Language-Specific Transitivities in Contact:
The Case of Coptic

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Abstract

This paper sketches the integration of Greek-origin loan verbs into the valency and transitivity patterns of Coptic (Afroasiatic, Egypt), arguing that transitivities are language-specific descriptive categories, and the comparison of donor-language transitivity with target-language transitivity reveals fine-grained degrees of loan-verb integration. Based on a comparison of Coptic Transitivity and Greek Transitivity, it is shown that Greek-origin loanwords are only partially integrated into the transitivity patterns of Coptic. Specifically, while Greek-origin loan verbs have the same coding properties as native verbs in terms of the A domain, i.e., Differential Subject Marking (dsm), they differ in important respects in terms of the P domain, i.e., Differential Object Marking (dom) and Differential Object Indexing (doi). A main result of this study is that language contact – specifically, massive lexical borrowing – can induce significant transitivity splits in a language's lexicon and grammar. Furthermore, the findings of this study cast doubt on the usefulness of an overarching cross-linguistic category of transitivity.

Keywords

language contact – loan words – grammatical relations – verb borrowing – typology – Coptic – Greek
1 Introduction

The aim of this paper is to sketch the integration of Greek-origin loan verbs into the valency and transitivity patterns of Coptic (Afroasiatic, Egypt). Based on a comparison of the transitivity patterns of Coptic and Greek, both seen here as language-specific descriptive categories (Haspelmath, 2010), it is shown that Greek-origin loanwords are only partially integrated into the transitivity patterns of Coptic. Specifically, while Greek origin loan verbs have the same coding properties as native verbs in terms of the A/S domain, i.e., Differential Subject Marking (DSM), they differ in important respects in terms of the P domain, i.e., Differential Object Marking (DOM) and Differential Object Indexing (DOI). From a methodological point of view, this paper adopts the view that transitivity is a language-specific descriptive category, and the comparison of donor-language transitivity with target-language transitivity reveals fine aspects of loan-verb integration. A main result of this study is that language contact – specifically, massive lexical borrowing – can induce significant transitivity splits in a language’s grammar and lexicon.

The paper is structured as follows: in Section 2, I outline my theoretical and methodological assumptions. Sections 3 and 4 sketch Coptic Transitivity and Greek Transitivity, respectively, as descriptive categories. In Section 5, I provide a brief overview of the contact situation. Sections 6 and 7 describe the integration of Greek-origin loan verbs in light of these categories. Section 8 discusses the implications of the findings and raises more general questions.

2 Theoretical Assumptions

Following Dixon and Aikhenvald (2000), among many others, I assume that it makes sense to distinguish between valency and transitivity. The valency of a construction (e.g., a verb) is its number of core arguments. Core arguments are arguments without which the conceptual structure of a predicate is incomplete, i.e., arguments entailed by the predicate, whether they are expressed overtly or understood from context. For example, German helfen and

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1 The examples in this paper are transliterated according to the Leipzig-Jerusalem transliteration system for Coptic (Grossman and Haspelmath, 2015), and are glossed according to the Leipzig Glossing Rules. Abbreviations not found in the Leipzig Glossing Rules are: AOR – aorist, basically a habitual, MOD – modifier marker, SEQ – sequential verb form marker, OPT – optative, TEMP – temporal clause marker.

2 It might not be out of place to speak of ‘language-specific transitivities,’ in the plural.
Modern Hebrew *la’azor* ‘help’ require two arguments, marked as Nominative and Dative:

(1) **German**

| Hans | hilf-t | seiner | Schwester. |
|------|--------|--------|------------|
| Hans.NOM | help-3SG | his.DAT | sister |

‘Hans is helping his sister.’

(2) **Modern Hebrew**

| Elai | azar | le-Rut |
|------|------|--------|
| Elai.NOM | help.PST.3SGM | DAT-Rut |

‘Elai helped Ruth.’

Following Dixon and Aikhenvald (2000), Lazard (2002), Creissels (2006), and Haspelmath (2011), I assume that a transitive construction is one with A and P arguments, and an intransitive construction is a monovalent or bivalent one without A or P. Haspelmath (2011: 551) provides definitions of A and P that do not rely on taking transitivity as a primitive notion.

A – “the argument of the major two-argument construction that represents the agent when the construction expresses an action.”

P – “the argument of the major two-argument construction that represents the patient when the construction expresses an action.”

S is defined here as the single argument of a one-argument predicate, or an argument that shares the properties of the single argument of a one-argument predicate.3

These definitions do not rely on transitivity in order to define S, A, and P roles, but rather, define transitivity in terms of S, A, and P roles. A transitive construction, in this approach, is one whose arguments are A and P, or in Lazard’s words, ‘Any two-actant sentence whose construction is the MBC [Major Biactant Construction] is called transitive’ (2015: 118). An MBC in a particular language is the morphosyntactic construction that codes an M-action, defined via free access

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3 Of course, S need not be a monolithic category in all languages. See, for example, the extensive literature on unaccusativity (mostly in a generative framework) or on split and/or fluid intransitivity (mostly in a functional-typological framework), or what has also been called semantic alignment. Overviews of the issues are found in Mithun (1991) Donohue and Wichmann (2008), and Creissels (2008). In any event, since this is not a crucial issue for the description of the Coptic facts, non-monolithic S will not be expanded upon further here.
as ‘a real, compact and complete action, volitionally performed by a human agent on a well-defined and well-individuated patient that is actually affected by it’ (Lazard, 2015: 115). Both Haspelmath and Lazard stress that the Major Biactant Construction is used not only for M-actions but for other kinds of states of affairs; for Lazard, this is a proposed universal of human languages. In this approach (which Haspelmath calls the ‘Comrian’ approach), a prototypical M-action is chosen, typically denoted by a predicate meaning ‘kill’ or ‘break,’ and the morphosyntactic properties of the clause in which it occurs are defined. This characterization – the set of properties that characterize the clause that codes the prototypical M-action – is then generalized, and any clause with the same properties is said to be transitive in that particular language. In such a perspective, unlike the framework proposed by Hopper and Thompson (1980), ‘semantic’ or ‘notional’ transitivity is not a primary basis for comparison or description, beyond the choice of a prototypical transitive predicate such as ‘break’ or ‘kill’ on whose basis the major two-argument (or biactant) construction’s properties are defined (see Lazard, 2002; 2015; and Haspelmath, 2011 for the procedure for defining a prototypical transitive clause).

As such, a construction with nominative ‘subject’ and dative ‘object,’ e.g., the German and Hebrew examples (1) and (2) above, does not involve ‘non-canonical P,’ which it would in many approaches to grammatical relations and alignment (e.g., Bickel and Nichols, 2009; see Haspelmath, 2011 and Lazard, 2015 for further references). In fact, the above Hebrew and German constructions do not involve P at all, but rather an oblique-marked core argument. Perhaps more surprisingly, they do not involve A either, since A is a relational notion that occurs only with P. Examples (1) and (2) show bivalent intransitive constructions (Dixon and Aikhenvald, 2000), whose two arguments can be called S and E (for ‘extension to core’). The valency pattern of a predicate is the number and form of the nominals required by a predicate. As such, the set of transitive predicates in a given language is a subset of the set of bivalent predicates in a language. In this paper, the mbc’s of Coptic and Greek, will be called, respectively, the Coptic Transitive Construction and the Greek Transitive Construction, which are capitalized since they are language-specific descriptive categories.

Taking the approach detailed above allows us to describe valency and transitivity in contact situations with a high degree of granularity, respecting the linguistic categories of the respective languages in contact. For example, in

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4 Several reviewers were concerned that the use of the term ‘E’ for the non-S argument of a bivalent intransitive implies the adoption of a ‘Dixonian’ approach to grammatical roles. However, it is just a terminological choice made for the sake of convenience, since the other approaches do not deal with bivalent intransitives.
Greek, the verb *diōkein* ‘pursue’ is a bivalent transitive, taking Nominative- and Accusative-marked NPs as its core arguments:

(3) Koine Greek (Indo-European)

\[
\text{ediōkon} \quad \text{hoi} \quad \text{Ioudaīoi}
\]

\[
\text{pursue.IMPF.3PL} \quad \text{ART.PL.NOM} \quad \text{Jew.PL.NOM}
\]

\[
tōn \quad \text{lēsoûn}
\]

\[
\text{ART.ACC} \quad \text{Jesus.ACC}
\]

‘The Jews pursued Jesus.’ (John 5: 16)

In Coptic, however, the Greek-origin loan verb *diôke* is a bivalent intransitive, with its E marked by the preposition *nsa* - ‘after’:

(4) Coptic, Sahidic dialect

\[
nere-ni-ioudai-diôke \quad nsa-iēsous
\]

\[
\text{IMPF-DEF.PL-Jews-pursue} \quad \text{after-Jesus}
\]

‘The Jews pursued Jesus.’ (John 5: 16)

This native valency pattern is typical of verbs whose meaning involves pursuit or persecution, as in, e.g., *pôt nsa* - ‘run after, pursue’ in (5).

(5) \[
a-u-pôt \quad nso-n
\]

\[
\text{PST-3PL-pursue} \quad \text{after-1PL}
\]

‘They pursued us.’ (1 Thessalonians 2: 13)

However, Coptic also has a transitive pattern with an accusative marker (*n*/ *mmo* -), analogous to the Greek transitive construction in (3) above. Examples (6–7) show the accusative marker occurring with a native verb *nouče ebol* ‘cast out,’ (8–9) with a Greek-origin loan verb *staurou* ‘crucify.

(6) \[
ne-f-nouče=de \quad ebol \quad n-ou-daimonion
\]

\[
\text{IMPF-3SGM-cast=now} \quad \text{out} \quad \text{ACC-INDF.SG-demon}
\]

‘He cast out a demon.’ (Luke 11: 14, cited in Layton, 2004: 132)

(7) \[
tetn-nouče \quad mmo-f \quad ebol
\]

\[
\text{2PL.PRES-cast} \quad \text{ACC-3SGM out}
\]

‘You cast it out.’ (Acts 13: 46, cited in Layton, 2004)

(8) \[
a-u-staurou \quad n-t-sarks
\]

\[
\text{PST-3PL-crucify} \quad \text{ACC-DEF.FSG-flesh}
\]

‘They crucified the flesh.’ (Galatians 5: 24)
The valency and transitivity patterns of the Greek-origin loan verb *diōke* ‘pursue’ differ from those of the Greek verb *diôkein*, ‘pursue,’ but are matched to those of semantically similar verbs from the inherited part of the lexicon, e.g., *pôt nsa-* ‘pursue.’ See Table 1 for a comparison of the relevant Greek and Coptic verbs.

However, this is just an approximation. In order to see how Greek-origin verbs are integrated into Coptic valency and transitivity patterns, we have to characterize the coding properties of transitivity in both Coptic and Greek.

### 3 Coptic Transitivity

Coptic Transitivity involves the following language-specific coding means:

(a) indexing (‘agreement’)
(b) flagging/case-marking
(c) linear order

The following sections describe these coding means. See Grossman (2015) for a more detailed description.

#### 3.1 Argument Indexing

Intransitive clauses have a maximum of one argument index (10); in monomorphic clauses, one or two arguments can be indexed on the verb, as in (11).

### Table 1 Valency and transitivity in contact: a contrastive view of ‘pursue’ in Greek and Coptic

| Greek *diôkein* | Coptic *diôke* | Coptic *pôt* |
|-----------------|---------------|--------------|
| Valency         | Bivalent      | Bivalent     | Bivalent     |
| Valency pattern | NOM-ACC       | NOM-OBL (‘after’) | NOM-OBL (‘after’) |
| Transitivity    | Transitive (A/P) | Intransitive (S/E) | Intransitive (S/E) |

(9) \[ \text{a-u-staurou}=\text{de} \quad \text{mmo-f} \]

\[ \text{PST-3PL-crucify}=\text{PTCL} \quad \text{ACC-3SGM} \]

‘They crucified him.’ (Matthew 27:35)

(10) \[ \text{a-s-mou} \]

\[ \text{PST-3SGFS-die} \]

‘She died.’ (Matthew 9:24)
An anonymous reviewer points out that this example is reflexive, and may not be representative. For an example of neutral alignment with non-co-referring indexes, see (23).

There is no implicational relationship between A and P indexing, since an A index can occur without a P index, as in (8) above, and vice versa, as in (17) below.

The alignment of argument indexing involves multiple factors, which need not coincide (Bickel et al., 2013); in the present context, we will look at the form and the position of the indexes, leaving trigger potential and conditions out of the present discussion. In terms of alignment, the form of person indexes is mixed accusative-neutral, depending on a complex set of phonological and morphosyntactic factors, which are irrelevant to the present discussion. Example (12) shows that A=P in terms of indexing for this particular constellation of verbal construction, tense, and person.

(12) a-s-tôoun-s
    PST-3SGAF-raise-3SGFP
    ‘She raised herself.’ (Luke 1:39)\(^5\)

Taken together with (10), alignment for the form of person indexes is neutral: all three arguments are indexed by -s. However, examples (13–15) show accusative alignment in indexing for the first person: the 1SG S index (-i) is the same as the 1SG A index (-i), both of which differ from the 1SG P index (-t).

(13) a-i-mou
    PST-1SGS-die
    ‘I died.’ (Galatians 2: 19)

(14) a-i-kaa-k
    PST-1SGA-let-2SGMP
    ‘I let you.’ (Titus 1: 5)

(15) mp-f-kaa-t maauat
    PST.NEG-3SGMA-let-1SGP alone.1SG
    ‘He did not leave me alone.’ (John 8: 29)

\(^5\) An anonymous reviewer points out that this example is reflexive, and may not be representative. For an example of neutral alignment with non-co-referring indexes, see (23).
However, in terms of position, Coptic argument indexing is nominative-accusative across the board: A patterns like S in terms of position (= before the verbal stem), and P differs (= after the verbal stem), even if the form of the indexes is aligned neutrally in some cases.

Lexical noun phrase arguments are largely in complementary distribution with argument indexes. For example, lexical subjects (A/S) can be incorporated into the verb, as in (16)–(18):^6

(16) a-ta-šeere -mou\(^7\) S Incorporation
    PST-POSS.FSG- > 1SG-daughter die
    'My daughter died.' (Bohairic, Genesis 1:8)

(17) a-pnoute -kaa-u hn-t-ekklésia A-incorporation
    PST-God let-3PLP in-DEF.FSG-church
    'God left them in the church.' (1 Corinthians 12: 28)

(18) a-te-shime=de -kô n-te-s-hudria
    PST-DEF.FSG-woman=PTCL leave ACC-POSS.FSG-3SGF-jug
    'The woman left her water-jar' (John 4: 28)

Lexical P arguments can also be incorporated into the verb, as in (19)–(21). Incorporated P arguments are bound to the lexical verb, which often shows a

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^6 Since A/S incorporation is cross-linguistically rare and controversial (although see Zavala 2000 for arguments for A incorporation in Otutec (Mixeán)), it is important to explain what I mean in this context. A Coptic verb, if it is not in the present tense, can be treated as a morphosyntactic template that minimally has a slot for a TAM/Polarity prefix, an A/S expression, and a lexical verb stem. These together constitute a single morphosyntactic unit. When the A/S expression is a person index, the verb as a whole is tightly bound, and nothing can occur between the index and the lexical verb, but when the A/S expression is a lexical noun phrase, second-place particles can occur between the noun phrase and the lexical verb. Since, however, the A/S expression occurs within the verb, and hosts the TAM/Polarity prefix, I have treated this as a kind of incorporation. However, nothing in the present discussion hinges on this particular analysis, and if the reader is not persuaded by the use of the term ‘subject incorporation,’ then he or she can mentally replace it with ‘possibility of an A/S expression to occur between a TAM affix and a lexical verb stem within the same verb’ or more broadly, ‘possibility of an A/S expression to occur verb-internally.’ I thank an anonymous reviewer for drawing my attention to the Zavala (2000).

^7 The glossing convention of a space followed by a hyphen indicates that the morpheme following the hyphen is part of a morphological word but is a distinct phonological word. This convention is adopted from the Leipzig Glossing Rules (optional Rule 2A), and is occasionally used in the typological literature (e.g., Bickel and Nichols, 2007: 199).
prosodically reduced form. This prosodically reduced verb form cannot occur as a free morpheme. For example, in examples (19) and (21), the forms of the lexical verb without incorporated P is *kó*, seen in its full form in (18):  

\[(19)\] \[a-f-ka-p-têu\] 
PST-3SGM-let-DEF.MSG-breath 
‘He expired (lit. ‘let the breath’).’ (Luke 23: 46) 

\[(20)\] \[a-u-fi-ône=ce\] \[nci-ni-ioudai\] 
PST-3PLA-raise-stone=PTCL NOM-DEF.PL-Jew 
‘The Jews picked up stones.’ (John 10: 31) 

\[(21)\] \[ntere-paulos\] \[-ka-cič\] \[ečô-ou\] 
TEMP-Paul let-hand upon-3PL 
‘When Paul laid his hands on them.’ (Acts 19: 6)

However, it is rare for both lexical A and P to be incorporated into the same verb. In the variety of Coptic described here, classical Sahidic, lexical A/S and P arguments that are not incorporated (and are not left-dislocated) must be case-marked. Case-marking is discussed in the following section.

### 3.2 Case-Marking

Coptic is not traditionally described in terms of case marking. Nonetheless, Coptic has adpositions and other flags that instantiate grammatical relations (see Grossman, 2015 for traditional terminology and arguments for analyzing Coptic flags as case markers). I adopt here a broad definition of the comparative concept ‘case marker,’ roughly corresponding to the notion ‘flag,’ ‘relator,’ or ‘dependent-marker.’

Non-incorporated postverbal lexical A and P must be overtly case-marked. The Accusative prefix (*n*) is seen in example (22):

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8 Coptic allows the incorporation of nominals with phrasal properties. While incorporation is not typically described as involving noun phrases, it is nonetheless attested cross-linguistically. Importantly for the present discussion, the loss of argument status often associated with incorporation is not in fact due to incorporation per se, but rather to the non-referential status of incorporated material; referential nominals, when incorporated, often retain their argument status. See Grossman (2016) for a preliminary cross-linguistic typology of noun phrase incorporation.

9 I follow here Bickel and Nichols (2009), for whom grammatical relations do not exist independently of the coding and behavioral means that instantiate them. I would like to thank Alena Witzlack-Makarevich for pointing out the need for clarity on this point.
The opposition between object incorporation and accusative case marking is the main formal feature of Differential Object Marking in Coptic. It is motivated by the interaction of referentiality and topicality rather than, e.g., animacy or definiteness (e.g., Shisha-Halevy, 1986; Engsheden, 2008; Grossman, 2009; Winand, 2015).

The Nominative case prefix *nci-* is found in examples (21–22).

(22) *a-f-tókm n-te-f-séfe*
    PST-3SGMA-draw ACC-POS.FSG-3SGM-sword
    ‘He drew his sword.’ (Matthew 26:51)

The co-occurrence of both case-marked lexical NOM and lexical ACC is possible but relatively rare:

(23) *a-f-kaa-f nci-p-diabolos*
    PST-3SGMA-let-3SGM NOM-DEF.MSG-devil
    ‘The devil left him.’ (Matthew 4:11)

This rarity stems from the nature of discourse: transitive clauses with more than one lexical core argument tend to have low text frequency across languages (Du Bois, 1987).

In Coptic, as in many languages of northeast Africa (König, 2008), case marking and linear order are not independent coding means. For example, preverbal and incorporated lexical arguments are not case-marked; rather, only postverbal core arguments are case marked. In (25), the noun phrase in S role is preverbal, in (26) A is preverbal, and in (27) P is preverbal. In none of these does the preverbal noun phrase bear case marking.

(25) *n-ke-ouhoor ša-u-ei n-se-lôč n-ne-f-saš*
    DEF.PL-even-dogs AOR-3PL-come SEQ-3PL-lick ACC-POS.PL-3SGM-sore
    ‘Even the dogs would come and lick his sores.’ (Luke 16: 21)

(26) *tote ne-f-matbêtés têr-ou a-u-kaa-f*
    then POSS.PL-3SGM-disciple all-3PL PST-3PLA-let-3SGM
    ‘Then his disciples all left him.’ (Mark 14: 50)
(27) \text{n-et-hoou\textasciitilde{}de} \quad \text{a-f-no\textasciitilde{}ou} \quad \text{ebol} \\
\text{DEF.PL-REL-bad\textasciitilde{}PTCL} \quad \text{PST-3SGMA-cast-3PLP} \quad \text{out} \\
‘The bad ones, he threw them away.’ (Matthew 13: 48)

3.3 Differential Argument Marking in Coptic

Differential Argument Marking in Coptic involves both Differential Object Marking (DOM) and Differential Object Indexing (DOI). Differential Object Marking in Coptic involves the alternation between P-incorporation and case-marked P. Leaving aside rare examples of preverbal P, Coptic DOM can be exemplified by the following pair of examples: (28) shows an accusative-marked lexical P, while (29) shows a clause with same participants in which P is incorporated.

(28) \text{a-3SGMA-t\textasciitilde{}km} \quad \text{n-te-f\textasciitilde{}s\textasciitilde{}fe} \\
\text{PST-3SGM-draw} \quad \text{ACC-POSS.FSG-3SGM-sword} \\
‘He drew his sword.’ (Matthew 26: 51)

(29) \text{a-f-tekm-te-f\textasciitilde{}s\textasciitilde{}fe} \\
\text{PST-3SGMA-draw-POSS.FSG-3SGM-sword} \\
‘He drew his sword.’ (Mark 14: 17)

Coptic DOM has additional complexities, involving a TAM split, but these are irrelevant in the present context.

Differential Object Indexing in Coptic involves the possibility of the alternation between:

(a) overt lexical P, whether incorporated or overtly case-marked, on the one hand (see 28–29 above), or
(b) indexing of P on the lexical verb, as in (30), or
(c) as an accusative pronoun, which has the form mmo- followed by a bound argument index, as in (31).

All of these are in complementary distribution: P is either expressed lexically (in which case it is either incorporated or case-marked) or indexed (in which it is either indexed on the verb stem or on an accusative pronoun).

(30) \text{n-et-hoou\textasciitilde{}de} \quad \text{a-f-no\textasciitilde{}ou} \quad \text{ebol} \\
\text{DEF.PL-REL-bad\textasciitilde{}STAT\textasciitilde{}TOP} \quad \text{PST-3SGMA-cast-3PLP} \quad \text{out} \\
‘The bad ones, they threw them away.’ (Matthew 13: 48)
There are other, relatively infrequent, construction types, but they will be ignored here.

Coptic also shows a TAM-based split: in the Present tense, P cannot be indexed on the verb (with one lexically-determined exception, the verb ouôš ‘to want’), while it can in other TAM constructions. However, little is known beyond this, and the factors governing the distribution of head-marking (P indexing on the verb) and dependent-marking (case-marked accusative pronoun) is still unclear. What is important in the present context is that P can be indexed on native transitive verbs.

3.4 Linear Order
Coptic is usually characterized as having basic SVO order, although this description is somewhat controversial. While a description of word order in Coptic is well beyond the scope of this paper, some relevant facts should be mentioned.

1. As seen in 3.1, the order of indexes on the verb is distinctive: an A index always precedes a P index. The order is always A-V^{lex}.P.
2. The order of incorporated core arguments is also distinctive; it is always A-V^{lex}.P.
3. Lexical A, no matter its position, almost always precedes lexical P.

3.5 Interim Summary
In summary, Coptic transitive clauses have the following features:

(a) A and/or P may but need not be indexed on the verb
(b) Case-marking occurs only and obligatorily on post-verbal lexical NP arguments
(c) Differential Object Marking, which involves the alternation between overt case-marking and P-incorporation
(d) A strong statistical preference for A-P linear order.

Coptic has three main coding means for lexical A (see Table 2). Coptic also has three main strategies for coding lexical P (see Table 3). Several generalizations can be made on the basis of Tables 2 and 3:

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10 There are other, relatively infrequent, construction types, but they will be ignored here.
1. All postverbal core arguments must be case-marked.
2. Preverbal and incorporated core arguments are never case-marked.
3. All preverbal core arguments, as well as postverbal subjects, entail indexing.
4. There is no implicational relationship between A and P indexing; all combinations of A and P indexes and lexical arguments are possible (see Table 4).

A fifth generalization is that all combinations of incorporation and case marking are possible for lexical noun phrase core arguments (see Table 5).

We now turn to the class of bivalent intransitive predicates.

### 3.6 Bivalent Intransitives

Coptic has a range of bivalent intransitive constructions, which are generally characterized by three features, in contrast to bivalent transitives:

#### Table 2

**Indexing and case for lexical A**

| Indexing  | Case |
|-----------|------|
| Incorporated A | no   | no   |
| Preverbal A   | yes  | no   |
| Postverbal A  | yes  | yes  |

#### Table 3

**Indexing and case for lexical P**

| Indexing  | Case |
|-----------|------|
| Incorporated P | no   | no   |
| Preverbal P   | yes  | no   |
| Postverbal P  | no   | yes  |

#### Table 4

**Co-occurrence of A/P indexes and lexical arguments**

| Indexed P | Incorporated P |
|-----------|----------------|
| Indexed A | Ex. 14         |
| Incorporated A | Ex. 17       |
|             | Ex. 19         |
|             | Ex. 21         |

Coptic has a range of bivalent intransitive constructions, which are generally characterized by three features, in contrast to bivalent transitives:
In examples (32–33), we see that: (a) there is no E indexing on kôte ‘seek’ or moute ‘call’; (b) the prepositions nsa ‘after’ or e- ‘to,’ rather than the Accusative marker n-, occurs on the E argument; and (c) the E argument is not incorporated. The wide range of bivalent intransitives in Coptic has never been studied.

4 Greek Transitivity

In order to discuss Greek Transitivity, example (3) is repeated here as (34).

In monotransitive clauses such as that found in (34), A and P are marked by Nominative and Accusative case, respectively. Case is an independent coding
means, i.e., is not dependent on, e.g., linear order. Greek Transitivity has the following features, some of which are negative.

(a) Only A is indexed on the verb. In example (3), *ediōkon* ‘pursued’ indexes the A argument, *hoi Ioudaîoi*.
(b) Neither A nor P can be incorporated.
(c) Linear order does not mark grammatical roles.
(d) There is no Differential Object Marking.

We now turn to Greek loan verbs in Coptic.

5 Overview of the Contact Situation

Coptic (Afroasiatic, Egypt) is the latest phase of the Ancient Egyptian language, attested from around the 3rd century CE till its speakers shifted to Arabic; this shift began around the 10th century and ended sometime after the 14th century CE.11 It is attested in a dozen or so dialects, as well as a number of nonliterary varieties found in everyday texts (e.g., letters and private legal documents). Greek (Indo-European) was spoken and written in Egypt from the early-to-mid first millennium BCE, with limited evidence for contact before Coptic; there are relatively few Greek loanwords in pre-Coptic Egyptian, except for very late Demotic, the stage of Egyptian immediately preceding Coptic (Ray, 2007; Rutherford, 2010). The varieties of Greek that are relevant to the complex contact situation include the written Koine of the Septuagint, the New Testament, and other literary and non-literary corpora, as well as the local spoken Greek varieties, which sometimes show borrowings (lexical, grammatical, phonological) from local Coptic varieties (Torallas Tovar, 2010; 2015).

Little is known for certain about the actual types and extent of Greek-Egyptian bilingualism. Estimates range from extensive to minimal. Some linguists and historians estimate the degree of bilingualism to such an extent that they consider Coptic to be a ‘bilingual variety,’ involving significant ‘code

11 For overviews of Ancient Egyptian-Coptic, see Allen (2013), Loprieno (1995), Loprieno and Müller (2012), Grossman and Richter (2015), or Haspelmath (2015). For an overview of the latest stages of the language, see Quack (2006). For details about the Greek-Egyptian contact situation, see Oréal (1999), Fewster (2006), Ray (2007), Torallas Tovar (2010, 2016), and Grossman (2013). The study of Greek-origin loanwords in Coptic is currently the object of intensive research in the Database and Dictionary of Greek Loanwords in Coptic (DDGLC) project, headed by Tonio Sebastian Richter (Berlin). The state of the art can be seen on the project’s website: http://www.uni-leipzig.de/~ddglc/.
mixing’ (Reintges, 2004a); others are skeptical. For a recent empirical evaluation of the possible influence of Greek on Coptic morphosyntax, see Grossman (2016), which demonstrates that Greek played no role in the development of the cross-linguistically unusual prefixing preference of Coptic.

The data for this study are taken from the translation of the New Testament in the Sahidic dialect (Layton, 2004; Reintges, 2004b; Shisha-Halevy, 1986). While the claims made here about ‘Coptic’ are probably broadly true for most Coptic dialects, they are based solely on this particular corpus, and caution should be exercised in applying them to other corpora.

6 Greek Loan Verbs in Coptic

There are more than a thousand Greek loan verb types in Coptic. The semantic domains of loan verbs depend heavily – and relatively trivially – on the nature of the text; for example, legal documents tend to have loan verbs from the domain of law, religious texts tend to have loan verbs from the domain of religion, and so on. Insofar as idiolects have been studied, it appears that the use of loan verb is also a matter of personal choice, to an extent (Behlmer, 2016). However, loan verbs are abundantly attested in nearly every corpus of Coptic.

Taking the Sahidic New Testament as a test corpus, there are 172 loan verb types and 2085 tokens. Many verbs occur only once, but around 30 verbs occur at least 20 times (Table 6).

Greek loan verbs in Coptic can be integrated into native transitivity and valency patterns in a variety of ways: Greek Transitive verbs can be integrated into either the Coptic Transitive Construction or an intransitive construction, in terms of case-marking: (35–36) show a Greek-origin verb (staurou ‘to crucify’) with the accusative-marked P, and (37) another Greek-origin verb arkhēi ‘to begin’ with a nominative-marked subject.

(35)  
\[ a-u-staurou=de \quad mmo-f \]
\[ PST-3\text{PL}-\text{crucify}=\text{PTCL} \quad \text{ACC-3SGM} \]
‘They crucified him’ (Matthew 27:35)

(36)  
\[ a-u-staurou \quad n-t-sarks \]
\[ PST-3\text{PL}-\text{crucify} \quad \text{ACC-DEF.FSG-flesh} \]
‘They crucified the flesh’ (Galatians 5:24)

(37)  
\[ a-f-arkhēi \quad nci-i<èsou>s \quad e-tašeoeiš \]
\[ PST-3\text{SGM}-\text{begin} \quad \text{NOM-J}<esu>s \quad \text{INF-preach} \]
‘Jesus began to preach’ (Matthew 4:17)
Despite the ability of Greek-origin verbs to occur with nominative and accusative case-marked arguments, several features make loan verbs more similar to bivalent intransitives. For one thing, similarly to bivalent intransitives, only A can be indexed on the verb, as in (35–37); P cannot be indexed, as in (38).\footnote{A reviewer prefers not attested’ to the formulation given here. However, it is not a matter of lack of attestation, but rather of systematic exclusion.}

\begin{align*}
 \text{(38) } & \text{*a-u-staurou-f=de} \\
 & \text{PST-3PLA-crucify-3SGMP=PTCL} \\
 & \text{‘They crucified him.’}
\end{align*}

For another, A can be incorporated (39), but P cannot (40).

\begin{align*}
 \text{(39) } & \text{mere-laau anakrine mmo-f} \\
 & \text{AOR.NEG-NEG.INDEF judge ACC-3SGM} \\
 & \text{‘No one judges him.’ (Sahidic, 1 Corinthians 2:15)} \\
 & \text{(< Greek anakrínein ‘to judge’)}
\end{align*}

\footnote{Most of these verbs are bivalent.}
The incompatibility of Greek-origin loan verbs with P indexing and P incorporation is not likely to have a simple phonological explanation, since native verbs with the same final segments do allow indexing and incorporation; in Coptic, the final segment of the lexical verb is what determines the allomorphy of the P index. For example, compare staurou ‘crucify’ (< Greek) in (35) with čoou ‘send’ (native) in (41–42): even though both end in -ou, only the native verb can bear P indexing or P incorporation.

(41) $a-f-čoou-f$
    PST-3SGMA-send-3SGMP
    ‘He sent him.’ (Mark 12:3)

(42) $a-f-čeu-ou-hmhal$
    PST-3SGMA-send-INDF.SG-servant
    ‘He sent a servant.’ (Mark 12:2)

Similarly, compare krine ‘judge’ (< Greek) with cine ‘find’ (native). Both can occur with accusative case marking on lexical P, as in (43) and (44).

(43) $a-r-cine=gar$  $n-ou-hmot$
    PST-2SGFA-find=PTCL  ACC-INDF.SG-grace
    ‘For you have found grace.’ (Luke 1:30)

(44) $e-f-e-krine$  $m-p-kosmos$
    OPT-3SGMA-OPT-judge  ACC-DEF.MSG-world
    ‘May he judge the world.’ (John 3:17)

However, only the native verb can occur with a P index. Greek-origin verbs are only compatible with accusative pronouns. In (45), for example, the native verb ‘find’ occurs with a P index, while in (46), the loan verb ‘judge’ occurs only with the accusative case prefix $n$; (47) shows that the loan verb cannot occur with a P index.

(45) $nne-u-cnt-ou$
    OPT.NEG-3PLA-find-3PLP
    ‘May they not be found, may they not find them.’ (Apocalypse 18:22)
Similarly, only the native verb can incorporate lexical P (48); a loan verb (49) cannot.

(48)  
\[
\text{mp-ou-cn-šače \ e-čô} \\
\text{PST.NEG-3PLA-find-thing \ INF-say}
\]

‘They didn’t find a thing to say’ (Acts 4: 14)

(49)  
\[
\text{*mp-ou-krn-šače} \\
\text{PST.NEG-3PLA-judge-thing}
\]

‘They didn’t judge a thing.’

As a result, Greek-origin loan verbs do not participate in Differential Object Marking or Differential Object Indexing in the way that native Transitive verbs do.\footnote{A reviewer points out that it could be the case that incorporation and argument indexing are simply no longer productive in Coptic, and that Greek verbs, as later additions to the Coptic lexicon, ‘missed the boat,’ so to speak. Since we know very little about the Coptic-internal diachrony of lexical items, it would be hard to answer this challenge. However, it is a basic fact of Coptic verbal structure that any transitive verb shows the entire complex of these features, regardless of whether they are attested in Coptic for the first time or whether they are attested in earlier Egyptian.}

As for linear order, A V P order is strongly preferred, which is generally the case in Coptic Transitive clauses. All in all, bivalent Greek-origin loan verbs have the coding properties of bivalent intransitives, except for case-marking.

Of course, bivalent Greek loan verbs can also be integrated into one of the native intransitive valency patterns, as we saw with respect to diôke ‘pursue’ in Section 2. These patterns generally involve a nominative argument and an E argument marked by one of a number of prepositional flags.\footnote{For a list of prepositional flags that occur in Coptic valency patterns, see Shisha-Halevy (1986) and Layton (2004: 142–145).} For example, smou ‘bless’ typically occurs with the allative flag e-, as do many verbs of perception...
and cognition (e.g., *nau* ‘see’). Furthermore, a Greek verb in Coptic can be assigned to several transitivity or valency patterns. For example, bivalent *baptize* ‘baptize’ can occur either as a transitive or an intransitive with the allative preposition *e-*; although the meaning is different: while the P of the transitive construction denotes the person baptized (50), the E of the intransitive marks a personal apudlocative (51):

(50) \[ \text{a}-p^{philippos} \quad \text{-baptize} \quad \text{mmo-f} \]
\[
\text{PST-Philip} \quad \text{-baptize} \quad \text{ACC-3SGM}
\]

‘Philip baptized him’ (Acts 8: 38)

(51) \[ \text{a-u-baptize} \quad \text{e-mòousés} \]
\[
\text{PST-3PL-baptize} \quad \text{ALL-Moses}
\]

‘They were baptized into Moses’ (1 Corinthians 10: 2)

In fact, (51) shows an interesting feature of Coptic: the prevalence of P-preserving lability. This is discussed in Section 7.

7 Verb Lability

Coptic has no valency-reducing morphology, other than an alternation between an active and a stative stem; the latter, in the case of transitive verbs, is equivalent to a stative passive (Layton, 2004; Polotsky, 1960). However, this alternation is limited to the present tense and related constructions built on the present tense, such as the imperfect. For most verbal constructions with overtly marked TAM, the stative form cannot occur.

Valency-reduction in Coptic is mostly marked via labile verbs, verbs that participate in alternations in which “the same verb is used both in the inchoative and in the causative sense” [without any formal change] (Haspelmath, 1993: 92; see also Kulikov, 2003; Letuchiy, 2009). Coptic allows both A-preserving and P-preserving lability. Example (52) shows P-preserving lability, while (53) shows A-preserving lability.

(52) \[ \text{etbeou=ce} \quad \text{k-baptize} \]
\[
\text{why=PTCL} \quad \text{2SGM-baptize}
\]

‘So why do you baptize (people)?’ (John 1: 25)

(53) \[ \text{ntere-f-baptize=de} \quad \text{nci-i(èsou)s} \]
\[
\text{TEMP-3SGM-baptize=PTCL} \quad \text{NOM-J(èsu)s}
\]

‘After Jesus was baptized...’ (Matthew 3: 16)
Greek, on the other hand, has overt valency-reducing morphology. In the Greek equivalent of (52), the Greek verb has an active form, while in (53) it has a de-transitive form usually known as ‘medium’ or ‘middle voice’ in Greek linguistics.

This difference can be seen in another pair of examples from two different dialects, Sahidic and Bohairic, as compared to the Greek original. Examples (54) and (55) show the alternation between the active and passive forms of the Greek verb skandalízô ‘offend.’

(54) ei=dè ophthal'mós=sou ho deksi ôs skandalízei=se
   COND=PTCL eye.NOM. DEF. right. offend.PRS.3SG=
   SG=your NOM.SG NOM.SG 2SGM

‘If your right eye offends you.’

(55) eskandalístʰēsan
   offend.AOR.PASS.3PL

‘They (scil. The Pharisees who heard this word) were offended’ (Matthew 15: 12)

In Coptic, each dialect has borrowed a different form: in Sahidic, the active form, while in Bohairic, the ditransitive (‘middle’) form. However, in both cases the loan verb is a P-preserving labile verb.

(56) Sahidic
    ešĉe pek-bal=de n-ounam skandalize mmo-k
    COND your-eye=PTCL MOD-right offend ACC-2SGM

‘If your right eye offends you...’ (Matthew 5: 29)

(57) Sahidic
    a-u-skandalize
    PST-3PL-offend

‘They were offended’ (Matthew 15: 12)

(58) Bohairic
    (The Pharisees that heard this word)
    a-u-er-skandalízestʰe
    PST-3PL-do-offend

‘They were offended’ (Matthew, 15: 12)
Verb lability has not been thoroughly studied in Coptic. For verb lability in post-Classical Greek, see Lavidas (2005, 2009).

### 8 Summary

Table 7 summarizes the respective ‘transitivities in contact.’ The gray-shaded cells indicate the features for which Greek-in-Coptic aligns with either Coptic or Greek but not both. This indicates the extent or degree of integration of Greek-origin verbs in Coptic transitivity patterns.

The first thing that we observe is that even if we can broadly compare Greek and Coptic transitive constructions, Coptic Transitivity and Greek Transitivity are quite different descriptive categories. Strikingly, in terms of each property, Greek loan verbs in Coptic are (a) like inherited verbs, (b) like Greek verbs in Greek, or (c) different from the descriptive categories of both of the contact languages. For example, (a) Greek-in-Coptic verbs are like inherited verbs in that they can occur with case marking of both A and/or P; case-marking has the same distribution for both classes, since it occurs only post-verbally. (b) Greek-in-Coptic verbs are like Greek verbs in Greek in that only A can be indexed on the verb, while inherited transitive verbs allow the indexing of A and/or P. (c) Finally, inherited Coptic verbs allow the incorporation of both A and

| Feature                      | Coptic                        | Greek-in-Coptic               | Greek               |
|------------------------------|-------------------------------|-------------------------------|---------------------|
| Indexing                     | A and/or P                    | A only                        | A only              |
| Incorporation                | A and/or P                    | A only, rare                  | no                  |
| Case marking                 | A and/or P, only postverbally | A and/or P, only postverbally | A and P, irrespective of linear order |
| Differential Object Marking (case marking) | yes | no | no |
| Linear Order                 | Very strong preference for A-P | Very strong preference for A-P | Flexible, mostly motivated by information structure |
| Valency-reducing morphology  | none – lability is the rule   | none – lability is the rule   | yes |

Table 7

**Transitivities in contact: a first look**
P, while Greek allows the incorporation of neither; Greek-in-Coptic verbs allow A only, and that only rarely.

These findings raise important questions: does this mean that we should abandon ‘transitivity’ as a holistic category for our purposes, and focus on individual features? Or should we admit ‘loanword transitivities,’ along the lines of ‘loanword phonologies’? In other words, is Coptic Transitivity the constellation of the coding properties discussed in Section 4, and anything else is intransitive? Alternatively, we could consider transitivity to pertain to individual coding properties, similarly to alignment, which is often split in individual languages. In such a perspective, Greek loan verbs in Coptic would be transitive with respect to case and linear order, but intransitive with respect to indexing and incorporation.

Another look at the data clarifies the issue to an extent. Table 8 classifies the features in terms of their pertinence to the A-domain or the P-domain.

We see that in the A domain, Greek loan verbs behave uniformly like inherited Coptic verbs. In the P domain, it is more evenly split: in some respects, Greek loan verbs behave like inherited Coptic verbs; in others, like Greek verbs in Greek.

In the P domain, Greek loan verbs differ from inherited verbs in that they do not allow indexing or incorporation, both of which entail allomorphy of the verb stem. Conversely, they are like inherited verbs in terms of case marking.

| Table 8 | Transitivities in contact: according to A vs. P domains |
|---------|-------------------------------------------------------|
| **Coptic** | **Greek-in-Coptic** | **Greek** |
| A | Indexed or not | Indexed or not | Obligatorily indexed |
| | Incorporated or not | Incorporated or not | No incorporation |
| | Case marked if postverbal | Case marked if postverbal | Obligatorily case marked |
| | Before P | Before P | Depends on information structure |
| P | Indexed or not | No indexing | No indexing |
| | Incorporated or not | No incorporation | No incorporation |
| | Case marked if postverbal | Case marked if postverbal | Obligatorily case marked |
| | After A | After A | Depends on information structure |
and linear order; however, these are not independent properties – in Coptic, case marking depends on linear order. Basically, only properties that would involve morphological changes in the form of the lexical verb stem are prohibited. However, as we have seen, this cannot be attributed to phonological constraints. In any event, the result is that language contact – specifically, massive lexical borrowing has led to a lexically-determined transitivity split in the Coptic grammar, with Greek-origin loan verbs occupying an intermediate place between native transitive verbs and native intransitive verbs.

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