oppositions of aspect or voice. Rather,

13 See the discussion in Böhlig (1955), (1960), and (1995), Bubenik (1989), Till (1978), and recently, Förster (2002: XV–XXIV). In grammars a strong decision is often avoided by vague expressions delimiting the argument to the appearance of the form, cf. Plisch (1999: 40): 'Das griechische Verb *erscheint* meist in einer (Kurz-)Form, die häufig der des Imp. sg. aktiv *gleicht*.'; Layton (2004: 155): "From the standpoint of Greek morphology these Greco-Coptic infinitives *resemble* the Greek active imperative singular, sometimes in a Koine Greek form; this is very close to the Greek verbal stem" (italics EG & SR). Förster (2002) concludes (with reference to Mandilaras 1973: § 749): 'Insofern scheint es wohl am zutreffendsten, die Endung der aktiven griechischen Verben in den koptischen Texten als Hybridformen zwischen dem Imperativ und dem Infinitiv anzusehen. Dies würde das Vorkommen der Endungen -ϵ, -ϵι und -ϵιν erklären.' (Förster 2002: XXI). Till (1955: 142) made an argument for the imperative as input form, based on his observation (Till 1948/1949: 25f) that in some rare cases of Coptic manuscripts graphematically indicating stress, the stress of Greek contract verbs seems to have been on the paenultima, of other types of verbs even on the antepaenultima (if existent), this is to say, the stress pattern resembles that of (Greek) imperative forms. Steindorff (1951: 130) ('Im S[ahidischen] werden die griechischen Infinitive in der spätgriechischen Form gebraucht, die dem Imperativ Activi gleichlautet: im Activ ist das auslautende ν, im Medium die Endung -σθαι abgeworfen.') and especially Böhlig (1956: 656), (1960: 66) and (1995) made pleas for the infinitive.

these forms represent lexical items. In any event, there is indeed a common denominator between Greek infinitives without infinitival morphology and Greek imperatives: they are both very similar to a bare verbal stem, the representative of the verbal lexeme without any additional marking.

Another point that should be made is that infinitive forms are often used in directive speech acts (van Olmen 2010). By regular processes of pragmatic inferencing, infinitives can constitute source constructions for the grammaticalization of imperatives. The other direction, namely, imperatives that give rise to infinitives, seems to be attested much less frequently and is probably a counterdirectional kind of change.

As such, there is no obstacle to getting rid of the notion that the form of Greek verbs borrowed was that of the imperative. The form found in Sahidic is a bare stem, which developed from the loss of explicit morphological marking of infinitives. This analysis has the advantage of explaining the forms found in numerous dialects that do not have an -ⲛ *-n* ending, which is simply the infinitive marker minus the -ⲛ *-n*.

Wohlgemuth (2009) cites cases in which the form borrowed is the imperative. One example is Coptic. In light of the evidence presented here, Coptic does not constitute conclusive evidence for the borrowing of an imperative.[14] The other example, from Nenets, does not seem certain either, as Russian-origin *doj* 'give' could be analyzed as an infinitive without the explicit morphological marking (*doi-t' > doj*).[15] This does not mean that imperatives cannot be borrowed as imperatives; they can, as Veselinova (2006: 147) points out.[16] The point here is that there is no good cross-linguistic evidence for the borrowing of imperatives as the basic verb form in a donor language,[17] at least as it is presented in typological literature.

As such, typological evidence cannot be marshaled to support the analysis of the borrowed verb form as an imperative. Rather, we seem to be dealing with situations in which the loss of infinitive markers gives rise to a bare stem, which is superficially identical to an imperative.

Another point that cannot be ignored is that in later Egyptian, there was a gradual process of replacement of dedicated imperative forms by infinitive forms. This process was still ongoing in Coptic, as witnessed by, e.g., synchronic variation between ϯ *tⁱ* (give\INF) and ⲙⲁ *ma* (give\IMP) in Sahidic, the former an infinitive (15) and the latter a dedicated morphological imperative (16) of the verb 'to give.'

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14 An exception being some extremely rare instances of the Greek imperative aorist as input form, such as in ϯⲛⲁⲇⲉⲓⲍⲟⲛ *tⁱ-na-deikˢon* 'I will demonstrate' (*P.Columbia University* inv. 600, protocol of a hearing, from Edfu, 645/6 CE, line 139, a *hapax* in Coptic, while the same text some lines before (117) has ϯⲛⲁⲇⲉⲓⲕⲛⲉⲩⲉ *tⁱ-na-deikneue* 'I will demonstrate', i.e. an infinitive-based form, see Förster (2002: XIX).

15 We thank Moshe Taube (p.c.) for pointing this out to us.

16 E.g., verb borrowing from Arabic to Coptic is mainly based on imperative input forms while infinitives can for the most cases be excluded, cf. Richter (this volume), Richter (2015) and Richter (2016).

17 Although Wohlgemuth (2009: 79) regards it as a cross-linguistically well-attested input form of borrowed verbs.

(15) Sahidic

ⲙⲁⲛⲁⲛ	ⲛⲟⲩⲃⲟⲏⲑⲓⲁ
ma=na-n	*n-ou-boêt^{h}ia*
give/IMP=DAT-1PL	ACC-INDF-help

'Give us help.' (Psalms 59:13 [107:13], cited in Polotsky 1950: 212)

(16) Sahidic

ϯⲛⲁⲩ	ⲕⲁⲧⲁⲛⲉⲩϩⲏⲩⲉ
t^{i}=na-u	*kata-ne-u-hbêue*
give/INF=DAT-3PL	according_to-POSS.PL-3PL-deeds

'Give them according to their deeds.' (Psalms 27:4, cited in Polotsky 1950: 212)

In Bohairic, on the other hand, this change did not occur; the older dedicated imperative remains the sole form.

In other words, processes of language change tended to eradicate earlier distinctions between morphologically dedicated morphological imperatives and infinitives. Language contact cannot be ruled out here, since one finds infinitives used instead of dedicated morphological imperatives in Greek papyri from Egypt (Leiwo 2010). However, it would make more sense to consider the direction of influence to have been from Egyptian to Greek: this process is attested in Egyptian much earlier (Leiwo 2005), and the particularity of this process to papyri from Egypt (as opposed to other contemporary corpora) makes it more likely that structural borrowing was from Egyptian to Greek, rather than the converse, which could only be supported by the a priori assumption that Greek is always the donor language.

6 Motivations for change: the borrowing scale revisited

While Wichmann & Wohlgemuth (2008) and Wohlgemuth (2009) have clearly advanced the study of verb borrowing, and certainly have stimulated a renewal of interest in the question of verb borrowing in Coptic, not everyone is so convinced of the validity of the borrowing scale proposed. Several scholars have already expressed reservations about the distinction made between the light verb strategy and indirect insertion. The authors themselves are hesitant about the relation between paradigm transfer and the rest of the scale. However, there are additional reasons to be cautious with the motivations behind such a scale, among them the assumption that 'structural effort' correlates inversely with degree of integration. For example, Matras argues:

> 'Rather than a group of segregated integration strategies of verbs, we find a continuum of devices. The theme of this continuum is not the structural effort that is made in order to accommodate verbs, but rather the degree to which the 'verbness' of foreign-origin verbs is recognized and accepted. Languages like Hebrew and Domari show that speakers apply considerable creativity and flexibility when it comes to the structural adaptation and integration of loan verbs. […] [V]erbs accomplish, functionally speaking, two separate things. They are lexical signifiers that label events, activities, or states;

> and they also carry out the grammatical operation of anchoring the predication in the context of the utterance.
> On the far side of the verb integration continuum, we find languages that treat borrowed verbs merely as lexical labels, but do not entrust them with anchoring the predication. The latter task is instead delegated to a separate, 'light' verb. […] At the other end of the continuum we find languages that recognise foreign verbs as both lexical labels (signifiers) and predicate-initiating devices. In between we find a variety of strategies' (Matras 2009: 181–182).

Seen in this light, the Coptic phenomena may be explained in a relatively simple way: a progressive acceptance of the 'verbness' of foreign-origin verbs results in a progressive loss of the light verb necessary in some dialects to 'anchor the predication' (in Coptic, to derive a verb that can occupy the verb lexeme slot in a verbal construction), followed by the progressive loss of the particular morphosyntactic characteristics of Greek-origin verbs, namely, the infinitive marker. At the end of this process, Greek-origin verbs are no longer 'merely lexical labels,' since they can anchor the predication as well, although they are still different from other verbs in terms of their morpho-phonological shape.

Whether or not this acceptance correlates with intensity of language contact or of degree or universality of bilingualism remains to be studied. In any event, it cannot be assumed. At the present, all that can be said with any certainty is that the dialects with the highest degree of integration of verb lexemes, e.g., Sahidic, are also among those that admit the most grammatical borrowing in general. For example, it is in Sahidic that there are the most numerous and most highly integrated Greek-origin prepositions (Grossman & Polis this volume). As such, the hypothesis that the most advanced integration strategies will co-occur across dialects is a good one. In order to draw a reasonably complete picture of degrees of bilingualism or intensity of contact, however, we would need significant socio-historical evidence that comes from sources other than loan words. Using loan words to establish different degrees of bilingualism is in fact circular.

In the next section, we discuss in greater detail the notion of 'integration,' and propose a way of formalizing this notion in terms of the comparison between two language-specific descriptive categories.

7 What is integration, anyway?

Integration is a gradient and multi-level phenomemon that transects 'borrowing' and 'code-switching,' at least in perspectives such as that proposed by Matras (2009). It is gradient because a linguistic item can be more or less integrated, and it is multi-level because a linguistic item can be more or less integrated in terms of orthography, phonetics/phonology, morphology, syntax, and semantics. It is not enough to say that a loan word has been integrated: one must say in what respect and to what extent. However, the definition of integration and the parameters by which it can be described are rarely discussed explicitly. In this section, we would like to briefly put forth a suggestion, based on the distinction between descriptive categories and comparative concepts, advocated by

Haspelmath (2010). This has already been used, in the context of transitivity, in Grossman (forthcoming).[18]

Descriptive categories are categories set up by linguists for the purpose of describing a single language. They do not have to be economical or constrained; they just have to account for the observable facts as accurately as possible. The need for language-specific descriptive categories derives from the fact that linguistic categories are not universal, and individual languages should be described in their own terms. Descriptive categories are marked with capitalized initial letters. For example, the Coptic Infinitive and the Greek Infinitive are not instantiations of a single, universal category infinitive. Rather, they are language-specific categories that should be described in as much detail as possible. Comparative concepts, on the other hand, are concepts that are constructed by linguists for the purpose of cross-linguistic comparison. They make reference to features that are not language-specific.

In any study of integration, we always assume three distinct descriptive categories: the descriptive category of an element in the source language, the descriptive category of comparable elements in the target language, and the descriptive category of borrowings in the target language. To make this more concrete, we can examine the Greek-origin Infinitive in Coptic, with respect to just a few parameters; this list (Table 7) is intended to be illustrative rather than exhaustive.[19]

	Greek Infinitive in Greek	Greek Infinitive in Coptic	Native-origin Infinitives in Coptic
explicitly marked as infinitive by suffix	+	+/–	–
derived by means of auxiliary	–	+	–
encode voice oppositions	+	–	–
encode aspectual oppositions	+	–	–
compatible with determiners	+	very rare	+
stem allomorphy depending on object type	–	–	+
alternates with Stative verb form	–	–	+

Table 7: Loanword integration as the comparison of descriptive categories

It can be seen from table 7 that Greek-origin infinitives in Coptic are identical, in terms of descriptive category, to neither Greek infinitives in Greek nor to native-origin infinitives in Coptic, but rather constitute a distinctive descriptive category.

Such an approach can be used to formalize the description of integration: an element is integrated with respect to a parameter insofar as it agrees with the native-origin descriptive category and differs from the source-language descriptive category. It should also be pointed out that integration can be looked at as a synchronic or a diachronic process. By synchronic process we mean the existence of a construction or template of the target language according to which loan word shapes are produced. In actual online

18 See also Grossman & Polis this volume.

19 For additional features relevant to the Coptic infinitive, see Shisha-Halevy (1990).

discourse, bilingual speakers have much control over integration, in accordance with their communicative goals and processing constraints. Matras (2009: 102–103) gives the example of German lexical items in a Romani discourse, e.g.:

(17) *Beispiel* *akana* *feri* *phendem* *tuke,* *hačares.*
example now only said.1SG 2SG.DAT understand.2SG
'I just gave you an example now, you understand.'

(18) *kuko* *formularo* *kothe* (German *Formular*)
that form there
'that form there'

In (17), the German form, with initial stress, is inserted 'as is' into a stretch of Romani discourse. On the other hand, in (18), the German-origin noun is integrated phonologically and morphologically, with a trilled /r/ and short vowels, as well as the inflectional ending *-o* (Matras 2009: 107). These two examples, which show different degrees and types of integration, can be explained with reference to sociolinguistic and processing constraints and motivations of speakers. As Matras concludes, 'The structural integration of words like […] *formularo* is a token of the speaker's judgement that such concepts can or should be accepted as part of any regular Romani-speaking context' (2009: 108).

A diachronic process of integration, on the other hand, is generally internal to the target language. Winter-Froemel (2008: 162) gives some interesting examples of a diachronic process of loan-word integration in German, e.g.:

(19) French *bureau* > German a. *Bureau* [by'ro:]
b. *Büro* [by'ro:]
c. *Büro* ['bʏro]

In (a), the orthography and pronunciation conform to French norms. In (b), the orthography conforms to German norms, but the pronunciation remains French. In (c), the pronunciation is accommodated to German sound patterns, both in terms of stress shift, change in vowel quality (y > ʏ) and length (o: > o).

Most theoretical frameworks consider language contact phenomena to result from interference between distinct linguistic systems. Matras (2009) argues that on the contrary, language contact phenomena tend to facilitate the speaker's communicative goals. He proposes to reconceptualize language contact as taking place in the bilingual speaker's repertoire, which include a range of sound patterns, word-forms, constructions, and so on, each of which is associated with a range of social activities and events. It is important, in his framework, that there are contexts in which it is not essential to separate the different elements of the repertoire, or in other words, to make a clear distinction between 'languages.' Loyalty to social norms is counterbalanced by bilingual speakers' needs or desires to exploit the full range of their repertoires. This framework points out how contingent the notion of integration is on how we conceive of the linguistic 'system' used by speakers. Integration is a choice available to bilingual speakers in pursuit of their various communicative and social goals.

It remains to be seen how Matras' framework can be adapted to written performance produced by a small and educated elite with particular individual and institutional agendas and loyalties, (although Bergs (forthcoming) and Stenroos (forthcoming) are similar in spirit). It is also unclear what 'online' means with respect to the process of writing, especially activities such as translation and copying. There is some evidence for online interdialectal interference is such situations though, such as the 'Fayyumicization' of Sahidic texts copied in the monastic scriptoria of the Fayyum.

What Matras says about speakers *is* relevant for translators and scribes, however, in that it emphasizes the role of language users with some form of bilingual competence as linguistic innovators, mainly in terms of introducing and diffusing new variants. As Funk (1988a) argues, Coptic scribes did analyze, even if implicitly, spoken norms, introducing them into written texts. As such, we are not dealing with a process that occurred in written texts *per se*, but rather a dynamic interplay between spoken and written norms of usage, with scribes as arbiters of conflicting forces. For the moment, we can only speculate about these forces, but they are probably quite complex, with local norms competing with broader regional standards, *literatim* copying versus the adaptation/translation of originals, and historical developments in scribal education itself.

8 The emergence of a loan-verb integration construction

Despite the strong evidence that synchronic intra- and interdialectal variation provides for the line of development proposed above, it is probably not the case that this means that each and every Greek verb lexeme integrated into a Coptic text underwent all of the stages described here. While this might be the case for some verbs, other verbs could be integrated in an ad hoc fashion according to the dominant strategy found in a given dialect.

Indeed, it seems that in the more innovative dialects, a construction or template for the direct integration of Greek verbs emerged. Any Greek verb used by a Coptic writer could be integrated into the morphosyntactic structure of the verbal phrase directly, on-line, so to speak. Evidence for this is found in the repertoire of verbs found in later (7th/8th century) Coptic legal documents, which were not used in other, earlier, textual genres; see (20–22), which are occurrences of Greek verbs as hapax legomena in Coptic, 'nonce borrowings' as it were, in a hearing protocol from the mid-7th century:

(20) ⲁⲩⲁⲕⲩⲣⲟⲩ ⲛ̄ⲛⲁⲓ ⲧⲏⲣⲟⲩ
a-u-akyrou (ἀκυροῦν) *n-nai* *têr=ou*
PST-3PL-invalidate^{G} ACC-DEM.3PL all=POSS.3PL
'They invalidated all of those.' (*P.Col.*inv. 600, protocol of a hearing, from Edfu, 645/6 CE, line 141)

(21) ⲁϥⲇⲓⲁⲧⲓⲑⲉⲥϩⲁⲓ ⲉⲓⲉⲛⲱ̄ⲙⲙⲟ
a-f-diatithesthai (διατίθεσθαι) *e-hen-šmmo*
PST-3SGM-bequest^{G} to-INDEF.PL-stranger
'He left inheritance to some strangers.' (*P.Col.* inv. 600, protocol of a hearing, from Edfu, 645/6 CE, line 128)

(22) ⲁⲩⲉⲡⲓⲇⲓⲇⲟⲩ ⲛⲁⲛ ⲛ̄ⲟⲩⲡ[ⲣⲁⲥⲓⲥ]
a-u-epididou (ἐπιδιδοῦν) *na=n* *n-ou-p[rasis]*
PST-3PL-pass[G] DAT-1PL ACC-INDEF.SG-deed of sale
'They passed a deed of sale to us.' (*P.Col.* inv. 600, protocol of a hearing, from Edfu, 645/6 CE, line 200)

The scribes and authors writing in the various Coptic dialects acted as linguistic innovators, in effect creating a 'construction,' 'pattern,' or 'template' into which Greek verb lexemes could be – or had to be – directly inserted, even if used ad hoc. In this way, lexical borrowing led to the emergence and conventionalization of a productive mechanism of integration within Coptic. This is yet another example of the way that language usage shapes and gives rise to language structure.

9 Conclusions

We have argued that the heterogeneity of the Coptic dialect continuum, with respect to the integration of loan verbs from Greek, is structured. Both interdialectal and intradialectal variation can be mapped to parameters of distance along a unidirectional pathway of linguistic change as well as to something like the 'degree of intensity of contact' between the donor and target languages. It has also been shown that grammatical variation is the normal state of a significant number of Coptic dialects, as realized by scribes in single manuscripts written in otherwise highly standardized linguistic varieties. It has been suggested that language contact acts as a catalyst for language change, driving a construction further along a pathway of change. This shows the inadequacy of dichotomizing models that seek to make a sharp distinction between internal vs. external causes for change.

The direction proposed here (and by Richter 2009a) is corroborated by the fact that whenever we have two varieties of the same dialect, changes appear to be in the direction of loss of the light verb and infinitival endings. For example, in later Bohairic, one finds sporadic loss of the light verb, while in early Sahidic, one finds sporadic occurrences of the light verb.

With respect to the grammatical integration of Greek loan verbs, one can map linguistic conservatism along the Nile, with the far north being most conservative and the far south being innovative. However, an 'island,' the area between Heracleopolis and Hermopolis, appears to have been an area of linguistic innovation: all Stage 5 dialects are considered to originate from this area.

The evidence presented here points to another interesting problem: the Greek lexemes of the ⲕⲉⲗⲉⲩⲓ/ⲕⲉⲗⲉⲩⲉ *keleui/keleue* types were not in fact borrowed as such. Rather, they represent a Coptic-internal development: the loss of final -ⲛ *-n*, probably due to functional considerations of economy, occurred in Coptic, not in Greek; at least, there is no positive evidence for such a process in contemporary Greek (Horrocks 1997).[20] The relationship between final -ⲓ *-i* / -ⲉ *-e* / -ⲉⲓ *-ei* variants (e.g., Kellis ⲁⲙⲉⲗⲉⲓ *amelei* vs. ⲁⲙⲉⲗⲓ *ameli*)

20 Gignac (1976–1981) and others report on this loss, but their evidence is mainly from Coptic. As such, it is circular.

remains to be investigated, but the evidence seems to indicate that -ⲓ *-i* variants precede -ⲉ *-e* variants. However, it is certain that as far as early literary Coptic goes, -ⲉ *-e* variants are attested only in Stages 2–5, i.e., are contingent on the loss of the infinitive marker -ⲛ *-n*.

Much research remains to be done on numerous aspects of this problem. For example: What is the relationship between the various endings in Greek loan verbs? Can we demonstrate lexical diffusion, i.e., that these changes spread word by word across the lexicon? In a similar vein, is there a 'core' of borrowed verbs common to all/most of the dialects? If so, was this core borrowed earlier? Is it more entrenched in Coptic? Why is Pattern 3 (+LV, −IM) not attested as the sole variant of any dialect? Is it an 'unstable' strategy, and if so, why? What methods would allow us to identify contact-based interdialectal influence? To what extent can we identify actual, Coptic-internal diachronic changes between phases of a single dialect, e.g., Early Bohairic and later Bohairic, or the various Fayyumic 'chronolects'? Can we isolate external (socio-historical) correlates of the 'degree of integration' of Greek loanwords? What would corroborate or disprove the hypothesis that greater integration results from greater intensity of contact between Greek and Coptic?

This article has presented these issues in a fairly abstract way. The next stage is to return to the actual manuscripts themselves, taking into account the full – if imperfect – sociohistorical information available. This might reveal the actual practice of individual scribes in concrete situations of translation and copying.

Appendix: Literary dialects in Coptic

The term 'dialect,' when used for corpus languages, or 'text languages' in Fleischman's (2000) terms, 'manuscript languages' in that of Stenroos (forthcoming), or 'dead languages' according to most others, is often problematic, and the field of Coptic dialectology tends to identify new dialects rather lightly. In some cases, slightly different orthographic norms have tempted some linguists to baptize a manuscript as instantiating a new dialect. Usually, the likelihood of a variety being recognized as an independent dialect varies inversely with the quantity of attested texts. However, as Funk points out, in the most important discussion on the Coptic dialects to date, the Coptic scholars and scribes did much of the work for us: in the majority of cases, we face 'ready-made bundles of isoglosses' (1988a: 152), since Coptic literary manuscripts, especially the early ones, are usually written in one of the normalized (or 'standardized') linguistic varieties. It is hard to improve on Funk's observation, which I quote at length:

> 'It is important to point out that the manuscripts attesting each of these varieties (which are carefully written books of Biblical and other, mostly translational, literature) are anything but haphazard transcripts of speech. It was one of the most serious errors of previous generations of Copticists that they tended to comprehend 'rare' varieties as representing ad hoc mixtures of speech, involving larger or lesser deviation from (or mixing with) one of the three of four well-known standards. In fact, there are extremely few literary manuscripts from the early period whose language may be described more

> or less legitimately as resulting from a situation of indecision or inconsistent practice …. The 'dialects' used in the vast majority of non-Sahidic literary manuscripts represent something like 'local standards' (or potential standards) which clearly presuppose a high amount of effort – of cultivating what they found to be their speech, eliminating what they thought to disagree, systematizing what they decided to use, etc., and of permanent control and tradition of their canons over generations – on the side of those who created and fostered the norms. An additional problem of a socio-historical nature arises when it is realized that it is extremely difficult to assume that this effort was required by mere needs of communication. That is to say, once these varieties of written language had been created, they certainly enhanced the intelligibility of texts for local readers or listeners but most of them were not indispensable for that purpose, given the early availability of a largely neutral standard language (Sahidic) and of other neighbouring quasi-standards' (1988a: 184–5).

It should be emphasized that these dialects are indeed distinct linguistic systems, with often far-reaching phonological, morphological, syntactic, and lexical differences (*pace* Loprieno 1995).

The Coptic dialects discussed in this paper, with their usual sigla in bold, are found in Tables 8a and 8b:

Siglum	***Dialect name***	***Reference***
A	Akhmimic, the southern extremum in the dialect continuum.	Nagel (1991a), Till (1928)
B	Bohairic: The corpus examined here is Early Bohairic (B_4), a corpus of pre-Islamic conquest (i.e. 642 CE) literary texts.	Shisha-Halevy (1991a), Shisha-Halevy (2007)
F	Fayyumic: A dialect continuum with much internal variation, each variety assigned its own siglum.	Kasser (1991b), Kasser (1991c)
F_4	An early variety of Fayyumic, attested in a small number of manuscripts, usually dated to the 4th to 6th centuries.	Crum and Kenyon (1900), Funk (1988b)
F_5	'Classical Fayyumic', usually dated to the 6th century onwards.	Funk (1988b)
F_7	'Proto-Fayyumic,' an especially archaic form of Fayyumic.[21]	Diebner and Kasser (1991), Kasser (1991b)
F_{56}	Not a distinct dialect but a rather late (9th century) literary Fayyumic from Hamouli, a scriptorium in which dialect convergence between Fayyumic and Sahidic (see below) is visible in both the destandardized and localized 'Fayyumic' and 'Sahidic' texts.	Kasser (1991c)
K	A variety closely related to **B**, thought to come from Karanis in the Fayyum.	Kasser & Satzinger (1982), Funk (1988a)
K_7	Possibly a variety of **K**.	
L	Lycopolitan: four distinct dialects.	Funk (1985), Nagel (1991b)

21 'It is the only Coptic biblical text in which the use of Greek verbs and particles is still largely unknown, even Greek nouns being rare, and the language is probably closer to the ancient Egyptian than that of any Coptic text with the exception of the Old Coptic texts only' (Kahle 1954: 227–228).

Siglum	*Dialect name*	*Reference*
L_4	'Manichaean' Lycopolitan.	Funk (1985), Nagel (1991b)
L_5	Mainly Biblical manuscripts (e.g. Gospel of John ed. Thompson 1924).	Funk (1985), Nagel (1991b)
L_6	Mainly Gnostic manuscripts from the Nag Hammadi Library.	Funk (1985), Nagel (1969), Nagel (1991b)
L_*	The dialect of Kellis, the ancient village at the modern site Ismant el-Kharab (Dakhla Oasis), all texts found *in situ*. Considered by Funk to be a *koinê*.	Gardner et al. (1999: 84–95)
M	Middle Egyptian (also known as 'Oxyrhynchitic' or 'Mesokemic'); variety probably assignable to the Oxyrhynchos area.	Funk (1981), Quecke (1974), Schenke (1978), Schenke (1991)
N	Narmuthis: a language variety written in Demotic script, which is in fact much closer linguistically to Coptic varieties than to even the latest Demotic. Found in Medinet Madi (Fayyum). Only a small fraction of the 1500 ostraca has been published so far.[22]	
P	Palaeo-Theban: an especially archaic variety of Coptic, with close affinities to Akhmimic and to non-literary texts from the 7th/8th-century Theban area. Found in a single manuscript (P.Bodmer VI) displaying an archaic graphemic system partially different from all other Coptic alphabets.	Kasser (1965), Nagel (1965), Kasser (1991c), Cherix (2000)
S	Sahidic: the standard literary language of Egypt until its replacement by Bohairic sometime after the Muslim conquest of Egypt. The majority of Coptic texts are written in some form of Sahidic, often with significant regionalization.	Funk (1988a: 152–154), Shisha-Halevy (1991b).

Table 8a: The Coptic dialects in synoptic view (in alphabetic order of sigla)

Other dialects without geographically-based sigla include:

Siglum	*Dialect name*	*Reference*
I	'Proto-Lycopolitan'.	Funk (1987), Kasser (1991d)
I_7	Closely related to **L** and **A** dialects. Three fragmentary texts.	Funk (1987), Kasser (1991d)
V	Closely related to Fayyumic, including two varieties, **V_4** and **V_5**.	Kasser (1989), Kasser (1991b)
W	Closely related to Mesokemic. Found in a single manuscript (P.Mich. 3521 ed. Husselman).	Kasser (1989), Kasser (1991b)

Table 8b: The Coptic dialects in synoptic view

A tentative plotting of some of these dialects is found in figure 2, which is taken from Funk (1988a: 182).

22 The coining of the siglum **N**(armuthis) to refer to the language of the Madinet Madi ostraca seems justified on linguistic grounds. It is to be hoped that future research will clarify the relationship of N to the other early Coptic varieties written in other orthographic systems.

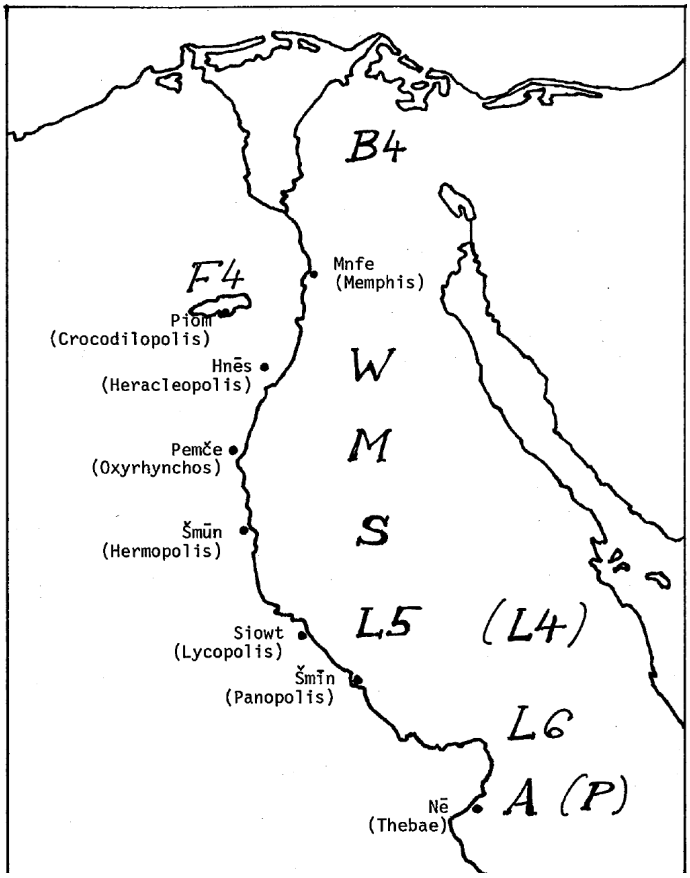

Figure 2: A tentative map of some of the Coptic dialects (Funk 1988a: 182)

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