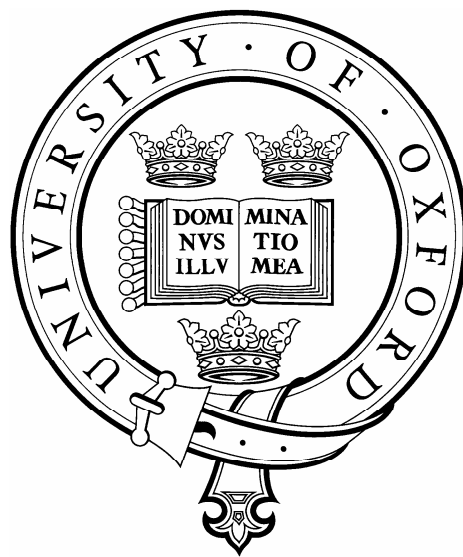


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CONTENTS

Editorial Note	v
Contributors' Addresses	vi
Standard Abbreviations	viii
Preface by ANDREAS WILLI, Diebold Professor of Comparative Philology	ix
J. N. ADAMS	
Greek Interference in Egyptian Latin	1
WOLFGANG DE MELO	
If in Doubt, Leave it In	5
ELEANOR DICKEY	
The Use of Latin <i>sis</i> as a Focus-marking Clitic Particle	21
PHILIP DURKIN	
Lexical Borrowing in Present-Day English	26
PANAGIOTIS FILOS	
On Some Latin Univerbations in Greek	43
NICHOLAS HILLYARD	
The Typology of the Dual in Homer	62
RICHARD HITCHMAN	
Some Personal Names from Western Crete	77
LUUK HUITINK	
Think What You Want	89
DANIEL KÖLLIGAN	
Armenian <i>o(v)</i>	110
PHILOMEN PROBERT	
Accentuation in Ancient Greek Deverbative <i>ā</i> -stems	122
RANJAN SEN	
Vowel-weakening Before <i>Muta cum Liquidā</i> Sequences in Latin	143
OLGA TRIBULATO	
Homeric ϑ υμολέων and the Question of Greek 'Reversed Bahuvrīhis'	162
ELIZABETH TUCKER	
Sanskrit <i>svāmin-</i> , Avestan <i>huuōišta-</i> and the Indo-European Root <i>*seu_h1-</i> 'to impel'	179

ANDREAS WILLI

Unholy Diseases, or why Agamemnon and Tuthaliya should not have offended the gods 190

BRENDAN WOLFE

Figurae Etymologicae in Gothic.....207

NICHOLAS ZAIR

Dybo's Law: Evidence from Old Irish215

EDITORIAL NOTE

Oxford University Working Papers in Linguistics, Philology & Phonetics presents research being undertaken in these fields by staff, graduate students and other researchers in Comparative Philology, Linguistics and Phonetics at the University of Oxford. Each year's volume is devoted to a particular area of linguistic research in Oxford; the 2006 outing sees the welcome return of Comparative Philology.

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STANDARD ABBREVIATIONS

Languages

Arm.	Armenian
Av.	Avestan
Eng.	English
Fr.	French
Germ.	German
Gk.	Greek
Gmc.	Germanic
Goth.	Gothic
Hitt.	Hittite
IE	Indo-European
Ice.	Icelandic
Ir.	Irish
It.	Italian
Lat.	Latin
Latv.	Latvian
Lith.	Lithuanian
N.	Norse
CS	Church Slavonic
HG	High German
Osc.	Oscan
P.	Persian
PIE	Proto-Indo-European
Russ.	Russian
Skt.	Sanskrit
Toch.	Tocharian
Umb.	Umbrian
Ved.	Vedic
W.	Welsh

Other

O+language	Old
M+language	Middle
N+language	New
Y+language	Younger

PREFACE

In her preface to *Oxford University Working Papers in Linguistics, Philology & Phonetics 7*, Anna Morpurgo Davies observed that its predecessor, *Ouwplpp 3* (1998), the first volume dedicated entirely to Comparative Philology, had contained eight papers, whereas *Ouwplpp 7* (2002) contained thirteen; and she concluded that, while one might not anticipate a similar rate of increase in the future, there were great hopes for a continued tradition of Working Papers in Philology. It is now clear that the tradition, though still a young one, has at least reached another *lustrum*, and that the work in classical and comparative philology which is done by students, staff, and other researchers at Oxford is in no danger of running dry. The mere number of contributions in the current volume, sixteen, shows this once again, and, what is more, the diversity of languages, topics and theoretical approaches represented here bears eloquent testimony to the vitality of our discipline.

Several contributors have chosen to concentrate on the classical languages, Greek and Latin, which have always occupied a central place in Comparative Philology at Oxford, just as they occupy a central place when we look at the linguistic map of Indo-European as a whole. Starting with Richard Hitchman who sets out to explore, through the onomastics of ancient Crete, what came before Greek on that island, and ending with Jim Adams and Panagiotis Filos who study ways in which Greek influenced Latin, and Latin Greek, in Roman times – through syntactic interference and lexical transformation respectively –, we undertake a fascinating journey across the classical world: we learn, with Nicholas Hillyard, how to discover the natural in Homer's artificial language, with Olga Tribulato, how to be a lion at heart rather than just have a lion-heart, with Luuk Huitink, how to enter the minds of the Greeks by looking at future infinitives, with Philomen Probert, how to trace the loss of morphological analysis in Greek accentuation, with Ranjan Sen, how to trace it in Latin vocalism, with Eleanor Dickey, how to spell things out as much as possible in Latin requests, and with Wolfgang de Melo, how to spell things out as little as possible in Latin accusative and infinitive constructions.

Other contributors make sure we do not forget what happens elsewhere, in space as well as time. With Daniel Kölligan, Elizabeth Tucker, and myself, we move eastwards, to find the syntactic sources of Armenian interrogative pronouns, the etymological sources of Sanskrit masters, and the conceptual sources of Graeco-Anatolian blessings or curses, and with Nicholas Zair and Brendan Wolfe we move westwards, to reassess a long-standing problem of Celtic and Western-Indo-European phonology and to look at what (not) to do in Gothic stylistics. Philip Durkin, finally, reminds us that linguistic history is not just a thing of the past, that we ourselves determine its course, not least through the words we use, whether we celebrate 200 years of *melodrama* or the recent birth of *panna cotta*.

Philology, both classical and comparative, is like a Homeric tripod, which would not stand if somebody sawed off one of its three legs. The first leg is the subject itself, the themes

and problems which stimulate our minds: this leg is sturdy, and it would take a long time to cut it off. The second leg is the people who take up the challenge set by the material: this leg, too, seems robust when so many are willing to unite and share their views with others, those who have spent long years working in the field and those who have begun only recently – first among whom are the two editors who have dedicated much of their energy and time to the successful completion of this volume. The third leg, however, is more frail than the other two: however attractive a question may be, without the necessary resources even the most enthusiastic philologists cannot devote themselves to it. Hence, this preface is also a good opportunity once again to express the heartfelt gratitude of all those who were, are, or will be doing philological research in Oxford to the *Salus Mundi Foundation* and its chairman, Prof. A. Richard Diebold, who in 2004 generously endowed the Chair of Comparative Philology at the University of Oxford and thus secured the continuation of the discipline at a time in which it remains our foremost task to impart to our academic neighbours and colleagues outside philology something of the fascination we experience every day. If *OUWPLPP 11* succeeds in contributing its share to this cause, we shall have achieved what we are hoping for.

Andreas Willi

Greek Interference in Egyptian Latin

An Unusual Partitive Apposition Construction

J. N. Adams

From Roman military outposts in the Eastern Desert of Egypt there are turning up ostraca containing writing, mainly in Greek, but also in Latin. Those stationed in these remote places were communicating, it seems, largely in Greek, but Latin was in use partly as the language of command (Adams 2003a: 393-6, 608-9), and partly, among bilinguals, for informal communication alongside Greek. In the second volume of ostraca from *Mons Claudianus* (Bingen et al. 1997), for example, there are two informal letters (366, 367) from the same man to the same addressee, one in Greek, the other in Latin.¹ In such closed communities lexical and other types of borrowing are bound to have taken place between one language and the other, and syntactic interference must have occurred in both directions.² I am concerned in this note exclusively with one striking case of interference, in Latin from Greek, which as far as I am aware has not been noticed. The interference shows up in the construction known as ‘partitive apposition’.

Partitive apposition is represented by phrases of the type *socks, three pairs*. It is an alternative to the more usual genitival construction, in which the expression of quantity is placed first (*three pairs of socks*). In English, partitive apposition is somewhat contrived and might be expected to turn up mainly in formal inventories. In Latin, it seems to have been less formal and is quite common in lists of various kinds (e.g. Hofmann & Szantyr 1965: 57; Adams 1977: 42). In the example just given, the word for the ‘whole’ (*socks*) precedes the expression of quantity (the ‘part’, i.e. *three pairs*), and that is the invariable order in Latin (but see further below). I quote just one typical example:

- (1) *calices paria sex*
‘cups, six pairs’

(Claudianus Terentianus, *P. Mich.* VIII.468.17-18 (Youtie & Winter 1951))

However, in a Latin letter, probably of the late first or early second century,³ from Wâdi Fawâkhir (Guéraud 1942; Cugusi 1981) there is a remarkable reversal of the order:

¹ For a discussion of the pair, see Adams (2003a: 591-2).

² For Greek formulae translated into Latin, see Adams (1977: 4-5) and Cugusi (1981: 735-6). For syntactic interference of Greek in Latin (in Egypt), see Adams (2003a: 497). For lexical borrowing, see Adams (2003a: 443-7). For Latin influencing Greek (in the address system), see Dickey (2004).

³ On the date, see Cugusi (1981: 752-3).

- (2) *rogo te ut · emā[s] mī matium · salem*
 ‘I ask you to buy me a *matium* (of) salt’

(*O. Wādi Fawākhir* 2)

Here *salem* stands in the position that might have been expected in the genitive construction (*matium salis*, the alternative to the usual partitive construction *salem matium*).⁴ Fossilised partitive phrases containing *genus* (*hoc genus*, *id genus*) sometimes go to the head of the construction in literary Latin (Adams 2003b: 20), but I have not otherwise been able to parallel the above order in Latin.⁵

However, exactly this order is common in Greek from the same period and area. I list some examples:

- (3) ἔχεις δέκα ἡμέρας κομμιάτεν
 ‘You have ten days’ leave’

(*O. Flor.* 1 (Bagnall 1976))

- (4) εἶνα... τὸ πρόσλοιπον δώσομεν τὴν τειμὴν
 ‘so that we... can give the rest (of) the price’

(*O. Claud.* i.139 (Bingen et al. 1992))

- (5) καταγρα[φ]ὴν γράψις τοὺς ἐργάτας
 ‘Write a list (of) the workmen’

(*O. Claud.* i.141 (Bingen et al. 1992))

- (6) κομείσατε μ[αρ]σίππιν σείναπιν
 ‘Receive a bag (of) mustard’

(*O. Claud.* ii.227 (Bingen et al. 1997))

- (7) κομίσατε... σευτλία δέσμη γ’ καὶ ἄλλη(ν) δέσμην σέρις
 ‘Receive beets three bunch [*sic*] and another bunch (of) chicory’

(*O. Claud.* ii.228 (Bingen et al. 1997))⁶

⁴ Editors differ in the way they print the verb *emas* (see e.g. Cavenaile 1958: 403; Cugusi 1981: 724), but there is no uncertainty about the reading of the pair of nouns.

⁵ Cugusi (1981:747) discusses our example under the general heading of ‘partitive apposition’, but without observing its distinctive word order. He does, however, unknowingly cite a possible parallel from a fragment of Plautus cited by Nonius Marcellus (Lindsay 1903: iii.871): *ne tu postules matulam unam tibi aquam infundi in caput*. This reading is not accepted by Lindsay, who prints *aquai*. *Aquam* would be separated from the expression of quantity and the clause could be taken to have an anacoluthon rather than partitive apposition in the strict sense.

⁶ Here the reversal is in the second phrase. The editor says that σέρις is for σερίδων, but I take it that the form represents an accusative plural (= σέρις).

These are no ephemeral oddities. The partitive construction, with this same order, survives in Modern Greek,⁷ though in ‘more formal usage the genitive is often preferred’ (Holton et al. 1997: 345-6),⁸ e.g.:

(8) δυο κιλά πατάτες
‘two kilos of potatoes’

(9) δέκα τόνοι τσιμέντο
‘ten tons of cement’

(10) πλήθος γυναίκες
‘a crowd of women’

It now becomes obvious that Rustius Barbarus, the author of the Latin letter, has fallen into the word order that he was used to hearing around him (and no doubt using himself) in Greek.⁹ The structure of the phrase reveals clear cut interference from Greek.¹⁰

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⁷ See Harrison (2002: 51-2), remarking on the frequency of the partitive construction in the letters from Mons Claudianus and making the connection with Modern Greek, but without noting the distinctive word order.

⁸ Holton et al. give numerous examples of the partitive construction, including those quoted here.

⁹ Cugusi (1981: 747 n.123) cites a Greek example from Wâdi Fawâkhir with the same order, but without observing its significance for the order of the Latin example discussed here.

¹⁰ It is possible that there is another example of the same word order earlier in the same letter (*fasco coliclos*), but *fasco* is obscure. If it were a mistake for *fascem*, with omission of the final *-m*, the construction would again be partitive apposition. See Cugusi (1992: 65) on line 11 for the interpretation of *fasco* (but again without comment on the word order).

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If in Doubt, Leave it In

Subject Accusatives in Plautus and Terence

Wolfgang David Cirilo de Melo¹

Most modern linguists declare themselves to be descriptive rather than prescriptive. Rules concerning split infinitives or the difference between *who* and *whom* are generally considered *passé*. These are issues for people writing letters to the more conservative newspapers, but surely we do not get agitated about them. Or do we?

Actually, I suspect that most of us do; maybe not in our first languages, where we would consider such attitudes pedantic, but almost certainly in the languages we learn later in life. In fact, the distinction between descriptive and prescriptive linguistics inevitably gets blurred here: a second-language learner will at first be restricted to a single variety of the language, and as soon as we consider the question of which variety should be selected for description in a textbook we enter the domain of prescriptive linguistics.

Latin has never ceased to be used, but at the same time it has not been anyone's native language for centuries. The unfortunate result is that among the plethora of grammar books there are hardly any which do not contain – more or less overtly – a number of prescriptive elements and value judgments. It is easy to label constructions that are rare in Cicero or Caesar as 'archaic', 'poetic', or 'colloquial'. Yet all too often the tendency to pigeon-hole usages means that scholars stop looking for different, sometimes more adequate explanations.

A case in point is the topic of this article, the occasional absence of subject accusatives in Plautus (ca. 254-184 BC) and Terence (ca. 185-159 BC), which is supposed to be a colloquialism.² The accusative and infinitive construction, or AcI for short, is normally described as a subordinate clause whose subject is in the accusative and whose verb is in the infinitive. This 'regular' type is well-known from the classical period and is also frequent in early Latin:

- (1) (Crito is looking for the house of the deceased Chrysis.)

In hāc habitāsse plateā dictumst Chrýsidem.

'It was said that Chrysis used to live in this street.'

(Ter. *Andr.* 796³)

¹ I would like to thank Philomen Probert for making a number of very helpful suggestions on a draft of this paper. I am also grateful to the editors for their useful comments and queries.

² However, it is said to be regular (and thus stylistically neutral) if the same pronoun has already occurred in the clause so that the presence of a subject accusative would mean that the same form would be found twice; cf. Kühner & Stegmann (1962: i.701).

³ The abbreviations used are those found in the *Thesaurus linguae Latinae*.

- (2) (An old man has doubts about a doctor's qualifications.)

Nunc cōgitō

utrum mē dīcam dūcere medicum an fabrum.

‘Now I am wondering whether I should say that I am bringing a doctor or a stonecutter.’

(Plaut. *Men.* 886-7)

- (3) (Laches is talking about his son.)

Dīxīn, Phīdippe, hanc rem aegrē lātūrum esse eum?

‘Didn’t I say, Phidippus, that he would take this badly?’

(Ter. *Hec.* 497)

In all three examples, the superordinate verb is a form of *dīcere* ‘say’. The accusatives *Chrȳsidem* ‘Chrysis’, *mē* ‘me’, and *eum* ‘him’ are the subjects of the subordinate clauses. The dependent infinitives, *habitāsse* ‘to have lived’, *dūcere* ‘to bring’, and *lātūrum esse* ‘to be going to take it in a certain way’, select their tenses according to the temporal relationship between them and the superordinate verb; the perfect infinitive is used for anterior events, the present infinitive for simultaneous ones, and the future infinitive for posterior ones.⁴ In addition, the present infinitive can also be employed for posterior events in early Latin:

- (4) (A man is considering returning a slave-girl to her previous owner.)

Dīxit sē redhibēre sī nōn placeat.

‘He said he would take her back if I don’t like her.’

(Plaut. *Merc.* 419)

Redhibēre ‘taking her back’ would of course take place after making a statement to that effect. The subject accusative is the reflexive pronoun *sē* ‘himself’.

In all the examples we have seen so far, the infinitives have overtly expressed subjects, and these are in the accusative. Now just as main clause subjects, which are in the nominative, can be left unexpressed if it is clear who or what is referred to, there are also examples of our infinitive constructions without subject accusatives;⁵ I have again chosen forms of *dīcere* as governing verbs:

⁴ I cannot discuss infinitives of the type *impetrāsere* in this article, for which cf. de Melo (forthcoming a).

⁵ It may sound odd to speak of an AcI or ‘accusative and infinitive’ if there is no accusative, but I have retained the term AcI in order not to complicate matters.

- (5) (Chrysalus refuses to give any more advice.)

*Neque ego haud committam ut, sī quid peccātum siet,
fēcisse dīcās dē meā sententiā.*

‘I won’t take the risk that, if something has gone wrong, you say you acted on my advice.’

(Plaut. *Bacch.* 1037-8)

- (6) (Mercury has just been accused of lying.)

At iam faciam ut uērum dīcās dīcere.

‘But I shall take care that you will say I’m telling the truth.’

(Plaut. *Amph.* 345)

- (7) (A captive is about to fool an old man.)

*Sed utrum strictimne attōnsūrum dīcam esse an per pectinem
nesciō.*

‘But I don’t know whether I should say that he is going to give him a close shave or a shave through the comb.’

(Plaut. *Capt.* 268-9)

- (8) (A servant asks Menaechmus what she can tell her mistress.)

Dīcam cūrāre?

‘Should I say that you will see to it?’

(Plaut. *Men.* 538)

In none of these four examples is there a subject accusative. It is merely the context that tells us who is subject. Note that the subject accusative can be left out both when the subject of the superordinate verb and that of the infinitive are identical, as in (5), and when they differ, as in (6) to (8).⁶

Why is the accusative left out in these examples? Because subject accusatives are used so frequently in classical Latin, and presumably also because pupils learning Latin leave them out so often, their absence has come to be regarded as sloppy or even incorrect. School grammars treat bare infinitives instead of the accusative and infinitive as wrong; more scholarly works are more reserved, but still speak of a colloquialism, as a look at Hofmann & Szantyr (1965: ii.362), Kühner & Stegmann (1962: i.700-1), or Landgraf (1914: 129) shows. If this were correct, the bare infinitive ought to be restricted to colloquial registers. However, this does not seem to be true, as I shall argue in the following section. We are dealing with one of those cases where prescriptive and descriptive grammars have influenced each other: the usage was given a label which has negative connotations, and it has been regarded as wrong

⁶ Kühner & Stegmann (1962: i.701) point out that this is a strong argument that the construction should not be regarded as a Grecism. In Greek, omission of the subject accusative is very frequent if the two subjects are identical, but rare otherwise.

ever since. In the section after the discussion of register, I shall therefore adopt a discourse-based approach, which will turn out to yield better results. In this way I will also be able to explain some of the discoveries made by Sjögren (1906), Lindsay (1907), and Adams (1972), all of whom noticed a correlation between the tense of the infinitives and the absence of subject accusatives.

1. Is the Absence of Subject Accusatives Colloquial?

The only reliable way to determine the register of a form or construction is to examine its distribution patterns; a form or construction can be said to be colloquial if it is restricted to genres such as comedy, if it is frequent enough for this restriction to be statistically significant, and if there are synonymous expressions in other genres.⁷ There can be no doubt that subject accusatives are often missing in the most colloquial passages of Roman comedy; but this absence is also typical of those passages in comedy which are in an elevated style:

- (9) (Tyndarus is about to be punished by his new master for saving his old one. He is in a defiant mood.)

*Pol si⁸ istuc faxis, hau sine poenā fēceris,
si ille hūc rebītet, sicut cōnfīdo affore.*

‘Really, if you do this, you will not have done so without punishment if he comes back, as I trust he will be back.’

(Plaut. *Capt.* 695-6)

The tone of the scene as a whole is solemn. Tyndarus knows that he is about to face severe punishment because he has helped his old master, but he prefers suffering from injustice to being guilty of it. The serious content of the passage has linguistic repercussions. Lindsay (1900: 273) notes that ‘the metre, as well as the language, of a great part of the scene has more of the tragic than the comic style.’ Note also the high-register form *faxis* ‘you will have done’ in the quotation itself; sigmatic futures in subordinate clauses function like future perfects, but convey an elevated tone as well.⁹

What is more important than the distribution over the various types of passages in comedy is the distribution over the various genres in early Latin. Colloquialisms are largely absent from tragedy, and if a construction is attested there, this is strong evidence that it is not a colloquialism. And indeed, subject accusatives are often omitted in tragedy, as a few examples will show:

⁷ Cf. also Adams, Lapidge & Reinhardt (2005: 3).

⁸ If this word were said in isolation, the final vowel would be long. Here it is elided.

⁹ Cf. Happ (1967) on the register of sigmatic forms in general, and de Melo (2002: 167-8) on that of the sigmatic futures in particular.

- (10) (Orestes is confident that he has done what is right.)

Id ego aecum ac iūstum fēcissē¹⁰ expedībo atque ēloquar.

‘I shall set out and say that I did this as something fair and just.’¹¹

(Enn. scaen. 148 Jocelyn)

- (11) (Ulysses, who has been wounded by Telegonus, is addressed by the chorus.¹²)

*Tū quoque Vlixēs, quamquam grauiter
cernimus ictum, nimis paene animō es
mollī, quī cōnsuētus in armīs
aeuom agere.*

‘You too, Ulysses, although we can see that you are heavily afflicted, are almost of too soft a spirit, you, a man used to spending his life under arms.’

(Pacuv. trag. 259-62)

- (12) (Teucer wants to prove his innocence to Telamon.¹³)

*Numquam erit tam immānis, cum nōn mea opera extīnctum sciat,
quīn fragēscat.*

‘He will never be so savage that he will not become subdued when he knows that the man was not destroyed through my doing.’

(Acc. trag. 337-8)

(10) comes from Ennius. The omitted subject of the infinitive is the same as that of the finite verbs. In (11) from Pacuvius, by contrast, there is a difference of subjects: the subject of *cernimus* ‘we can see’ is the chorus, and that of *ictum* ‘afflicted’ is Orestes; note that not only the subject accusative has been left out, but also the copula *esse* ‘be’. (12) from Accius is similar. The subjects are different and the infinitive is a perfect passive infinitive without copula.

Absence of subject accusatives occurs after the archaic period as well. One example from Livy should suffice here:

¹⁰ For the hiatus cf. Jocelyn (1967: 289).

¹¹ Jocelyn (1967: 289) comments that the absence of a subject accusative will not lead to confusion because the context makes it clear who is being referred to. Here it is obvious that the subject of the infinitive is Orestes, even if we follow Warmington (1956: 271), who believes that the subject of the finite verbs is Apollo.

¹² Cf. also D’Anna (1967: 268).

¹³ For a more detailed discussion of the passage cf. Dangel (1995: 329).

(13) (The crowds want Marcus Manlius Capitolinus to be released.)

Iam nē nocte quidem turba ex eō locō dīlābēbātur refrāctūrōsque carcerem minābantur.

‘By that time the crowd did not even go away from this place at night and they were threatening that they would break open the jail.’

(Liv. 6. 17. 6)

This is a piece of prose in a neutral style. I cannot detect any colloquialisms. The first verb, *dīlābēbātur* ‘it went away’, is in the singular because it agrees with *turba* ‘the crowd’. The next verb, *minābantur* ‘they threatened’, has the same group of people as subject, but is in the plural (*cōnstrūctiō ad sēnsū*). The infinitive, again without copula, has plural agreement as well and is without subject accusative.

The evidence I have presented is just a selection of examples I came across. The distribution patterns do not speak for a colloquialism. Thus, Lebreton (1901: 378), who mainly looked at Ciceronian data, was certainly right when he called this ‘*une construction vraiment latine et non pas une incorrection ou un hellénisme*’.¹⁴

2. A Discourse-based Approach

If register is irrelevant for the presence or absence of subject accusatives, we have to look at other factors. Kühner & Stegmann (1962: i.701) claim that the tense and voice of the infinitive do not matter either, but they do not present any data. However, several scholars who have examined individual authors claim that omission of subject accusatives is more frequent in some tenses than in others. Lindsay (1907: 73) states that omission is particularly frequent with present infinitives, but he does not give any evidence. Some data can be found in Sjögren (1906: 57), according to whom this phenomenon is not equally frequent with all types of present infinitives, but especially those which have future reference. At least in literary Latin, present infinitives with future force became very rare after the archaic period and therefore they play no role in studies dealing with classical Latin. Adams (1972: 371), looking at Tacitus’ works, notes that in the *Histories* the reflexive *sē* is left out quite frequently with future infinitives, while in the *Annals*, which were written later, the pronoun is often absent regardless of the tense.

Such tense-based asymmetries in the use of subject accusatives make it rather unlikely that we are dealing with register differences. But why should tense have an influence on whether or not there are subject accusatives? Is this not counter-intuitive? I shall argue below that there is a simple, discourse-based explanation for these tense-based asymmetries. First, however, a few general remarks seem in order. One of the Gricean maxims of conversation states that neither more nor less information than necessary should be given. If we assume that

¹⁴ That is, we are dealing with ‘a truly Latin construction, not a mistake or a Grecism’.

this maxim applies to AcI constructions as well, we can set up a simple hierarchy: noun phrase < pronoun < Ø, where $x < y$ means that the entity referred to by y is more likely to be inferable than that referred to by x . I assume that speakers will sometimes be uncertain whether a noun phrase or a pronoun is more appropriate, or whether a pronoun or absence of a pronoun, but that there is no real choice between a noun phrase and total absence of a subject accusative. For this reason, I shall compare AcIs with pronouns to those without accusatives, but I shall leave AcIs with noun phrases out of the discussion.

With these remarks I have already begun asking what I should count in a study of AcI constructions and how I should categorize them, a topic I will go into in more detail now.

2.1. How Should the AcIs Be Classified?

Counting and categorizing accusative and infinitive constructions may seem a dull but at least straightforward task. Unfortunately, it is not even always as straightforward as it appears to be. The first thing to note is that some nouns, like *rēs* ‘thing’, do not have much semantic content and are thus close to pronouns in that they are used for more inferable entities than the average noun. Some pronouns, on the other hand, are emphatic and thus unlikely to be left out, just like most nouns. For instance, if a pronoun like *is* ‘this’ is used contrastively, it can hardly be left out; other pronouns like *ipse* ‘himself’ are presumably inherently emphatic. What is more, relative pronouns can never be left out. This means that we have to modify the above hierarchy somewhat. I have treated all noun phrases as impossible to leave out and thus as irrelevant here. Similarly, I have treated all pronouns except for *is*, *hic*, *iste*, and *ille* in the same way. Where these four pronouns head relative clauses or other constructions, I have also treated them like nouns, that is, as impossible to leave out. Thus, I am merely contrasting simple *is*, *hic*, *iste*, and *ille* with lack of subject accusatives.

But we have not yet reached the end of the problems. When should we say that a subject accusative is absent? A few examples will demonstrate this difficulty:

- (14) (The master is needed for a financial transaction with a stranger. A slave says he will bring him along.)

Ego mē dīxeram adductūrum et mē domī praestō fore.

‘I told him that I would bring him along and that I would be at home waiting.’

(Plaut. *Asin.* 356)

- (15) (An accusation levelled against Terence was that others wrote for him.)

Istī dīcunt maleuoli, hominēs nōbilīs

hunc adiūtāre assiduēque ūnā scrībere.

‘Those malicious people say that members of the nobility assist him and constantly write together with him.’

(Ter. *Ad.* 15-16)

- (16) (Philito's son wants to marry a girl, but she does not have a dowry. Two old men are discussing how to remedy the situation.)

Post adeās tūte Philtōnem et dōtem dare

te ei dīcās, facere id eius ob amīcitiam patris.

‘Afterwards you should go to Philito and say to him that you are providing the dowry, that you are doing this out of friendship with her father.’

(Plaut. *Trin.* 736-7)

Example (14) is easy: there are two infinitives with the same subject, and the subject accusative, *mē* ‘I’, is used twice. I classify examples like this as having two AcI constructions, each with a subject accusative. (15) is different. There are two infinitives, *adiūtāre* ‘assist’ and *scrībere* ‘write’, both with the same subject, but the subject accusative *hominēs nōbilīs* ‘members of the nobility’ occurs only once. Should we say that the second infinitive is an AcI without subject accusative? I have categorized both AcIs as having subject accusatives because they are co-ordinated with a connective, *-que* ‘and’. In (16) there is no such connective and the subject accusative *tē* ‘you’ occurs only once. In cases like this I have treated the first AcI as having a subject accusative and the second as being without one.

The infinitives themselves can be problematic too. In the tables below I distinguish between perfect, present, and future infinitives. Among the present infinitives I draw a further distinction: that between present infinitives with present force and present infinitives with future reference. How should *nōuisse* ‘know’ and *ōdisse* ‘hate’ be treated? Semantically they are presents, yet morphologically they are perfects. Since I draw a semantic distinction between two types of present infinitives, those with present and those with future meaning, I have given preference to semantics here as well. I counted *nōuisse* and *ōdisse* as presents rather than as perfects, but doing the opposite would not change the results greatly.

The voice of the infinitive also matters. Again, there are some problematic cases, for instance *perīre* ‘perish’ and *sequī* ‘follow’. The former is active in form, but usually substitutes for the passive of *perdere* ‘destroy’, while the latter is passive in form, but has active meaning. As will become apparent below, it is morphology rather than meaning that exerts influence on the omission of subject accusatives in the future and the perfect, and for this reason I classified *perīre* as active and *sequī* as (medio-)passive, as against *nōuisse* and *ōdisse*, where a classification based on semantic criteria was preferred.

Finally, I should point out that I have not counted all AcIs in Plautus and Terence. I have only looked at a sample, namely those dependent on twenty superordinate verbs: *adiūrō* ‘I swear’, *aiō* ‘I say’, *arbitror* ‘I think’, *audiō* ‘I hear’, *autumō* ‘I claim’, *cēnseō* ‘I think’, *cōnfīdō* ‘I trust’, *crēdō* ‘I believe’, *dēnegō* ‘I deny’, *dīcō* ‘I say’, *interminor* ‘I threaten’, *iūrō* ‘I swear’ (with *iūs iūrandum dō* ‘I give an oath’), *minor* ‘I threaten’, *negō* ‘I deny’, *polliceor* ‘I promise’, *prōmittō* ‘I promise’, *reprōmittō* ‘I promise in return’, *sciō* ‘I know’ (without *scīlicet* ‘of course’, which can also govern AcIs), *spērō* ‘I hope’, and *uoueō* ‘I vow’. All the

present and future infinitives selected by these verbs can be found in de Melo (2004: ii.50-82), where they are categorized with regard to tense, voice, and presence and absence of subject accusatives. Space does not allow me to list all the perfect infinitives here, but in the appendix at the end of this article I list the cases that might pose some problems and I state how I have classified them.

2.2. Data and Interpretation

Now that I have discussed what I count and how I classify what I count, I can finally present the data. Table 1 shows how many AcIs belong to each tense, and how often subject accusatives are absent:

Table 1: AcIs with and without pronouns classified according to tense

	With <i>is, hic, iste, or ille</i>	Without accusatives	Total	Percentage of AcIs without accusatives
Perfect	207	84	291	28.87
Present	405	109	514	21.21
Future	103	51	154	33.12
Present with future meaning	34	36	70	51.43

As we can see from this table, previous researchers were right: tense choice clearly matters for the presence or absence of subject accusatives. But why should this be the case? Does it have anything to do with the semantics of the tenses? If so, why is the accusative left out in around 20% of the tokens if there is a present infinitive, while perfect and future go together in that the accusative is left out in around 30% of the tokens? What semantic features are shared by perfect and future infinitives? And why is the accusative absent even more often, in half of the tokens, if the infinitive belongs to the present tense, but has future reference?

The patterns seem clear enough, but difficult to explain. This is why I have brought in another factor in table 2, namely voice; voice has never been considered in connection with subject accusatives, but it does make a difference:

Table 2: AcIs with and without pronouns classified according to tense and voice

	With <i>is, hic, iste, or ille</i>	Without accusatives	Total	Percentage of AcIs without accusatives
Perfect active	139	43	182	23.63
Perfect (medio-) passive	68	41	109	37.61
Present active	366	100	466	21.46
Present (medio-) passive	39	9	48	18.75
Future active	101	50	151	33.11
Future (medio-) passive	2	1	3	33.33 (insufficient data)
Present with future meaning, active	32	35	67	52.24
Present with future meaning, (medio-) passive	2	1	3	33.33 (insufficient data)

At first sight this table might seem to make things worse. The perfect active now patterns with present active and (medio-)passive; in all three combinations of tense and voice, omission of subject accusatives occurs in around 20% of the cases. The perfect (medio-)passive, however, does not pattern with its active counterpart, but with the future active; omission of subject accusatives occurs in around 35% of the cases here.

On closer inspection, though, the patterns turn out to make sense. I shall not discuss the future (medio-)passive infinitive and the present (medio-)passive infinitive with future force because in each case there are only three tokens. This leaves me with six combinations of tense and voice. It seems quite intuitive that a subject accusative can be left out more easily if the speaker assumes that the hearers will be able to identify the subject nevertheless; if there are doubts about the identifiability of the subject, the accusative will have to be used. If the infinitive is in the present active, present (medio-)passive, or perfect active, the subject

accusative is left out in around 20% of the cases. In these 20% of the forms, the surrounding context is sufficient for the hearer to identify the subject without difficulty.

If the infinitive is in the perfect (medio-)passive or the future active, omission is much more frequent and can be seen in around 35% of all cases. Why should this be so? What makes it easier to identify the subjects of these infinitives? It is the morphology of the infinitives that helps in addition to the surrounding context:

- (17) (Two men are discussing the marriage between one's son and the other's daughter.)

Dēspōnsam quoque ēsse dīcitō.

‘Also say that she is engaged.’

(Ter. *Haut.* 866)

- (18) (Ampelisca was asked to get some water.)

Ego quod mihi imperāuit

sacerdōs, id faciam atque hinc de proxumō rogābō.

Nam extemplō, sī uerbīs suīs peterem, datūrōs dīxit.

‘I will do what the priestess ordered me to do, and I will ask for water from here from the neighbourhood. For she said that if I were to ask in her name, they would give it immediately.’

(Plaut. *Rud.* 403-5)

In (17) we have a perfect passive infinitive and in (18), a future active infinitive. Each consists of a participle, which is often combined with the copula as in (17), but which can also stand on its own as in (18). Since participles are marked for gender and number, the likelihood that an addressee will be able to identify the subject increases greatly. In (17), the arrangements for the marriage are discussed, and the daughter is still on the addressee's mind. However, the last time she was referred to as *fīlia* ‘daughter’ was twenty lines before. Still, as the passive participle *dēspōnsam* ‘engaged’ is marked as feminine singular, it is clear who is referred to. In (18), the neighbourhood is mentioned, but not the neighbours themselves. That they are the subject of the infinitive can be inferred not only from the previous sentence, but also from the fact that the future participle *datūrōs* ‘going to give’ is marked as masculine plural.

Non-agreement in the future is quite rare; there are two types:

- (19) (Casina fights against being married against her will.)

Per omnīs deōs et deās dēierāuit,

occīsūrum eum hāc nocte quīcum cubāret.

‘She swore by all the gods and goddesses that she would kill the man who she would sleep with this night.’

(Plaut. *Cas.* 670-1)

(20) (Ballio does not have a high opinion of Pseudolus.)

Vēro in pistrīnō crēdo, ut conuēnit, fore.

‘But I believe he will be in the mill, as was agreed upon.’

(Plaut. *Pseud.* 1060)

In (19) the participle does not agree with the subject in gender – the participle looks like a neuter singular form, while the subject is feminine singular. This non-agreeing type, which was already remarked on by Gellius (1. 7. 6-8), is probably the oldest form of the future infinitive, *pace* Leumann (1977: 316 or 618).¹⁵ Although the manuscript tradition may of course have obliterated some of these old infinitives, the large majority of future infinitives with the suffix *-tūr-* certainly agreed with their subject accusatives in Plautus and Terence. (20) is different. The form *fore* was grammaticalized as a future infinitive, even though from a morphological point of view it is a present infinitive; because of its morphology it cannot agree with the subject accusative. However, *fore* is often combined with an adjective, and this adjective will agree in gender and number with the subject of the infinitive, even if the subject is not expressed. Thus, the two types of non-agreeing future infinitives cannot have a big impact on the statistics.

This leaves me with the present active infinitive with future reference. Here the subject accusatives are left out in circa 50% of all the tokens. This is quite an unexpected finding if we consider that among the present active infinitives with present meaning the accusatives are left out in only 20% of all the tokens. What is the reason for this? It cannot be the morphology of the infinitives.

I argue elsewhere (de Melo forthcoming *b*) that the present infinitive with future meaning is not in free variation with the future infinitive. Future infinitives can be used without restrictions, but the present infinitive with future force is practically confined to telic events,¹⁶ and, more importantly in this context, undergoes another restriction process: unlike all other infinitives, present infinitives with future meaning are quite rare if the subjects of the superordinate verbs are different from the subjects of the infinitives. Among the 80 present infinitives with future force examined in de Melo (forthcoming *b*), 62, that is 77.5%, have the same subject for both verbs.¹⁷ Since in most cases the subject of the infinitive is the same as that of the superordinate verb, subject accusatives can be predicted with a high degree of accuracy and are thus frequently left out. The contrast to other infinitives is striking: among

¹⁵ Its derivation is still problematic. Neither Postgate’s theories (1894 and 1904) nor Blümel’s (1979: 104-6) are satisfactory.

¹⁶ Before the creation of future infinitives, the ‘present’ infinitives were actually non-past infinitives. The distinction between present and future is easy to draw among atelic events, cf. *I think John is swimming* vs. *I think John is going to swim*. It is more difficult to draw among telic ones, cf. *I think John is leaving* vs. *I think John is going to leave*, where *is leaving* can have present or future reference. Thus, the use of future infinitives for future events became obligatory among atelic events earlier than among telic ones.

¹⁷ In this count I include all AcIs, that is, also those with nominal subject accusatives.

future infinitives, the two subjects are identical in 31.10% of the cases (65 out of 209 tokens); among present infinitives with present meaning, in 21.24% of the cases (158 out of 744 tokens); and among perfect infinitives, in 27.25% of the cases (115 out of 422 tokens).¹⁸ Consequently, no such predictions can be made for these other infinitives.

3. Conclusions

In Latin AcIs, subject accusatives can be left out under certain conditions. My aim in this paper was to argue that this ellipsis is not colloquial, but should be regarded as conditioned by discourse factors. It was under the influence of prescriptive grammar that the absence of subject accusatives came to be regarded as colloquial. A closer look at the distribution of this type of ellipsis, however, makes it more likely that it is stylistically neutral; within early Latin, we find it not only in comedy, but also in tragedy, and outside early Latin the construction occurs in Cicero, the historians, and many other authors.

If the presence or absence of subject accusatives is not determined by register, there must be other factors at work. These factors seem to be discourse-related. The more likely a listener is to understand what the subject of an infinitive is, the more easily this subject can be left out. If the speaker has doubts whether the addressee will understand what the subject is, he or she will probably leave the subject accusative in.

Subject accusatives are more likely to be left out in some combinations of tense and voice than in others. While this may seem puzzling at first, it can be explained by the same principles of discourse. In the present active and (medio-)passive and in the perfect active, subject accusatives are absent in around 20% of the cases. In the perfect (medio-)passive and the future active, this figure is around 35%. The explanation is that perfect (medio-)passive and future active infinitives consist of bare participles or of the copula in combination with participles, and the participles are marked for the gender and number of their subjects. This makes it easier to recover the subjects even if the subject accusatives are absent. The present active infinitive with future meaning has the greatest number of missing subject accusatives; they are absent in around 50% of the tokens. Present infinitives with present reference behave differently, so the discrepancy calls for an explanation. Such an explanation is indeed possible. The present infinitive with future reference is gradually dying out in early Latin, and its obsolescence is accompanied by some restriction processes: the most important one here is that in more than three-quarters of the tokens, the subject of the finite verb and that of the infinitive are identical. In most cases this makes it simple to identify the subjects of the infinitives, and hence they are left out most frequently here.

¹⁸ The data for future and present infinitives are taken from de Melo (2004: i.155 and 157), but I have added the type *nōuī* to the presents and have also included two present infinitives which were not counted in de Melo (2004).

I have restricted myself to Plautus and Terence. It would be interesting, however, to see if the absence of subject accusatives is equally frequent in later authors and if it follows the same principles. If not, it would be worthwhile to trace the developments and to look for a rationale behind the regularities that can be observed in later Latin.

Appendix: Problematic AcIs and Excluded Material

The relevant present and future infinitives are collected in de Melo (2004: ii.50-82); only two infinitives need to be added to the list there, *largīrī* (*Trin.* 742) and *sistere* (*Trin.* 743).¹⁹ I shall therefore focus on the perfect infinitives here.

I exclude tokens from the *argumenta*, but include those from the *alter exitus* of the *Andria*. I exclude nominative and infinitive constructions.

Sometimes it is difficult to distinguish between passive participles and adjectives; *esse... mortuom* in *Stich.* 640 is a perfect infinitive, but *esse... mortuam* in *Persa* 356 contains a present infinitive and an adjective. I also regard the following forms as adjectives or adjectivally used participles rather than as participles that are part of past infinitives: *dēuīnctum* (*Andr.* 561), *mortuom* (*Truc.* 165), *nātam* (*Cist.* 604), *parātās* (*Andr.* 341), *parātum* (*Andr.* 316, *Eun.* 969).

I take *respōnsum* in *Pseud.* 480 as a noun rather than a past participle. Similarly, *uīnctōs nescioquōs* in *Asin.* 285 is a direct object noun phrase rather than a short AcI.

I also exclude the following infinitives: *abūsōs* (*Bacch.* 360, the governing verb *scīuerit* belongs to *scīscere* rather than *scīre*), *esse* (*Poen.* 465, dependent on *portendī*, though it could arguably depend on *aibat* instead), *excucurrisse* (*Bacch.* 359, the governing verb *scīuerit* belongs to *scīscere* rather than *scīre*), *fuisse* (*Vid.* 82, merely a conjecture), *lāuisse* (*Rud.* 537, textually problematic), *nōsse* (*Ad.* 648, dependent on *ut opīnor*), *uēnisse* (*Most.* 1123, the governing verb *dīxit* is a conjecture).

I count the following as AcIs with the same subjects as the superordinate verbs and with pronominal accusatives: *ēmisse* (*Merc.* 208, *mē* is a metrically required conjecture), *fēcisse* (*Rud.* 197a, with a subject accusative *mē... aut parentēs*, which is not entirely pronominal, but *aut parentēs* appears like an afterthought), *nuptam* (*Men.* 602, *aiō* has to be understood from preceding *ais*), *perditum... esse* (*Curc.* 135-6, I take *tē* with this infinitive rather than with *lubet*), *periisse* (*dīcō* or *dīcam* can be supplied from the preceding context), *uīdisse* (*Mil.* 402, I take *mē* with this infinitive; *Phorm.* 199, *aiō* has to be understood from preceding *quid ais?*).

¹⁹ They were mentioned in de Melo (2004: ii.63, footnote 208), but left out of the final count.

I count the following as AcIs with the same subjects as the superordinate verbs, but without subject accusatives: *fēcisse* (*Eun.* 513, Kauer and Lindsay delete *sē* for metrical reasons), *uīdisse* (*Mil.* 403, I take *mē* with the preceding infinitive).

I count the following as AcIs with different subjects as the superordinate verbs and with pronominal accusatives: *esse captam* (*Haut.* 608, *dītem et nōbilem* is predicative), *factum* (*Epid.* 207, *hoc* is a conjecture required by the metre), *surrupuisse* (*Men.* 941, the superordinate verb *sciō* is a safe conjecture, compare the following lines).

I count the following as AcIs with different subjects as the superordinate verbs, but without subject accusatives: *abiisse* (*Men.* 556, I construe *mē* with *sequantur* rather than with the infinitive), *aedificātās* (*Merc.* 902, this clause begins with *pulchrē*, not before), *concubuisse* (*Hec.* 393, Kauer and Lindsay delete *eam* for metrical reasons), *īsse* (*Hec.* 76, I take *mē* with *quaeret*), *prōgnātam* (*Phorm.* 115, *bonam* is predicative), *surruptāsque esse* (*Poen.* 1101, *filiās... tuās* and *paruolās* are predicative).

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The Use of Latin *sis* as a Focus-marking Clitic Particle

Eleanor Dickey

The Latin phrase *sis*, a contraction of *si vis* ‘if you wish’, is common in Roman comedy, where it is traditionally translated with ‘please’. It is normally discussed in the contexts of colloquial language, politeness formulae, and intensifiers (e.g. Hofmann 1951: 132-3, Adams 1984: 67-8). What has not been noticed, however, are the major differences between the way Plautus and Terence use *sis* and the way they use other common polite modifiers of directives.¹

There are four terms commonly found with directives in Plautus and Terence: *obsecro* ‘I beg’ (303 examples), *quaeso* ‘I ask’ (201 examples), *sis* (133 examples), and *amabo* ‘I shall love’ (106 examples).² *Obsecro*, *quaeso*, and *amabo* are notably versatile in terms of the range of constructions with which they are found: all three are attested in comedy with imperatives, with subjunctives (with *ut*, *ne*, or no introductory word), with questions in the indicative, with statements in the indicative, without any main verb at all, and sometimes with other constructions. But *sis* has a much more restricted usage: in 98% of its occurrences in Plautus and Terence it is found with imperatives, and the remaining examples³ are all with prohibitive or hortatory subjunctives.

Moreover, while *obsecro*, *quaeso*, and *amabo* can either precede or follow the request, question, or statement to which they are attached, with something of a preference in the case of the first two words for preceding,⁴ *sis* follows its imperative 88% of the time. And while the other terms frequently occur at the very beginning of a sentence or clause,⁵ *sis* is never found in initial position, or even at the beginning of a colon subordinate to a clause: it is completely postpositive. In fact, unlike the other three terms, *sis* does not function as a self-standing word at all; its role seems more to be that of a particle attached to imperatives.

¹ I am very grateful to J. N. Adams for suggesting the idea on which this paper is based and for insightful comments on the data. Throughout this paper the *OLD* standard abbreviations are used for Plautus, Terence, and their works.

² These figures include all occurrences in Plautus and Terence, not only occurrences with directives; the latter figures would be *obsecro* 178, *quaeso* 135, *sis* 133, *amabo* 63.

³ Pl. *Pers.* 572 *ne sis ferro parseris*, 793 *ne sis me uno digito attigeris*, *As.* 828 *age decumbamus sis*.

⁴ Of course, all these words are often embedded in the midst of sentences, so I have counted an example of *obsecro* etc. as preceding if it precedes the main verb of the request / question / statement (or, if there is no verb, the most important words of the utterance). Calculated in this manner, *obsecro* precedes the utterance to which it is attached 60% of the time (182 of 303 examples), *quaeso* precedes 64% of the time (128 of 201), and *amabo* precedes 43% of the time (46 of 106).

⁵ *Obsecro* is so located 71 times in Plautus and Terence (23% of examples), *quaeso* 60 times (30%), and *amabo* 20 times (19%).

In addition to its obvious enclitics *-que*, *-ne*, and *-ve*, Latin has a number of words that, while always written separately and quite possibly accented in speech, have certain characteristics typical of enclitics, including a preference for location either in the ‘Wackernagel position’ of second word in the sentence or immediately after a word to which they apply; *enim* ‘indeed’ is an example of the first type and *quidem* ‘indeed’ of the second type. In an extensive study of the enclitic use of forms of *esse* ‘be’ and of the oblique cases of personal pronouns, Adams (1994a, b) has shown that these forms, whatever their exact accentual status may have been, functioned as focus-marking clitic particles. The behaviour of *sis* indicates that it too may be such a marker.

The term ‘focus’ can mean many different things. Adams follows the use of the term in Quirk et al. (1985) and von Stechow & Wunderlich (1991) and explains his meaning (1994a: 18-19) with Quirk’s example ‘I am painting the living room blue’, in which the word *blue* would normally carry the focus in English. That focus could be shifted onto a different word by a change of intonation: one could say ‘I *am* painting the living room blue’ (for example in response to ‘Surely you’re not painting the living room blue?’) or ‘I am painting the *living* room blue’ (for example in a contrastive context like ‘I am painting the *living* room blue, not the *dining* room’). It is important to note that this use of ‘focus’ does not match its use, perhaps more common in certain disciplines, for the new information that is given or the comment that is made about an already stated topic (in other words, this focus is not part of a topic / focus division of sentences). To use Adams’ example, one could say, ‘Here comes John. I will give *him* the job’: in this situation *him* is not new information, but it does carry the focus of the second sentence.

Using this definition of focus, Adams shows that Latin personal pronouns and forms of *esse* do not consistently seek out the Wackernagel position in the sentence, but rather have a tendency to follow the word with focus and in so doing mark that focus. (The result of this tendency, however, is often a position as the second word in the sentence or colon, because the focused word often comes first.) It is clear that *sis* also follows this pattern: in 72% of its occurrences it comes immediately after its imperative,⁶ and imperatives are by nature focused (Adams 1994b: 128). Another 21% of the time it follows demonstrative pronouns⁷ or negatives,⁸ both of which are standardly carriers of focus (Adams 1994a: 9-13, 25-8, 37-40;

⁶ 96 examples: Pl. *Am.* 360, 585, 787, 845, 982, *As.* 42, 93, 679, 732, 828 (actually not an imperative but a subjunctive), *Aul.* 103, 584, 660, *Bac.* 402, 857, 995, 1118, *Capt.* 179, 584, 643, 883, *Cas.* 204, 205, 401, 749, 846, 965, *Cist.* 300, *Curc.* 253, 521, 687, *Epid.* 668, *Mer.* 324, 542, 922, 951, *Mil.* 182, 1111, 1245, *Mos.* 569, 849, 892, 966, 1109, *Pers.* 316, 389, 413, 422, 594, 600, 610, 670, 763, 816, *Poen.* 225, 292, 315, 329, 358, 578, 761, 1023, 1084, 1292, 1407, 1422, *Ps.* 48, 200, 469, 663, 665, 839, 1143, 1230, *Rud.* 828, 945, 1002, 1088, 1375, *St.* 37, 604, *Trin.* 513, 555, 650, 972, 1011, *Truc.* 262, 809; Ter. *Eu.* 311, 756, 798, 904, *Hau.* 212, 369, 374, *Ph.* 59.

⁷ 24 examples: Pl. *Am.* 778, *As.* 677, *Aul.* 46, 634, 638, *Bac.* 137, *Cas.* 379, 794, *Cist.* 55, *Epid.* 345, 475, *Mer.* 169, *Mil.* 200, *Pers.* 321, 437, 691, *Poen.* 376, 713, *Ps.* 152, 954, *Rud.* 465, 1053, 1073, Ter. *Ad.* 766.

⁸ 4 examples, all with the negative *ne*: Pl. *Mer.* 321, *Pers.* 572, 656, 792.

1994b: 122-4, 126-7), so that *sis* comes immediately after a word that is obviously focused 93% of the time.

Adams points out (1994a: 11, 46-7) that a word with a tendency to displace a clitic so as to appear before it is likely to be itself a focus-marking clitic. *Sis* clearly displays that tendency: when both *sis* and a personal pronoun in an oblique case are attached to the same focused word, *sis* comes first 83% of the time.⁹ This figure indicates that the clitic nature of *sis* is even more pronounced than that of the oblique personal pronouns, the classic examples of Latin clitics. Such greater clitic stature is also indicated by the fact that personal pronouns, even in oblique cases, occasionally begin a sentence or colon, whereas *sis* never does so.

Another indication of the clitic and focus-marking tendency of *sis* can be found by examining the prohibitions to which it is attached. In prohibitions the focus is naturally on the prohibitive word (e.g. *ne* ‘don’t’, *noli* ‘don’t’, *cave* ‘be careful not to’) rather than on the verb indicating the action that is prohibited, even if the latter is the imperative. It is notable that *sis* always follows the negative word in prohibitions; this tendency is perhaps unsurprising when that word is *cave* or *noli*,¹⁰ as these are themselves imperatives, but it is clearly significant that on every occasion in the works of Plautus or Terence when a prohibition is formed with *ne* and an imperative or subjunctive, *sis* attaches to the *ne* rather than to the verb.¹¹

Yet another indication of the focus-marking tendencies of *sis* can be found by examining the 12% of occurrences in which it precedes the verb to which it relates. Such an order occurs only in three types of circumstance: when *sis* follows *ne*, as in the passages just discussed; when *sis* follows a demonstrative that is the object of the imperative but has been placed before it in order to accentuate its focus;¹² and when *sis* follows another focused word that begins a colon.¹³

Lastly, the tendency for *sis* to mark focus can be seen from the small number of passages in which the word it follows is not one that normally carries focus. In most of these passages the word followed by *sis* is, in context, unusually important and very likely to be focused.

⁹ 10 examples with *sis* first (Pl. *Aul.* 584 *cave sis tibi*, *Mer.* 321 *ne sis me obiurga*, *Pers.* 422 *cedo sis mihi*, 793 *ne sis me uno digito attigeris*, *Poen.* 1292 *tene sis me*, *Ps.* 1143 *cave sis tibi*, 1230 *sequere sis me*, *Rud.* 1375 *cedo sis mihi*, *St.* 604 *cave sis tu tibi*, *Trin.* 1011 *cave sis tibi*) versus 2 with the pronoun first (Pl. *Ps.* 240 *mitte me sis*, *Trin.* 838 *apage a me sis*).

¹⁰ 10 examples: Pl. *Aul.* 660 *cave sis recipias*, *Bac.* 402 *cave sis te superare servom siris*, *Cas.* 205 *noli sis tu illi advorsari*, *Cist.* 300 *cave sis cum Amore tu umquam bellum sumpseris*, *Mil.* 1245 *cave sis faxis*, *Pers.* 389 *cave sis tu istuc dixeris*, 816 *cave sis me attigas*, *Poen.* 1023 *cave sis feceris*, *Trin.* 513 *cave sis feceris*, 555 *cave sis dixeris*.

¹¹ 4 examples: Pl. *Mer.* 321 *ne sis me obiurga*, *Pers.* 572 *ne sis ferro parseris*, 656 *ne sis plora*, 793 *ne sis me uno digito attigeris*.

¹² 8 examples, all with *vide*: Pl. *Aul.* 46 *illuc sis vide*, *Bac.* 137 *illuc sis vide*, *Cist.* 55 *hoc sis vide*, *Mer.* 169 *hoc sis vide*, *Mil.* 200 *illuc sis vide*, *Ps.* 152 *hoc sis vide*, *Ps.* 954 *illuc sis vide*, *Ter. Ad.* 766 *illud sis vide*.

¹³ 4 examples: Pl. *Am.* 285 *modo sis veni huc*, *Ps.* 892 *subolem sis vide*, 1296 *molliter sis tene me*, *Truc.* 525 *savium sis pete hinc*.

Thus in the requests *molliter sis tene me, cave ne cadam* ‘hold me softly, be careful that I don’t fall’ (Pl. *Ps.* 1296), *savium sis pete hinc* ‘seek a kiss from here’ (Pl. *Truc.* 525), and *subolem sis vide* ‘look at the youngster’ (Pl. *Ps.* 892), the focus must be on *molliter* ‘softly’, *savium* ‘kiss’, and *subolem* ‘youngster’. Less obvious but equally certain is the focus on *culina* ‘kitchen’ in *exi e culina sis foras, mastigia* ‘come outdoors out of the kitchen, you whipping-post’ (Pl. *Mos.* 1), for *culina* forms an antithesis with *rus* ‘country’ in the next speech;¹⁴ similarly *ergo* ‘therefore’ in *cave ergo sis malo* ‘therefore look out for danger’ (Pl. *Pers.* 835) is antithetical with *eo* ‘for this reason’ two lines earlier. In *modo sis veni huc* ‘just come here’ (Pl. *Am.* 286) *modo* ‘just’ cannot be shown to be focused by features other than its clause-initial position and the presence of *sis*, but there is no reason it could not carry focus. In the remaining passages *sis* is essentially following an imperative but has been slightly displaced from its position immediately after the command, either by another clitic¹⁵ or by a word that forms a unit with the imperative.¹⁶

Janson (1979: 90-119) has shown that there is a common pattern to the development of Latin clitics, one that often involves semantic change accompanying the shift from full word to clitic. Thus clitic forms like *scilicet* ‘of course’ and *videlicet* ‘evidently’ have developed different meanings from the full, non-clitic forms *scire licet* and *videre licet*. There is a tendency over the history of Latin for enclitic words to decline in frequency and eventually to disappear, a tendency that Janson connects with the limited range of contexts in which they occur and the predictability consequent on such limitations. *Sis* fits the patterns Janson has identified completely: it has a different meaning from the full, non-clitic *si vis*,¹⁷ it occurs in a very limited range of contexts, and it declines in frequency (124 occurrences in Plautus versus only 9 in Terence) before disappearing altogether in the classical period.¹⁸

¹⁴ On the use of focus markers with members of antithetical pairs see Adams (1994a: 15-18, 34-5; 1994b: 112-22). Here the antithesis is sustained and pronounced, because it encapsulates for the audience, at the opening of the play, the contrast between the addressee (a smooth, opportunistic town slave idling where the food is) and the speaker (a rough and loyal farm slave): in the 5 lines of the first speech of this play there are two direct references to the kitchen (i.e. with the word *culina*) and two indirect ones (with *aedes* ‘house’ and *patinae* ‘dishes’), and *rus* is used twice in the four lines of the next speech.

¹⁵ 2 examples: Pl. *Ps.* 238 *mitte me sis*, Trin. 838 *apage a me sis*.

¹⁶ Only at Pl. *Capt.* 110 *advorte animum sis*.

¹⁷ Which is of course also common in comedy, e.g. *hac abiit, si uis persequi uestigiis* ‘he went this way, if you want to follow his tracks’ (Pl. *Men.* 566).

¹⁸ Though *sis* is occasionally attested in Cicero, it is never found in vulgar Latin texts of the imperial period (e.g. Vindolanda tablets, ostraca, Pompeian graffiti, letters of Claudius Terentianus) and so must have disappeared from the normal spoken language by the first century AD.

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Lexical Borrowing in Present-Day English

A Preliminary Investigation Based on the *Oxford English Dictionary*

Philip Durkin

Patterns of lexical borrowing in Present-Day English have received little attention. This is no doubt largely because of the difficulty of securing useful data. This paper will attempt a survey based on the same source that has been used for most surveys of borrowing in earlier periods, the *Oxford English Dictionary*.¹

The first edition of the *OED* was published in fascicles between 1882 and 1928, with a supplement in 1933. A four-volume supplement followed between 1972 and 1986, and the first edition and its supplements were brought together in the integrated second edition of 1989. Since the early 1990s work has been in progress on a complete revision of the dictionary, *OED3*, and the first fruits of this work have been appearing online since March 2000, now covering the alphabetical range from M to the middle of the letter P. The new edition provides for the first time detailed coverage of words which have entered English in the past several decades, and also makes it possible to compare this documentation with newly revised documentation for words from earlier periods.

This paper has started out from a personal hunch. Having worked on the *OED*'s etymologies of most of these words in one capacity or another, I have been struck by the differences between borrowing in contemporary English and at other points in the late modern period, and this paper is a first step towards a more systematic examination.

To investigate this question, I have extracted all loanwords currently found in the third edition of the *OED* for three quarter centuries: 1775-1799, 1875-1899, and 1975-1999. As will be seen, the proportion of loanwords to the total of new words in the late twentieth century is far lower than in the two earlier sample periods. I feel that the best way to investigate what is happening here is to subject the contemporary borrowings to a careful comparison with those from the earlier periods, in order to find where there are points of difference and where there are similarities. That is why this paper will be so data heavy: I believe that we need to have quite a lot of the fine detail, in order to be able to form an accurate impression of what is happening in each period.

Why start at 1975 and stop at 1999, if the focus is to be on the truly contemporary? The *OED* normally tries to document only words which have achieved a certain chronological span, and it also takes some time for draft entries for new words to reach publication, hence my cut-off date 1999 is about as late as one would comfortably want to push things. It is

¹ A preliminary discussion of this data was presented at the first International Conference on the Linguistics of Contemporary English (ICLCE) in Edinburgh in June 2005.

possibly still a little too recent for the absolute totals of loans in each period to be very meaningful, since experience shows that many words are not picked up by *OED*'s work until they are rather older than this. In fact, in many cases we are able to find one or two isolated early examples, but the fuller set of examples needed to justify inclusion will spread over a rather greater span of years. In addition, one of our drafting criteria is that words will usually show a certain span of currency, ideally of ten years or more, before being added to the dictionary (although there are exceptions). To compensate for this, this study will look mostly at the percentages of the total of new words in each period, rather than at the absolute totals.

Another question which might be raised about an *OED*-based study is whether there is any reason for recent borrowings to be less likely to be drafted for the *OED* than recent native formations. The *OED*'s drafting policy does show a very slight bias towards words which complement a set of existing words, hence to a certain extent disadvantaging loanwords. On the other hand, its reading is very wide-ranging, and loanwords are notably salient for the human reader. Again, it might perhaps be assumed that loanwords take longer to become established in the language, thus skewing the figures; but many loanwords are in fact vogue words for a time, and the early attestations often come thick and fast, thus making drafting of an *OED* entry more likely. (However, on the distinct question of how some loanwords show a slow process of increasing familiarity in the language see table 13 and discussion below.)

Most importantly, I have chosen to compare the late twentieth-century sample from the *OED* only with equivalent samples from the late eighteenth and late nineteenth centuries which have also been drawn from the third edition of the *OED*. This means that I am restricted to the section of the alphabet from M to early P which has so far been published in the third edition of the dictionary.² The survey is thus restricted to words beginning with the letters M, N, O, and P, but it is at least the case that these letters well represent the main historical sources of English words (unlike for instance Q, W, or X, where a much more skewed picture would be given). In my view any drawbacks are more than compensated for by the fact that each set of words has been edited or revised by the same generation of *OED* editors within the past five years. Therefore, whether the entries are revisions of existing *OED* entries or newly added ones, the same editorial policies and conventions will have been observed, and we can be confident that we are comparing like with like. Tables 1.1 and 1.2 give the headline statistics for the sample:

Table 1.1: Total number of new words per period.

1775-1799: 953	1875-1899: 3914	1975-1999: 920
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Table 1.2: Total number of loanwords per period.

1775-1799: 305	1875-1899: 816	1975-1999: 84
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² The statistics in this paper are based on all material in *OED3* from M to PAPUA NEW GUINEAN. For an overview of work on *OED3* see Simpson (2002), Simpson, Weiner & Durkin (2004); specifically on the etymological component see Durkin (1999), Durkin (2004).

The drop in the proportion of the new words in each period that are loanwords is thus in fact quite dramatic: 32% in the late 18th cent., 21% in the late 19th cent., but only 9% in the late 20th cent.

Calques are excluded from the main totals, thus restricting the study as narrowly as possible to cases of clear borrowing of a foreign-language form. However, it can often be difficult to distinguish a case of outright borrowing from the fashioning of an English word from naturalized (typically neoclassical) word-forming elements on the basis of a foreign-language model. This is especially the case in the nineteenth century in scientific registers (see further Durkin 2004). Therefore, to guard against omitting potentially relevant material, I give in 2.1 and 2.2 some information on calques in each period. As can be seen, the nineteenth century predominates even more in this total, and within the nineteenth century by far the largest total of calques are after German models, reflecting a tendency which we will anyway find very well exemplified among the pure borrowings. Calques will be omitted from the rest of this discussion, so that they cannot be felt to be skewing the figures by anyone who would prefer not to see them as true loans. As they are very few in number in the twentieth century, very little will be lost from the real target group of words.

Table 2.1: Total number of calques per period.

1775-1799: 46 (5%)	1875-1899: 269 (7%)	1975-1999: 8 (1%)
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Table 2.2: Main model for calques in each period.

1775-1799: French (24)	1875-1899: German (135)	1975-1999: French (4)
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Hybrid words, where an English word is formed from a foreign-language stem plus an English affix (e.g. *mortician*, where suffixation occurs within English on a stem borrowed from Latin), are included in the main survey. Most of these do in fact show Latin stems, and will be considered in more detail presently in the context of words from the subject area of the life sciences.

Table 3 shows the ten most numerous donor languages for each period, while table 4 gives the totals of loans from each language in each period.

Table 3: The ten most frequent sources of loanwords in each period.

1775-1799	1875-1899	1975-1999
French (33%)	Latin (40.5%)	Latin (20%)
Latin (30%)	German (18%)	French (16.5%)
German (5%)	French (15.5%)	Japanese (8.5%)
Sanskrit (5%)	Italian (4%)	Spanish (8.5%)
Italian (3%)	Japanese (3%)	German (7%)
Malay (2.5%)	Spanish (3%)	Russian (3.5%)
Urdu (2.5%)	Greek (2%)	Hindi (3.5%)
Hindi (2%)	Yiddish (1.5%)	Italian (3.5%)
SAfr. Dutch (1.5%)	Hawaiian (1%)	Zulu (3.5%)
Spanish (1.5%)	Swedish (1%)	Greek (2.5%)

Table 4: Breakdown of all donor languages yielding 0.5% or more of loans per period.

4.1: *Of the total 305 loanwords 1775-1799:*

100 are from French (2 Canadian French) 33%; 91 Latin (36 classical Latin, 38 post-classical Latin, 17 scientific Latin) 30%; 15 German 5%; 15 Sanskrit 5%; 9 Italian 3%; 8 Malay 2.5%; 8 Urdu 2.5%; 6 Hindi 2%; 5 South African Dutch³ 1.5%; 5 Spanish (1 Mexican and Central American Spanish, 1 Mexican Spanish) 1.5%; 3 each from Hawaiian, Hellenistic Greek, Nahuatl, Ojibwa, each 1%; 2 each from Chinese, Dharuk, Dutch, Khoekhoe, Narragansett, Portuguese, Russian, Tamil, each 0.5%

4.2: *Of the total 816 loanwords 1875-1899:*

332 are from Latin (113 classical Latin, 184 scientific Latin, 35 post-classical Latin) 40.5%; 148 German 18%; 128 French 15.5%; 32 Italian 4%; 26 Japanese 3%; 24 Spanish (including 2 Mexican Spanish, 1 Chilean Spanish, 1 Peruvian Spanish, 1 Philippine Spanish, 2 South American Spanish) 3%; 15 Greek (9 Hellenistic Greek, 3 Byzantine Greek, 3 modern Greek) 2%; 12 Yiddish 1.5%; 10 Hawaiian 1%; 8 Swedish 1%; 7 Hebrew (including 1 modern Hebrew) 1%; 6 Russian 0.5%; 5 Malay 0.5%; 5 Sanskrit 0.5%; 3 Chinese 0.5%; 3 Maori 0.5%

4.3 *Of the total 84 loanwords 1975-1999:*

17 are from Latin (4 classical Latin, 13 scientific Latin) 20%; 14 French 16.5%; 7 Japanese 8.5%; 7 Spanish (including 3 Mexican Spanish, 1 South American Spanish, 1 Cuban Spanish) 8.5%; 6 German 7%; 4 Russian 5%; 3 Hindi 3.5%; 3 Italian 3.5%; 3 Zulu 3.5%; 2 each from Greek (1 Hellenistic Greek, 1 modern Greek), Hebrew (including 1 modern Hebrew), Isicamtho, Portuguese (including 1 Brazilian Portuguese), Sanskrit, each 2.5%; 1 each from Catalan, Danish, Hawaiian, Khovar, Nigerian Pidgin, Nootka, Raga, Samoan, Wolof, Yoruba, each 1%

Perhaps the most immediately striking feature of these lists is the position of Latin at the head of the lists in table 3 in both the nineteenth- and the twentieth-century samples. This is all the more striking when *OED3*'s policy for loanword etymologies is taken into consideration. In the first edition of the *OED* and in its supplements, many items were identified as being from 'modern Latin' where in fact all that was meant was that the elements from which they were formed were ultimately of classical origin and showed little or no morphological adaptation.

³ South African Dutch is listed separately from European Dutch because of its special status as the precursor of Afrikaans.

As others have noted (e.g. Algeo 1998: 80-81), this can lead to misleading loanword totals when *OED* is used as the basis for data. In the third edition of the *OED* we take a different (and radically simpler) approach. We regard a word as being formed within the language in which it first appears, failing positive evidence to the contrary. Hence words formed from neoclassical word-forming elements within English are regarded as English, and likewise for French, German, etc. In our terminology, ‘post-classical Latin’ denotes word forms found in a Latin context, in any period from the end of antiquity to the present day.

Thus, among the nineteenth-century loans from German, there are words in the life sciences such as *machopolyp*, *medusome*, *merispore*, *meroistic*, *mesectoderm*, *mesenchyme*, *mesistem*, *mesomeristem*, *mestome*, *metabiosis*, all of which are transparently formed from ultimately Latin or Greek word-forming elements. These are treated by *OED3*, and hence in this study, as German words on the grounds that these complex words are first attested in German, and in many cases they can be shown to have been coined by particular German scientists. This seems to me to be by far the most truthful way of dealing with items such as this: the complex word after all did not exist before its coinage in German. Some might however disagree, and if so they would arrive at very different totals, since they would be taking a radically different view of etymology and ultimately of what constitutes a lexeme within a particular language.

There is one, albeit fairly large, special case, namely ‘scientific Latin’, which denotes Latin in taxonomic and medical use, where Latin agreement is found at the level of the noun phrase, but embedded within sentences which may belong to any other language. Crucially, scientific Latin terms show no change of form, regardless of which language they may be embedded within. Such terminology will sometimes itself be borrowed into English: a scientific Latin genus name may also gain currency in broader contexts as an English noun, for instance *magnolia* or *macadamia*. More typically, such terminology may give rise to derived forms in English or other vernaculars, i.e. hybrid formations such as *magnoliid*. By far the most important area for the use of scientific Latin is taxonomy, that is to say the identification of the names of species, genera, orders, classes, etc. in the life sciences; organisms are named using binomials, which show agreement between a Latin noun and a Latin adjective, e.g. *Magnolia glauca* or *Macadamia integrifolia*, even though this name may be coined in one modern vernacular language and used in any number of others.⁴ In the late twentieth-century sample, all 13 of the words from scientific Latin are specifically from taxonomic Latin, and these are listed at 5.3, together with the comparative totals from the eighteenth and nineteenth centuries at 5.1 and 5.2. Among these words, in both the nineteenth- and twentieth-century samples the majority of the scientific Latin etymons were themselves coined in an English-language context. We therefore have an unusual sort of loan, not from the normal contextual use of a foreign language, but from the closed system of the Latin of taxonomists. The numbers of these formations show an interesting and rather dramatic curve:

⁴ On the essentials of taxonomic Latin see e.g. Stearn (1973).

in the late eighteenth century, the age of Linnaeus when taxonomy was in its infancy, there is the modest total of 13 English formations formed on taxonomic scientific Latin bases. In the nineteenth century the total rises steeply to 178, but in the late twentieth century it drops again to just 13. This by no means reflects a decline of activity in taxonomy. As we are all aware, new genera and species continue to be discovered and named in large numbers. What it rather reflects is a nineteenth-century peak in the taxonomic naming of those relatively important organisms whose names will give rise to derived adjectives and other formations which will occur with relative frequency in English scientific discourse.

Table 5: Loans from taxonomic scientific Latin, and derivative formations on scientific Latin bases.

5.1: 1775-1799: total: 13

Comprising borrowings: *Mactra* n., *madoqua* n., *manul* n., *Mauritia* n., *Megalonyx* n., *Melaleuca* n., *melongena* n., *mitchella* n., *Mya* n., *oriole* n.; derivative formations on scientific Latin bases: *monastychous* a., *olivaceous* a., *operculate* a.

5.2: 1875-1899: total: 178

Including borrowings, e.g. *Mastigophora* n., *Mecoptera* n., *Medullosa* n., etc., and derivative formations on scientific Latin bases, e.g. *madreporacean* n., *malacozoic* a., *mallophagan* n., etc.

5.3: 1975-1999: total: 13

Comprising borrowings: *maiasaur* n., *Maiasaura* n., *mamenchisaur* n., *Muttaborrasaurus* n., *ornithomimosaur* n., *oviraptorosaur* n., *Pakicetus* n.; derivative formations on scientific Latin bases: *magnoliid* n., *nimravid* n., *okadaic* a., *ornithurine* n., *ovicaprine* n.; compound with English second element: *media wasp* n.

If we now turn to another area of the natural world, Mineralogy and Petrography, we find in table 6 a similar pattern, with a nineteenth-century peak of loanwords at 6.2. In the eighteenth century (6.1) there are two loanwords, one from French and one from German. In the nineteenth century there are 41, comprising 25 from German, eight from Swedish, four from French, three from Italian, and one from Spanish. In the twentieth century there is a single example, from German, *moganite*. The prominence of German in this field in the nineteenth century is highlighted by the fact that at least one of the German coinages, *manganophyllite*, was in fact coined by a Swedish scientist, who also coined, in Swedish, one of the other words in the sample. However, it should be noted that there are also 35 coinages within English in this field in the nineteenth-century sample, whereas in the twentieth-century sample there are only two, and what we may therefore be seeing is simply a decline in the naming of more common minerals and rocks (i.e. ones which are likely to be mentioned frequently in more general literature, and hence merit inclusion in the dictionary).

Table 6: Loanwords in Mineralogy and Petrography.

6.1: 1775-1799: total: 2 (0.5% of the total loanwords)

French: *molybdic* a.

German: *muriacite* n.

Coinages within English in the same period: 11

6.2: 1875-1899: total: 41 (5% of the total loanwords)

German: macromerite n., magnochromite n., manganapatite n., manganchlorite n., manganophyllite n., manganosiderite n., manganotantalite n., manganowolframite n., manganopectolite n., maranite n., matinite n., maskelynite n., maxite n., melanophlogite n., miarolitic a., micromerite n., mixite n., monchiquite n., mossaite n., muckite n.¹, neotesite n., newberyite n., nigrescite n., opacite n., pandermite n.

French: mallardite n., molybdomenite n., morinite n., offretite n.

Spanish: malinowskite n.

Swedish: manganbrucite n., manganhedenbergite n., manganomagnetite n., manganosite n., manganostibite n., mangantantalite n., melanotekite n., nordenskiöldine n.

Italian: matildite n., microsommite n., pantellerite n.

Coinages within English in the same period: 35

6.3: 1975-1999: total: 1 (1% of the total loanwords)

German: moganite n.

Coinages within English in the same period: 2

In table 7, Chemistry (and with it Biochemistry) shows a similar pattern in the nineteenth century, with 36 loanwords, 30 from German, and six from French, thus narrowly outnumbering the native formations. However, the picture in the eighteenth century is quite different from that seen for Mineralogy. In this case the total of loanwords is not much smaller than in the nineteenth century, 22 in all, in fact making up 57.5% of all new chemical words in this period. One of these loans is from Latin, and the other 21 are all from French, including several major words (see discussion of table 13 below for more on this category). Of these 21 eighteenth-century loans from French, all but two in fact reflect the work of just two major scientists, Morveau and Lavoisier. In the twentieth century the total drops to two loanwords, one borrowed from French, *maturase*, and one, *magainin*, from a Hebrew stem which has a non-technical meaning plus an English suffix, coined in English by an American research scientist, and hence arguably not properly to be regarded as a loanword at all. If we look across all three periods, it can be seen very clearly that there is a very steep decline in the number of loanwords in the twentieth century, while the number of new formations within English stays much more stable: 29 English formations, to set against at best two loanwords.

Table 7: Loanwords in Chemistry and Biochemistry.

7.1: 1775-1799: total: 23 (7.5% of the total loanwords)

French: malate n. (coined by Morveau), malic a. (coined by Morveau), manganic a. (coined by Lavoisier), molybdate n. (coined by Morveau), muriate n. (coined by Morveau), nitrate n. (coined by Morveau), nitric a. (coined by Morveau), nitrification n., nitrite n. (coined by Morveau), nitrogen n. (coined by Lavoisier), nitromuriatic a. (coined by Morveau), oefiant a., oxalate n. (coined by Morveau), oxalic a. (coined by Morveau), oxidable a. (coined by Lavoisier), oxidate v. (coined by

Lavoisier), oxidation n. (coined by Lavoisier), oxide n. (coined by Morveau), oxide v. (coined by Morveau), oxygen n. (coined by Lavoisier), oxygenation n. (coined by Lavoisier)
Latin: magnesium n., molybdenum n.

Coinages within English in the same period: 17

7.2: 1875-1899: total: 36 (4.5% of the total loanwords)

German: maclurin n., maltol n., mannose n., melanogen n., melibiase n., melibiose n., mercapturic a., mescaline n., mesitol n., micellar a., monose n., morpholine n., myelomargarin n., myoctonine n., mytiloxin n., naringin n., nitosamine n., nonose n., nucleon n., octose n., organosol n., ornithuric a., osazone n., oscine n.², osone n., oxazine n., oxazole n., oxime n., oximide n., papayotin n.

French: maltase n., morrhuic a., morrhuine n., oxidase n., palemelline n., papain n.

Coinages within English in the same period: 31

7.3: 1975-1999: total: 2 (2.5% of the total loanwords) – or arguably 1

French: maturase n.

Hebrew root plus English suffix: magainin n. (coined in English by an American research scientist)

Coinages within English in the same period: 29

The other scientific fields all show a broadly similar profile, and will not be discussed in detail here. In each of them there is a peak in borrowing in the nineteenth century and then a steep decline in the twentieth century. In the eighteenth century French and Latin predominate as sources of loans, to be overshadowed in the nineteenth century by German. By contrast, in the late twentieth century no foreign-language source makes a significant contribution to the language of science in English, on the showing of this sample, with the possible exception of formations on taxonomic scientific Latin bases.

In addition, there is a group of words which I would identify as belonging to the area of general technology, mostly showing fairly straightforward borrowing of a technology together with its name. These are given in table 8. (It should be stressed that this is a much more impressionistic category, not following the labelling of the dictionary.) Interestingly, although the totals are low, French here predominates in every period, with two borrowings, *Minimi* and *Minitel* in the late twentieth century, alongside *O-Bahn* from German (denoting essentially a bus on tracks; interestingly, *OED*'s examples show this not to be restricted only to discussions of transport systems in German-speaking countries: there are references to *O-Bahns* in Australia, for instance).

Table 8: Loanwords connected with technology.

8.1: 1775-1779: total: 2 (0.5% of the total loanwords)

French: Montgolfier n., odometer n.

8.2: 1875-1879: total: 9 (1% of the total loanwords)

French: megalograph n., melinite n., moellon n., monorail n., odograph n., panclastite n.

German: melanoscope n., metol n., odorimeter n.

8.3: 1975-1999: total: 3 (3.5% of the total loanwords)

French: Minimi n., Minitel n.

German: O-Bahn n.

Music provides a useful example of a non-scientific specialist area of vocabulary. In the eighteenth and nineteenth centuries it is clear that the continental European languages are, rather predictably, donors of large numbers of words connected with classical music, whether musical directions such as *mancando* or *maestoso*, styles of playing such as *martellato*, or names of instruments, such as *ocarina* or *organetto*. There are also several Latin early music terms, and in the eighteenth century there is one word from a slightly different area, *modinha*, denoting a type of song popular in Portugal and Brazil. In the twentieth century we have one instrument, *melodikon* from Danish, and three words from world music. Therefore, not only is there a decline in the number of loans overall, but the centre of gravity has also shifted somewhat.

Table 9: Loanwords in Music.

9.1: 1775-1799: total: 8 (2.5% of the total loanwords)

Italian: *mancando* adv., *melodrama* n., *mezza voce* adv., *molto* adv.

Portuguese: *modinha* n.

Latin (early music): *musica ficta* n., *neuma* n., *pandoura* n.

9.2: 1875-1899: total: 22 (2.5% of the total loanwords)

Italian: *martellato* a., *messa di voce* n., *misterioso* adv., *mosso* a., *muta v.*, *nobilmente* adv., *oboe da caccia* n., *ocarina* n., *organetto* n., *ossia* conj., *ostinato* a.

French: *manche* n., *martelé* a., *melotrope* n., *montre* n.

German: *mässig* a., *melisma* n., *murky* n., *Nachschlag* n.

Latin (early music): *pandurina* n.

Tamil (in southern Indian music): *mridangam* n.

Sanskrit (in Indian music): *murchana* n.

9.3: 1975-1999: total: 4 (5% of the total loanwords)

Zulu: *maskanda* n., *mgqashiyo* n.

Wolof: *mbalax* n.

Danish: *melodikon* n.

In each period there are significant numbers of words which have a restricted regional distribution, or which are flagged as being in use only in discussing the culture of a particular country or region. Here an obvious question presents itself: which English, and whose English, are we seeing loans into?

Table 10 gives all loans which are restricted to a particular variety of English (marked e.g. ‘South African’, ‘South Asian’ in the table), or which are identified in their definitions as being used only with reference to the culture of a particular area where English is or has been

spoken, either as first language or as language of administration (these are marked e.g. ‘In South Asia’, ‘In India’ in the table). American Spanish is included in these totals, because of the particular circumstances of North American language contact between English and Spanish speakers (a number of the words sadly have to do with issues concerning illegal immigration, cross-border labour, or in one instance drug trafficking). Loans which occurred in the former British colonies are also included.

Table 10: Words with a restricted regional distribution, or which are used with reference only to the culture of a particular area where English is spoken, as first language or as language of administration.

10.1: 1775-1799: total: 34 (11% of the total loanwords)

South African: mebos n., meester n., muid n., muishond n., naartjie n., nenta n.

South Asian: maistry n.

South Asian and South-East Asian: mantri n.

‘In South Asia’: munsif n., nazrana n., paandaan n., panchayat n.

Indian English: matranee n.

‘In India’: mirasdar n.

Anglo-Indian: mofussil n.

In Malaysia and Indonesia: panglima n.

‘In Guyana and islands of the Caribbean’: matapee n.

U.S.: mathemeg n., mossbunker n.

Canadian: machicote n., marche-donc n., molton n.², mouffle n., Muskego n.

Chiefly Canadian: malachigan n., neechee n.

Canadian and U.S.: regional: outard n.

North American: moccock n., mummichog n.

Chiefly North American: nainsook n.

Australian: mogo n., nulla-nulla n.

New Zealand: moki n.

Caribbean (chiefly Jamaican) and (in later use) British Afro-Caribbean usage: nyam v.

10.2: 1875-1899: total: 31 (4% of the total loanwords)

Irish English: macushla n., Oireachtas n.

South African: makulu n., meneer n., mijnpacht n., Mlimo n., mompara n.

East African: Mzee n.

‘Among Spanish speakers’, ‘In Spain and Spanish-speaking countries’, etc.: mamacita n., matraca n., merienda n., oficina n.

Orig. and chiefly North American: mortician n.

U.S.: paho n.

Canadian: meetsuk n.

Caribbean: morne n.²

Australian: marlock n.², mickery n., munyeroo n., murri n.

Chiefly Australian: mongan n.

Chiefly Australian and New Zealand: pakapoo n.

New Zealand: micky n.

Hawaiian: mauku adv.

‘In Hawaii’: menehune n.

‘In Malaysia and Indonesia’: mandor n., Mentri n.

‘In Indonesia’: Ngoko n.

South Asian: morcha n., pallu n.

In Borneo and (formerly) the Philippines: palang n.

10.3: 1975-1999: total: 21 (25% of the total loanwords)

South African: mama n.², mapantsula n., maskanda n., mgqashiyo n., pantsula n.

'*In Nigeria*': molue n. (< Yoruba)

South Asian (< *Hindi*): naka n., nasbandi n.

Orig. South Asian (< *Hindi*): papri n.

Indian English: neta (< Sanskrit)

'*In Mexico*' (< *Spanish*): maquila n., maquiladora n.

U.S. < *Spanish*: mojado n.

U.S. regional (Hawaii): pakalolo n. (< Hawaiian)

North American: omi n.², opi n. (< German)

Canadian: nordicity n. (< French), Nuu-chah-nulth a. (< Nootka)

'*In South America*' (< *Spanish*): narcotraficante n.

Chiefly British: nul points n.

'*In Samoa and New Zealand*': palagi (< Samoan)

In this section the fragmentation of world Englishes is apparent from as early as the beginning of the late modern period, and the totals in each period are roughly comparable, but as a percentage of the total numbers of loanwords in each period they are radically different, with a far larger percentage of the twentieth-century loanwords being of restricted distribution. The precise breakdown of this section in each period almost certainly owes something to available lexicographical resources: for instance, South African English is very well served by the recent and comprehensive *Dictionary of South African English* (Silva 1996), while some of the other dictionaries of regional varieties of English either date from early in our twentieth-century survey period or have yet to be written at all. It should also be borne in mind that because of the structure of its entries the *OED* is generally less precise in documenting diatopic variation than it is in documenting diachronic variation. But overall, a good general impression should be given of the significance of borrowing into only one variety of world English, which *may* be followed by subsequent internal borrowing into other varieties, but in very many cases is not.

In each period, there is also a fair proportion of ethnonyms and related adjectives and language names. There are also names of plants and animals, foodstuffs, aspects of material culture, etc. which are encountered in parts of the world where English is little spoken, and which remain very marginal in relation to the core vocabulary of English.

A good example is provided by loans from Japanese, which figure very largely in the contemporary sample.⁵ In the late eighteenth-century sample there are no loans at all from Japanese, while there are 26 in the nineteenth century and seven in the twentieth. When we look at the percentage this makes up of the total number of loanwords in each period, we see

⁵ Coverage of Japanese loanwords in *OED3* is greatly helped by the welcome publication of Cannon & Warren (1996).

that this in fact comprises 8% of the total of late twentieth-century loanwords, which is perhaps not entirely surprising, given that Japanese culture has attracted considerable Western interest in the late twentieth century (as also in the late nineteenth century).

Table 11: Loans from a fashionable foreign culture: Japanese.

11.1: 1775-1799: none

11.2: 1875-1899: 26 (3% of the total loanwords)

maegashira n., magatama n., maiko n., makimono n., makunouchi n., marumage n., matsu n., metake n., miaia n., mirin n., mokum n., mokume n., mon n.², monogatari n., mura n., Nabeshimayaki n., Nageire n., nakodo n., nanten n., Nashiji n., netsuke n., nori n., ojime n., okimono n., omi n.¹, orihon n.

11.3: 1975-1999: 7 (8% of the total loanwords)

Midori n., mizuna n., mokume gane n., napa n., nikkeijin n., omakase n., otaku n.

The meanings of the 20th-cent. borrowings are (in outline) as follows:

Midori n.: the proprietary name of a type of melon liqueur

mizuna n.: a type of brassica

mokume gane n.: a type of decorative alloy

napa n.: another type of brassica

nikkeijin n.: a person of Japanese descent who has settled or been brought up abroad

omakase n.: a menu choice in which the chef decides what food the customer receives

otaku n.: a person extremely knowledgeable about the minutiae of a particular hobby

All these would I think be accepted even by Japanophiles as belonging to one or more restricted specialist vocabularies used in discussing various aspects of Japanese life and culture. Their status in English is very marginal (unlike very rare counterexamples from outside this sample such as *karaoke* or *sushi*).

Prestige loans have as yet figured little if at all in this study, so I would like to come briefly to French, historically the prestige donor par excellence. Table 12 gives all French loanwords which seem to have occurred for reasons of social prestige, or which belong to the distinct but related use of French in reference to various types of social, especially amorous, situations and relationships. (This is necessarily a somewhat more impressionistic category than most of the others in this study.) Here the totals in all periods are small, and the percentages probably not very meaningful given the small number of tokens overall. It would be interesting to see how this category fares when a fuller sample becomes possible as more of *OED* is revised. One recent British English loan from French which is perhaps slightly indicative of a trend is *nul points*, making fun of the fact that one of the few times when most people are regularly exposed to French is in the scores of the annual Eurovision Song Contest.

Table 12: French prestige loans, and French loans connected with social life.

12.1: 1775-1799: total: 8 (2.5% of the total loanwords)

mal du mer n., mal du pays n., mauvais sujet n., mauvais ton n., mésalliance n., métier n., misère n., nuance n.

12.2: 1875-1899: total: 9 (1% of the total loanwords)

mal élevé a., maquillage n., mari complaisant n., méfiance n., mondaine n., mondaine a., mon vieux n., mouton enragé n., nouveau pauvre n. (but this last example is probably formed within English)

12.3: 1975-1999: total: 2 (2.5% of the total loanwords)

ménage à quatre n., nouvelle cuisine n.
(contrast the jokey nul points n.)

Most of the words in this survey are rather uncommon, and probably the majority will be unfamiliar to most speakers of English. To redress the balance somewhat, I have extracted in table 13 the words from each period which are most familiar. In assessing this I have used the objective criterion of occurrence in the *Oxford Advanced Learner's Dictionary (ALD)*, but I have also allowed in a few more words which are very familiar to the author and to one or two informants. Although this latter approach is somewhat unscientific, it will be seen that the totals of words found in the *ALD* are not very much lower, and show a similar pattern of distribution across each period. (These items are marked 'in *ALD*' in the table. Corpus frequencies have not been used as a criterion, because most words in the survey are too rare to figure even in very large corpora. A web search engine would provide crude numbers of hits, but with skewing in favour of certain text types and subject areas.)

Table 13: The loanwords from each sample period which are most familiar in modern English (assessed on the basis of occurrence in the *Advanced Learner's Dictionary*, supplemented with further words familiar to the author and a small sample of informants).

13.1: 1775-1799: total: 31 (10% of the total loanwords) (28 of them found in the Advanced Learner's Dictionary)

magnesium n. (Latin; in *ALD*), magnum opus n. (Latin; in *ALD*), Maharishi (Sanskrit; in *ALD*), maisonette n. (French; in *ALD*), mangel-wurzel n. (German), mantra n. (Sanskrit; in *ALD*), marina n.¹ (Italian; in *ALD*), masala n. (Urdu; in *ALD*), melodrama n. (Italian; in *ALD*), métier n. (French; in *ALD*), milligram n. (French; in *ALD*), millimetre n. (French; in *ALD*), mollusc n. (French; in *ALD*), mulligatawny n. (Tamil; in *ALD*), municipality n. (French; in *ALD*), mutata v. (Latin; in *ALD*), neurosis n. (Latin; in *ALD*), nitrate n. (French; in *ALD*), nitrogen n. (French; in *ALD*), noodle n. (German; in *ALD*), nuance n. (French; in *ALD*), numismatic a. (French; in *ALD*), nymphomania n. (Latin; in *ALD*), obiter dictum n. (Latin), om n. (Sanskrit), otiose a. (Latin; in *ALD*), ottoman n. (French; in *ALD*), oxidation n. (French; in *ALD*), oxide n. (French; in *ALD*), oxygen n. (French; in *ALD*), pagination n. (Latin; in *ALD*).

Possibly also: oubliette n. (French).

13.2: 1875-1899: total: 28 (3.5% of the total loanwords) (22 of them found in the *Advanced Learner's Dictionary*)

maquette n. (French), marijuana n. (Spanish; in *ALD*), mascot n. (French; in *ALD*), masochism n. (German; in *ALD*), masochist n. (German; in *ALD*), masochistic a. (German; in *ALD*), masseur n. (French; in *ALD*), masseuse n. (French; in *ALD*), mescaline n. (German; in *ALD*), microbe n. (French; in *ALD*), micron n. (German; in *ALD*), millefeuille n. (French), mitosis n. (German; in *ALD*), monorail n. (French; in *ALD*), moratorium n. (Latin; in *ALD*), mores n. (Latin; in *ALD*), mortician n. (Latin hybrid; in *ALD*), mujahidin n. (Persian; in *ALD*), musculature n. (French; in *ALD*), mystique n. (French; in *ALD*), narcolepsy n. (French; in *ALD*), navarin n. (French), Niçoise a. (French), nosh v. (Yiddish; in *ALD*), oregano n. (Spanish; in *ALD*), ostinato a. (Italian), paella n. (Spanish; in *ALD*; also has a figurative sense), panettone n. (Italian).

Possibly also: mirepoix n. (French), netsuke n. (Japanese), papabile a. (Italian), pappardelle n. (Italian).

13.3: 1975-1999: total: 2 (2.5% of the total loanwords) (1 of them found in the *Advanced Learner's Dictionary*)

nouvelle cuisine n. (French; in *ALD*), panna cotta n. (Italian).

Possibly also (but doubtfully): nul points n. (French), ouzeri n. (Greek).

These lists raise some interesting points. The eighteenth-century total of loanwords shows by far the greatest percentage of words which have become familiar items in the vocabulary of modern English: 10%, compared to 3.5% in the nineteenth-century sample and 2.5% in the twentieth-century sample. Among these there are scientific words, including *oxygen*, *magnesium*, *nitrogen*, *mollusc*, *neurosis*, *milligram*, and *millimetre*; there are the food terms *noodle*, *mulligatawny*, and *masala*; and there are some very everyday words such as *nuance*, *marina*, or *municipality*. However, one interesting observation is that a number of these words had much more limited currency in the late eighteenth century: for instance, the characteristic modern sense of *marina* denoting a dock or harbour for yachts or other small boats (as opposed to its earlier sense of a seaside promenade) dates only from the twentieth century. The Sanskrit loans *Maharishi*, *mantra*, and *om* have gained greatly in currency during the twentieth century as a result of cultural trends, while *masala* develops figurative and extended uses only in the twentieth century, including extended uses which are restricted only to Indian English. Few borrowings occur on a once-and-for-all basis, and many appear in historical perspective as 'slow burners', with a relatively early date of first attestation, but a slow build-up in currency and distribution, perhaps showing gradual assimilation, or perhaps betraying distinct waves of cultural contact.

This is an exploratory survey of very large subject, and hence all conclusions must be very tentative. It may be in order to attempt to draw together some strands:

- (1) While there is a general decline in borrowing evident in the late twentieth-century sample, the biggest and most dramatic drop is in the technical fields, especially scientific ones. In some fields, like Mineralogy, this is mirrored to some extent by a drop in the number of formations within English, but in others, like Chemistry, it is not.

- (2) In each of the periods there are relatively few borrowings of general vocabulary items, and many of these are ‘slow burners’, so that it is difficult to tell whether there might not still prove to be such items among contemporary loans (although obvious candidates do not spring to mind among those identified in this sample).
- (3) Words borrowed together with a newly encountered item remain a feature of all periods, as is unsurprising.
- (4) Words which are confined to a particular variety of English make up a much greater proportion of the total in the contemporary sample. It is very likely that this number will grow as further lexicographical research is done on different varieties of world English.
- (5) As regards the methodology appropriate for this sort of study, it may be seen that totals of words borrowed from each language can be useful in giving an initial overview, but really we need to tease out what the sorts of words are which make up these figures. Different specialist vocabularies will show different specific trends in borrowing, and likewise different world varieties of English will show their own distinctive trends and tendencies. All of these factors need to be taken into account in order to obtain a properly rounded picture.
- (6) As regards the *OED* data, I hope to have shown the potential of *OED3* for this sort of research, but also to have highlighted the importance of getting beyond the headline figures for borrowing in any given period, and looking closely at what the individual words are that make up those totals. To facilitate this, I give a list of all of the twentieth-century loans in my sample as an appendix.

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Appendix

All loanwords, 1975-1999, with language of origin and very brief indication of subject area or meaning:

magainin (Hebrew hybrid; Biochemistry), magnoliid (scientific Latin; Botany), magret (French; cookery), maiasaur (scientific Latin; Palaeontology), Maiasaura (scientific Latin; Palaeontology), mama n.² (Zulu; title for a woman), mamenchisaur (scientific Latin; Palaeontology), mapantsula n. (Isicamtho; fashionable young black man), maquila n. (Mexican Spanish; factory or workshop owned by U.S. or other foreign company), maquiladora n. (Mexican Spanish; = maquila), marma n. (Sanskrit; alternative medicine), maskanda n. (Zulu; South African Music), maskirovka n. (Russian; Mil.), maturase n. (French; Chemistry), mbalax n. (Wolof; Music), media wasp n. (scientific Latin hybrid; Zoology), melodikon n. (Danish; Music), ménage à quatre n. (French; variant on ménage à trois involving four people), Mercosur n. (South American Spanish; Economy), Meretz n. (Hebrew; political party), merguez n. (French; type of sausage), metical n. (Portuguese; monetary unit), mgqashiyo n. (Zulu; South African Music), Midori n. (Japanese; type of liqueur), milbemycin n. (German; Pharmacology), Minimi n. (French; machine-gun), Minitel n. (French; videotext system), Mir n./4 (Russian; name of a space station), mizuna n. (Japanese; type of brassica), Modernisme n. (Catalan; style of art nouveau), moganite n. (German; Mineralogy), mojado n. (Mexican Spanish; illegal Mexican immigrant in U.S.), mojo n.³ (Spanish; type of sauce or marinade), mokume gane n. (Japanese; decorative alloy), molue n. (Yoruba; privately-owned commercial bus), montology n. (classical Latin; study of mountains), moqueca n. (Brazilian Portuguese; cookery), Muttaburrasaurus n. (scientific Latin; Palaeontol.), naka n. (Hindi; toll point), napa n.² (Japanese; type of brassica), narcotraficante n. (Spanish; member of a drug cartel), nasbandi n. (Hindi; sterilization of a person),

'ndrangheta n. (Italian; organized crime syndicate), Négrette n. (French; grape variety), neta n. (Sanskrit; leader), nikkeijin n. (Japanese; person of Japanese descent who has settled or been brought up abroad), nimravid n. (scientific Latin; Palaeontology), Ni-Vanuatu n. (Raga; inhabitant of Vanuatu), nordicity n.² (French; degree of northernness), nouveau romancier n. (French; writer of nouveaux romans), nouvelle cuisine n. (French; style of cooking), nul points n. (French; no points, as scored in Eurovision Song Contest), Nuu-chah-nulth a. (Nootka; of or relating to a group of North American Indian peoples), O-Bahn n. (German; bus on tracks), ogogoro n. (Nigerian Pidgin; palm gin), okadaic a. (scientific Latin; Biochemistry), omakase n. (Japanese; menu choice in which the chef decides what food the customer receives), omi n.² (German; grandmother), OMON n. (Russian; Military), oneirocrisy n. (Hellenistic Greek; art of interpreting dreams), opi n. (German; grandfather), orecchiette n. (Italian; type of pasta), ornithomimosaur n. (scientific Latin; Palaeontology), ornithurine a. (scientific Latin; Palaeontology), osseointegrated a. (classical Latin; Dentistry and Surgery), osseointegration (classical Latin; Dentistry and Surgery), Ossi n. (German; politics), otaku n. (Japanese; person extremely knowledgeable about the minutiae of a particular hobby), Oulipo n. (French; name of a group of writers and mathematicians), ouzeri n. (modern Greek; Greek bar), ovicaprine n. (scientific Latin; chiefly Archaeology), oviraptorosaur n. (scientific Latin; Palaeontology), paedicatory a. (classical Latin; relating to paedication), pain de campagne n. (French; type of bread), pain de mie n. (French; type of bread), pakalolo n. (Hawaiian; type of marijuana), Pakicetus n. (scientific Latin; Palaeontology), pakul n. (Khowar; type of Afghan hat), paladar n. (Cuban Spanish; small independent family-run restaurant), palagi n. (Samoan; foreigner), Pamyat n. (Russian; name of a political movement), panna cotta n. (Italian; type of dessert), pantsula n. (Isicamtho; fashionable young black man), papri n. (Hindi; type of wheat biscuit).

On Some Latin Univerbations in Greek¹

Panagiotis Filos

The close linguistic encounter of Greek and Latin from the third century BC and their subsequent long coexistence, especially in the context of the *imperium Romanum*, had far-reaching consequences for both languages. Greek influenced Latin from an earlier stage, not only in the context of the low-register, colloquial language but also, and foremost, on the higher level of literary expression and style. On the other hand, Greek was also significantly affected by its contact with Latin, basically in the areas of the lexicon and, to a lesser degree, of (derivational) morphology and syntax (Browning 1983: 38-43; Horrocks 1997: 73-78, 86-91; Coleman 2001: 589-93; Adams 2003: 527-641, esp. 630-41).

The Greek vocabulary, in particular, was gradually enriched with linguistic material from Latin and a substantial number of Latin(ate) terms coexisted with and eventually replaced Greek words of even the most basic meaning, e.g. Lat. *hospitium* → Gk. ὀσπίτιον (τό) ‘guest-chamber, house, etc.’ (cf. modern Greek σπίτι (το) ‘house’ vs classical Greek οἶκος (ὁ) or δόμος (ὁ) ‘house’); Lat. *porta* → Gk. πόρτα (ἡ) ‘door’. In the two most important Roman institutions, i.e. the administration and the army, the infiltration of Latin terms into the language of the Greek speakers, a number of whom must have been bilingual, was significantly more intense.²

The Greek papyri from Roman and early Byzantine Egypt (1st-7th cent. AD),³ despite some shortcomings (bad preservation of the text, frequent use of abbreviations, poor and occasionally random representation of some grammatical phenomena and lexical forms, etc.) provide the most valuable corpus of linguistic evidence about the Latin(ate) borrowings and

¹ I would like to thank my supervisor, Professor Anna Morpurgo Davies, who read a previous draft of this paper and made many helpful comments. Thanks are also due to Dr. J. N. Adams (All Souls College) who drew my attention to Väänänen’s important monograph (1977). I am very happy to acknowledge too, the very positive contribution of the editors’ comments. For all mistakes and/or omissions, I take full responsibility.

² But see Adams’ detailed discussion about language use in the Roman army in Egypt, from which emerges a larger language complexity than usually assumed (2003: 599-623).

³ For the collection of my data from the papyri, I have used Daris (1991) as a starting point, in conjunction with Cervenka-Ehrenstrasser (1996-2000), which contains additions/corrections/ deletions for the entries beginning with the letters A-Δ. Additional searching for the papyrus and epigraphic attestations was carried out through DDBDP, in conjunction with the online version at www.perseus.tufts.edu. Similarly, I have made use of TLG, in conjunction with the online version at www.tlg.uci.edu, to search literary texts. Due to limitations on the length of this paper, I have been unable to provide an appendix with the papyrus passages and all relevant information (date, document genre). I would like to refer the reader to Cervenka-Ehrenstrasser (1996-2000: s.vv.), who provides full information about all the papyrus forms discussed here but for ἐξκεντυρίων: for this, see Daris (1991: s.v.) and DDBDP. Papyri abbreviations and reference numbers are from the DDBDP, which follows the standard system of abbreviations found in Oates et al. (2001). For the abbreviations of the editions of the Coptic forms, see Cervenka-Ehrenstrasser (1996-2000). The document dates are from the DDBDP online too, unless otherwise stated.

their use in real language, either in an administrative-military context or in the frame of everyday life.

The large majority of the Latin loanwords are direct or almost direct borrowings from Latin, usually with some necessary phonological/morphological modifications to fit in the Greek grammatical rules, e.g. Lat. *cisterna* (-ae) → Gk. κιστέρνα (ἡ) ‘cistern’; *classis* (-is) → Gk. κλάσσα (ἡ) ‘class; army; (esp.) fleet’; *patronus* (-i) → Gk. πάτρων (ὁ) ‘patron, defender, advocate’; *ususfructus* (or *usus fructus*) → οὔσουφροῦκτος (ὁ) ‘usufruct’.

On the other hand, there are a number of Latin(ate) forms which are not attested in Latin itself, at least not in the exact form in which they appear in Greek. A large number of them – according to Daris’ data (1991), there are fewer than 100 such words – are formations that are not plain *simplicia*, but either *composita* or univerbations.

The large majority of those ‘composite’ forms are regular compounds, in particular *nominal hybrids*, e.g. ἰσικιομάγειρος ‘sausage-/mince-cook, sausage-/mince-seller’ (← Lat. *i(n)sicium* ‘sausage, stuffing, minced meat’ + Gk. μάγειρος ‘cook’); λεπταμικτώριον ‘a fine cloak’ (← Gk. λεπτό- ‘fine’+ Lat. *amictorium* ‘cloak, etc.’). We also find a number of *hybrids* with a preposition as a first member, e.g. συνουετρανός ‘fellow-veteran’ (← Gk. συν- ‘together with’+ Lat. *ueteranus* ‘an old tried soldier, a veteran’). A few forms beginning with ἄπο- (e.g. ἀποπραιπόσιτος ‘former *praepositus* (: commander, governor, etc.)’ or ‘from the *praepositi* (pl.)’) are of particular interest for our study and will be examined below, in relation to the form ἐξκεντυρίων ‘former centurion’ or ‘from the centurions’.

The second group of these forms comprises about ten Latin univerbations. These forms are normally made up of exclusively Latin material: a preposition/adverb has usually joined with the following noun, e.g. ἀβάκτις ‘registrar, secretary, etc.’ (← *ab actis* ‘(liter.) ‘(in charge) of the register of public acts, records’); ἐξκεντυρίων ‘former centurion’ or ‘from the centurions’ (← *ex centurione/-ibus*);⁴ or βισήλεκτος ‘twice selected (soldier), i.e. an outstanding soldier of a special military unit’ (← *bis electus*). In addition, there are *nominal* univerbations as well, e.g. ὀπτιοπρίγκεψ ‘*optio principis*, i.e. a junior officer (: *optio*), assistant to a senior centurion or *decurio* (: *princeps*)’ (← *optio princeps*).⁵

In this paper, we shall focus on the univerbations of the ἀβάκτις type, but we shall also make reference to the closely related form ἐξκεντυρίων, the latter in conjunction with the

⁴ These forms should be distinguished from the large bulk of Latin compounds beginning with *e-/ex-* which can have meanings such as ‘out, away’ (e.g. in *exclamo*), ‘throughout’ (e.g. in *epoto*), ‘thoroughly’ (e.g. in *edurus*), ‘achievement’ (e.g. in *exoro*), ‘up’ (e.g. in *exaggero*), or even correspond to the meaning of a ‘*privativum*’ prefix (e.g. in *exsanguis*) (OLD, s.v. ²*ex* (prefix.)). Cf. footnote 29 here too.

⁵ These forms should normally be spelled as two separate words in Latin, according to modern dictionaries, but as a single one in Greek. But cf. other formations like οὔσουφροῦκτος ‘usufruct’ and φιδεικομ(μ)ισσάριος (adj.) ‘of or concerned with *fideicommissa* (: testamentary dispositions or bequests in the form of a request to the heir)’ which are taken to be univerbations in Latin as well: *ususfructus* and *fideicommissarius* respectively.

prepositional hybrid compounds of the ἄποπραιπόσιτος type. The common feature of all those univerbated forms is that they have been formed from nouns governed (initially) by a preposition and they all belong to the same semantic field: they refer to titles of officers of the Roman/early Byzantine administration and army.

1. The *abN* Forms⁶

The forms of the ἄβάκτις type belong to the class of words commonly known as *univerbations*. Such a form can be defined as a syntagm of two words retaining their endings, if inflecting, and combined under a single accent, e.g. Διόσκουροι (← Διὸς κοῦροι) ‘the sons of Zeus, i.e. Castor and Polydeuces (Pollux)’. There are also prepositional univerbations, e.g. παραχρῆμα (← παρὰ (τὸ) χρῆμα) ‘on the spot, at the moment’ (Dunkel 1999: 47-58, 63-67; cf. also Debrunner 1917: 16-20; Schwyzer 1939-50: i.425-8, 434-7, 445-6).

We also find univerbated forms within Latin itself: cf. nominal univerbations like *respublica* ‘state, republic’ and prepositional ones like *inaures* (-ium) ‘earrings’ (Leumann 1977: 383-403, esp. 384, 388-9, 399, 402).

The *abN* forms constitute the most numerous and morphologically noticeable group of Latin univerbations in the Greek papyri, demonstrating the change of an original Latin prepositional phrase (PP) *ab* + noun (ablative) into a Greek agglutinated form. According to Daris’ data (1991) as amended by Cervenka-Ehrenstrasser (1996-2000), there are as many as four *abN* forms in the Greek papyri:

- ἄβάκτις/-της (cf. *ab actis*): ‘registrar, secretary; senior administrative officer under a provincial governor, primarily responsible for the civil law cases’ (Cervenka-Ehrenstrasser 1996-2000: s.v.; Hofmann 1989: s.v.; Mason 1974: 19, 141-42; LSJ: s.v.); ‘*actuarius*, ὑπομνηματοφύλαξ’ (DuCange 1688: s.v.).
- ἄβρέβις (cf. *a(b)* + substantivised *brevis*, n. -e (?)): ‘administrative officer, secretary (probably charged with financial duties, i.e. tax accounts etc.)’ (Cervenka-Ehrenstrasser 1996-2000: s.v.).
- ἀκομενταρήσιος/ἀκομεντανήσιος (cf. *commentariensis*, apparently in conflation with *a commentariis*): ‘secretary, protocol officer (senior civil servant or military officer with legal duties, especially for criminal law cases; on the other hand, the ἄβάκτις was responsible for civil law cases)’ (Hofmann 1989: s.v.; Cervenka-Ehrenstrasser 1996-2000: s.v.; cf. also Väänänen 1977: 14).

⁶ Following Väänänen’s method of notation (1977: *passim*) whereby univerbations with *ab* are rendered as *abS* forms, I will be using a similar short form of the type *XN*, where *X* = one of the prepositions (*ab*, *ex*, ἄπό) found as the first member of the univerbations discussed here and *N* = the following noun part of the univerbation, e.g. *abN*, *exN*, ἄποN.

- ἀννούμερος (cf. *a(b) + numeris/numero* (?)): ‘military title: belonging/related to the army; in particular, someone who technically serves in a *numerus*, (: a division of the army) but has been detailed for other duties such as attendance in the court of a *praeses* (: governor); a civil servant responsible for (keeping) lists’ (Shelton 1988: 69; cf. also Cervenka-Ehrenstrasser 1996-2000: s.v.; Hofmann 1989: s.v.; Rea 1996: 187, 192-3).

The forms above show some semantic coherence: they are all masculine nouns and refer to titles of officers of the Roman administrative/military system. Those common features accord in general with the picture presented by Väänänen’s study (1977) about the meaning and use of the ‘original’ *abN* phrases in Latin, e.g. *ab epistulis* (*Latinis & Graecis*) ‘the person(s) in charge of the bureau(s) for the imperial correspondence’; *a consiliis* ‘the secretary of the imperial council’.⁷ These forms were normally used in the context of the imperial nomenclature: many members of the imperial administration were slaves or freedmen. Similar terms are found in military texts as well, but at a later time. However, since Diocletian’s reign (late 3rd - early 4th cent. AD), the *abN* forms are normally replaced, either with a genitive (e.g. *magister epistularum*) or with a derived adjective (e.g. *commentariensis*).⁸ There is also at times some interchange with the prepositions *ad* and *supra* (e.g. *ab argento* = *ad/supra argentum*) (Väänänen 1977: 8-17).⁹

As far as syntax is concerned, the four *abN* forms normally modify a preceding or a following personal name (usually that of an officer), e.g. PHermland 1.24.390 (4th cent. AD): Ἐρμαπόλλωυ ἀβρέβις; POxy 8.1108.11 (6th/7th cent. AD): τὸν ἀβάκτην Ἀλέξα(νδρον). It is also possible though, to find them as stand-alone forms without any proper name nearby, e.g. OAshmShelt 74 2 (3rd/4th (?) cent. AD): δὸς τῷ ἀννουμέρω κρέως λίτρας τέσσαρας {τέσσαραις} ‘give to ἄ. four pounds of meat’. Their use in Latin is similar, though more diverse (cf. Väänänen 1977: 16).

⁷ Väänänen (1977: 8) has counted about 750 occurrences of ca. 100 different *abN* forms (called conventionally ‘le type *ab epistulis*’) in Latin inscriptions alone.

⁸ Some forms such as *a libellis* and *ab actis* lived on for a longer time. The most remarkable form though, is *a secretis* (also *asecretis*, *asecreta*, ἀσηκρήτις, ἀσγκρήτης [*sic*]) which with the exception of only one early occurrence in Claudius’ time, is a very late form, i.e. it appears from the sixth century AD onwards (Väänänen 1977: 15).

⁹ But in Greek too, there were alternative ways to express the meaning of an *abN* univertation instead of transliterating it: cf. the grammarian Charisius (Gramm. Lat. I, 232, 22): ‘*ab* pro ἀπό et pro ἐπί apud nos accipitur, velut *ab bibliotheca* ἀπὸ τῆς βιβλιοθήκης καὶ ἐπὶ τῆς βιβλιοθήκης’ (Väänänen 1977: 18-19). However, as epigraphic texts show, the default option was ἐπί + genitive (e.g. ἐπὶ ἄκτων: *ab actis*; ἐπὶ κοιτῶνος: *a cubiculis*), already used in a similar way by the bureaucracy of the Hellenistic monarchies; on the other hand, ἀπό + genitive was normally reserved for Latin *ex* + ablative, a construction that will be discussed in §2. But cf. exceptions like ἀπὸ λόγων: *a rationibus*. Philo, however, prefers πρὸς + accusative. Other literary authors use periphrases, e.g. ἐξήγησιν πεπιστευμένους (ἐπιστολῶν): *ab epistulis*; φροντίδα ἔχων (κοιτῶνος): *a cubiculo*; or they use equivalent agent-nouns, e.g. γραμματεὺς or ἐπιστολεύς: *ab epistulis* (Mason 1974: 141-2).

The morphology or rather morphosyntax of the *abN* forms poses the most challenging questions. The *abN* forms either remain uninflected (ἄβάκτις (but cf. ἄβάκτην below), ἄβρέβις) or appear as thematic masculine nouns (ἀκομενταρήσιος/-νήσιος, ἀννούμερος). At first glance, the inflectional ‘character’ is determined by whether the original Latin noun governed by *ab* was an ablative plural or singular form (except for the conflated form ἀκομενταρήσιος/-νήσιος).

1.1. ἄβάκτις/-της

The form ἄβάκτις (< *ab actis*) is an unambiguous case of a Latin PP being used as a univerbation within Greek, although the word might have already been used/spelt as a univerbation (*abactis*) in Latin too (cf. Väänänen 1977: 18). But one can question whether this form was *always* perceived in Greek as one word: for instance, a bilingual using this form in Greek, might have thought of it as two separate words, like in Latin. The continuous writing practices of that time make our endeavour more difficult, but morphology and context can offer some useful indications. Thus, ἄβάκτις is once found with an acc. sg. spelling -την (e.g. POxy 8, 1108.11, (6th/7th cent. AD)), which implies perhaps that there is some partial form of inflection. The <-τις> termination, which by that time sounded the same as a <-της> [tis] ending, allowed the naturalisation of the form in Greek. Thus, the spelling ἄβάκτης is twice as frequent as the ἄβάκτις one. It is true though, that in classical Greek there are hardly any masculine forms ending in -τις (but cf. ὁ, ἡ μάντις ‘prophet, seer’, which is a rather special case) or even in -ις (but cf. ὁ ὄφις, -εως ‘serpent’); yet we find more proper names (e.g. Ἄλεξις, Εὐπολις) and adjectives (e.g. ὁ, ἡ εὐχαρις ‘charming, gracious’).¹⁰ By contrast, there are many more feminines in -ις, both appellatives (e.g. ἡ χάρις ‘grace, favour’, ἡ πίστις ‘confidence, trust, faith’) and proper names (e.g. Ἀγαθίς (vs. masc. Ἄγαθις)).¹¹

On the other hand, Greek had a large number of nouns ending in -της at that time which did not function as *nomina agentis* only, as in classical Greek, but were quite productive and denoted male persons in general (e.g. ἐρημίτης ‘hermit’) and, at times, even inanimate things (e.g. ὄλοπυρίτης ‘whole-wheaten (loaf)’) (Palmer 1945: 110-16; cf. also Buck & Petersen 1945: 544-73).¹² Thus, as a result of iotacism, a -τις noun could easily turn into a -της noun, which is a very common masculine ending in Greek. The accusative ἄβάκτην in POxy 8.1108.11 is indicative of the deeper morphological adaptation of the univerbation in the spoken Greek of Egypt in this late period (6th/7th cent. AD), in contrast to the sharp decline in

¹⁰ See Meier (1975: 46-68, especially p. 50, 67-8) for a detailed discussion of these forms.

¹¹ Buck & Petersen (1945: 14-18; 574-608) hardly provide any masculine forms for this paradigm. But cf. Bauer & Felber (1983: 83-92) where there are listed many more forms in -ις, -εως (in later (Patristic) Greek); a very few of them, especially names, are masculines.

¹² But from that period onwards there are also masculines in -ιος that drop the -ο- and become -ις (cf. also the similar phenomenon with the even more frequently used neuters in -ιον), e.g. κύριος → κύρις (Gignac 1976-1981: ii.28-29; Browning 1983: 38; Horrocks 1997: 117-118).

the use of Latin by that time. It is no surprise perhaps that we do not find anything like ἄβᾶκτην in the papyri of the previous centuries or in any literary or epigraphic text of any period: the form occurs there as ἄβ ἄκτις/ἄβᾶκτις.

1.2. ἄβρέβις

The form ἄβρέβις¹³ (cf. *a(b)* + substantivised *breuis*, n. -e ‘short, brief (sc. note, list)’ (?)) looks absurd at first: we would normally expect a form *ἄβρεβιβους (< *a breuibus*) since the preposition *ab* normally governs an ablative in Latin. But there is no evidence for such a form in Greek or even in Latin.¹⁴

Moreover, an inflecting form would be unlikely for an additional reason: the irregular formation of this particular univertation (*a(b)* + *breuis* ?) can, partly at least, be explained on the basis of analogy to other well-known *abN* univertations like *ab actis*, *ab epistulis*, *a secretis*, etc., which were normally also indeclinable.¹⁵

An alternative etymology would derive ἄβρέβις from **a breui(i)s*, which would require a neuter form **breuium*. This might not have been impossible for some speakers with incomplete knowledge of Latin given that the Greek form of the substantivised neuter *breue* was in fact βρέουιον/βρέβιον ‘(short) list, inventory’ (probably via the plural *breuia* which could equally correspond to *breue* and **breuium*). Therefore, a back formation ἄβρεβις is not inconceivable, at least for the non-native speakers of Latin (cf. also Meinersmann 1927: s.v. ἄβρεβις [*sic*]; DGE: s.v. ἄβρεβις). But even if we choose this explanation, the influence of the ἄβᾶκτις-type forms is still quite probable.

By contrast to the above explanation of the etymology and the spelling of the form, in all the papyrus attestations of ἄβρέβις, and especially in the eight tokens where the ending of the word is fully preserved, the forms point to an ἄβρέβ(ε)ις type. It seems more likely that the form was indeclinable rather than it was an inflected athematic form in -ις (gen. -εως?, dat. -ει?). Cervenka-Ehrenstrasser (1996-2000: s.v. ἄβρέβις) argues, on the basis of palaeographic

¹³ I follow Cervenka-Ehrenstrasser (1996-2000: s.v.) in the accentuation of the form, without having any intention to participate in the debate about the accentuation of the Latin(ate) words in Greek. For an alternative suggestion (ἄβρεβις), supported by Daris (1991: s.v.) and others, see Cervenka-Ehrenstrasser (1996-2000: s.v. ἄβρέβις, fn. 45).

¹⁴ It is true though, that we find Latin univertations in -ιβους in Greek literature, e.g. ἀγεντησιρέβους [*sic*] οἱ (< *agentes in rebus*) ‘kaiserliche Beauftragte oder Kommissare zu Revisionen’ (Hofmann 1989: s.v.) in Athanasius Theologus (4th cent. AD). Literary language, of course, is different from the language of a papyrus document and what is more important, from the spoken language itself.

¹⁵ There might also be a case that the presence of the adjective *breuis*, (-is, -e) could have played some subsidiary role to the ‘incorrect’ coining of the univertation: *breuis* ~ *abreuis*.

evidence, that the form τῶ ἀβρέβει in SB 14.11591.11 (4th cent. AD) is better re-read as an indeclinable τῶ ἀβρέβεις.¹⁶

On the other hand, an indeclinable spelling ἀβρεβεις is not without difficulties either. The spelling <ἀ>βρεβεις {βρεβεις} reappears in a papyrus list from the early fourth century AD (StudPal 20 85.v.2.26 (AD 320/1): [...] Ἀπόλλωνι καὶ Ἐρμόδωρῳ <ἀ>βρεβεις {Ἀπόλλων καὶ Ἐρμόδωρ[ο]ς βρεβεις} διατ(αγῆς) [...].

These two persons are the last in a list of wine recipients and their names are apparently attested in the nom. sg. (Ἀπόλλων καὶ Ἐρμόδωρ[ο]ς); by contrast, all previous recipients are unexceptionally mentioned in the dative. Hence, if we took ἀβρέβεις at face value, it should be a nom. pl. form – besides, an athematic nom. pl. ending -εις would be morphologically legitimate, even though syntactically inconsistent. But the content requires forms in the dative: for this reason, the editor has corrected the two names into datives. In such a case, one could assume that the form ἀβρέβεις could/should be an (indeclinable) dative too, since it is in apposition to the personal names. But that is a less likely possibility; on the contrary, it would be more plausible to assume that the author might have decided to switch to the nominative because he was unsure about the dative of ἀβρέβεις, given that the inflectional case of the form had to be the same as that of the preceding proper names. In general, one should keep in mind that it is not surprising for this kind of texts (lists, registers, etc.) to show such mistakes/inconsistencies, especially at the end of a long document.

In conclusion, it seems that the form ἀβρέβεις (-βεις (?)) is an *abN* univerbation created, at least partly, on the basis of forms such as *ab actis*, *ab epistulis*, etc. which were based on either *a-* or *o-*declension nouns in Latin. But the morphological explanation would also require the implicit declensional reclassification of the nominal part (*breue*) from an athematic into a thematic neuter, at least in the context of Greek. On the other hand, it is difficult to determine if ἀβρέβ(ε)ις was always indeclinable, at least when the spelling of the ending is -εις. The two instances where this spelling occurs are problematic and do not point to a very clear explanation.

1.3. ἀκομενταρήσιος/-νήσιος

The third univerbated form, ἀκομενταρήσιος or ἀκομεντανήσιος,¹⁷ belongs to the same semantic field as ἀβάκτις (and ἀβρέβεις). Morphologically, however, and by contrast to the

¹⁶ Consequently, the same change of ending should be accepted for the similar case in papyrus SB 14.11592.11 (4th cent. AD) where the ending in the dat. sg. was previously supposed to be -ει as well: thus ἀ[βρέ]β(εις) and not ἀ[βρέ]β(ει).

¹⁷ There is an almost consistent replacement of the expected -ρ- consonant with a nasal -ν-: out of the four instances where the word is fully attested (the fifth token is very poorly attested and offers no clue) it is only once (in SB 14.11591.26 (4th cent. AD)) that the -ρ- letter does occur. The relevant evidence (from literary, epigraphic and papyrological sources) about the various forms of this word (κομ(μ)ενταρήσιος,

previous two words, this form is a thematic masculine noun in -ιος, apparently declinable (although it is only attested in gen. sg. and dat. sg.).

The suffix -ησ-ιος points to derivation from a Latin adjective *commentariensis* (which occurs in Greek as well, in the form of κομμενταρήσιος) rather than a prepositional phrase *a commentariis*.¹⁸ This comes as no surprise since by the time the form begins to appear in the Greek papyri, i.e. third to fourth centuries AD, the use of an adjective instead of an *abN* prepositional phrase is almost common practice in Latin too (Väänänen 1977: 16-17.; Hofmann 1989: s.v. κομμενταρήσιος, with further bibliography). On the other hand, *a commentariis* must have exerted some influence too: the presence of an otherwise superfluous ἄ- at the beginning of the new word points to some kind of conflation between the two forms, either directly from *a commentariis* itself or indirectly from other *abN* univerbations which normally started with an ἄ-, e.g. ἄβάκτις.

This peculiar formation of ἄκομμενταρήσιος, with the morphological conflation of two equivalent Latin forms, i.e. *abN* ~ adjective, seems to have no parallel in contemporary literature and inscriptions and stands as an isolated example amongst all the other Latin loanwords of this field.

1.4. ἄννούμερος

The last form of this class is ἄννούμερος, which appears as a thematic masculine in -ος (twice attested in dat. sg. and once more in nom. sg. (?) (but in apposition to a proper name in gen. sg.: Θέωνος)).¹⁹ It should supposedly have derived from *a(b) + numeris/numero* (?) and be *ἄνούμερος. In that case, a spelling -vv- from a supposed *a(b) numero* could be seen as redundant, not only in Greek²⁰ but also in Latin: there is no **annumerus* (or even **anumerus*) form attested in Latin.²¹

κομμενταλέσι(ος), etc) points to a colloquial and ‘ungrammatical’ type of word: both the unnecessary presence of the initial ἄ- through conflation as well as the change <-p-> → <-v-> are indicative of a rather ‘substandard’ form.

¹⁸ For the change of declension, i.e. athematic *commentariensis* turning into thematic κομμενταρήσιος, compare *castrensis* → καστρήσιος etc. (Gignac 1976-1981: ii.50).

¹⁹ This last form is not listed in any dictionary, including Daris (1991: s.v.) and Cervenka-Ehrenstrasser (1996-2000: s.v.), since it was published in 2001 (POxy 67.4612.13). Furthermore, Rea (1996: 187-8, 192-3) has proposed another attestation of the form (ἄνούμερος<ος> [sic]) in the revised edition of PAnt 1.44 (l. 17).

²⁰ Although there are cases of insertion of a nasal -n- in Greek papyrus texts (Gignac 1976-1981: i.116-19) we do not have any evidence for the phenomenon in Latin univerbated phrases.

²¹ Nevertheless, there is always the possibility of an original double spelling without any phonological value. Hofmann points out (1989: s.v. ἄννούμερος) that there are such examples from literature as well as some inscriptions, e.g.: IG 9 (2) 358: Ἐννόδια for Ἐνόδια. Cf. also Gignac (1976-1981: i.158) for examples of redundant -vv- in the papyri.

The simplest explanation would be to see a graphic interference with forms like *annumeratus* ‘counted (to), added (to)’ or *annumeratio* ‘counting’, which go back to *adnumeratus* and *adnumeratio* respectively. Hofmann (1989: s.v. ἀννουμερος [sic]) has suggested a similar explanation: the interference on a form *ab + numero* of a supposed (but not attested) ‘Nebenform’ **adnumerus*²² → *annumerus*. His argument is interesting and phonologically consistent, but it relies on an unattested form.

On the other hand, one cannot rule out the possibility, though somewhat complicated in practice, of a double phonetic change (and also requiring the presence of [b]): *ab + n-* → *amn-* → *ann-* (for phonetic parallels, cf. Leumann 1977: 201, 213-14).²³

In conclusion, the phonology of the form is problematic and poses a problem regarding the etymology as well. The simplest explanation calls for a simple misspelling in -vv-, probably due to confusion with similar forms, genuinely spelt with -nn- in Latin.

The overall picture emerging from the analysis and comparison of the four forms points to the use of rather ‘substandard’ Latin material within Greek, with many ‘ungrammatical’ and unusual features – that holds true even for the standards of late Latin. In some cases, at least, the scribes seem to have had poor knowledge of Latin, if any. On the other hand, some of those odd features (e.g. the endings of ἀβόκτις/-της, ἀβρέβις) reveal an attempt to produce a better adaptation of the forms to Greek. It is also worth noticing that practically none of these forms survived in later Greek, or is found in use outside Egypt. Such technical terms, which were closely connected with the institutions of the Roman and early Byzantine administration/army as well as with the existence of a particular linguistic environment (use of Latin as a primary official language, a certain degree of bilingualism, etc.), had no future as soon as the conditions (historical, political, linguistic, etc.) changed.

2. The ἐξκεντροίων form and related ἀποN compounds

In Latin, it is not a very rare phenomenon for some prepositional phrases (PP) to gradually develop into compounds through univerbation. The preposition and the following noun, with its termination appropriately modified to fit the new grammatical function, ultimately become one word, e.g. *pro praetore* → *proptraetor*. The point of departure for this transformation is the use of a PP as a complement (predicate), either to the verb’s subject or to its object, e.g. *Siciliae prouinciae, cum esses pro consule, praefuisti* ‘you governed the province of Sicily as proconsul’ (Cicero, *In Verrem*, 2.3.91) (Väänänen 1973: 671-2; cf. also Leumann 1977: 388-89).

²² See examples of insertion of a non-etymological -δ-, which is unlikely to have developed due to any phonological reasons either, e.g. ἀσηκρήτις (< *a secretis*) occasionally appears as ἄδσηκρήτις (Hofmann 1989: s.v.)

²³ I owe this suggestion to Dr. Daniel Kölligan.

In the case of the preposition *ex*, there is a similar change of function and meaning, e.g. *ex consule* → *exconsul*. In addition, there is a gradual semantic shift: ‘from the position, office, title, category of... (a consul)’ → [‘from the former position, office, title, category of... (a consul)’] → ‘former, ex...(consul)’.²⁴ The meaning ‘former’ for *ex* is not found in the Republican period. This meaning was normally conveyed through a (substantivised) adjective, e.g. *consularis* (also *praetorius*, *ensorius*, *quaestorius*, etc.). The use of *ex* as ‘former’ is rather late and appears regularly from the late sixth century AD (e.g. *excubicularius* ‘former chamberlain’, *expatricius* ‘former patrician’), probably on the basis of forms like *proconsul*, which was ‘an old strong prototype’ (Väänänen 1973: 674). However, there are early examples already in the fourth century AD, e.g. *uelut exconsulares habiti* (*Codex Theodosianus* 6.24.8). But even as a preposition (+ abl.), *ex* was used throughout the imperial period to refer to previous or honorary titles or offices of the military/magistracy, e.g.: *ex duce*, *ex cubiculariis*.²⁵ Initially, the use of *ex* + abl. pl. was the norm for titles; the use of *ex* + abl. sg. is later (Palme 2002: 62).²⁶ It is likely that the forms of the *ab actis* type (but also the similar ones with *ad* + acc., *ex/de* + abl.) might have facilitated this development, as Väänänen (1973: 672-3) suggests. However, we should keep in mind that those forms were on their way out from the late third century AD onwards, as mentioned above, and were partly replaced by adjectives, i.e. they were following the opposite direction.²⁷

2.1. The ἐξκεντυρίων Form

The form ἐξκεντυρίων is the only word of the *exN* type; in fact, it is attested only once, in the dative (?) ἐξκεντυρ(ίωνι) (*StudPal* 20 109.r.7 (4th cent. AD)). It is obviously the ‘hellenised’ form of a Latin *ex centurio(ne)*. The meaning could theoretically be either ‘former centurion’ or ‘one of, from the (class of) centurions’: the former meaning is found in most modern dictionaries (cf. e.g. Meinersmann 1927: s.v.; Hofmann 1987: s.v).

The form is in apposition to a proper name in the dative ([Ἰω]όννη ἐξκεντυρ(ίωνι)) and we are indeed allowed to assume the same inflectional case for it too, although the ending

²⁴ This development entails the use of the phrase in sentences referring to the passing from one status into another, frequently without a verb, e.g. *C. Octauio...centurioni adlecto ex eq(uite) R(omano)* (*CIL* VIII – *Desau* 2655) (Väänänen 1973: 672-3).

²⁵ There are inscriptions from the earlier imperial period though (e.g. the text in the previous footnote), where *ex* + ablative is already used to refer to previous titles or grades. Cf. Speidel (1993).

²⁶ For the possible different meanings of *ex* + abl. in inscriptions concerning military titles, see Speidel (1993: 190-6, especially the summary on p. 196) and Speidel (1994: 216).

²⁷ Väänänen, in his comparison between forms of the ἀβάκτις and the ἐξκεντυρίων types in Latin, notes: ‘Non plus, *abS* (= syntagme *a / ab* + substantif *epistulis*, etc) n’est pas sujet à “l’ hypostase” (à part un cas isolé, ci-dessous), à l’ instar du juxtaposé *pro consule* > *proconsul* et tardivement, *ex consule* > *exconsul*. A noter encore qu’ à la différence de *ex consule*, *exconsul*, où seule la forme pleine de la preposition est admise, *abS* se construit avec l’ une ou l’ autre forme: *ab epistulis*, *a* (parfois *ab*) *rationibus*’ (1977: 9).

is abbreviated.²⁸ But both the syntax (apposition) and the meaning render it more likely that the form is one single word in the dative rather than a prepositional phrase ἐξ + gen. The non-Greek ἐξκ- consonantism (a genuine Greek form could only have had ἐκκ-) is hardly any novelty for Latinisms of this period: cf. forms like ἐξκουβίτωρ (< *excubitor*), etc.²⁹

The most interesting point, however, is the semantics of the term: as mentioned above, *ex* as an adverb (not as a preposition + ablative) to a following noun with the meaning ‘former’ is firmly attested in Latin itself from the late sixth century AD. We have also seen though, that there are earlier sporadic examples of *ex* + abl., meaning or being close to the meaning ‘former’. Therefore, it would be rather premature to see the *hapax* ἐξκεντυρίων corresponding to an adverbial *ex centurio* ‘former centurion’, given the date of the Latin evidence; but perhaps this would not be impossible, since colloquial language is often reflected in written texts a bit belatedly. Nevertheless, the more traditional etymology, i.e. ἐξκεντυρίων, corresponding to a PP *ex centurione* ‘from a (former?) centurion’ (or *ex centurionibus* ‘from the centurions’), remains more likely.

In conclusion, it is difficult to speak with absolute certainty of a real *Greek* univerbation from a Latin PP in the case of ἐξκεντυρίων because the form might simply reflect developments within Latin itself.

We shall now turn to the ἀπο*N* hybrid compounds to look into some further evidence.

2.2. The ἀπο*N* Compounds

According to Cervenka-Ehrenstrasser (1996-2000), there are five indisputable Latinate compounds in the papyrus texts beginning with the Greek preposition ἀπο- (ἀπο*N*):³⁰ ἀποδρακωνάριος (cf. Gk. ἀπό + Lat. *draconarius* ‘flag-bearer’), ἀποκόμης, (cf. Gk. ἀπό + Lat. *comes* ‘(state) officer’), ἀποπραιπόσιτος (cf. Gk. ἀπό + Lat. *praepositus* ‘commander, governor’), ἀποπροτήκτωρ (cf. Gk. ἀπό + Lat. *protector* ‘protector, guard’), ἀποτριβοῦνος (cf. Gk. ἀπό + Lat. *tribunus* ‘military officer, officer’).

The Greek preposition ἀπό normally corresponds to the Latin prepositions *ab* and *ex*, e.g. ἀπὸ χερός: *a manu* (office) vs ἀπὸ βενεφικιαρίων: *e beneficiariis* ‘one of/from the *b.*’; (later) ‘former *b.*’. The ἀπό + noun compounds, however, are normally seen as equivalent to

²⁸ Alternatively, an uninflected form ἐξκεντυρ(ίων) or even a phrase like ἐξ κεντυρ(ίωνος)/ἐξ κεντυρ(ίωνων) in correspondence to a Latin *ex centurione/centurionibus*, would be possible too; cf. the following paragraph about the ἀπο*N* forms.

²⁹ It is not irrelevant to the nature of this particular univerbation that in both Greek and Latin there is a preposition ἐξ/*ex* respectively, found in many ‘regular’ compounds too. This has facilitated, from a morphological point of view, the univerbations of the type of ἐξκεντυρίων.

³⁰ In fact, ἀποπραιπόσιτος comes from a Coptic text whereas ἀποτριβοῦνος comes from a Coptic funerary inscription. Cf. also Gonis (1998: 217-18) for a different view on some of these formations (ἀποπροτήκτωρ, ἀποτριβοῦνος) as well as on the omitted (by Cervenka-Ehrenstrasser) ἀπονουμεράριος.

the Latin *ex* + abl. phrases (cf., for instance, Cervenka-Ehrenstrasser (1996-2000: s.vv. ἀπο-articles) who gives as corresponding Latin forms to the five papyrus forms above the *ex* + abl. phrases). The forms above, where the nominal part is Latinate, could be called ‘semi-calque’ formations or ‘hybrid’ compounds. However, as it happens in Latin too, it is often difficult to tell whether ἀπό + noun in the genitive should be taken as a prepositional phrase or one word (compound) meaning ‘one of/from the class of...’ or ‘former, ex’.³¹ The semantic/morphological ambiguity is increased when the ending is abbreviated/not attested fully, e.g. ἀπο-πραίποσ(ιτου).³² Naturally, as mentioned above, ἀπό + genitive could occasionally correspond to an *ab* + ablative (usually an abstract noun) too, denoting an office or a title (the *ab actis* type), e.g. ἀπὸ στρατειῶν/στρατείας : *a militiis*; ἀπὸ κομ<μ>ερκίων : *a commerciis*, etc. (cf. Lewis 1960: 186-87). But ἀπό + gen., corresponding to Latin *a(b)* + abl., perhaps can also mean ‘ex, former’, a meaning usually conveyed by *ex* + abl. in Latin, e.g. ἀπὸ ὑπατείας (Herodianus, *Ab excessu diui Marci* 7.11.3.5) corresponding to *a consulatu* (= *consularis*) (Mason 1974: 23-4).

In Classical and Koine Greek, we find many nominal compounds beginning with ἀπο-, but the usual meaning is ‘lacking, non-, un- (= ἀ- *privativum*)’ (e.g. ἀπότιμος ‘put away from the honour’) or ‘finishing off, completely’ (e.g. ἀποκάθαρσις ‘purging off, lustration’), or ‘back again’ (e.g. ἀπόκρισις ‘answer’) or even ‘coming from, leaving off’ (e.g. ἀποχώρησις ‘going away, retreat’). Many of these compounds are deverbative forms or they are at least linked to cognate verbal forms (and vice versa), e.g. ἀποπλέω → ἀπόπλους. It is extremely rare to find nouns, especially ones referring to a title/office with ἀπο-, which could have developed into the meaning ‘former’; but cf. a rare example: ἀποστράτηγος ‘retired general’ (Demosthenes, *Κατὰ Ἀριστοκράτους* 23.149); or also the post-Classical form ἀπόδουλος ‘freedman’ (attested already in the *Vita Aesopi* (ca. 1st cent. AD)); or even the late ἀποβασιλεύς ‘ex-king’ (*Anecdota Graeca* 1089 (no safe date)).

The class of compounds beginning with ἀπο- and meaning ‘former’ is significantly more numerous in the Roman period. That alone points to a possible Latin influence; in fact, from the Roman period onwards we find ἀπό combined with Latin words – of course, we also find it with Greek forms: normally military/administrative titles like the ones from the papyri above. The meaning of ἀπό in all those forms is likely to be ‘former’; however, one cannot rule out *a priori* a meaning ‘one of/from the class of...’ since the context does not provide any

³¹ Cervenka-Ehrenstrasser (1996-2000: s.v. ἀποκόμης) notes that from the fifth century AD onwards the construction ἀπό + gen. sg. is more common than ἀπό + gen. pl. when it refers to offices.

³² In Daris (1991) and other dictionaries there are some additional forms (e.g. ἀποπραίτωρ, ἀπονουμεράριος), which have been eliminated from Cervenka-Ehrenstrasser’s edition (1996-2000: 129-30) because it is not clear whether they are real compounds in the genitive or simply ἀπό + genitive phrases. For the same reason, some occurrences of the five ἀπο- compounds discussed here are doubtful: cf. e.g. ἀποπραιπόσιτος, with only one safe (Coptic) token out of 13. In this paper, I will follow Cervenka-Ehrenstrasser’s interpretations, not only because she is by and large right but also because space does not allow any lengthy discussion on this subject, and, in addition, I wish to avoid examining ‘dubious’ forms.

clues and thus leaves both options open (cf. Cervenka-Ehrenstrasser 1996-2000: s.v. ἀποδρακωνάριος and the other four ἀπο- articles where relevant bibliography is available). According to Palme (2002: 62), the ἀπο*N* forms (corresponding to Lat. *ex-*) mean ‘dass die betreffende Person diese Funktion entweder “ehemals” ausgeübt hat oder “ehrenhalber” die entsprechende Würde innehat, ohne die Funktion aktiv auszuüben’. Besides, there is a number of related ἀπό + genitive phrases (at least the editors give them as such instead of one-word compounds) where the meaning ‘former’ does not fit in well due to the meaning of the context; the alternative meaning ‘one of, from (the class) of...’ is more suitable, e.g. P.Lond. 3.1001.7 (AD 539): ἀπὸ στρατιωτῶν ‘belonging to the class of soldiers (an honorary, not a real soldier: therefore it cannot mean ‘former’)’ (Kruit 1994: 84-5; cf. also Sijpesteijn & Worp 1978: 13; 51-2). This semantic ‘ambivalence’ is in direct correspondence with the meaning of the Latin preposition *ex* as discussed above.³³ It is no coincidence perhaps that the largest number of those ἀπο*N* compounds come from the sixth century AD; by that time, Latin *ex* had acquired similar meaning(s) too.

On the other hand, we find 3 ἀπο*N* forms dating back to the fourth and fifth centuries AD. The most interesting of those comes from P.Abinn 55 rp.1 (mid-4th cent. AD): Φλαουίω Ἀβινέω ἐξ ἀποπροτηκτόρων {αποπροτηκτώρων}... Unless we are dealing with some kind of ‘conflation’ between ἐξ and ἀπό,³⁴ the coexistence of ἐξ and ἀπό apparently points to the meaning ‘former’ for ἀπο- since it would not make much sense to express the meaning ‘one of, from (the class) ...’ twice. But Latin *ex* is still used as a Latin preposition (+ abl.) by this time, it is not a real adverb yet. Are we then a bit further ahead with this form in Greek than most other written evidence from Latin (and Greek) indicates? We should perhaps see here the more ‘autonomous’ behaviour of Greek ἀπό: the influence of Latin *ex* is indisputable, but there is also some Greek background going back to forms like ἀποστράτηγος.

In general, the phenomenon is really interesting for the relationship of the two languages. It is a pity that we do not have more evidence to examine with greater certainty the degree of the Latin influence upon Greek in this particular case.

3. Further Evidence About the Univerbations

Only a very limited number of the forms we have examined so far (*abN*, *exN*, ἀπο*N*) are known from other sources too. Thus, the only *abN* form appearing in literature is ἄβ ακτις and it is always uninflected. The form occurs a few times in the work *De magistratibus populi*

³³ But cf. e.g. the phrase ἀπὸ κομ<μ>ερκίω[v] (BGU 3.972=SB 18.13930.1 (6th/7th cent. AD)) which is apparently related to a *commerciis*, an *abN* rather than an *exN* form. Meinersmann (1927: s.v. αποκομερκίων [sic]) and Hofmann (1989: s.v. ἀποκομερκίων) have wrongly listed it as a compound.

³⁴ Cf. Gonis’ remark (1998: 217): ‘the editors of P.Abinn. 55.1. print ἐξ ἀποπροτηκτόρων, but articulations such as {ἐξ} ἀπὸ προτηκτόρων (ἐξ is an influence from the underlying *ex protectoribus*; we possess several examples of the construction without *ex*), or even ἐξἀπὸ προτηκτόρων (*Doppelpräposition*) are equally possible’.

Romani of the Byzantine historian Ioannes Laurentius Lydus (6th cent. AD) which is by and large a technical work about Roman institutions and therefore not very representative of the use of ἄβ ακτις in literature, e.g. ‘Ἄβ ἄκτις μὲν ὄνομα τῷ φροντίσματι, σημαίνει δὲ καθ’ ἑρμηνείαν τὸν τοῖς ἐπὶ χρήμασι πραττομένοις ἐφεστῶτα...’ (162.12) ‘A. is the name for the office and it means in translation the person in charge of the financial transactions...’. The word is also found at the beginning of a letter (the recipient’s name) of St. Nilus, an author of the fourth to fifth centuries (*Epist.* 2.207): ‘Θεοφίλω ἄβάκτις’. Finally, it appears in the late jurisprudence work *Basilica* (8.1.34.9) (9th-13th cent. AD): ...καὶ ὁ ἄβάκτις καὶ οἱ βοηθοὶ... ‘both the ἄ. and the assistants’. No other *abN* form is attested in literature (but cf. κομ(μ)ενταρήσιος which is attested without the ‘redundant’ ἄ-).

Moreover, some of the discussed *abN* forms are found in Greek as loan translations too, e.g. ἀπὸ ἄκτων instead of ἄβάκτις (IG 14.830.20) (cf. Mason 1974: 19, 23-24; Hofmann 1989: s.v. ἄβ ἄκτις). Similarly, we find ἐκ νομερου instead of ἀννούμερος in the papyri, etc.³⁵

On the other hand, the form ἐξκεντυρίων is an *hapax*, as mentioned before, but the corresponding ἀπο*N* compounds meaning ‘former’ continue to exist in literature throughout the medieval period, i.e. till the tenth century AD and beyond.³⁶ It is not coincidental that almost all ἀπο*N* forms meaning ‘former’ refer to titles or higher status professions:³⁷ e.g. ἀποβασιλεύς ‘ex-king’. Many of these ἀπο*N* forms could conventionally be called ‘semi-calques’, i.e. Latin terms preceded by ἀπό, although by that time the Latin lexical material was well integrated in Greek, e.g. ἀποκουβικουλάριος ‘ex-cubicularius, ex-chamberlain’, ἀποκουροπαλάτης ‘ex-major-domo’ ἀποσελεντιάριος [*sic*] ‘ex-silentarius’. But there are also fully-fledged Greek calques corresponding to Latin terms, e.g. ἀποέπαρχος ‘ex-praefectus’, ἀπούπατος ‘ex-consul’. Of course, there should have been some genuine Greek compounds too, which were created in analogy to, or, at least, were semantically supported by the existence of the aforementioned Latin(ate) titles, e.g. ἀποεπίσκοπος ‘ex-bishop’, ἀποηγούμενος ‘ex-abbot’ (unclear though, whether it is a compound or a PP because it is attested only once in the gen. sg.). One of the very few other exceptions, alongside ἀποβασιλεύς ‘ex-king’, that do not rely on the pattern of the Latin loans is the post-Classical form ἀπόδουλος ‘freedman’ which continues to be attested in texts.

³⁵ Cf. also the supposed form τοῦ ἀποπραι(ποσίτου) from an inscription (Egypt Philae 224.p.7 (6th cent. AD)): παρεχομένων παρὰ Θεοδοσίου τοῦ ἀποπραι(ποσίτου). But once more, it is not certain whether we are dealing with a prepositional phrase or a compound.

³⁶ See, for instance, the list of entries beginning with ἀπ(ο) in any dictionary of medieval Greek like Sophocles (1888), Lampe (1961), etc. For the purpose of this study, I basically consulted Sophocles (1888) and the more recent *Lexikon zur byzantinischen Gräzität*, (Trapp & Hörandner 1993-), which focuses on the ninth to twelfth centuries AD but partly covers the adjacent periods as well.

³⁷ Notice once more that none of these forms is related to a cognate ἀπο- verbal form, which, by contrast, is frequently the case with genuine Greek compounds.

It looks likely that the use of such forms does not reflect the practices of the spoken language: almost all these terms reveal some ‘artificial’ character, not only semantically (they are basically higher status titles), but also morphophonologically: cf. e.g. the lack of any sign of sound (vowel) changes in forms like ἀποέπαρχος (but ἀπέπαρχος too), ἀποεπίσκοπος, ἀποηγούμενος, etc.

By contrast, we hardly find any traces of a similar use of ἀπο- as ‘former’ in compounds referring to titles/offices from texts of the (vernacular) literature of the following period, i.e. from the twelfth century AD onwards.³⁸ We find ἀπο- being used instead with animate nouns and having the more standard Greek meanings of ‘complete(d), very, finished-off’ (e.g. ἀπόλιγνος (: ὑπόλιγνος) ‘very thin’, ἀποδόκιμος ‘well tried, tested’); ‘non-, away, off-’ (e.g. ἀποσυνάγωγος ‘expelled from the synagogue (originally)’); ‘un-, non- (like ἀ- *privativum*)’ (e.g. ἀπόφιλος ‘unworthy friend’).³⁹ However, the line of genuine Greek ἀπο- ‘former’ compounds going back to ἀποστράτηγος was not interrupted altogether: cf. the post-classical/medieval ἀπόδουλος ‘freedman’ above (LSJ, s.v.; Lampe 1961: s.v.; Sophocles 1888: s.v.).

These vernacular meanings derived from the original meaning of ἀπό ‘from... (into)’ which later on took on the meaning of ‘after, resulting (from), etc.’: cf., for example, contemporary (post-12th cent. AD) vernacular words like ἀπότυρον ‘skim-milk cheese, cream cheese’ ((liter.) ‘the after-cheese’), etc. That meaning of ἀπό might be etymologically linked to the ‘technical’ meaning of ἀπό ‘former’, which also derived from a meaning ‘from (the (previous) class, office of)...’, but there is still some small, yet clear, semantic distinction. This semantic differentiation explains why we no longer find ἀπό ‘former’ in titles of the vernacular language as it happened with terms of the nomenclature from the previous period.

Thus, it seems that the meaning ‘former’ for ἀπό in compound titles of the medieval language reflects the influence of the Roman nomenclature. However, there is also some Greek substrate from an earlier period which enabled the coining of these compounds: in any case, the meaning ‘former’ for ἀπό is very close to two of its other more common meanings: ‘one from the class of...’ and ‘non-’ (= ἀ- *privativum*).

4. Conclusions

In conclusion, the *abN* and *exN* forms in the Greek papyri reflect the introduction of significant Latin lexical material during the Roman and early Byzantine periods. But unlike other genuine Latinisms, either *simplicia* or *composita*, these forms entered Greek after some morphosyntactic modification, i.e. as univerbations.

³⁸ Cf. the list of entries beginning with ἀπ(ο)- in Kriaras (1968-).

³⁹ Similarly, *ex* ‘former’ never became popular in the colloquial Latin(ate) language(s) during the middle ages and had to wait until the seventeenth century AD to see its ‘revival’ (Väänänen 1973: 665ff.).

The *abN* forms of the papyri correspond to rather low-register Latin – cf. the ‘ungrammatical’ features, the very poor representation of these forms in the Greek inscriptions and literature – and lived on in Greek for as long as there was some presence of Latin and/or use of names/titles of Roman institutions around (i.e. mid-7th cent. AD, in Egypt). Such odd, yet innovating, ‘univerbations’ could flourish in an environment of bilingualism, but had difficulties in infiltrating the spoken Greek language, especially after they became semantically obsolete or were replaced by other terms, even within Latin itself (normally by a form in the genitive or an adjective). However, their occasional tendency to adapt to the rules of Greek morphology (cf. e.g. ἄβράκτην, the frequent use of -της instead of -τις, the employing of -ις instead of -ιβους in ἄβρέβις, etc.) indicates that this was not impossible from a morphological point of view.

On the other hand, the *exN* forms seem to have been very rare in Greek (ἐξκεντυρίων) since they were normally replaced by the ‘semi-calque’ ἄπο*N* compounds. The fact that at the very time that *ex* was undergoing its morphosyntactic (preposition → adverb) and semantic (‘from’ → ‘former, ex’) changes the use of Latin in the East was in sharp decrease must have played some role too. On the other hand, the ‘semi-calque’ ἄπο*N* compounds lived on (as a type, not necessarily the very forms we find in the papyri) and seem to have exerted some influence on medieval written Greek, basically in the coining of terms of the higher status nomenclature. But as it is also the case with *ex* in medieval Latin, the use of the ἄπο*N* compound forms in Greek, meaning ‘former’ or ‘(one) from the class of...’ and lacking a cognate Greek verbal compound form, seems to have been rather limited, if not marginal. These forms seem to not have succeeded into becoming a really functional and broadly used part of the spoken language during the middle ages and later.

From a more general point of view, the Latinate univerbations we have examined here as well as their loan translations show a different, less well-known aspect of the relationship between the two classical languages. Spelling, in particular, plays an important role, reflecting current linguistic changes, e.g. in Greek phonology (itacism, etc.). At the same time, the ἄπο*N* ‘semi-calque’ compounds display the extent of continuity with both the earlier and later stages of Greek.

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The Typology of the Dual in Homer

Nicholas Hillyard

1. Introduction

1.1. The Problem

In comparison to other aspects of Homeric language, the study of the dual has been somewhat neglected. Since the turn of the century only a handful of philologists have tackled it in any detail, notably Cuny (1906), Meillet (1922), Wackernagel (1916), Schwyzer & Debrunner (1950), Chantraine (1953-1958), Gonda (1953) and Diver (1987). The problem which mainly concerns these scholars is that when referring to two things the dual and plural are both used but with no obvious pattern. This can be clearly seen in the following examples:¹

- (1) εἰ σφῶϊν τάδε πάντα πυθοῖατο μαρναμένοιιν,
οἳ περὶ μὲν βουλήν Δαναῶν, περὶ δ' ἐστὲ μάχεσθαι.
ἀλλὰ πίθεσθ'· ἄμφω δὲ νεωτέρω ἐστὸν ἐμεῖο.

‘...if they learnt of all this quarrelling [du. participle] between you two [du. pronoun], who [pl. relative pronoun] are [2pl verb] the best of the Danaans in counsel and the best at fighting. No, you must listen to me [2pl imp.], since both of you are [2du verb] younger [du. adj.] men than I.’

(*Iliad* 1.257-59)

- (2) δοιῶ δ' οὐ δύναμαι ἰδέειν κοσμήτορε λαῶν,
Κάστορά θ' ἰπόδαμον καὶ πύξ ἀγαθὸν Πολυδεύκεα,
αὐτοκασιγνήτω, τώ μοι μία γείνατο μήτηρ.
ἢ οὐχ ἐσπέσθην Λακεδαίμονος ἐξ ἐρατεινῆς,
ἢ δούρω μὲν ἔποντο νέεσσ' ἐνὶ ποντοπόροισιν,
νῦν αὖτ' οὐκ ἐθέλουσι μάχην καταδύμεναι ἀνδρῶν,

‘But there are two [du. adj.] marshals [du. noun] of the people I cannot see, Kastor the horse-breaker and the boxer Polydeukes, my own brothers [du. adj.], born with me to the same mother. Either they did not join [3du verb] with the others from lovely Lakedaimon, or they [3pl verb] did come here in sea-faring ships, but now do not want [3pl verb] to enter the fighting, ...’

(*Iliad* 3.236-41)

¹ I have used the Oxford Classical Text (Monro & Allen 1902) of the *Iliad* for all textual work.

It seems surprising that body-parts referring to natural pairs appear more often in the plural than the dual.² We also find mismatches of agreement between nouns, verbs, participles and adjectives referring to two things, such that four combinations of noun and verb agreements can be found in *Iliad* 1-12:

- (3) ὄσσε δὲ οἱ πυρὶ λαμπετόωντι εἴκτην
‘Her eyes [nom. du.] shone [3du] like blazing fire.’
(*Iliad* 1.104)
- (4) δύω δὲ οἱ υἱέες ἦστην
‘There were [3du] two sons [nom. pl.](belonging to him).’
(*Iliad* 5.10)
- (5) δύω δ’ ἡγήτορες ἦσαν
‘There were [3pl.] two leaders [nom. pl.].’
(*Iliad* 4.393)
- (6) ὄφρ’ ἵππῳ πλήξαντε χαμαὶ βάλον ἐν κονίησι
‘His horses [nom. du.] kicked him over [3pl] and trampled him into the dust on the ground.’
(*Iliad* 5.588)

1.2. Secondary Literature

None of the philologists mentioned above provide a satisfactory solution: a) to the synchronic problem of the lack of obvious pattern to the use of dual and plural referring to two things, and b) to the diachronic problem as to how Homeric language reached the state where it still had a dual but that dual was used ‘irregularly’. All except Diver ultimately conclude that there is no discernible pattern to the use of the dual and it is used completely irregularly, but they do make a number of useful suggestions along the way.³

Chantraine (1953: 22) and Meillet (1922: 147) believe that the poet was guided in his use of the dual or plural by what forms were metrically possible in the hexameter line. This seems perfectly reasonable, but cannot be the only cause of the mixture of duals and plurals, as there are many lines in the *Iliad* where a dual and plural would be completely metrically equivalent. For example, in *Iliad* 1.328, if the poet had chosen to use the plural, then the form

² In *Iliad* 1-12 there are 3 instances of the dual of the noun ὄμμος and 25 instances of the plural.

³ Diver’s solution is that the dual in Homer does not express duality, but rather focus. This however leads to some extremely awkward argumentation. For example, according to his theory, body-part nouns are more likely to be in the plural as they are always of subordinate interest. This however forces him to unconvincingly explain the use of the dual in ὄσσε as due to the noun never being used to mean ‘eyes’ but rather ‘windows to the soul’.

ἴκοντο would have had the same metrical pattern as the dual ἰκέσθην which actually appears in this line:

- (7) - υυ| - υυ| - υυ| - -| - υυ| - x
 Μυρμιδόνων δ' ἐπί τε κλισίας καὶ νῆας ἰκέσθην.
 'They [the two heralds] came to the huts and ships of the Myrmidons'
 (*Iliad* 1.328)

Similarly in the nouns, the *o*-stem and *a*-stem nominative plurals -οι and -αι are metrically equivalent to the *o*-stem and or *a*-stem nominative-accusative duals -ω and -ᾶ.

Chantraine (1953: 24-5) and Schwyzer & Debrunner (1950: 48-9) suggest that there also may be semantic distinctions between the dual and plural, with the dual used for things which form a definite pair and the plural used for things which happen to be a pair by chance. This however can be disproved quite easily – the dual is used to refer not only to the two (only) sons of Molion, Kteatos and Eurytos but also to the two (of the many) sons of Priam, Helenos and Deiphobos:

- (8) καί νύ κεν Ἄκτορίωνε Μολίωνε παῖδ' ἀλάπαξα
 'I would have killed the two sons of Molion, grandsons of Actor.'
 (*Iliad* 11.750)
- (9) υἱε δὲ Πριαμοῖο
 'the two sons of Priam'
 (*Iliad* 12.95)

To explain how the dual came to be used 'irregularly', Chantraine (1953: 27) and Meillet (1922: 150, 153, 163) both suggest that during the final phase of composition in Asia Minor, Ionic-speaking poets (who did not use duals in their own dialect) did not understand the inherited Aeolic dual forms and hence either used them as a kind of archaic plural or replaced them with plural forms which they knew.

1.3. A New Approach

In this article I use a hitherto unattempted typological approach to find a pattern to dual usage. My findings enable some interesting conclusions to be drawn about the nature of Homeric language and the development of Greek.

2. Typology

A cross-linguistic examination and construction of a typology for dual usage reveals a number of points relevant to the problem of the dual in Homer.

2.1. Different Types of Dual Usage

In languages which use the dual, it can be either *obligatory* or *facultative* (Corbett 2000: 42). In languages such as Sanskrit, the dual is *obligatory*, i.e. it is regularly used whenever reference is made to two entities.⁴ However, in Slovene, a modern South Slavonic language, it is *facultative*. This means that the dual may be used when referring to two things in Slovene but does not have to be. In fact, dual forms are normally used in pronouns and verbal forms, but in noun phrases which refer to two things (such as body-parts which refer to natural pairs), a dual is only used when the quantifiers ‘two’ or ‘both’ are stated, being replaced by the plural if the quantifier is unstated, for example (Priestly 1993: 440-1):

- (10) *nogé me bolijo*
 foot;PL 1SG:ACC hurt:PL
 ‘my feet hurt’

2.2. Animacy Hierarchy

Cross-linguistic typological examination of number generally (and some other grammatical phenomena) has led linguists to construct a hierarchy known variously as the *animacy hierarchy*, the *extended animacy hierarchy*, the *topicality hierarchy* or the *personal hierarchy*, which was first described by Silverstein in a 1973 article (published in 1976).⁵

The hierarchy was first proposed to account for data in different languages regarding the way they mark number values. Smith-Stark (1974), for example, one of the earliest modern proponents of the hierarchy, notes that in Georgian, if the subject is plural and denotes an animate, the verb will be plural, but if the subject is plural and denotes an inanimate, then the verb will be singular. Thus Georgian nouns are split in the way they mark number between animates and inanimates.

There is indeed good cross-linguistic evidence for a split between animates and inanimates in languages other than Georgian. This can be clearly seen in Marind, a language spoken in southern Irian Jaya (Drabbe 1955: 18-20; Foley 1986: 82-3). Marind has four genders – gender 1 for male humans, gender 2 for female humans and animals and genders 3 and 4 for inanimates. Genders 1 and 2 both have plural agreement forms whereas genders 3 and 4 do not. Mundari, a Munda language of East India, shows a similar phenomenon. Verbs

⁴ MacDonell (1927: 180) (of Sanskrit) ‘The dual number is in regular use and of strict application, the plural practically never referring to two objects’; Diver (1987: 103) ‘In Sanskrit, if there are two of something, whatever it is, the structure gives no option but to use the dual’.

⁵ See Silverstein (1976: 112-71). The work of Silverstein inspired Smith-Stark (1974) who actually claims that predecessors to the hierarchy can be found earlier in the work of Forchheimer (1953: 12-13) and de la Grasserie (1886-7: 234-7).

agree in number down as far as animate nouns, but not with inanimates (Bhattacharya 1976: 191-2).

Other languages provide evidence for further splits in number marking. For example Mayali, a Gunwinjguan language of western Arnhem Land, Australia, shows a split between human and non-human. In Mayali number is normally marked on the verb in agreement with nouns denoting humans and a few other higher beings such as spirits, but this is not the case for non-humans (Corbett 2000: 58; Evans 1995: 213 for a more detailed exposition).

Further refinements to the animacy hierarchy can be made depending on the language in question. For example, in Manam, a language spoken off the North coast of Papua New Guinea, an additional category between human and non-human animates must be created, since Manam nouns have dual and paucal⁶ forms only for humans and higher animals, for example pigs, dogs, birds, goats, horses and other large animals (Lichtenberk 1983: 110).

There is also a case for languages splitting the way they distinguish number in terms of kin as opposed to non-kin human. For example, Kobon, a language spoken in Papua New Guinea, distinguishes number in personal pronouns (all three persons) and in nouns denoting kin (Davies 1981: 147-8, 154). Maori nouns show a similar pattern (Bauer 1993: 353-4, 371, 593).

This evidence has led to linguists' construction of the hierarchy, a continuum composed of three different but related functional dimensions: *Person* (first, second > third), *Referentiality* (pronoun > proper name > common noun) and *Animacy* (human > animate > inanimate), starting with the speaker as a point of reference:

speaker (first person pronoun) > addressee (second person pronoun) > third person (i.e. pronoun) > kin > human > animate > inanimate⁷

To clarify what words each of the categories of the hierarchy might contain, 'Ajax' and 'son' would be in the *kin* category, 'man' in *human*, 'horse' in *animate* and 'gate' in *inanimate*.⁸

The animacy hierarchy applies to the number systems of almost all natural languages we know, including those with a dual as part of their number system. For example, in the following graphs I will first represent the range of the plural in some of the different languages mentioned above, illustrating its range according to the animacy hierarchy – Sanskrit (plural always used to refer to more than two entities whatever the animacy of the

⁶ The paucal is a number category used in some languages to refer to a few things (less than the plural but more than the dual (2 things) and trial (3 things)).

⁷ There are minor differences between the hierarchies of various authors. I have used Corbett's (2000: 56) *animacy hierarchy* here.

⁸ See §3 for further discussion of which nouns fit in which categories.

noun in question), Georgian (which uses the singular for inanimates, but the plural for everything else) and Maori (where the range of the plural only extends to pronouns and kin):

(11) Sanskrit

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]

(12) Georgian

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]

(13) Maori

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]

The range of the dual can then be compared to that of the plural on the same graph. Example (14) shows that the range of the dual and plural is the same in Sanskrit:

(14) Sanskrit

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]
dual _____]

However, in a language like Arapesh (spoken in Papua New Guinea) there is only a singular/dual/plural distinction in first person pronouns. This can be represented on the animacy hierarchy as follows:

(15) Arapesh

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]
dual ____]

In Maori, there is a distinction between singular/dual/plural only in the pronouns:

(16) Maori

1 > 2 > 3 > kin > human > animate > inanimate
plural _____]
dual _____]

Languages such as Slovene, where the dual is obligatory for pronouns, but facultative for nouns, are represented according to the animacy hierarchy as follows:

(22) Maltese

1 > 2 > 3 > kin > human > animate > inanimate
 plural _____]
 dual [_ _]

A number of proposals have been put forward as to why Maltese and Modern Hebrew do not conform to the animacy hierarchy. Plank suggests that the criterion for distinguishing which nouns are eligible for dual marking and which not is whether they denote natural pairs (Plank 1989: 309-10; Corbett 2000: 96).¹¹ This explanation however is clearly inadequate for the Hebrew data: in example (19) above, the word for ‘day’ was in the dual and yet ‘days’ in no way form natural pairs. Corbett’s solution is to categorise the duals of Hebrew and Maltese as so-called *Minor Numbers* (Corbett 2000: 97-101).¹² He contrasts these Minor Numbers, which do not adhere to the animacy hierarchy and behave in a typologically peculiar way, to *Major Numbers*, numbers which do behave typologically. Though Minor Numbers require a relaxation in the typology, they do not vary without limit – Corbett proposes three constraints to which they adhere.¹³ The obvious problem with Corbett’s *Minor Number Theory* is that it completely fails to provide convincing reasons as to why some languages have Minor Number and others do not. Minor Number is not a solution to the problem, but merely a synchronic label for all the languages which do not conform to the animacy hierarchy. It would be much more interesting and informative to carry out a diachronic study of these languages. Clearly Hebrew and Maltese have at some stage lost various dual forms, resulting in the present typologically peculiar system. It is possible that a diachronic investigation would reveal an intermediate stage in the development of their number systems when Major Number becomes Minor Number, when the animacy hierarchy would not work at all.¹⁴

3. Statistics

If we apply these typological patterns of dual and plural usage to data from a statistical analysis from *Iliad* 1-12, then the results show that there is a definite pattern to the use of the dual and plural in Homer while also raising a number of other interesting issues. The following tables show statistics comparing dual and plural usage referring to two things.

Tables 1 and 2 show the raw counts and percentages comparing the total numbers of duals and plurals used to refer to two things in various grammatical categories in *Iliad* 1-12.

¹¹ For further discussion of this unusual behaviour of languages like Maltese see Plank (1996).

¹² Corbett claims that this is an improvement of his earlier account (1996).

¹³ See Corbett (2000: 97-100). There is insufficient space to describe the constraints in detail in this article – they are simply descriptive and not prescriptive, and consequently not particularly helpful.

¹⁴ As far as I can gather from Corbett and others, a diachronic study of languages which display Minor Number has yet to be carried out. See §4 for further discussion.

Table 1: Dual/plural raw counts

Grammatical Category	Dual	Plural	Total
Nouns	85	288	373
Pronouns	92	26	123
Verbs (free choice) ¹⁵	50	15	65
δύω/δύο + noun	29	10	39
ἄμφω + noun	5	-	5

Table 2: Dual/plural percentages

Grammatical category	Dual %	Plural %
Nouns	23	77
Pronouns	75	25
Verbs ('free choice')	77	23
δύω/δύο + noun	75	25
ἄμφω + noun	100	-

On their own, these tables merely confirm the initial problem (as stated in §1.1.): that a mixture of duals and plurals are used to refer to two things in Homer. Tables 3 and 4 however prove there is a pattern to this usage. Table 3 shows the statistics for dual and plural nouns and pronouns referring to two things split into categories according to the animacy hierarchy. In my analysis, I have basically used Corbett's (2000: 56) animacy hierarchy, but have kept the animacy categories mutually exclusive, i.e. *kin*, *non-kin human*, and *non-human animate*¹⁶. It should be noted that I have placed the body-part nouns in the inanimate category. Although they are part of a human being, in my sample they are almost never considered as animate beings in their own right, but rather as tools of an animate, as any other inanimate object might be, e.g. in the famous formula πόδας ὠκὺς Ἀχιλλεύς 'swift-footed Achilles' (1.58 etc.).¹⁷ I have included all Proper Names in the *kin* category, following Dixon's argument that since your kin are the people you (in theory) know best and the better you know a person, then the more likely you are to know their personal name (Dixon 1979: 85).

¹⁵ See paragraph below table 5 for an explanation of 'free choice'.

¹⁶ Contrast Corbett's categories, where the category Kin includes all nouns of that category and lower on the scale and so on (cf. Dixon 1979: 85).

¹⁷ Cf. Snell (1948: 5) who writes that in Homer the body is not considered an animate whole, but rather an assembly of pieces, e.g. γυῖα, μέλεα etc.

Table 3: Nouns and pronouns categorised by animacy, raw counts¹⁸

Number	Pronouns			Kin/ Proper Names	Non- kin Human	Non- human Animate	Inanimate
	1	2	3				
Dual	16	11	65	30	16	15	24
Plural	3	2	26	19	14	76	179
Total	19	13	91	49	30	91	203

Table 4: Nouns and pronouns categorised by animacy, percentages

Number	Pronouns %			Kin/ Proper Names %	Non- kin Human %	Non- human Animate %	Inanimate %
	1	2	3				
Dual	84	85	71	61	56	16	12
Plural	16	15	29	39	44	84	88
Total	100	100	100	100	100	100	100

These tables illustrate clearly a strong trend that the higher up the scale of the animacy hierarchy the noun (or pronoun) is, then the more likely the dual is to be used. Conversely, the lower down the scale the noun, then the more likely the plural is to be employed.

Table 5: Distribution of dual/ plural in verbs

Number	Total	%	Free choice of dual/plural	%
Dual	89	46	50	77
Plural	106	54	15	23
Total	195	100	65	100

In *Iliad* 1-12, there are 195 verbal forms referring to two things. Of these, 89 are dual and 106 are plural, representing a 46 to 54 percent split. However, to gain statistics whereby we can judge whether verbs adhere to the animacy hierarchy, it is necessary to compare dual and plural usage only for verbal forms which are in lines of the *Iliad* where the poet had a true choice between a dual or plural form as far as the metre and morphological forms are concerned. For example, a dual form like ἐποιησάτην does not fit into a hexameter line, whereas the corresponding plural form ἐποίησαν does.¹⁹ In addition, the dual is missing certain forms which can be found in the plural, for instance we do not find any first person indicative dual forms, and in *Iliad* 1-12 there are no optative and only two subjunctive duals.²⁰ This suggests that the poet either had no choice (as in the case of the first person indicative and optative) or was strongly inclined to use the plural in preference to the dual (as in the subjunctive).

¹⁸ χ^2 test proves that the pattern of these statistics is significant, with a P value of 3.7×10^{-34} (less than the mandatory 0.01).

¹⁹ The dual form would scan (⊔) – – ⊔ –; the plural form would scan (⊔) – – ×.

²⁰ The two subj. duals occur in the same line μὴ τὼ μὲν δείσαντε ματήσετον, οὐδ' ἐθέλητον (*Iliad* 5.233).

4. Conclusion

Chantraine, Schwyzer & Debrunner, Cuny, Meillet, Gonda and Diver struggle to solve two problems regarding the dual in Homer: a) they were unable to find a synchronic pattern to its use, concluding that the dual and plural employed to refer to two things are used completely randomly and incoherently, and b) their diachronic explanations of how the dual developed from a regular use in Proto-Greek (as we can deduce from its regular early usage in a number of dialects such as Mycenaean, Elean, Arcadian and Attic) to its partial use in Homer, are also unsatisfactory. In this article I show that a new approach to these problems involving the use of typology is helpful.

4.1. The Synchronic Problem

The dual and plural forms referring to two things (in *Iliad* 1-12) show a clear pattern when analysed according to the categories of the animacy hierarchy.

For nouns, the higher up the hierarchy the noun, then the more likely the dual is to be used; conversely, the lower down the hierarchy the noun, the more likely the plural is to be employed. This is not an inviolable rule but a general trend, as shown by several instances of a plural being used in proper names or kin nouns referring to two entities, for example Ἀτρεΐδοι (*Iliad* 1.17), Ἀΐοντες (*Iliad* 7.164) or υἱέας (*Iliad* 5.148), beside duals being used to describe a pair of inanimate objects, for example δοῦρε (*Iliad* 3.18), or body-part nouns, for example ὄσσε (*Iliad* 1.104) and ὄμω (*Iliad* 2.217).

In all versions of the animacy hierarchy, pronouns occupy the top segments but there is some disagreement about ordering. Corbett (2000: 56)²¹ proposes that their ordering should be first person, second person, third person, as they become progressively ‘further’ from the speaker who is taken as an initial point of reference. Dixon (1979: 85), however, splits the pronouns with first and second persons as equal on the hierarchy and the third person lower down. His reasons for doing this are understandable: the first and second persons refer to the speaker and the addressee, whereas third person refers to another entity. The entity referred to by a third person deictic or pronoun is almost the same ‘distance’ from the speaker as if an entity were referred to using a proper noun.²² My statistics for pronouns follow the hierarchy of Dixon more closely. There is a very similar percentage of duals in the first and second persons (in a study such as this a difference of 1% can be considered insignificant) while the third person pronoun has a greater percentage of plurals when referring to two things, but is nonetheless still higher up the hierarchy than the most animate category of nouns, Kin/ Proper Names.

²¹ For the Corbett hierarchy, see §2.2 above.

²² For a fuller discussion see Corbett (2000: 61-6).

If we compare dual and plural usage only for verbal forms where the poet had a ‘free’ choice between a dual or plural form, i.e. where metrical and morphological factors do not come into play, an analysis according to the animacy hierarchy produces a split of 77% to 23% in favour of the dual. This would place them at the top end of the hierarchy (pronouns average 75% dual usage across the three persons). One could argue that this is entirely to be expected: in a language like ancient Greek where the person is encoded in the verbal ending, verbs could be included at the top end of the hierarchy under the first, second and third person categories. However, Corbett, Dixon and Smith-Stark apply the animacy hierarchy only to nouns and pronouns and many languages do not encode person in their verbal ending, e.g. English.²³

To return to the examples used to state the problem in §1.1., the majority of dual and plural usages can be explained according to the pattern I have found. For example, in the passage *Iliad* 1.257-9, due to their position high in the animacy hierarchy, we expect the pronouns and verbs referring to two things to be in the dual, e.g. in line 257 the dual pronoun σφῶϊν and dual verb μαρναμένοιιν and in 259 the verb ἐστόν. The dual adjective νεωτέρω in 259 refers to an animate and is therefore more likely to be dual. There is no dual relative pronoun, which explains the use of the plural οἱ. We might expect a dual verb ἐστόν in line 258, but this would not fit the metre, so the plural ἐστέ is preferred. The discovery of any synchronic trend to the use of the dual and plural has some very important implications. Traditionally, Homeric language has been viewed and analysed as an artificial poetic language, a *Kunstsprache*. I am however able to demonstrate that with regard to number at least it shows patterns which we might expect to find in a natural language. Perhaps certain forms of the dual were more alive and better understood in the final phase of composition than is generally thought.

4.2. The Diachronic Question

Does typology help us solve the problem of how Homeric language reached the state where a mixture of duals and plurals are used to refer to two things?

Typological analysis reveals several different types of number system which include the dual. Most natural languages, for example Sanskrit, Slovene and Maori, adhere to the principles of the animacy hierarchy in their marking and splitting of number (§2.2). A few languages, such as Hebrew and Maltese, do not pattern according to the animacy hierarchy. This has led to their being labelled differently (Corbett, as I mentioned in §2.3 calls them *Minor Number*) and not much in the way of detailed work, particularly a diachronic study, seems to have been done on these languages. Various languages used to have the dual but have now lost it totally and again obey the principles of the animacy hierarchy (English and

²³ There are of course many languages which do encode person in verbal endings, e.g. Greek and Slovene (see §2.1.).

Russian, for example, show morphological remains of the dual, but have lost it completely as a category). Homeric language however is unique among the languages I have come across in that it does not adhere completely to the animacy hierarchy, but shows a definite trend according to its principles.

Minor Number languages like Hebrew and Maltese have clearly at some stage lost various dual forms, resulting in the present typologically irregular system. The way in which earlier philologists labelled Homeric language as ‘incoherent’ and ‘patternless’ is remarkably similar to the way in which Minor Number languages are more-or-less abandoned by modern linguists. Perhaps the animacy pattern we see in the Homeric dual and plural reflects an earlier stage in the loss of the dual category than we see in these Minor Number languages. From an original state where Homeric language had a regular use of the dual (cf Sanskrit), the plural came to be used for a few inanimate nouns which referred to two things. Gradually the plural became more prevalent and was also used for nouns in higher animacy categories, e.g. animates and humans. Due to the fact that the language was not really spoken (except perhaps in poetic recitations), a certain amount of contamination and poetic licence has left the dual/plural usage referring to two things in its present state, with the animacy hierarchy rules still evident but reduced to a trend.

What other evidence is there to support this hypothesis? In its present state Homeric language seems to have relatively few inanimate nouns, apart of course from the body-part nouns, in the dual. One of these nouns is *δοῦρε*, which is used five times in *Iliad* 1-12: 3.18 (with *δύω κεκορυθμένα*), 10.76 (with *δύο*), 11.43 (with *δύω*), 12.298 (with *δύο*), 12.465 (with *δοιά*). Since the unmodified noun appears in none of these instances, it seems that in the inanimate category the use of the dual is encouraged or preserved by the modifier and that apart from the body-part nouns (which appear unmodified in the dual, e.g. *ὄσσε* and *ὄμω*), there are actually no instances of inanimate nouns in the dual without a special conditioning factor. This might indicate that in Homeric language the plural was beginning to erode the inanimate category. One problem with this theory must be addressed: we might expect nouns which are modified by a numeral to be the ones to be most likely to change into plurals, given that the idea of duality is already stated in the modifier. However, as mentioned in §2.1, typologically the opposite situation is actually quite common – Slovene and some other languages require a modifier to use the dual.

As I have mentioned above, it is possible that the Homeric situation represents an earlier stage in the loss of the dual category to the one seen in Minor Number languages. But how can we explain the fact that the remains of the dual in these languages are found in nouns at the bottom end of the animacy hierarchy? A deeper investigation than is possible in this study of the diachronic change involved in Minor Number languages would be necessary to draw any firm conclusions. However, two solutions seem plausible: a) facultative dual usage (as in Homer) was gradually eroded from the bottom end of the hierarchy until the dual category had been almost completely eliminated. Some peculiar quality of the nouns that remain lead to the

dual forms being preserved and fossilised, or b) since number is marked more consistently at the higher end of the animacy hierarchy, it is possible that replacement of the dual actually started there, spreading only partially down the scale, and leaving the remains we see in languages such as Hebrew and Maltese.

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Some Personal Names from Western Crete¹

Richard Hitchman

1. Pre-Greek Names on Crete?

We learn from a celebrated passage in the *Odyssey* (19, 172-177) that early Crete was multi-lingual.

- (1) Κρήτη τις γαῖ' ἔστι, μέσῳ ἐνὶ οἴνοπι πόντῳ,
καλὴ καὶ πείρα, περίρρυτος· ἐν δ' ἄνθρωποι
πολλοί, ἀπειρέσιοι, καὶ ἐννήκοντα πόλεις -
ἄλλη δ' ἄλλων γλῶσσα μεμιγμένη· ἐν μὲν Ἀχαιοί
ἐν δ' Ἐτεόκρητες μεγαλήτορες, ἐν δὲ Κύδωνες,
Δωριέες τε τριχάϊκες διοί τε Πελασγοί -²

Kydonia is in Western Crete, and it would not have been surprising if the author of this passage knew of the survival of a non-Greek language there, or at least of a tradition that there had been one. In the period from about 2000 to 1200 BC three pre-alphabetic scripts were in use on Crete: Hieroglyphic Cretan, Linear A and Linear B. Linear B was used to write Mycenaean Greek (about 1400-1200 BC). The first two were used to write unknown languages, and it would have been quite possible for such a language to have survived in the Kydonia area.

The Linear B tablets include many personal names, some obviously Greek, some clearly non-Greek. The 'shepherd tablets' on Crete may show that 'shepherds' with mostly 'pre-Greek' names served 'collectors' with mostly Greek names (Baumbach 1987; Ilievski 1992). The obvious social model is Saxons and Normans.

In the Dark Ages (about 1200-700 BC) writing was forgotten on Crete and Doric-speakers gained control of the island. Social groups are conservative in retaining personal names. The questions that I wish to address here are: were pre-Greek names preserved by word of mouth through the Dark Ages, after writing was forgotten, into the alphabetic period?

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² 'There is a country called Crete, in the middle of the wine-dark sea, beautiful and rich, surrounded with water; and in it there are many men – countless – and ninety cities; and one language is mingled with others; Achaeans are there, and so are brave Eteocretans, and also Kydonians, Dorians with their three clans, and noble Pelasgians' [my translation].

If so, does that imply the survival of a pre-Greek language? Were bearers of any such names in the alphabetic period in an inferior position in society?

2. A Group of Names Without Etymology: Τάσκος etc.

A good starting point is to ask whether the names beginning with Τασκ- fit into the category of surviving pre-Greek names. Olivier Masson (1985: 196) drew attention to them in an article published in 1985.³ They are: Τασκάδας, Τασκαιννάδας,⁴ Τασκαννάδας, Τασκιάδας, Τάσκις, Τασκομένης, Τάσκος, Τασκύδας, Τάσκυς. According to Masson they were ‘*surement... d’un élément hérité du substrat préhellénique*’.

To examine whether these names are indeed, as Masson suggests, from a pre-Greek substrate, it will be convenient first to summarise their distribution. There are twenty Cretans whose names begin with Τασκ- (*Tasks*): all but one are from Western Crete, fourteen from Polyrrhenia. Elsewhere, I know of two men named Τάσκος in Sparta and one in the Cimmerian Bosphorus, two men called Τασκομένης from Magnesia,⁵ and two people called respectively Δασσκάδας and Δασκάδας in Locris. We are justified in taking Δασ(σ)κάδας as a variant of Τασκάδας, because Δασσκάδας and one of the two Cretans called Τασκάδας each had a son called Ὑπερβάλλον and it seems clear, given the Greek habit of alternating names between generations in the same family, that there must be a cultural, if not outright family, connexion between the two sets of names. There is one Δάσκων in Syracuse, whose name Bechtel (1917: 551) derives from a place name. So *Tasks* are centred on Polyrrhenia, and the name seems to be of Western Cretan origin.

What evidence is there that these names are pre-Greek?

- (1) Τασκ- has no known Greek etymology.
- (2) We have the variants: Τάσκις, Τάσκος, Τάσκυς. Τασκ- does not form compound names, except for the isolated example of Τασκομένης, which is late (the dates of the two Cretans so named are: one late third century BC, one first or second century AD. The men from Magnesia are attested in the early second century BC). Simple Greek names do not generally alternate between -ος and -υς. Bechtel (1917) gives only two examples: Κόννος, Κοννῶς and Μίτος, Μίτυς; but Linear B -o(s) names often appear to correspond to Linear A -i- and -u- names. It therefore appears plausible that Τάσκος is a more hellenized variant of at least one earlier, pre-Greek form, Τάσκυς, and possibly another, Τάσκις.

³ Maiuri (1910: 351-54) and Scherer (1965: 60) had earlier also discussed them.

⁴ Perhaps a variant spelling of Τασκαννάδας (Bile 1988: 164).

⁵ The two men from Magnesia called Τασκομένης are from the as yet unpublished part of the LGPN database. The reference is IG II² 2313, 52.

- (3) The alternation Τασκ-/Δασκ- may be significant. At the very least it shows that the Greeks in Locris did not recognise the root as an integral part of the Greek lexicon.
- (4) The names are overwhelmingly from West Crete, which seems to be an area that is conservative with regard to personal names.

Masson did not argue for his conclusion that the names derived from a pre-Greek substrate language; but the evidence suggests that he was right.

People (and names) of a particular ethnicity often congregate. It is worth examining the people to whom the *Tasks* are or may be related. What can the evidence tell us?

3. Direct and Indirect Relations of the *Tasks*.

We know of people with the following names, related to the Cretan *Tasks*. Some are obviously Greek: Θεαγένης, Μενοίτιος, Οίωνικλῆς, Πασίνοος, Ὑπερβάλλων, Χαρμάδας. Some are less obvious: Ἀβδίας, Αἰτυρως, Ε[.]σθο[.]σα, Δρύτων, Λαππᾶος, Σῶσος.

In their turn Cretans with these names are related to eleven people besides the *Tasks*, of whom seven have names that are not obviously Greek: Βίαθθος, Αἴτυρος, (cf. Αἰτυρως, already encountered), Βρεῦκος, Ὀρύας (which has the variations Ὀρούας Ὀρυάδης), Πρωσίας, Σήραμβος (two men). If we take Cretans with these, not obviously Greek, names and look for relations of theirs with names that are also not obviously Greek we can add the names Χαυρίας, Τυρώς,⁶ resulting in a list of people who seem to be linked to the *Tasks* and whose names we may suspect to be of non-Greek and perhaps of non-Indo-European origin.

Beside the *Tasks*, therefore, we know or suspect that the following people with names that may not be Greek are related to someone whose name begins with Τασκ-: Ἀβδίας, Αἰτυρως/Αἴτυρος, Βίαθθος, Βρεῦκος, Δρύτων, Ε[.]σθο[.]σα, Κρύτων, Λαππᾶος, Ὀρύας (and cf. also Ὀρούας and Ὀρυάδης), Πρωσίας, Σήραμβος, Σῶσος, Τυρώς, Χαυρίας.

If the Τασκ- names are of pre-Greek origin, it is reasonable to assume that names associated with them might have a mixture of Greek and pre-Greek names; but further tests are needed. We expect a pre-Greek name from Crete to fulfil some at least of the following criteria, consistent with those that have already been used for the Τασκ- names.

- (1) Not to have an agreed Greek, and perhaps even Indo-European, etymology (e.g. Βρεῦκος).
- (2) Not to be immediately translatable (but see below for Σήραμβος).

⁶ Τυρώς is connected at one remove from a person with a name that is not obviously Greek: the grand-daughter of a man called Θεῖνος. The other Cretan bearer of this name is son of a man named Ὀρύας.

- (3) To show elements (suffixes, etc.) that are known to be pre-Greek, such as -νθος and -σσος.
- (4) To show elements (suffixes, etc.) for which no Greek or Indo-European origin is known (e.g. Σήραμβος) or which alternate in a non-Greek way (e.g. Τάσκος/Τάσκυς).
- (5) To have clear similarities with (preferably Cretan) mythological names of unknown and presumably pre-Greek etymology such as Μίνως, Τάλως and Ραδάμανθυς.
- (6) To show restricted distribution to a limited part of Crete (e.g. the Τασκ- names and their link to Western Crete).

We may now test the names of the *Tasks* and their relations against these criteria. Clearly the Τασκ- names fit criteria (1), (2), (4) and (6). What about the names of the other people concerned? For each name I give the number and geographical distribution of bearers, with an indication of their dates,⁷ followed by some discussion of the extent to which the name matches the six criteria named above.

Ἀβδίαξ. This may well be Semitic, as envisaged by Masson in his discussion of a possible example of the name in Cyprus (1989: 161 = OGS iii.37).⁸ Otherwise, the name is found only on Western Crete. We know of five examples (LGPN i.1; SEG XLV 1275), including three from Polyrrenia, dating from the third to perhaps the first century BC. The only Greek word that it resembles is ἄβδηξ, which Hesychius glosses as ‘whip’. Its etymology is unknown, but there is no reason to believe it Asiatic (Chantraine 1968-1980: s.v.; Masson 1962a: 90, 170). The name is puzzling: if it is Semitic, it seems an odd coincidence that it should be associated with a group of other, apparently non-Semitic names; if it is not, the presence of the typically Semitic name-element *Abd-* is itself a coincidence.

Αἰτυρός. We know of one man with this name from Polyrrenia, in the hellenistic period (IC ii.138 no. 4). The name may be a variant of Αἴτυρος (we know of one man from Western Crete, in the imperial period (IC ii.307 no. 1)). The etymology is unclear, although the -ως termination is reminiscent of the mythological Cretan figures Μίνως and Τάλως. There are seven Cretan names ending in -ως that are not obviously Greek: Αἰτυρός, Βρώτως, Καραίδως⁹, Λάτως, Μάγως, Πύρωξ, Τυρώξ. Three (Αἰτυρός, Καραίδως, Τυρώξ) out of seven would then be from Polyrrenia, a remarkably high proportion.

⁷ I have taken my information mainly from the published volumes of the *Lexicon of Greek Personal Names* (Fraser & Matthews 1987-), and my analysis is therefore based on the geographical area covered by the volumes so far published.

⁸ Masson interprets this Ἀβδίαξ as an alphabetic rendering of a Cypriot syllabic name, but also envisages the possibility that it is not local. Cf. also the Cypriot name Ἀβδίμιλλας.

⁹ This appears to be in the genitive case, hence perhaps should not be included here. It could be a Greek compound with an unexpected termination. Notably, it appears on the same inscription (IC ii.248 no. 8) as a

Τυρώς. This is a *hapax* from Polyrrhenia, in the second to first century BC (SEG XVI 532 a; b). See under Αἰτυρώς above for names in -ως. There is no clear connexion with the city of Tyre, or the word for ‘cheese’, or with the Illyrian name *Turus* (Masson 1990: 503 = OGS iii.83). The difficult etymology and concentration of names in -ως in Western Crete may be significant. If the name is pre-Greek the formal resemblance with Αἰτυρώς may also be significant. Linear B has a name *se-me-tu-ro* for a shepherd at Knosos (KN Dc 1364¹⁰) which it may be legitimate to treat as a compound because of the other Knosos name *pi-ja-se-me* (KN As 1516.19). In that case we may be justified in seeing *turo* as a separate pre-Greek name-element and names such as Αἰτυρώς and Τυρώς as continuing it.

Βίαϑος. We know of two men, both from Polyrrhenia (one certainly and one possibly in the second century BC): one the father of a Ταλθύβιος. Bechtel (1917: 93, 211) analyses this as a shortened form from a supposed *Βιά-ϑος with expressive gemination; the link with Ταλθύβιος would support this, but could equally well support a folk etymology. Note, however, that Bechtel produces no evidence for compounds of Βια- rather than βίος. A pre-Greek origin is certainly possible and favoured by the unique status of the termination: the only other name in -ια(ϑ)ϑος is Φείαϑος from Thessaly (third century BC). Similarity to the place-name Σκίαϑος (Chadwick 1969: 84) and to the loan-word ψίαϑος ‘reed mat’ (Chantraine 1968-1980: s.v.) may, but need not, point to non-Greek origins.

Βρεῦκος. One man from Eleutherna (Western Crete) bore this name, mentioned in a first century BC decree from Delphi. The name recurs once in Illyria (Dyrrachium) in the imperial period and in Macedonia in c. AD 41-48. Cyrenaica has two men called Βροῦκος and there is one in Athens. We know of one man called by the related name Βρουκίων on Amorgos and one on Melos. Hesychius offers a gloss: βρεῦκος· ἡ μικρὰ ἀκρὶς < ὑπὸ Κρητῶν >, ‘the small grasshopper (Crete)’ which together with the vowel quality guarantees the Cretan origin of the name.¹¹ The word for ‘grasshopper’, βροῦκος or βρεῦκος, may well be pre-Greek.¹² If so, the personal name could equally be pre-Greek or could be a sobriquet¹³ taken from a nickname at any time from the word βρεῦκος. In other words the possible pre-Greek origin of the word does not guarantee the pre-Greek origin of the name but does not exclude it either. For Βρεῦκος’s son Κρύτων see below.

Δρύτων. We know of nine men in Crete from the third century BC to the imperial period (LGPN ; Marangou-Lerat 1995: 134 P20).¹⁴ The one whose city is known is from Hyrtakina

man called Τάσκος. In addition there is a Cretan name Θάρως, which however might be derived from θάρσος (Bechtel 1917: 198-99).

¹⁰ References to the Knosos tablets are as in Killen & Olivier (1989).

¹¹ For all these names see Masson (1986: 251 = OGS ii.486).

¹² The derivation from βρύκω ‘devour’ may be folk etymology (Chantraine 1968-1980: s.v. Βροῦκος).

¹³ By which is meant a nickname that has developed into a personal name and is borne not only by the original bearer but also by, for example, his or her descendants.

¹⁴ This includes several evidenced from Egypt, but assigned to Crete in LGPN i s.v. – surely correctly.

in West Crete. There is one possible example in Cyrenaica. Bechtel (1917: 487) aims for an Indo-European etymology, comparing Lith. *drútas* ‘strong’, and this is generally accepted (Masson 1962b: 81 = OGS i.37); but there is no compelling evidence that it is correct.

Κρύτων. Eight men from Crete bore this name, from perhaps the fourth century BC onward; of these seven were from Western Crete, including three from Polyrrhenia (one son of a Τάσκος). We know of one man in Cyrenaica (perhaps third century BC) and one man in Egypt, in the Ptolemaic period, of Cretan origin (Robert 1963: 420; Wilcken 1899: ii.317, no. 1194). The etymology is obscure (Masson 1962b: 81 = OGS i.37; Robert 1960: 41-2); Robert rejects an emendation by Bechtel to Κύρτων. The name is clearly from Western Crete. Note the resemblance – not however necessarily significant – to Δρύτων. It may be relevant that Diodorus Siculus (4, 23) tells us that in his time, divine honours were still paid to the mythical Κρυτίδας, supposedly a Sicilian general killed by Herakles.

Λαππᾶος. This is a *hapax* from Western Crete, perhaps from the imperial period (IC ii. 235 no. 4). The name is presumably derived from an ethnic Λαππαῖος, built on the name of the Cretan city Lappa. Even if the name of the city is non-Greek, the ending -αῖος is Greek, and the ethnic need not have been used as a personal name in Mycenaean times.

Ὀρύας, Ὀρούας, cf. Ὀρυάδης. Including the variants there were sixteen men, from perhaps the fourth century BC onward.¹⁵ All the bearers are from Crete, mostly from Western Crete, and Polyrrhenia in particular. The formation is surprising: -υας names are not frequent and one of the most common is also a mythological name: Μαρσύας. A connection with ὀρύα ‘sausage’ cannot be excluded and if so the problem of the origin is similar to that of Βρεῦκος. The apparently identical (except for the accent) ὀρυά ‘tool for quarrying’ (P. Cair. Zen. 759) may well be a different word related to ὀρύσσω ‘dig’.

Πρωσίας. This occurs once only in the third century BC from an unknown city (Milet 1 (3) 34 a, 3). It is impossible to assess and it may be a by-form of Πρωτέας or Πρωτίας.

Σήραμβος. This name had eight bearers on Crete from the third century BC onward, including six from Western Crete. The next biggest group is of six Athenians, but one was almost certainly of Western Cretan origin.¹⁶ Note also that another of the Athenians (IG II² 5973) was the son of a Σῶσος, a characteristically Western Cretan name (see below). One Σήραμβος was from Thera, two from Boeotia, and one each from Aegina and Tarentum. Masson (1975: 17 = OGS i.223) also refers to two examples from Egypt, whose origin is unknown, both apparently from the Ptolemaic period. The name is mainly Cretan and Doric

¹⁵ This includes IC ii.264 f. no. 53; the Ὀρύας from Hermione is correctly assigned to Crete in LGPN.

¹⁶ The Athenians include the Σάραμβος mentioned in Pl. *Grg.* 518 b whose name was restored by Masson (1975: 15 = OGS i.221). Masson also refers (*ibid.*) to Guarducci’s attribution of Western Cretan origin to the Athenian Σήραμβος Ἡραίου (IC ii.144). Two men with this name from Hermione are correctly assigned to Crete in LGPN i.405.

but is based on a word for ‘beetle’ attested by Hesychius. This word has no Greek etymology and is likely to be pre-Greek; it is not clear however whether it was a specifically Cretan or Doric word or pan-Greek. The -αμβος termination found in words like διθύραμβος ‘dithyramb’ also points to a non-Indo-European origin. Once again the question becomes whether the name arose in a general Greek, or perhaps Cretan, context and whether the name is simply a sobriquet that arose as a nickname, perhaps well after the Mycenaean period.

Σῶσος. There were 61 bearers of this name on Crete¹⁷ from the third and possibly fourth century BC onward, of whom 16 were from Polyrrenia and 24 from elsewhere in Western Crete. Other bearers of this name included 25 from Attica, and smaller groups from the rest of the Greek world, making a total of 101 outside Crete.¹⁸ So Western Crete has more than any other region of the Greek world, but the name is well spread. Bechtel (1917: 416-417) derives the name from Σωσι- (cf. Σωσιτέλης, Σωσίκλητος etc.), but it is unusual to have a name in -σος from a name of the τερψίμβροτος type. For example in volumes 1-4 of the *Lexicon of Greek Personal Names* we find nine men named Ἄλεξος, four named Λῦσος and none named *Πεῖσος next to the numerous compounds of the type Ἄλεξικλῆς, Λυσίμαχος, Πεισιτέλης. It may be objected that the number of men named Σῶσος merely reflects the popularity of names with the ‘saving’ root, but we know of 162 men named Σῶσος, beside only 80 men named Σῶσις listed in LGPN i-iv, whereas there are 94 men named Ἄλεξις to nine named Ἄλεξος, 73 men named Λῦσις to four named Λῦσος, and four men named Πείσις to none named *Πεῖσος. The proportion of -σις to -σος names from the same root is in fact completely reversed in the case of Σῶσος and the concentration of the name in Western Crete is remarkable if the popularity of the name merely reflects general semantic preference. It may well be that the name came at some time to be thought of as connected with the ‘saving’ root, but it seems unlikely that this was its origin.

Χαυρίας. This is a *hapax* from Western Crete in the first century AD (IC ii.41, no. 4). It has no Greek etymology, but is relatively late and not necessarily pre-Greek.

4. Possible Connections With Linear B or Linear A Names.

The obvious question is whether any of these names or name elements has plausibly pre-Greek Linear A or B antecedents. Linear B spelling is often ambiguous, but *qi-ja-to*, the name of a shepherd from Knosos (KN Db 1140.B), could represent a predecessor of the name Βίαθθος. The Linear A word, *qi-ja-du*, if read correctly, if analysed correctly as a personal name, and if masculine, could be relevant (HT 84.1; Consani et al. 1999: 293).

¹⁷ This includes men whose references are as follows: i) an uncertain reading: IC ii.259 no. 36 B; ii) Daux, (1959: 749); iii) SEG XLVIII 1221 7, and iv) the name on amphorae (Empereur and Marangou 1992: 639-642).

¹⁸ The group from Hermione is correctly classed as Cretan in LGPN i.

Moreover, several Knosos Linear B names with no plausible Greek etymology end in *-a-to* (cf. Βίαθθος) and in *-a-qa*, which could, but need not, be the predecessor of *-αμβος* (cf. Σήραμβος). There are Knosos Linear B masculine names that may not be of Greek origin, such as]*ki-nu-wa* (KN B 772.2) and *me-nu-wa*, which is used (with a variant spelling *me-nu-a₂*) as a title and name in Pylos and Knosos (Aura Jorro 1985-1993 s.v.); *-u-wa* here could represent a later *-υας* (cf. Ὀρύας). Two Linear A words, *-a-su-pu-wa* (ARKH 2.5) and *ko-a-du-wa* (TY 3a.5) (Consani 1999: s.vv.) – if they are read correctly and if they are indeed masculine personal names – may be antecedents of the same termination. Other possible correspondences between elements in the alphabetic and Linear B names may be observed, but without secure etymologies, and therefore segmentation, they must remain speculative.

5. Families With Pre-Greek Onomastic Elements?

The results of all this may seem inconclusive. None of the Τασκ- names, nor any of the other names that we have discussed, has a demonstrably pre-Greek Linear B, or Linear A antecedent name. Perhaps Βίαθθος comes the closest. Because of the ambiguity of Linear B spelling, however, we cannot be absolutely sure of this, and the same difficulty generally applies to the identification of pre-Greek Linear B and alphabetic name elements with each other.

On the other hand:

- (1) all these names are linked geographically and some are confined to a small area of Crete;
- (2) all these names have bearers who are, or could well be, related;
- (3) some have no plausible Greek etymology;
- (4) some are meaningless in Greek;
- (5) some have elements that seem to be pre-Greek or that alternate in a non-Greek way;
- (6) some name-elements resemble those found in mythological names with no secure Greek etymology, that are plausibly of pre-Greek origin; and
- (7) some names or name-elements may be plausibly identified with pre-Greek Linear B or with Linear A equivalents.

In other words there is circumstantial evidence, if not absolute proof, that these names include a fair number that may be pre-Greek in origin. I conclude that it is probable, but not certain, that the hypothesis examined here is correct: that the families who gave their children the

group of names that we have been examining passed down at least some pre-Greek personal names from the second millennium BC.

If the hypothesis is correct, various other conclusions may be noted.

The names, or their constituent elements, were handed down for a long period and sooner or later were fully integrated into Greek onomastics. The latest *Task* date is for a *Τασκομένης*, dated to the first to second century AD, more than twelve centuries after Linear B was forgotten. Notice the hybrid nature of the compound, whose second element is typically Greek.

Even if the Knosos shepherds were in an inferior social position, many of the *Tasks* and their relations were far from being in an inferior position themselves. In all the names or groups of names with more than one bearer, there is evidence that at least one bearer was, or was related to, someone of high status, for example, a magistrate, an army officer, or the dedicator of a (presumably expensive) statue.

Does onomastic continuity, if it could be demonstrated, mean that a pre-Greek language survived longer in the Polyrrenia region than elsewhere?

Naturally, personal names may change at a different rate than the rest of the language. Any of the following scenarios is possible: a) the pre-Greek names reflect the limited use of a pre-Greek language; b) the Mycenaeans borrowed some names from the pre-Greek population and these names survived in Western Crete (indeed, we know that the Linear B texts include pre-Greek names); c) pre-Greek or non-Greek names penetrated Crete from elsewhere during the alphabetic period.

However, at the very least the concentration of pre-Greek or, at the worst for my hypothesis, non-Greek name elements in Western Crete reveals a reasonably conservative society, which did not quickly eliminate all non-Greek names. Moreover, if foreign names had infiltrated in the first millennium we should probably recognize their origin.¹⁹ Survival seems more likely. If so, the choice would be between a) and b). No definitive answer to the question is possible, but if Eteocretan survived in Central and Eastern Crete (see Duhoux (1982: 27-125) for the relevant texts), another pre-Greek language may have survived in Kydonia, and this may be reflected in the passage from Homer quoted at the beginning of this paper.

Even if a pre-Greek language did survive in Western Crete, we should however beware of concluding that the pre-Greek language concerned had affinities with other known languages. Scherer (1965) saw resemblances with languages from Asia Minor. This, and other hypotheses, may be worth investigating, but we cannot assume family relationship or identity between any pair of a) any pre-Greek language from which Greek place names derive, b) any

¹⁹ As perhaps we do in the case of Ἀβδίαις.

pre-Greek Cretan language and c) any known language from Asia Minor or elsewhere. If the true linguistic situation in second millennium BC Crete and mainland Greece is ever known, it may be complicated.

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Think What You Want

Indirect Discourse after Verbs Denoting a Wish or Ability? An Old Problem Reconsidered¹

Luuk Huitink

1. Introduction

In most critical editions of Thucydides these three sentences appear in the following way:²

- (1) γνόντες δὲ οἱ ἐν τοῖς πράγμασιν οὗτ' ἀποκωλύειν δυνατοὶ ὄντες, εἴ τ' ἀπομονωθήσονται τῆς ξυμβάσεως, κινδυνεύσοντες, ...
'The men in authority, realizing that they could not prevent this and that they would be in peril if excluded from the capitulation, ...'
(Th. 3.28.1)³
- (2) ... οἱ Ἀθηναῖοι στρατεύειν ὄρμητο ἐφιέμενοι μὲν τῇ ἀληθεστάτῃ προφάσει τῆς πάσης ἄρξαι, βοηθεῖν δὲ ἅμα εὐπρεπῶς βουλόμενοι τοῖς ἑαυτῶν ξυγγενέσι καὶ τοῖς προγεγενημένοις ξυμμαχοῖς.
'... the Athenians were bent upon invading [Sicily]; to give the truest explanation, they were eager to attain the empire of the whole of it, but they wished at the same time to have the fair pretext of succouring their own kinsmen and their old allies.'
(Th. 6.6.1)
- (3) τὸν λυπήσαντα οὖν σφᾶς καὶ δι' ὄνπερ πάντα ἐκινδύνευον ἐβούλοντο πρότερον, εἰ δύναιτο, προτιμωρήσασθαι
'So, first they wished to take vengeance, if they could, upon the one who had aggrieved them and because of whom they were risking all.'
(Th. 6.57.3)

What these sentences have in common is that most editors adopt aorist or present infinitives into their texts, despite the fact that there is strong manuscript support for the future complementary infinitives ἀποκωλύσειν in (1), ἄρξαι in (2) and προτιμωρήσασθαι in (3).

¹ I would like to thank Prof. A. Rijksbaron (University of Amsterdam) and Prof. A. Willi (University of Oxford) for the fruitful discussions we have had on the subject. I would also like to thank the editors of this volume for their valuable remarks; of course, any errors and shortcomings are mine.

² The editions consulted are Poppo (1866-67); Arnold (1868-74); Poppo & Stahl (1875-89); Hude (1913-25); Classen & Steup (1919-22); Jones (1942); de Romilly, Bodin & Weil (1953-72); Luschnat (1960; only book 1 and 2).

³ Translations from Thucydides are based on Smith's translation (LCL).

In fact, in the case of (1) and (2) the future infinitive is transmitted in all manuscripts.⁴ From a palaeographic point of view the change into present or aorist infinitives seems a rather small editorial interference. Only Poppo, Arnold and Classen & Steup consistently keep the future infinitives; de Romilly has the future only in (1), but she makes clear in her critical appendix that she would be more comfortable with an aorist (‘-κωλῶσαι *malim*’).

So, there seems to be a widespread consensus among modern editors that the transmitted future infinitives in (1)-(3) are corrupt. This judgement is ultimately based on a ‘rule’ formulated as early as the beginning of the fourteenth century by Thomas Magister (*fl.* 1325). In his alphabetical notes on Attic grammar he remarks that certain verbs cannot be complemented by a future infinitive. *Sub voce* βούλομαι he states:

- (4) Ἰστέον δὲ ὅτι τὸ βούλομαι μετὰ παρωχημένου καὶ ἐνεστῶτος μόνον τίθεται, οὐδέποτε μετὰ τοῦ μέλλοντος.
 ‘One should be aware that βούλομαι “want” is only complemented by the past and present [infinitive], never by the future.’

Thomas does not give a reason that underlies this rule, but lists a large number of verbs to which it applies, including δύναμαι ‘be able’; he also includes such verbs as διανοοῦμαι ‘be minded’ and πείθομαι ‘obey, believe’. These verbs have subsequently played a role in the discussion on ‘Thomas’ rule’, as we shall see below.⁵

Presumably because it was recognised that Thomas’ notes are based on ancient grammars, his ‘rule’ has stood the test of time rather well: it has never been questioned to the extent that it was rejected completely, although several modifications have been proposed. Since Hermann (1810: 113) stated that the ‘rule’ had no absolute validity – rather, it belonged to that category of grammatical rules, ‘*in quibus et veri aliquid et falsi inest*’ – the debate has been ongoing. Notwithstanding the numerous contributions, opinions roughly fall into two categories. Some scholars assume that Thomas’ rule does not *always* apply to the verbs he mentions, but that there are exceptions, among which are (1)-(3); others argue that the rule does not apply to *all verbs* mentioned by Thomas, but should be strictly applied to others. The latter group is championed by Stahl (1886; 1907). According to him, the future infinitives after the main verbs in (1)-(3) should indeed be condemned. His arguments have apparently met with most editors’ approval. In this paper I will argue that that this approval is undeserved and that there are actually good reasons for retaining the future infinitives.

⁴ For (3), only M has the aorist. For completeness’ sake I should add that, according to de Romilly, H has ἄρχειν *ante correctionem* in (2).

⁵ Thomas only mentions the middle πείθομαι and not πείθω, as Poppo (1815: 152) erroneously supposes. Πείθω has subsequently played the largest role in the modern discussion. Thomas does not mention ἐφίεμαι, presumably because it is hardly ever found with an infinitival complement. Except for (2), *LSJ*, s.v. B. II only mention S. *Ph.* 1315: τυχεῖν ἐφίεμαι; the verb is usually found with a noun in the genitive (e.g. Th. 6.8.4: τῆς Σικελίας ἀπάσης... ἐφίεσθαι).

In section 2, I will consider Stahl's reason for athetizing the future infinitives by elaborating on the use of the infinitive as a complement to verbs in Classical Greek. In section 3, I will briefly consider the arguments that have been put forward by the defenders of the future infinitives. It will be shown that, with one notable exception, Stahl's principal objection has been left unchallenged, so that the case for the future infinitives has remained largely unconvincing. In section 4, I will develop a new analysis of the sentences (1)-(3) that does tackle Stahl's objections and paves the way for the restoration of the future infinitives in the text. Finally, in section 5, I will briefly argue that the future infinitive is not a particularity of Thucydides' language, but is more common in Greek than is usually assumed.

2. Two Infinitival Complements

In Classical Greek, the infinitive is widely used as a complement.⁶ It is not only found after verbs denoting a desire or will (e.g. βούλομαι 'want, prefer', ἐθέλω 'want', κελεύω 'order', δέομαι 'request') or an ability (e.g. δύναμαι 'be able'), but also after verbs of saying, thinking and sensing (e.g. φημί 'maintain', ἡγέομαι 'suppose', ἀκούω 'hear'). Madvig (1847: 157-64, 185-91) already observed that the semantic and syntactic properties of the infinitive after verbs that belong to the first category (wish/ability) differ from those of the infinitive after verbs belonging to the second category (speaking etc.). In her monograph on the infinitive Kurzová (1968; cf. 1967) introduced the terms 'dynamic' and 'declarative' infinitive to describe the different types. Although these terms are not particularly felicitous and I will criticize parts of the theory that underlies them later on, I will keep them to avoid introducing new terminology. The semantic difference, and some syntactic differences, between the dynamic and declarative infinitive can perhaps be illustrated most clearly by the following examples of complementary infinitives after the verb λέγω/εἶπον 'say, tell'. This verb may take both types of infinitives:

- (5) τὸ Δελφοὶ τῆς ἀρτοκόπου τῆς Κροίσου εἰκόνα λέγουσι εἶναι.
 'of which the Delphinians say it is a statue of Croesus' baker.'

(Hdt. 1.51.5)

- (6) σφέας μὲν δὴ τοὺς ἐκ τῆς Ἀσίας λέγουσι Πέρσαι ἀρπαζομένων τῶν γυναικῶν λόγον οὐδένα ποιήσασθαι
 'The Persians say that they, those of Asia, had payed no attention to the fact that their women were being seized.'

(Hdt. 1.4.3)

⁶ For a general overview of the infinitive as a complement to verbs, cf. e.g. Kühner & Gerth (1904: 5-17); Goodwin (1897: §746ff.) and Rijksbaron (2002: 96-112).

- (7) εἰ μὲν γὰρ ὑπὸ ὀδόντος τοι εἶπε τελευτήσῃν με ἢ ἄλλου τευ ὅ τι τούτῳ οἶκε, χρῆν...
 ‘If he had told you that I would die because of a tusk or something that resembles that, then you must...’

(Hdt. 1.39.2)

- (8) ἔλεγον αὐτοῖς μὴ ἀδικεῖν.
 ‘They told them not to act in an unjust way.’

(Th. 2.5.5)

- (9) λέγω σ’ ἐγὼ δόλῳ Φιλοκτῆτην λαβεῖν.
 ‘I tell you to take Philoctetes by trickery.’

(S. Ph. 101)

In (5)-(7) the infinitives after λέγω/εἶπον represent a declarative statement in indirect discourse, something the subject maintains holds true in the world at a given point in time; hence Kurzová’s term ‘declarative’. The matrix verb means ‘tell that’ or ‘say’. The infinitives have a different temporal reference each time. The present in (5) expresses that the ‘being’ is simultaneous with the moment of speaking; in (6), the aorist is anterior to, and in (7) the future posterior to the moment of speaking. In (8) and (9) the dynamic infinitives constitute the content of an order, something that the subject wants to see done. The matrix verb means ‘tell to’ or ‘order’. The potential fulfillment of the order is posterior to the giving of the order; hence Kurzová’s term ‘dynamic’, which is meant to signify that the action expressed by the infinitive only exists ἐν δυνάμει ‘potentially’. Both the present infinitive in (8) and the aorist one in (9) have the same temporal reference. The stems express a different aspect, not, as in (5)-(7), a different (relative) tense.⁷ Other differences include the fact that the negation of the dynamic infinitive in (8) is μή, while we find οὐδένα not μηδένα with the declarative infinitive in (6). Furthermore, the accusative and infinitive construction (AcI) is found in (5)-(7), while in (8) and (9) λέγω in its sense ‘order’ is a three-place verb with an indirect object in the dative.⁸

Up till this point, I have simply assumed the existence of two different types of infinitival complements without question. However, most traditional grammars, e.g. implicitly Goodwin (1897, §746ff.), and some more modern treatments of Greek complementation, e.g. explicitly Lightfoot (1975: 47), deal with the difference in meaning between sentences like (5)-(7) on the one hand and (8) and (9) on the other by postulating two homonymous verbs λέγω – ‘say’ and ‘order’ – while regarding the infinitive as essentially the same in both cases.

⁷ It falls outside the scope of this paper to go into the different semantic values of the aspectual distinctions; cf. Rijksbaron (2002: 102-3). Stork (1982) is completely devoted to the aspectual distinctions in this type of infinitive construction in Herodotus.

⁸ For more syntactic differences (and some exceptions that I leave out in this brief overview), see Kurzová (1968: 55-8) and Rijksbaron (2002: 96-112).

Except for typological problems concerning this view – would Lightfoot for example also maintain the existence of two homonymous verbs ‘tell’ in English? – it also makes it extremely difficult to account for a sentence like the following:

- (10) οἱ ἔφοροι... εἶπον τοῦ κήρυκος μὴ λείπεσθαι, εἰ δὲ μή, πόλεμον αὐτῷ Σπαρτιάτας προαγορεύειν.
 ‘The ephors... told him not to lag behind the herald, or the Spartans declared war upon them.’

(Th. 1.131.1)

In this example, the main verb εἶπον occurs only once, while the two infinitive phrases clearly have different semantics. The first infinitive represents an order, the second one a declarative statement. On the explanation of the traditional grammars we would have to suppose a rather mysterious ellipsis of a second homonymous εἶπον to account for the difference in meaning. Therefore, it is more attractive to assume that the semantic difference resides in the infinitives rather than in the matrix verb alone: the single verb εἶπον is polysemous and on each occasion its meaning is at least partially determined by the form of the complement clause, in this case two *different* infinitives.⁹ In this particular example the first infinitive is clearly marked as dynamic by the presence of the negation μή, while the second one can only be declarative because it is part of an AcI-construction with Σπαρτιάτας as subject-accusative.

Except for λέγω/εἶπον there are other verbs that can govern both infinitives as well. Again, a clear difference in meaning is involved. So, a whole range of verbs express ‘practical knowledge’ when combined with a dynamic and ‘intellectual knowledge’ when combined with a declarative infinitive. Examples are νομίζω *plus decl.* ‘believe’, *plus dyn.* ‘be accustomed to’; ἐπίσταμαι *plus decl.* ‘be convinced’, *plus dyn.* ‘know how to’; γινώσκω *plus decl.* ‘judge that’, *plus dyn.* ‘decide to’. Two examples with νομίζω will suffice to illustrate the difference:

- (11) οἱ δὲ νομίζουσι Διὶ μὲν ἐπὶ τὰ ὑψηλότατα τῶν ὀρέων ἀναβαίνοντες θυσίας ἔρδειν
 ‘They are accustomed to go up the highest mountains and make offerings to Zeus.’

(Hdt. 1.131.2)

- (12) Πέρσαι γὰρ θεὸν νομίζουσι εἶναι τὸ πῦρ.
 ‘For the Persians believe that fire is a god.’

(Hdt. 3.16.2)

In (11) the dynamic infinitive describes an ‘action’ that the subject is used to carrying out. It is only suggested by *implication* that the subject actually makes regular offerings to Zeus; the

⁹ This view finds support in an article of Moorhouse (1955), who makes a compelling case for a separate origin of both infinitives (*pace* Kurzová (1967)). More arguments that favour the opinion that complements carry a meaning of their own are advanced by de Boel (1980).

infinitive phrase has no bearing on any specific state of affairs in the ‘real world’. By contrast, in (12) νομίζουσι plus the AcI expresses an opinion about a particular state of affairs on the part of the subject of the matrix verb. The state of affairs expressed by the infinitive phrase is held to be true by the subject in the ‘real world’. Again, the difference is clearly visible in the syntax: in (11) the subject of the matrix verb is co-referential with that of the infinitive, so there is no AcI; in (12), however, we usually find an AcI, as the subject of the infinitive is more often than not different from that of the matrix verb.¹⁰

Another verb that may take both infinitives is one of Thomas’ verbs, namely πείθω ‘persuade, convince’. Consider:

- (13) οἱ δὲ τοῦ δήμου προστάται πείθουσιν αὐτὸν πέντε μὲν ναῦς τῶν αὐτοῦ σφίσι καταλιπεῖν..., ἴσας δὲ αὐτοὶ πληρώσαντες ἐκ σφῶν αὐτῶν ξυμπέμψειν.
 ‘The leaders of the people persuaded him to leave them five of his ships... and they convinced him that they on their part would man and send with him an equal number of their own ships.’

(Th. 3.75.2)

The first infinitive in (13), καταλιπεῖν, is dynamic: the leaders of the people *persuaded* (πείθουσιν) Nicostratus to *do* something. Πείθω has the sense ‘persuade to’. For the second infinitive, however, only an interpretation as a declarative infinitive makes sense. An interpretation ‘they persuaded themselves to send’ would be absurd, and αὐτοὶ ‘they’ would be in the wrong case; rather, the leaders ‘convince’ Nicostratus of the *truth* of their statement that ‘they will send an equal number of ships’. We will have to assume that the construction in (13) switches from a dynamic to a declarative infinitive halfway through. To convey this transition in English, we need to translate the verb twice, using different verbs, thus making explicit the polysemy of πείθω.

A clear sign that the construction in (13) changes is that the second infinitive bears the future stem. For, as has been pointed out by Stahl (1907: 148; cf. 1886: 19): ‘The future... signifies... in all its forms only tense (*Zeitstufe*)¹¹ and never aspect (*Zeitart*).’ In other words, the future does not play a role in the aspectual system of Greek, like the aorist, present and

¹⁰ In Herodotus, this syntactic difference holds remarkably well for νομίζω and the other ‘practical/intellectual knowledge’ verbs. For example, only in 2.121ε.5 do we find a nominative and infinitive (NcI) with νομίζω in its ‘intellectual sense’, because the subject of matrix verb and infinitive are co-referential (there are 64 instances of this verb with a declarative infinitive in Hdt.; cf. Powell (1938: s.v. νομίζω 1.)). Conversely, only in 1.74.4: Ἀλυάττεα γὰρ ἔγνωσαν δοῦναι τὴν θυγατέρα Ἀρύνην Ἀστυάγει τῷ Κυαξάρει παιδί (‘For they decided that Alyattes should give his daughter Aryenis to Astyages, Cyaxares’ son’), do we find an AcI with one of these verbs in its ‘practical sense’. Here, the context rules out the possibility that we are dealing with a declarative infinitive, for on this interpretation we would have to conclude that Alyattes has *already* given his daughter away, witness the aorist inf., which should receive a temporal and not an aspectual interpretation in the declarative construction.

¹¹ Both relative and absolute tense are understood.

perfect stems. As in the dynamic construction only aspectual oppositions are relevant, the future infinitive cannot occur as a dynamic infinitive, but must always be declarative. It is this principle that underlies Thomas' rule. What he seems to have listed is a number of verbs that only take the dynamic infinitive. It will be clear that Thomas' rule has to be modified, at least where *πείθω* is concerned. If the rule holds at all, it only holds for *πείθω* in the sense 'persuade', but not for its sense 'convince', in which case the verb takes a declarative infinitive, so that the future infinitive is possible.¹²

Before I consider whether it should also be modified where verbs like *δύναμαι* 'be able' and *βούλομαι* 'want' are concerned, I will first try to formulate the semantic difference between the two infinitival complements in a more general way than has been done so far. This is warranted, because the existing formulations are, in my opinion, only partly successful in capturing the difference, the problem usually being that certain semantic properties assigned to the dynamic infinitive do in fact belong to a limited set of matrix verbs with which that infinitive is combined. So, Goodwin (1897: §751ff.) calls the declarative infinitive in (5)-(7) the infinitive 'in indirect discourse' and the dynamic one in (8) and (9) the infinitive 'not in indirect discourse'.¹³ However, while the declarative infinitive always is in indirect discourse, this formulation wrongly suggests that the dynamic infinitive never represents indirect discourse. In fact, while this holds true for the dynamic infinitive after e.g. *δύναμαι* 'be able', the second (dynamic) infinitive in (10) and the one in (8) depend on the matrix verb *λέγω* 'order', which surely implies that words were uttered to the effect of an order of which the infinitives are the indirect representations. So, this formulation of the difference will not do: whether an infinitive is in indirect discourse depends on the meaning of the matrix verb, not on the kind of infinitive.¹⁴

In his accessible treatment of the difference Rijksbaron (2002: 97-8) suggests that distinguishing between a 'non-referring' (dynamic) and 'referring' (declarative) infinitive might be a more elegant way of describing the difference than Kurzová's terminology is capable of (at the same time, Rijksbaron prudently keeps it to avoid further confusion; I have done the same). He favours his own terminology because 'the infinitive after verbs of saying and thinking refers to a state of affairs in the real world', while the dynamic infinitive does not. In my opinion, Rijksbaron's terms are not particularly felicitous either, however. An important characteristic of the declarative infinitive is that it very often does *not* in fact refer

¹² This was already observed for (13) by Poppo (1815: 152n. and 1866-7: *ad loc.*): *hic non iam persuadendi verum dicendi et promittendi notio repetenda*. See example (24) below for another, and less straightforward, example with *πείθω*.

¹³ Cf. also Kühner & Gerth (1904: 543-5).

¹⁴ In fact, we should go even further: 'indirect discourse' is a parameter that depends not only on the lexical meaning but also on the function of the matrix verb. So, the infinitive in (9) is not in indirect discourse, despite the fact that it depends on *λέγω* 'order', just like (8). This is because the matrix verb is in the first person singular and in the present tense. No indirect speech is introduced by such a verb. Rather, the verb serves to underline the speech act performed in (9), namely that of an order; cf. English: 'I *order/tell* you to go away'.

to a state of affairs in the real world. It is this property which distinguishes the declarative infinitive from the complementary participle, which *does* refer to a state of affairs in the real world.¹⁵

Rijksbaron (2002: 97) sides with Kurzová in claiming that the dynamic infinitive expresses a ‘potential state of affairs’, being ‘*always posterior* to the main verb’. This is not entirely satisfactory either. To begin with, while the dynamic infinitive after e.g. κελεύω ‘order’ or βούλωμαι ‘want’ necessarily refers to states of affairs that are posterior to the main verb, this does not work for e.g. νομίζω ‘be accustomed to’: (11) is a case in point; that sentence rather seems to imply that offerings to Zeus were made in the past, present *and* will be in the future. So, whether or not the state of affairs expressed by the dynamic infinitive is posterior to the matrix verb or not, again depends on the semantics of the matrix verb, not on that of the infinitive.¹⁶ Secondly, while the dynamic infinitive refers to ‘potential states of affairs’ on most occasions – that is the future fulfilment is not envisaged as certain – this again does not hold good for all main verbs. With some verbs, like πείθω ‘persuade’ and ἀναγκάζω ‘force’ it *is* envisaged that the action described by the dynamic infinitive does in fact occur (if the matrix verbs occur in the aorist and not in the imperfect *de conatu*). This is because these verbs belong to the verb class of implicatives, for which see Dik (1997: ii.114-5). Compare English ‘he forced him to open the door’, which ‘implicates’ that the door was in fact opened.¹⁷

A different, and inevitably more abstract way of describing the semantic difference is needed in order to be able to capture it for all cases. In my opinion, a case can be made for the following formulation, which is based on Lyons’ distinction between third and second-order entities. The declarative infinitive expresses third-order entities or propositions, ‘entities of the kind that they may function as the object of such so-called propositional attitudes as belief,

¹⁵ For the difference between the infinitive and participle, cf. Kühner & Gerth (1904: 48, 68-76); De Boel (1980: 289-99) and Rijksbaron himself (1986: 179-82; 2002: 117-8). The participle is said to trigger a ‘factive presupposition’, whereas the infinitive does not. The term ‘reference’ is probably better reserved for such more formally semantic concepts, as is done in e.g. Basset (1988).

¹⁶ Ruijgh (1999: 216 n.1) notices this problem but tries to get round it by arguing that a phrase like εἴωθε μάχεσθαι ‘he is accustomed to fight’ ‘en soi réfère aux réalisations futures attendues de l’action, mais l’expression entière, grâce à la valeur de εἴωθε, implique que le temps de la série d’actions itératives n’est pas restreint au futur mais comporte le moment présent’. This is unconvincing. It is the context, not the use of the dyn. inf. that decides whether or not an individual instance of such a phrase ‘refers’ to the future or not (consider e.g. ‘he is accustomed to fight’ said as an explanation of someone’s *past* involvement in a fight). Moreover, if the dyn. inf. always refers to the future, we would simply expect it to be incompatible with predicates like εἴωθα and νομίζω, which clearly, as Ruijgh himself admits, do not. As it is, then, the matrix predicate (in a certain context) determines the temporal reference of the dyn. inf., the inf. itself does not.

¹⁷ Quite possibly, (13) is a good Greek example, even though the verb does not appear in the aorist but in the historic present. Historic presents, however, which refer to actions of consequence, quite possibly have a perfective (‘aoristic’) aspect; i.e. there will not be cases in which the historic present of πείθω means ‘he tried to persuade them (but did not succeed)’. In the sentence following (13) it is reported that Nicostratus did indeed leave ships.

expectation and judgement' (Lyons 1977: ii.445). The dynamic infinitive has no propositional content, but expresses a second-order entity or 'virtual event' that may be 'said to occur' rather than to be true (Lyons 1977: ii.443).¹⁸ Events, when they occur, take up space and time. Propositions as such cannot occur. If anywhere, they 'occur' in the head of a speaker, as thoughts (and they may 'materialize' as speech); they are *about* things that occur, have occurred or will occur. So, whereas one could ask in response to the declarative infinitive in (5) 'is it *true* that the statue represents Croesus' baker?', one could ask about the dynamic infinitive in (8) 'did they *really* stop acting in an unjust way?' This assessment of the semantic difference between the two infinitives is based on the ontological status of each infinitive rather than on the meaning of matrix verbs on which each infinitive may depend. This will prove important for the problem we examine.

In this section I have associated Thomas' rule with the existence of two infinitival complements in Greek. I have proposed a way of describing the semantic difference between the dynamic and declarative infinitive in a way that does justice to all cases. Thomas' rule was shown to be formulated too strictly, at least for one verb, namely *περίθω*. While acknowledging Thomas' error in this respect, Stahl thinks that the rule holds for a majority of the verbs listed by Thomas and he would like to emend even those instances, 'where the transmission unanimously offers a complementary future infinitive that is not governed by a verb of speaking or thinking'. This includes (1)-(3) (Stahl 1907: 202). Not all scholars have followed suit, however.

3. In Defence of the Future I

As will be recalled from the introduction, Hermann (1810) was the first to question the absolute validity of Thomas' rule. According to him, the future infinitive could sometimes be used after the verbs in Thomas' list, 'where in the main verb resides a notion of the future (*futuri significatio*)'; for the construction he compares the periphrastic future *μέλλειν ποιήσεν* 'will do'. This explanation makes no reference to the two types of infinitives (which Hermann may not have been aware of) and foregoes the crucial point that an infinitive in the future tense-stem is a clear indication of its declarative nature. Nevertheless, the argument has been repeated time and again in different forms, although later scholars usually omit Hermann's reference to the construction after *μέλλω*, presumably because they realized the circularity involved in explaining one mysterious construction from the existence of another.¹⁹ Hermann does not mention any examples from Thucydides, but comes up with:

¹⁸ For the sake of completeness I add that in Lyons' ontology first-order entities are physical objects like 'tree' or 'house'.

¹⁹ Basset (1979) only much later showed that the original meaning of *μέλλω* is 'intend to'. On this explanation the alternation between the future (originally declarative) inf. and the present and aorist (dynamic) inf., which are in an aspectual opposition, after this verb can be explained in the same way as the inf. after *διανοοῦμαι*; see below, examples (15) and (16).

- (14) τί δῆτ' ἂν ἡμεῖς δρῶμεν, εἰ σέ γ' ἐν λόγοις / πείσειν δυνησόμεσθα μηδὲν ὧν λέγω;
 'What are we to do, then, if we cannot persuade you by anything I say?'
 (S. Ph. 1393-4)

Here, the matrix verb is itself in the future tense, which according to Hermann, licenses the future infinitive.²⁰ Hermann's pupil Poppo (1815: 152-3), who deals with Thucydides only, expresses some hesitation whether Hermann's explanation holds for (1), maybe because it is hard to see how the notion of the future is present in the present δυνατοὶ ὄντες.²¹ Nevertheless, in his edition from 1866-67, he adopted the future infinitive into his text, as he did for (2) and (3).

The future infinitives in (1)-(3) are also favoured by Madvig (1847: 186), but again for the wrong reason: the future serves 'to emphatically underline the fact that the state of affairs expressed by the future infinitive takes place at a later point in time (*später und bevorstehend*).'²² This explanation entered English scholarship in the still much-used grammar of the Greek verb of Goodwin (1897: §113): 'when it was desired to make the reference to the future especially prominent, the future infinitive could be used exceptionally' after verbs that ordinarily did not take it.

On a slightly different note, Kühner & Gerth (1898: 185) deem it very well possible that the instances in Thucydides are corrupt, although they reckon with the possibility that 'the author uses the future to express that the state of affairs will only commence in a more remote future or is subject to certain conditions (*eine spätere Zukunft oder Bedingungsweise*).'²³ It is not clear to me what is meant by 'a more remote future'. 'More remote than what?' one may ask. The unsatisfactory way in which this explanation works out for a particular instance becomes clear from Classen & Steup's interpretation of (2), which they translate as follows (1919-22, *ad loc.*): '*da sie lebhaft verlangten e i n m a l zur Herrschaft über die ganze Insel zu gelangen*'.²² They add that the future is used to emphasize the fact that the 'ruling' is envisaged as taking place in a more remote future (*auf eine weitere ... Ferne*). However, the suggestion that the Athenians would dream about ruling Sicily once, at some undetermined point in the future, is hardly compatible with ἐφίεμαι 'long for', a verb that refers to a more intense desire than for example βούλομαι 'want', nor with the quick and eager action the Athenians undertake to prepare for the expedition against Sicily.²³

²⁰ The future was later defended by Jebb (1898: *ad loc.* and pp. 252-3; cf. below, n.31), for the same reason Hermann gave; Jebb's influence on Sophoclean scholarship perhaps explains why this instance escaped emendations by later editors, whereas those in Thucydides did not.

²¹ Poppo (1815: 153): *Verum nescio an usus futuri infinitivorum cum iis verbis, quibuscum eos Thomas non vult coniungi, etiam latius pateat*. He then mentions (1).

²² 'They eagerly wished to *once* gain possession of the entire island'

²³ Cf. *LSJ* s.v. ἐφίημι B. Cf. Classen & Steup's own translation '*lebhaft verlangten*'. For the eagerness of the Athenians, cf. especially Th. 6.24.

This brief overview demonstrates that the real problem concerning the future infinitives in (1)-(3) has not been properly addressed. It is irrelevant whether the future infinitive emphasises that the action it expresses lies in the future or in a more remote future (whatever that may be). The only exception to this line of defence is Rijksbaron (2002: 110, n. 1). After discussing a number of verbs that may take both infinitives, he remarks: ‘Conversely, verbs expressing a will, desire etc., that are normally construed with a dynamic infinitive, are occasionally followed by a declarative infinitive... In this use, the will, desire etc. is presented – not unnaturally – as a thought of the subject.’ Unfortunately, he does not argue for it in a more detailed way. In the remainder of this paper, I will try to make this view more plausible (or ‘natural’).

4. In Defence of the Future II

If the future infinitives in (1)-(3) are to be retained, it needs to be argued that the matrix verbs in these examples are in fact capable of governing a declarative infinitive. In other words, they must be shown to be compatible with the semantic content of the declarative infinitive, which I have described above as being that of a proposition or thought on the part of the subject. In my opinion, this can indeed be done. In cognitive psychology, attention has been drawn to the fine line that separates *intentions* from *thoughts*. In fact, it is often impossible to draw the line between the two. As Vygotsky has it in his pioneering work on the interaction between language and thought: ‘thought does not express itself in words, but rather realises itself in them’ (1986[1934]: 251). If it does realise itself, it does so in the form of ‘verbal thought’ or speech. If it does not realise itself in language, the thought usually exists as a mere intention, for every thought ‘is engendered by motivation, i.e., by our desires and needs, our interests and emotions. Behind every thought there is an affective-volitional tendency’ (1986[1934]: 252). In a more formal way, Searle (1983: 29-36) has shown that many intentional states and actions can be reduced to component parts involving ‘beliefs’ and ‘desires’. An ‘intention to do something’ involves a desire to perform an ‘event’, a second-order entity, but also a belief that one is capable of doing that something – i.e. a third-order entity or proposition.²⁴ In other words, many intentional states or actions are in principle compatible with second and third-order entities. In Greek, it would seem that in such cases an author has a choice to represent such complex intentional states or actions either as a verbal thought by using the declarative infinitive or as an intention by using the dynamic one. It is in exactly this vein that a verb like *διανοοῦμαι* ‘be minded, intend, decide’, one of the items from Thomas’ list, sometimes takes a future declarative infinitive in Thucydides instead of the usual dynamic one. Compare:

²⁴ Compare English ‘I want to go home now’, in which the speaker talks about his intention ‘pure and simple’, with ‘I think I’ll be on my way now’, in which a speaker presents the same intention as a belief he has.

- (15) καὶ οἱ Ἀθηναῖοι ἐπιόντων τῶν Μήδων διανοηθέντες ἐκλιπεῖν τὴν πόλιν...
ναυτικοὶ ἐγένοντο.
‘And when the Persians attacked, the Athenians decided to leave the city and...
became seafarers.’

(Th. 1.18.2)

- (16) καὶ θαρσήσαντες πάντες ὁμοίως... τὸν τε πόλεμον διανοοῦντο προθύμως οἴσειν...
‘And having taken courage all alike... they decided that they would carry on the war
with spirit...’

(Th. 4.121.1)²⁵

There is no palpable difference between ‘they decided to leave the city’ (dynamic: (15)) and ‘they decided that they would carry on the war’ (declarative: (16)).²⁶ When the thought is directed to the future and the subject of the matrix verb coincides with that of the infinitive, the semantic difference between the declarative and dynamic infinitive practically vanishes. The declarative infinitive with *διανοοῦμαι* is not extended to cases in which its subject and that of the matrix verb are not the same.

Stahl somewhat reluctantly allowed the future in (16) to be retained in the text, no doubt because οἴσειν is not so easily turned into a present or aorist infinitive and because there is an indisputable instance of the future infinitive after this verb in Herodotus as well (7.207). However, he explained these future infinitives as a substratum of a time when *διανοοῦμαι* was still a ‘real’ verb of thinking and vetoed the existence of the declarative infinitive with verbs ‘in which no meaning of thinking or speaking resides (*quibus putandi vel dicendi vis non insita est*)’ (1886: 19).²⁷ In my opinion, however, the declarative infinitive in (16) is the result of a productive feature of the language, rooted in the cognition of speakers rather than in history. To be sure, I do not dispute the fact that languages tend to grammaticalize certain constructions that then become the standard at the cost of other constructions. So, verbs like βούλομαι ‘want’ and δύναμαι ‘be able’ as a rule are construed with the dynamic infinitive. But there is no reason not to allow occasional exceptions to such fixed rules, if these can be motivated by the realization that language use is in the first place the result of a cognitive process and that the ‘rules’ can be adapted on every occasion to suit the speaker’s needs.

The same explanation as for *διανοοῦμαι* must be given to the alternation between the declarative and dynamic infinitive with the verbs ἐλπίζω ‘imagine, hope’, ὀμνυμι ‘swear’,

²⁵ The other instances are 4.115.2; 7.56.1; 8.55.2, 74.3.

²⁶ Note that English ‘decide’ displays the same characteristic, being compatible with a *to-* and *that-* complement. Therefore, I chose this translation, instead of ‘intend’, which cannot be used in both ways. But this is an issue of English, and not of Greek.

²⁷ The same historical explanation is offered in Kühner & Gerth (1898: 184). For other instances (Th. 4.115.2; Hdt.7.207) Stahl assumes a strange ellipsis of μέλλειν; this ellipted infinitive dependent on *διανοοῦμαι* would govern the future infinitive. This seems to me improbable. On a more positive note, he does refer to the co-referentiality of the subject of the infinitive and matrix verb in the case of *διανοοῦμαι*.

ὑπισχνοῦμαι and ὑποδέχομαι ‘promise’, the existence of which is recognised in almost all traditional grammars.²⁸ The only difference between these verbs and διανοοῦμαι is that they are more often construed with the declarative than with the dynamic infinitive. The dynamic construction is less widely applied and does not bring about such systematic changes of meaning as with the other verbs that can govern both infinitives (mentioned in §2 above). That is because its use with the dynamic infinitive is based on the same neutralization of thought and intention as with διανοοῦμαι. Therefore, the dynamic infinitive does not compete with all usages of the declarative infinitive, but again only when the declarative infinitive is a future tense and has the same subject as the matrix verb. The following examples may illustrate the context in which the neutralization appears and where it does not:

- (17) Ἐλπίζων γὰρ ὁ Ἀλυάττης σιτοδείην τε εἶναι ἰσχυρὴν ἐν τῇ Μιλήτῳ καὶ τὸν λεὼν τετρῦσθαι ἐς τὸ ἔσχατον κακοῦ, ἤκουε τοῦ κήρυκος νοστήσαντος ἐκ τῆς Μιλήτου τοὺς ἐναντίους λόγους, ἢ ὡς αὐτὸς κατεδόκεε.
‘For Alyattes had supposed that there was great scarcity in Miletus and that the people were reduced to the last extremity of misery; but now on his herald’s return from the town he heard an account contrary to his expectations.’

(Hdt. 1.22.3)

- (18) ἐλπίζων τὸν θεὸν μᾶλλον τι τούτοισι ἀνακτήσεσθαι
‘expecting that with such things he would win the god over even more’
(Hdt. 1.50.1)

- (19) τὸ Ῥήγιον ἤλπιζον πεζῇ τε καὶ ναυσὶν ἐφορμοῦντες ῥαδίως χειρώσασθαι
‘They expected to capture Rhegium without difficulty, investing it both by land and by sea.’

(Th. 4.24.4)²⁹

The declarative construction in (18) and the dynamic one in (19) are almost interchangeable. The dynamic infinitive could not replace the declarative ones in (17).

I now come back to (1)-(3). If exceptions of the ‘rule’ are allowed with Thomas’ verb διανοοῦμαι in certain contexts, and both infinitive constructions are allowed with ἐλπίζω under the same conditions, there is *a priori* no reason to assume that βούλομαι or ἐφίεμαι behave in a completely ‘regular’ way all the time. After all, these verbs also express intentions and in the right contexts these may merge with thoughts. The main conditions, co-referentiality of the subject of the matrix verb and infinitive, and a thought directed toward the future, are met in (2) and (3). It would be nice, however, if it could be shown that these verbs do not, under the right circumstances, take a declarative infinitive at random. After all, the

²⁸ E.g. Goodwin (1897: §100); Kühner & Gerth (1898: 195, A. 7); cf. Rijksbaron (2002: 109-110).

²⁹ Some manuscripts in fact have the future and this is read in most editions, but the aorist passes as *lectio difficilior*. Cf. 4.80; 7.21.2.

number of instances is very small and the declarative construction may therefore be said to be marked. Let us therefore consider (2) and (3) again in more detail. I will first quote (3) again, with a bit more context, and with the future infinitive:

- (20) ἔδεισαν καὶ ἐνόμισαν μεμηνῶσθαι τε καὶ ὅσον οὐκ ἤδη ξυλληφθήσεσθαι. τὸν λυπήσαντα οὖν σφᾶς καὶ δι' ὄνπερ πάντα ἐκινδύνεον ἐβούλοντο πρότερον, εἰ δύναιντο, προτιμωρήσεσθαι
 ‘They took fright and thought that they had been informed upon and would in a moment be arrested. So, first they wished to take vengeance, if they could, upon the one who had aggrieved them and because of whom they were risking all.’
 (Th. 6.57.3)

(20) occurs in the wider context of the murder of Hipparchus by Harmodius and Aristogeiton. Moments before their planned attempt on the life of the tyrant Hippias, they come to think they have been betrayed, and hastily decide to murder his brother Hipparchus instead, who may still be unaware of the conspiracy. The thoughts that lead to this decision are presented as those of the murderers by the two declarative infinitives dependent on ἐνόμισαν ‘they thought’. The next sentence, however, though not syntactically dependent on ἐνόμισαν, also seems to report the thoughts of the conspirators, in a way that is close to what is known in modern novels as ‘free indirect speech’. This idea finds support in the optative in the conditional clause, which is perhaps best interpreted as an oblique optative in indirect discourse.³⁰ It is also clear from οὖν ‘so’, a particle that helps structure the *conspirators*’ train of thought. In this context in which ἐβούλοντο ‘they wanted’ furthers the indirect discourse started with ἐνόμισαν, it can hardly be surprising that the distinction between intention and thought vanishes and that a declarative infinitive occurs as the complement of βούλομαι which formally signals the indirect discourse.

Now, let us consider (2) again:

- (21) οἱ Ἀθηναῖοι στρατεύειν ὥρμητο ἐφιέμενοι μὲν τῇ ἀληθεστάτῃ προφάσει τῆς πάσης ἄρξειν, βοηθεῖν δὲ ἅμα εὐπρεπῶς βουλόμενοι τοῖς ἑαυτῶν συγγενέσι καὶ τοῖς προγεγεννημένοις συμμαχοῖς.
 ‘... the Athenians were bent upon invading [Sicily]; to give the truest explanation, they were eager to attain the empire of the whole of it, but they wished at the same time to have the fair pretext of succouring their own kinsmen and their old allies.’
 (Th. 6.6.1)

In this sentence the reader is informed about the most important motif of the Athenians to mount an expedition against Sicily and about an additional one. The first motif is presented as

³⁰ Although it may not be excluded that the optative is potential. However, if the potential optative occurs in the protasis and an imperfect indicative in the apodosis, the sentence usually refers to a ‘habitual state of affairs in the past’ (Rijksbaron 2002: 72), which is clearly not the case here.

a thought of the Athenians, while the additional, unimportant motif is presented in a less marked way. It is of course this latter motif that will function as the ‘official’ pretext to launch the expedition. What Thucydides does by explicitly conveying the first motif as a thought is emphasize a favourite theme in his history: highlighting the contrast between what people think and what they say (see Rood 1998: 95-6; 187-8).

The verbs βούλομαι and ἐφίεμαι both denote intentions, and I have argued above that it is hard to draw a line between intentions and thoughts, especially in certain contexts. Intuitively, this line seems less hard to draw where ‘abilities’ and ‘thoughts’ are concerned: ‘being able’ does not seem to be an intentional state. Nevertheless, we find a future infinitive with δυνατὸς εἶμι in (1) and δύναμαι in (14). (1) is here repeated:

- (22) γνόντες δὲ οἱ ἐν τοῖς πράγμασιν οὗτ’ ἀποκωλύσειν δυνατοὶ ὄντες, εἴ τ’ ἀπομονωθήσονται τῆς ξυμβάσεως, κινδυνεύσοντες, ...
 ‘The men in authority, having realized that they could not prevent this and that they would be in peril if excluded from the capitulation, ...’

(Th. 3.28.1)

If we look closely at this instance, it appears that it hardly differs from (21). Here, the indirect discourse is introduced by γνόντες ‘having realized’ on which δυνατοὶ ὄντες depends. Δυνατοὶ ὄντες is therefore just as much part of the thought as ἐβούλοντο in (20). This no doubt blurs the distinction between the ability and the ‘thought-of ability’ as it is presented in (22). As such, there is no reason to doubt the soundness of the future infinitive here.

A slightly different explanation holds perhaps for (14). Here, the matrix verb itself is also in the future tense and as such δυνήσομεσθα may express both an ability *and* an intention. The modal use of the future indicative whereby an intention is expressed, is not uncommon (Rijksbaron 2002: 33). The fact that there resides an intention in the matrix verb in turn makes it possible for the speaker of (14) to represent the state of affairs expressed by the future declarative infinitive as a thought.³¹ In this respect, attention may be drawn to one more feature that (14) and (22) have in common: in both cases there is an *absence* of an ability and a *wish* to have it (cf. the negation in (22) and the hypothetical εἰ ‘if’-clause in (14)). It remains to be seen whether the declarative infinitive after verbs meaning ‘be able’ ever occurs without this feature. The undesired absence of an ability may be more to the fore in a person’s consciousness than the possession of it and therefore be more easily ‘thought of’. See also below, example (28).

In all instances discussed so far, the infinitive and the matrix verb had the same subject. Indeed, this was stated as an important condition for the occurrence of the construction.

³¹ Jebb (1898: 253) comes close to this interpretation by proposing a translation with ‘hope’ for such instances: ‘I cannot hope to persuade you’ well captures the intention.

However, two more passages in Thucydides seem to imply that this is not a necessary feature after all:

- (23) ἐδεήθησαν δὲ καὶ τῶν Μεγαρέων ναυσὶ σφᾶς ξυμπροπέμψειν, εἰ ἄρα κωλύοιτο ὑπὸ Κερκυραίων πλεῖν.
‘They also asked the Megareans to send ships with them, in case the Corcyreans would prevent them to sail.’

(Th. 1.27.2)

- (24) ὁ Νυμφόδωρος... τόν τε ἐπὶ Θράκης πόλεμον ὑπεδέχετο καταλύσειν· πείσειν γὰρ Σιτάλκην πέμψειν στρατιάν Θρακίαν Ἀθηναίοις ἰπέων τε καὶ πελταστῶν.
‘Nymphodorus... promised to bring the war in Thrace to an end; for he would persuade Sitalces to send a Thracian army of cavalry and targeteers to the Athenians.’

(Th. 2.29.5)

There is strong manuscript support for the future in these instances, but it must be admitted that it is less strong than in the case of (1)-(3).³² The future infinitive in (24) gains authority if we realise that the matrix verb πείσειν, here in its dynamic sense ‘persuade’, is itself in indirect speech just like the matrix verb in (22). The future in (23) perhaps becomes more plausible if we look at a close parallel in Polybius:

- (25) οἱ δὲ πρὸς Ῥωμαίους ἐπρέσβευον, παραδίδοντες τὴν πόλιν καὶ δεόμενοι βοηθήσειν σφίσιν αὐτοῖς ὁμοφύλοις ὑπάρχουσιν.
‘Some sent an embassy to Rome, offering them the city and asking them to provide assistance as a kindred people.’

(Pol. 1.10.2)

Here, the support for the future in the manuscripts is overwhelming. The question is whether we are prepared to allow the attestation in Polybius to dictate what we should read in Thucydides, a question I am not at present comfortable in answering. This brings us to the final issue. To what extent is the construction a Thucydidean idiosyncrasy, and if it is not, does the construction have a history which can be written? This matter has no small importance for the theory proposed here. For if it were a Thucydidean idiosyncrasy, it could be argued that the transmission of Thucydides in particular has been corrupted in this respect. It would then be less likely that I am right, because if the alternation of the construction is as natural as I have tried to make it seem, it would help if there were more authors who used it.

³² The future is read in ABEFM in both cases.

5. Beyond Thucydides

Much work, which is beyond the scope of this paper, still needs to be done in tracking down and collecting instances of future infinitives after verbs of ‘wishing/being able’. It may be suspected that many a true instance lies hidden in critical appendices, waiting to be discovered. In this section I will discuss only a very limited number of examples and refer to some literature that seems to indicate that it is a more widespread phenomenon in Ancient Greek than has usually been assumed. The small collection of instances offered by Kühner & Gerth (1898: 185) almost certainly gives a wrong impression of the figures. A much larger collection of potential examples can be found in an appendix to the edition of the grammarian Phrynichus by Lobeck (1820: 745-56 = *Parergum VI*). Most of the examples he cites come from Hellenistic and Roman authors. Whether this is a sign of the expansion of the construction in the later development of Greek or of Lobeck’s particular concerns in editing Phrynichus cannot be certain as long as classical authors are not scrutinised more carefully for the phenomenon. In explaining the instances, Lobeck sides with Hermann (1810). As an anthology of passages his work is indispensable, however.

A few passages may be briefly discussed here. In classical Greek the following passage in Herodotus certainly deserves attention:

- (26) ταῦτα ἐβουλεύσαντο οἱ Σκύθαι βουλόμενοι ἐξ αὐτέων παῖδας ἐκγενήσεσθαι.
 ‘The Scythians devised this, because they wanted children to be born from them.’
 (Hdt. 4.111.2)

The future is transmitted in all manuscripts, and is retained both in Hude (1927) and in Rosén (1987/97). It is quite remarkable that Hude did not interfere here, while he did so in similar instances in Thucydides. The reason can only be guessed at. Note that the subject of the matrix verb and the infinitive do not co-refer. It may be observed that this is also not a prerogative of βούλομαι in the dynamic construction. This further supports the future infinitives in (24) and (25). A possible translation of βουλόμενοι is ‘while they thought it was desirable’. Another Herodotean example in which both editors keep the future infinitive that is found in all manuscripts is:

- (27) καὶ ταῦτα μέντοι σφίσι οὐκ ἀποχρᾶν ποιέειν, ἀλλὰ τέλος καὶ ἐπιβουλεύοντας
 ἐπιχειρήσειν φανῆναι ἐπ’ αὐτοφώρῳ.
 ‘And this [they say] was not even enough for them; no, finally they were caught in the
 act of meditating to attack them.’
 (Hdt. 6.137.3)

Stein (1894: *ad loc.*) adopts the noun ἐπιχείρησιν which is only found in a second hand in B and D (see Hude (1927: critical appendix *ad loc.*). In the light of other instances we discussed this is surely unnecessary.³³

I finish with an example from Polybius cited by Lobeck, because it forms a striking parallel with (1):

(28) Ἀντίοχος δὲ ταύτης ἀποπεσὼν τῆς ἐλπίδος παρῆν εἰς Ἔφεσον καὶ συλλογιζόμενος ὅτι μόνως ἂν οὕτω δύναίτο κωλύσειν τὴν τῶν πεζικῶν στρατοπέδων διάβασιν καὶ καθόλου τὸν πόλεμον ἀπὸ τῆς Ἀσίας ἀποτρίβεσθαι.

‘Antiochus was disappointed and went to Ephesus, calculating that only in this way he might be able to prevent the crossing of the army and more generally avert the war from Asia.’

(Pol. 21.11.13)

Again, we find a future infinitive that itself occurs in indirect discourse, this time in a ὅτι-clause dependent on συλλογιζόμενος ‘calculating’. As in (14) and (22), it is desired/intended by the subject to be able to carry out the action expressed by the infinitive, while the ability itself is only potentially present (cf. the potential optative with ἂν). It is interesting to see that the future and declarative κωλύσειν is followed by the present and dynamic ἀποτρίβεσθαι. Perhaps the difference can be explained as follows: Antiochus wants to prevent the army from crossing; this is what he thinks about and is immediately concerned with. Polybius then adds what would be the ultimate consequence of Antiochus’ stopping the army so that the reader becomes aware of the importance of the events described here. This is not presented in indirect discourse and as something Antiochus is immediately concerned with; rather it is described ‘from the outside’ as it were.

To conclude, there is good reason to assume that the future infinitives in (1)-(3) are sound, and quite possibly those in (23) and (24) as well. In future editions of Thucydides’ *Historiae* they should be restored in the text. It may furthermore be assumed that the construction is not a Thucydidean peculiarity, but a more productive and widespread phenomenon than has usually been assumed. More research is needed to restore the infinitive in all passages in which it has erroneously been emended; where it is transmitted in at least some manuscripts, it should be reported in the critical appendix.

³³ From Herodotus Lobeck also cites 8.25.1: οὕτω πολλοὶ ἤθελον θεήσεσθαι. (‘So many people wanted to see it.’) with a future inf., where all modern editions have an aorist. It is only with the appearance of Rosén’s new edition of Herodotus (1987/97: critical appendix *ad loc.*) that we know he does not completely overstep the mark here: M and the *editio princeps* offer a future infinitive. Hude (1927) ignored both these sources so that his appendix shows nothing at this place.

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Armenian *o(v)*

Daniel Kölligan

1. Introduction

It has generally been assumed that the Armenian adjectival interrogative pronoun *or* and the substantival interrogative pronoun *o(v)*, pl. *oyk*‘, both of which are also used as relative pronouns, derive from the IE interrogative pronominal stem **kʷo-* which is attested in most of the ancient IE languages (cf. Goth. *hvas*, Ved. *kah*, Lith. *kàs*; with the variant stem in *-i-* in Gk. *τίς*, Lat. *quis*, Hitt. *kwiš* etc.),¹ although the evidence for the development of IE **kʷo-* in Armenian is – as in many other cases of Armenian historical phonology – scanty, with only a few disputable etymologies that might speak in favour of **kʷo- > o-*, while counterevidence speaking for a development of IE **#kʷ- > Arm. #k-* before a non-high vowel² seems to be attested in *k’an* ‘as’ < **kʷeh₂nt*³ and *k’arāsown* ‘40’ < **kʷt(u)r_o-h₂-kōmt-h₂* via **kʷarā-kōnta*.⁴

2. Word initial **kʷ*: Arguments For **kʷo- > o-*

The arguments that may be adduced in favour of a development **kʷo- > o-* are both etymological and structural: (1) Beside *or/o(v)* we find *zi* and *z-inč*‘ used for non-persons which in its latter form seems to be the comparandum for Skt. *kimcid* ‘anything’ < **kʷimkʷid*. (2) The distribution of the two stems IE **kʷo- :: *kʷi-* in Armenian seems to parallel exactly that of OCS *kъto* ‘who’ vs. *čъto* ‘what’. (3) A comparable development of **kʷu- > u-* seems to be attested in Lat. *ubī* ‘where’ < **kʷudʰei* (: Osc. *PUF*, Umb. *PUFE*, Skt. *kuha*, OCS *kъde* < **kʷudʰe*, but word-internally **kʷ* is retained as /k/, cf. *ali-cubī* ‘somewhere’, cf. Meiser (1998: 99)). (4) The formation of ordinal numbers in *-(er)ord* (*erkrord* ‘second’, *errorr* ‘third’,

¹ Cf. e.g. Meillet (1936: 34) ‘*ov* “qui?”’, cf. skt. *káh*’, similarly Schmitt (1981: 123-4). Viredaz (2005: 85 fn. 8) derives *or* from **kʷotero-* via a sound change **kʷ > k' > h > ø* which according to him may happen in grammatical words (cf. lenited *dow* < IE **tū* instead of the expected ***t'ow*). Olsen (1999: 806) assumes **kʷo- > *po- > (h)o-*, but **kʷu-* (both from **ō* and **u*) > *k'* citing *k'owl* ‘anything twisted, thread’ < **kʷōlh₁-o-*.

² The development expected before a high vowel in word initial position is *č'*, cf. *č'ork* ‘4’ < **kʷet(u)ores*. For this reason, already Hübschmann (1897: 450) expressed his doubts on the derivation of *(z)i* ‘what’ from **kʷid*: ‘mir unwahrscheinlich’. Word internally **kʷ > k'* is attested in *elik* ‘< **elikʷet* (: Gk. *ἔλιπε*). There do not seem to be unambiguous examples for the context **kʷi* since *ač'k* ‘eyes’ which goes back to the IE dual **h₃kʷih₁* (: Gk. *ὄσσε*, Lith. *akì*, OCS *očí*) may stem from either **ak'ī* or **ak'yə*. In view of forms like *sterj* ‘barren’ < **steriā* < **sterih₂* (: Skt. *starī*, Gk. *στεῖρα*) the latter development seems more likely.

³ For this reconstruction of *k'an* cf. Matzinger (2005: 92).

⁴ Cf. similarly Winter (1992: 351) who starts with the full grade in the root **kʷet(u)rA-* and assumes assimilation in **kʷetařa-* to **kʷatařa-*.

č‘*orrord* ‘fourth’, *hingerord* ‘fifth’ etc.) might be equated with Skt. *-kṛt* in *sa-kṛt* ‘once’ deriving from IE **-kʷrt-* (cf. Winter 1992: 356).⁵

Arguments 1 and 2 are normally taken to be the strongest indications that Arm. *o(v)* and *or* should indeed be reconstructed with an initial **kʷ*, cf. Schmitt (1981: 123-124): ‘Immerhin ist eine entsprechende Verteilung von **kʷo-* für Personen vs. **kʷi-* für Sachen auch im Slav. zu beobachten... und in dieser Parallele ein beachtliches Argument zugunsten der angenommenen etymologischen Verbindung zu sehen.’⁶

Argument 3 is slightly weaker, since the context in Latin is **kʷu-*, not **kʷo-* (cf. against this Lat. *cuius* < **kʷosjō+s*), indicating that the consonant may have been lost by dissimilation beside /u/ while it was retained before /o/.⁷ None of this is pertinent to the Armenian forms, where the vowel is /o/, thus Lat. *ubī* cannot count as a parallel case.⁸ One might even try to discard *ubī* on the whole by claiming, as Walde & Hofmann (1938-1956: ii.739-740) do, that it originated by a resegmentation of *ali-cubī* as *alic-ubī* based on the parallel to *ibi* ‘there’.

Finally (argument 4), the drawback of explaining Arm. *-(er)ord* as related to Skt. *-kṛt-*, as per Winter (1992), is – apart from the question of the sound change – that the latter is used in multiplicative adverbs (*sa-kṛt* ‘once’, *aṣṭa-kṛtvas* ‘eight times’, *dāśa kṛtvas* ‘ten times’ etc.), not in ordinals. Consequently, there have been attempts to explain the numeral formative *-(er)ord* differently, most notably by Szemerényi (1960): the apparently older ordinal number formation is the one in *-ir* as seen in *erkir*, *erir* and č‘*orir*, meaning ‘second’, ‘third’ and ‘fourth’ respectively, which might go back to (a) **d̥uis* (: Lat. *bis*, Gk. δῖς ‘twice’), **tris* (: Lat. *ter*, Gk. τρίς, Olsen 1989), (b) to adjectival **d̥ui-ro-*, **tri-ro-*,⁹ or (c) to a formation in **-do-* (: **rki-do-*, **ri-do-* > *erkir*, *erir*) analogically transferred from **kʷ(e)t(y)(o)r-to-* (Viredaz 2005: 91). The ordinal č‘*orir* seems to have been built by analogy to *erkir* and *erir* from the stem č‘*or-* < **kʷet(y)or-* in any case. If the original ordinal formation in **-to-* (which in the case of **tri-to-* would have given Arm. ***eriw*) was preserved in the ordinal for

⁵ Already Pisani (1944) had considered this connection, but he proposed a dissimilation in the case of **erkr-kord-* > *erkrord* with *-ord* then spreading to other ordinal numbers.

⁶ ‘After all the same distribution of **kʷo* used for persons vs. **kʷi* for things is found in Slavonic as well... and this parallel is to be reckoned a considerable argument in favour of the assumed etymological connection.’

⁷ Lat. *uter* ‘which of the two’ which seems to be cognate with Gk. πότερος, Skt. *katarah* may therefore not be derived immediately from IE **kʷotero-*, but either from IE **kʷutero-* with the stem **kʷu-* as in **kʷudʰej* (Meiser (1998: 168); cf. also Schmidt (1893: 405-6), Buck (1904: 146), Sommer (1948: 441)) or as having lost its initial consonant by analogy to *ubī* : *ibi* (cf. *iterum* corresponding to Skt. *itarah* ‘other’), cf. Ernout & Meillet (1985: 1338).

⁸ Even admitting that Armenian had a development **kʷu-* > **u-* one would still have to assume analogical generalization of *o-* from forms such as *owr* ‘where’ to *o(v)* ‘who’. The former could then be equated with Skt. *kūtra*, av. *kuθrā* < **kʷutre*, cf. Schmitt (1981: 201-2), de Lamberterie (1989: 250), or with Skt. *kuhá*, Av. *kudā*, OCS *къде* ‘where’ assuming a protoform **kʷu-dʰe* with a sound change **dʰ* > *r* in Armenian as does Viredaz (2005: 85-6).

⁹ *-ro-* might then be explained as taken from **kʷtur-o-* ‘fourth’ reanalyzed as **kʷtu-ro-*, cf. Szemerényi (1960: 95).

‘fourth’, the form **k^het(ɥ)or-to*¹⁰ might have resulted in Arm. **č‘ord* which was conflated with *č‘orir* to **č‘orirord* > *č‘orrord*.¹¹ By analogy the ending *-ord* was transferred to the ordinals for ‘second’ and ‘third’ giving **erkir-ord* > *erkrord* and **erir-ord* > *errord*.¹² Finally, as in comparison to the cardinal numbers *erkow* ‘two’ and *č‘ork* ‘four’ the ordinals *erk-rord* and *č‘or-rord* seemed to contain a suffix *-rord*, the latter was used for forming the ordinal for ‘fifth’, *hinge-rord* which betrays its late formation by the missing vowel reduction in the first syllable, cf. against this *hnge-tasan* ‘15’ from **hingetasan*. The *-e* in *hingerord* was then reinterpreted as part of the suffix (probably again in comparison to the cardinal number *hing*) which as such was used to form the ordinals from ‘sixth’ onwards, cf. *vec‘-erord*, *ewt‘n-erord* etc.

Other etymologies that have been proposed to support a development **k^ho- > o-* are unconvincing.¹³ For that reason some have assumed a dissimilation **k^h-... k^h- > ø... k‘* in pronouns such as *ok‘* ‘somebody’ < **k^hos-k^he* and *(z-)inč‘* ‘what’ < **k^himk^hid* (: Skt. *kimcid*) which then spread analogically to the other pronouns.¹⁴ But good parallels for such a development seem to be lacking.

To sum up, the evidence for a development of IE **#k^h > #ø* in Armenian is weak, but it seems hard to dismiss the equations between the Armenian forms of the interrogative pronouns and its apparent cognates in other languages.

3. Word-final -y

The protoform of *o* was **oy*, as can be seen in the pl. forms nom. *oyk‘*, acc. *oys*, gen. dat. abl. *oyc‘*: **oy* was monophthongized in absolute word final position in the same way as **ay* in the demonstrative pronouns *s-a*, *d-a*, *n-a* from earlier **s-ay*, *d-ay*, *n-ay*. The original *-y* is still visible when the diphthong is not in absolute word final position, cf. e.g. dat. sg. *nmay-n* ‘to

¹⁰ With secondary full grades by analogy to the cardinal number **k^het(ɥ)ores*, cf. the older formation in Skt. *turīya-* < **k^htur-iḡo-* and with *-to-* in Gk. *τέταρτος*.

¹¹ As already suggested by Szemerényi (1960: 95). Against this Winter (1992: 356) pointed out that the older cardinal for ‘four’ is found in *k‘ařord* ‘fourth; quarter’ which, subtracting the secondary *-ord*, leaves us with **k‘ař* which may be equated with Skt. *catūḥ* and Av. *čaṭruš* ‘four times’, i.e. **k^het(ɥ)rs*. Still, as this form is an apparent archaism with originally different meaning, it is all the more possible that the ordinals influenced one another starting from the formation in **-to-* (Arm. **č‘ord*).

¹² Alternatively, one might assume that after the first analogical transfer of **-do-* from **č‘ordo-* to **rki-do-*, **ri-do-* (: *erkir*, *erir*) in a second step *-ordo-* was transferred from *č‘ordo-* giving **erkir-ord-* > *erkrord*, **erir-ord-* > *errord* and then back to **č‘orir-ord* > *č‘orrord*.

¹³ E.g. Olsen (1999: 806) who derives Arm. *oln* ‘back, spine, backbone’ from **k^holso-* (: Lat. *collus*, *-um* ‘neck, throat’, Goth *hals*) which does not explain the stem formation (*oln*, gen. *olin*, pl. *olownk‘*). The traditional connection with Gk. *ὠλήν*, *-ένος* ‘elbow, lower part of the arm’, *ὠλένη*, *ὠλλόν*: *τὴν τοῦ βραχίονος καμπήν* (Hesych.) showing the same *n*-stem as the Armenian seems more promising, despite the semantic difference (orig. ‘bend?’).

¹⁴ For this view, cf. de Lamberterie (1989: 250, 267). *ok‘* would then correspond to Skt. *kaś ca* ‘somebody’.

him' with the postposed article.¹⁵ De Lamberterie (1989: 266) explains this proto-form **oy* from a sequence **kʰos-te* with a reinforcing particle ('particule de renforcement ("qui donc?")') IE *-*te*, for which he compares the -*te* found in Lat. *is-te* 'this' and the -*to* in OCS *кѣто* 'who'. As Lat. *is-te* may be due to the weakening of word final **o* as in *sequere* 'follow!' < **sekʰeso* (: Gk. ἕπον) it might actually be reconstructed as **to* as in OCS. While this equation might seem tempting at first sight, it may turn out to be a mirage as for the element -*to* in these two languages quite different origins have been assumed:

1. Sommer (1948: 426) already suggested that Lat. -*te* in *iste* might be related to the IE demonstrative pronoun **so/to-*: 'Man vermutet im 2. Bestandteil den idg. Stamm **to-* "der", ai. *ta-*, den Artikel des Griechischen'.¹⁶ Similarly, Meiser (1998: 163) argues that -*te* derives from **to* as a remodelling of **so* taking over the initial dental from the neuter **tod*, cf. *istud* < **es-tod*. Apparently, the suppletive paradigm IE **so/to-* split into two full paradigms **so-* (Ennius still has the accusative forms *sum*, *sam*, *sōs*) on the one hand, and **to-* on the other (cf. adv. *tum*, *tam* 'then').

2. Hackstein (2004a) has studied syntactic structures producing new pronominal forms by the coalescence of an interrogative clause and a following relative and/or demonstrative pronoun as in the case of Alb. *kush* < **kʰos so(s)* and Toch. B *kuse* < **kʰis so(s)*, originally 'who (is) this who...' (2004a: 276). The same might apply to OCS *кѣто* < **ku-to* which might be derived from an interrogative clause **kʰos (h₁esti) tod* 'who is this?' with the neuter form of the demonstrative instead of the masculine (cf. Germ. *jemand/niemand anders*, Skt. Brāhmaṇas *tāt tvām asi* 'you are this' (Hackstein 2004: 276 with fn. 14)).

It would seem, therefore, that Lat. -*te* in *iste* and OCS -*to* in *кѣто* have come about in both languages by quite different processes and may not suffice to reconstruct an Indo-European particle as common ancestor. It ensues that a different origin for the -*y* of the Armenian interrogative pronoun **oy* ought to be found and it is the type of focal interrogative clause studied by Hackstein that might provide a clue in this matter.

4. Coalescence of an Interrogative Clause and a Following Pronoun

The process of condensing focal interrogative clauses via ellipsis to bipartite interrogatives can be seen in various stages in a number of languages as Hackstein's examples show. In some languages, like Homeric Greek and Russian, focal interrogative clauses and/or elliptic constructions without the copula verb and the relative pronoun are common, cf. for Greek ex.

¹⁵ Cf. Meillet (1936: 88); Schmitt (1981: 122); de Lamberterie (1989: 266). -*ay* supposedly is the same particle as in Lith. *tas-aĩ* 'he' (emphatic demonstrative), cf. Viredaz (2005: 92 fn. 46). It cannot be connected with **oy*, though, as **o-ay* would contract to ***ay* yielding ***a*, cf. **s-/d-/n-o-ay* > **s-/d-/n-ay* > *s-/d-/n-a*.

¹⁶ 'The second element is usually assumed to be the IE stem **to-* 'this' as in Skt. *ta-* and the Greek article.'

(1) with a full focal interrogative clause and ex. (2) with ellipsis of the copula and relative pronoun:

- (1) τίς δὲ σύ ἐσσι ὅς μ' εἴρεια;
 'Who are you **that** asks me?'

(*Iliad* 15.247)

- (2) τίς δ' οὗτος κατὰ νῆας ἀνὰ στρατὸν ἔρχεται οἶος;
 'Who are you **that** are walking alone through the camp along the ships?'

(*Iliad* 10.82)¹⁷

In Russian the interrogative pronoun that arose by the conflation of an interrogative and demonstrative pronoun in an elliptic focal interrogative sentence (*čto* 'what' < **kʰid* (*h₁esti*) *tod* 'what (is) this') is frequently itself reinforced by the demonstrative *eto* 'this', giving sentences of the type:

- (3) *čto eto ty skazal?*
 'What (this) have you said?' (< *'What (is) this (which) you have said?')

Similarly, in Latin we find elliptic constructions of the type:

- (4) *quod hoc monstrum... in provinciam misimus*
 'What (is) this monster that we have sent to the province?'

(*Cic. in Verrem* 4.47)¹⁸

As for the coalescence of the interrogative pronoun with a following element of the focal clause there seem to be at least three different types. In the first case a demonstrative pronoun forms part of the interrogative clause which eventually becomes part of the new interrogative pronoun, cf. the cases already seen, Russ. *kto*, *čto* and Toch. B *k_use* from IE **kʰos* (*h₁esti*) *tod* and *so* respectively. The second type is exemplified by French *qu'est-ce que* where the relative pronoun following the demonstrative has also become part of the new interrogative. Thus an original clause 'what is this which' has been condensed into a pronoun 'what'. That this construction originally was a focal clause is visible in earlier usage where other elements can be intercalated in the interrogative clause, e.g. a vocative in

¹⁷ Further examples as given by Hackstein (2004a: 271-272) are *Od.* 6.276 'τίς δ' ὅδε Ναυσικάα ἔπεται...; 'Who is this person that follows Nausikaa...?', *Od.* 20.191 τίς δὴ ὅδε ξείνος νέον εἰλήλουθε; 'Who is this stranger that has just come in?', *Eur. Hec.* 501-2 τίς οὗτος σῶμα τοῦ μόν οὐκ ἔῶ / κεῖσθαι; 'Who is it that does not let my body rest?'. Also the formula (7x) ποῖον τὸν μῦθον εἴπεις results from an earlier 'What is this word which you have said?' (**poilos est* ὅδε μῦθος ὃν εἴπεις).

¹⁸ Cf. Hackstein *loc. cit.*

(5) *Qui est ce, dieux, qui m'aparole?*

‘Who is this, oh gods, who is speaking to me?’

(Renart IV 233)

and where the word order is still variable, cf. with the copula verb following the demonstrative pronoun

(6) *Et savez que ce est que m'avez otroié?*‘And do you know what it is that you have empowered me to do?’¹⁹

(Mort Artu 14, 12)

In contrast to these two types just described there also seem to be cases of interrogative clauses without a demonstrative pronoun. Here only the relative pronoun becomes part of the new interrogative, schematically **kʰos h_iesti ios...* ‘who is it who...’. Examples for this type may be seen in various languages:

(a) the colloquial Portuguese pronoun *o que que*, e.g. in a phrase like *o que que é isso?* ‘What is this?’, has arisen out of the ellipsis of the copula verb in the sentence *o que é que...* ‘what is (it) that ...’. Focal interrogative clauses are quite common in Portuguese, cf. *onde é que você estava?* ‘where were you?’ (lit. where is it that you were?), *como é que chama o nome disso?* ‘what is this called?’ (lit. how is it that the name of this is called?).

(b) The Latin construction *quid est quod* ‘what is it what’ has given rise to a new interrogative *quid quod* ‘what about’, cf.

(7) *Quid quod sapientissimus quisque aequissimo animo moritur...?*‘What of the fact that wise men die with utmost equanimity?’²⁰(Cicero, *de Senectute* 23, 83)

(c) Various explanations have been given for the Greek interrogative pronoun *ποῖος* ‘what kind of, which’, the corresponding demonstrative *τοῖος* ‘of this kind’ and the relative *οἷος* ‘of which kind’:²¹ (i) transfer of the ending *-οῖος* from forms like *αἰδοῖος* ‘honourable’ (:αἰδώς ‘reverence, awe’) to *παντοῖος* ‘of all sorts’, *ἄλλοῖος* ‘of a different sort’ and then to *τοῖος*, *ποῖος*, *οἷος* (Meillet/Vendryes 1948: 391). (ii) back-formation from oblique case forms of the IE demonstrative and relative pronouns (Skt. gen. sg. *tásyāḥ*, *yásyāḥ*, dat. sg. *tásyai*, *yásyai*, etc.) (Hirt 1902: 308, 1929: 292 fn. 1; Petersen 1915; Rix 1992: 185, the latter two arguing for the gen. pl. **tojsōm* as the origin). (iii) original identity with the Lat. adjective *cuius* ‘belonging to whom’ and/or the gen. sg. of the relative pronoun *quī*, *quae*, *quod*, i.e. **kʰosjo* and/or **kʰoijo* (Monteil 1963: 178-181; Lejeune 1968: 120-122, 128). (iv) the form

¹⁹ Examples taken from Hackstein (2004a: 269).

²⁰ Cf. Hackstein (2004a: 269; 2004b: 181).

²¹ For the following cf. Meier-Brügger (1979: 132-134).

goes back to a loc. sg. in **-oj* of **k^ho-* + suffixed **-jo-*, i.e. **k^hojo-* (Brugmann 1900: 181). (v) the form is cognate with Goth. *hvaiwa* ‘how’ stemming either from **k^ho-ojo-* with **ojo-* corresponding to Skt. *éva-* ‘hurrying; walk, way of action’ being an abstract noun to IE **h₁ej* ‘to walk’ (Schulze 1904: 435 fn. 3) or from a full grade variant of **k^hi-* + a suffix *-uo-*, i.e. **k^hojuo-* (Blümel 1972: 89 with fn. 220).

None of these explanations seems to have found common acceptance. While (i)-(iv) fail to explain how the specific meaning of *ποῖος* came about,²² (v) seems unacceptable on phonological and morphological grounds, as in the case of **k^ho-ojuo-* one would expect a contraction to **k^hojuo-* which could not be the preform of Gk. *ποῖος*; besides this, it is unclear if this kind of compound was possible in the proto-language; in the case of **k^hoj-* the assumption of an *o*-grade ablaut variant to **k^hi-* is *ad hoc*.

Meier-Brügger (1979) has proposed to understand the Greek forms in terms of the OP relative pronoun masc. *haya*, fem. *hayā*, ntr. *taya*, e.g. as in Dareios’ Bisutun inscription col. II 91-92 *ima taya manā krtam* ‘this (is) what I did’, i.e. as a combination of the demonstrative pronoun and the immediately following relative pronoun: **tos-jos* > *τοῖος*. According to him, *τοῖος* may have arisen in nominal relative sentences of the type *Il. 24.384 τοῖος γὰρ ἀνὴρ ὄριστος ὄλωλε* ‘for such a man, the best one, has died’ which originally may have contained a relative clause ‘he who (was) the best man’. From this one might assume that *ποῖος* and *οῖος* were built in analogy to the usual distribution of *π-* for interrogative and */h-/* for relative pronouns. Against this, though, one might argue that there is no context in which a form **tos-jos* may have arisen, as the demonstrative pronoun is **so*, Gk. *ὁ*, in the nom. sg. masc. A combination of this form with the relative pronoun would yield **sojos* which would most probably result in Gk. **όος/ούς*. If one starts with an oblique case like the acc. sg. masc. **tom* + *jom* one must assume that for some reason the word-initial **t* was kept, but that the first element lost its inflection. In the case of the relative a preform **jos-jos* would yield the attested *οῖος*, but there is no comparative evidence that such a doubled relative pronoun might develop a meaning ‘what kind of x’.

For these reasons, it seems more probable that the development of *τοῖος/ποῖος/οῖος* started in focal interrogative clauses of the type **k^hos (h₁esti) jos* ‘who (is it) who...’ as in this case the presumed preform **k^hos-jos* would immediately yield Gk. *ποῖος*. The Homeric phrase *ποῖον εἶπες*; (4x) ‘what have you said?’ might thus cover an earlier ‘what (is it) which you have said;’ and the Homeric construction of the type *ποῖος + NP + verb* such as *ποῖον τὸν μῦθον εἶπες*; ‘what (kind of) word have you said?’ equals the construction *τίς οὗτος ἔρχεται...*; from an earlier focal interrogative clause **τίς εἶ οὗτος ὃς ἔρχεται*; ‘who are you (this one) who are walking...?’ Thus *ποῖον τὸν μῦθον εἶπες*; would seem to go back to a hypothetical earlier **ποῖός ἐστι ὁ μῦθος ὃν εἶπες*; ‘what is this word you have said?’ showing a repetition of the process assumed for the creation of *ποῖος*.

²² Cf. e.g. Wackernagel (1920-24: II.114) against Petersen’s explanation.

The assumption of a focal clause as the origin of Gk. $\pi/\tau\omicron\iota\omicron\varsigma$ might also account for the meaning ‘which/this kind of x’ as a question of the type ‘who is he who...?’ or in the neuter ‘what is it that...?’ may easily be reinterpreted as asking not for a specific referent but for the category the referent belongs to, thus $\pi\omicron\iota\omicron\nu\ \acute{\epsilon}\epsilon\iota\pi\epsilon\varsigma$; ‘what have you said?’ > ‘what kind of thing have you said?’²³

(d) Finally, the interrogative pronoun Gothic *hvarjis*, ON *hverr* might be a combination of *hvar* ‘where’ and the relative pronoun, i.e. $*k^{\mu}or\text{-}\acute{\iota}o\text{-}$ from $*k^{\mu}or\ h_{\acute{\iota}}esti\ \acute{\iota}os\ldots$ ‘where is he/the one who’ > ‘who’²⁴ or of a stem $*k^{\mu}o\text{-}ro\text{-}$ ‘which of the two’ and $*\acute{\iota}o\text{-}$, thus ‘which (of the two) is it who’ > ‘who’ (cf. De Lamberterie 1989: 267).

(8) *Andhof im Iesus: managa goda waurstwa ataugida izwis us attin meinamma, in hvarjis þize waurstwe staineiþ mik?*

ἀπεκρίθη αὐτοῖς ὁ Ἰησοῦς· Πολλὰ ἔργα καλὰ ἔδειξα ὑμῖν ἐκ τοῦ πατρὸς· διὰ **ποῖον** αὐτῶν ἔργον ἐμὲ λιθάζετε;

‘Jesus said to them, ‘I have shown you many great miracles from the Father. For **which** of these do you stone me?’

(Jn. 10.32)

It is this type with only the relative pronoun coalescing with the interrogative that may lie at the basis of Arm. *o(v)*: if one assumes an original focal cleft sentence $*k^{\mu}os\ (h_{\acute{\iota}}esti)\ \acute{\iota}os\ldots$ ‘who is it that...’, the sequence $*k^{\mu}os\text{-}\acute{\iota}os$ would give $*oh_{\acute{\iota}}(o)$ > $*oy$ by regular sound change, if one assumes that initial $*k^{\mu}$ was lost in this word. For the treatment of word-final $*\text{-}oh_{\acute{\iota}o}$ cf. the gen. sg. of the *o*-stems $\text{-}oy$ < $\text{-}os_{\acute{\iota}o}$ (*mardoy* ‘of man’ < $*mr_{\acute{\iota}}tos_{\acute{\iota}o}$, etc.).

The old Armenian Bible translation gives ample evidence for this sentence type, both with and without a demonstrative pronoun, cf.

(9) *ov ē sa or xosi zhayhoyowt iwns*

Τίς ἐστὶν οὗτος ὃς λαλεῖ βλασφημίας;

‘**Who** is **this who** is speaking these blasphemies?’

(Lk. 5.21)

²³ Maybe the development started in expressions of purpose of the type ‘who is it who might do x’ as in this case not a specific referent, but a quality is asked for.

²⁴ Cf. Feist (1939:282) who interprets *hvarjis* as ‘where he’ with $*\acute{\iota}os$ as a demonstrative, while Bopp (1870: 199) and Schmidt (1893: 400) understood it as the relative pronoun. The latter pointed out that the seemingly related lith. relative pronoun *kuris* is a parallel innovation as in the dialect of Godlewa *kuř* and *jis* are still used as independent forms, cf. *kuř išválnino jō dūkteri* ‘whose daughter he had saved’. A similar combination of a pronoun with a relative marker is found in the Gothic relative pronoun 3rd pers. *saei*, *sōei*, *patei* (1st pers. *ikei*, 2nd pers. *þūei*, cf. Lk. 3.22 *þu is sunus meus sa liuba, in þuzei waila galeikaida* Σὺ εἶ ὁ υἱός μου ὁ ἀγαπητός, ἐν σοὶ εὐδόκησα ‘You are my beloved son in whom I am well pleased.’, etc.).

- (10) *ov ic 'ē i jēnġ mard oroy ic 'ē oč 'xar mi...*
 Τίς ἔσται ἐξ ὑμῶν ἄνθρωπος ὃς ἔξει πρόβατον ἕν...
 'Which man is there among you **who** owns a sheep...'

(Mt. 12.11)

The same structure is used sometimes when translating a Greek participle with a relative clause:

- (11) *ov ē or ehar zk 'ez*
 τίς ἐστὶν ὁ παίσας σε;
 'Who is it **that** has beaten you?'

(Mt. 26.68)

- (12) *isk ard ov ē or datapart arnic '...?*
 τίς ὁ κατακρινῶν;
 'Who is it **that** will give judgement?'

(Rom. 8.34)

The frequent occurrence of this construction in the Bible may of course be due to the influence of the Greek original, but it is found also in other texts, cf. the following example with a focal interrogative clause with copula verb followed by an interrogative clause with ellipsis:

- (13) *ev part ē xndrel yowmē nayn elew, ev ov ēr owm ink 'n zyašt aṛnēr, ev ov ayn orowm ordwoyn hramayeac 'vasn iwr yašt aṛnel ... Ev ard ov ic 'ē or zZrowann arar, et 'ē oč 'Astowac*
 'And it is necessary to investigate who he came from and **who** it was to **whom** he himself offered the sacrifice and **who** (was) the one to **whom** as his son he ordered to offer the sacrifice for him... And then, **who** might it be **who** created Zruan if not God?'

(Ezrik ch. 171)

If the substantival interrogative pronoun is derived in the way described above from a focal interrogative clause, why is it that the adjectival pronoun *or* (<**k^horos* or **k^hoteros*, cf. Skt. *katarāḥ* 'which of the two', Gk. *πότερος*, Lith. *katràs*, Russ. *kotóryj* etc.) apparently does not show any trace of a similar construction? There may be two different reasons for this: (a) Either the adjectival pronoun never or only rarely occurred in this kind of construction next to its nonfocal usage. This seems a reasonable assumption as comparative evidence for this kind of construction seems to be infrequent. (b) For the new interrogative pronoun to show traces of an 'incorporated' relative pronoun the two must have stood next to one another in a sufficiently high number of occurrences. It might be, though, that in most cases, if the construction was used at all, the head noun stood between the two pronouns, schematically 'which (of the two) x (is it) that' (**k^ho(te)ros* x (*h_iesti*) *ĵios*) rather than after the relative pronoun, i.e. 'which (of the two) (is it) that x' (**k^ho(te)ros* (*h_iesti*) *ĵios* x).

5. Summary

The Armenian interrogative and relative pronoun *o(v)*, pl. *oyk*‘, may be derived from a preform **k^hos-*ios** that arose in focal interrogative clauses of the type ‘who is it who’. The development of new interrogative pronouns out of condensed focal sentences has parallels in many languages showing various stages of the process from the full focal sentence via the loss of the copula and juxtaposition of interrogative and demonstrative pronouns (Gk. τίς οὗτος ἔρχεται etc.) to their conflation (OCS *kъto*) or even loss of the interrogative element (Toch. B nom. *se*, obl. *ce*).²⁵

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²⁵ As the evidence for the development of IE **k^h* in Armenian is scanty (cf. 1 above), it might be tempting to assume that the interrogative pronoun did not melt together with the demonstrative to form a new interrogative, but that it was omitted altogether, leaving only the demonstrative to function as the new interrogative, thus the original syntagm **k^hos (h₁esti) so-s *ios* ...* ‘who (is) this who...’ developed into **(k^hos) (h₁esti) so(s)*ios** ‘(who is this) who...’ with **so(s)*ios** alone giving Arm. *o*. Parallels for this kind of development seem to be missing, though. In Tocharian B the interrogative nom. *k_use* and obl. *k_uce* are sometimes simplified to *se* and *ce*, thus coinciding with the demonstrative forms, cf. Pinault (1989: 117), but this is *after* the coalescence of interrogative and demonstrative pronoun, whereas in the Armenian case one would have to assume that the demonstrative dropped out *before* it.

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Accentuation in Ancient Greek Deverbative \bar{a} -stems¹

Further Evidence for Loss of Analysis Followed by Accentual Change

Philomen Probert

1. Introduction

Many Greek deverbative \bar{a} -stem nouns, such as ἄγορά ‘assembly’ (cf. ἀγείρω ‘gather together’), are accented on the final syllable. But recessive \bar{a} -stem deverbatives, such as στέγη ‘roof’ (cf. στέγω ‘cover’), are numerous too. I have suggested briefly that nouns in this category were originally accented on the final syllable, but that some have ceased to be analysed synchronically as deverbative \bar{a} -stems and, in some of these cases, subsequently lost the accentuation associated with the suffix and acquired instead recessive accentuation – the ‘default’ accentuation for the language and the most regular accentuation for unanalysed words (Probert 2006: 294-7). The present study follows up this suggestion with a detailed investigation of the accentuation of deverbative \bar{a} -stems.

Before the accentuation of deverbative \bar{a} -stems can be addressed, a list of deverbative \bar{a} -stems needs to be drawn up. The following section discusses briefly the formation of deverbative \bar{a} -stems and the criteria on which I classify nouns as belonging to this category; the resulting list of words on which this study is based is given in an appendix.

2. Formation

A suffix $-\bar{\alpha}$ - (which in Attic became $-\eta$ - except after ϵ -, ι -, or ρ -) was inherited for forming abstract nouns from verbal stems (see Chantraine 1933: 18-25; Risch 1974: 8, 10-12). These nouns denoted the action performed by the subject of the base verb or (in the case of a verb with stative meaning) the state of the subject. Thus, κλοπή ‘theft’ denoted the action performed by the subject of the verb κλέπτω ‘steal’.² The type was inherited with mostly o -grade of the verbal root, but new creations arising within the historical period often retained

¹ This paper results from work begun during the course of the dissertation on which Probert (2006) is based, and it owes much to my supervisor, Anna Morpurgo Davies. Although I originally intended to include a chapter on deverbative \bar{a} -stems, I abandoned this work as it became clear that the dissertation would otherwise be too long and was perhaps better structured as a study focusing on words with thematic, but no \bar{a} -stem or other, suffixes. But if the sort of explanation suggested there for the apparently inconsistent accentuation of nouns with $-\rho\alpha$ -, $-\tau\alpha$ -, $-\nu\alpha$ -, $-\lambda\alpha$ -, and $-\mu\alpha$ - is correct, similar pressures ought to have influenced the accentuation of words with non-thematic suffixes, and for this reason I return now to deverbative \bar{a} -stems. It is due to the history of this work that the text frequencies used in section 10 are based on the web-based version of the Perseus corpus as it was in January 1999 (Crane 1999). I apologise for a small amount of repetition between parts of this paper and the cursory treatment of deverbative \bar{a} -stems at Probert (2006: 294-7).

² It is convenient to define the meaning of these *nomina actionis* with reference to the subject of the verb, but the words themselves place no special emphasis on the rôle of the subject in the action.

the vocalism of the verbal stem on which they were based, especially if the stem of the base verb provided no *-e-* that could simply be replaced with *-o-* (thus $\theta\lambda\iota\beta\acute{\eta}$ ‘a rubbing’ (Galen), formed to $\theta\lambda\acute{\iota}\beta\omega$ ‘squeeze, chafe’). The verbal stem forming the basis for such derivatives could be a present, aorist or perfect stem (Chantraine 1933: 18-25, esp. 22).

Some of the nouns so formed changed their meanings or acquired new meanings alongside their original ones. In particular, it is common for these words to acquire one or more concrete meanings, so that they denote some object connected with the verbal action. In such cases the word may or may not retain its original abstract meaning beside its new concrete meaning or meanings. Thus, $\acute{o}\rho\phi\acute{\eta}$, originally a *nomen actionis* to $\acute{\epsilon}\rho\acute{\epsilon}\phi\omega$ ‘cover with a roof’ means ‘roof’ or ‘ceiling’ (concrete meanings only), while $\tau\alpha\phi\acute{\eta}$, originally *nomen actionis* to $\theta\acute{\alpha}\pi\tau\omega$ ‘bury’, can mean either ‘burial’ or ‘burial place’ (abstract and concrete meanings).

It is important to distinguish words in which the suffix $-\eta/-\bar{\alpha}$ - originated as an abstract-forming suffix from those in which a suffix or element of this form had a different function. For example, some old root nouns changed their declensional type by means of the addition of $-\bar{\alpha}/-\eta-$. Words probably belonging in this category include $\delta\acute{\iota}\kappa\eta$ ‘custom; right’ (cf. the root noun *diś* (f.) ‘quarter or region pointed at, direction’ preserved in Vedic: see Frisk 1960-72: i.393-4) and $\acute{\alpha}\lambda\kappa\acute{\eta}$ ‘strength’ (cf. the Homeric dative $\acute{\alpha}\lambda\kappa\acute{\iota}$ ‘(trusting) in strength’: see Frisk 1960-72: i.69). Other words acquired $-\bar{\alpha}/-\eta-$ as a feminine termination to correspond to masculine $-o-$; thus $\theta\epsilon\acute{\alpha}$ ‘goddess’ was created as a feminine to $\theta\epsilon\acute{o}\varsigma$ ‘god’ (see Wackernagel 1926-28: ii.25). Lastly, words in $-\bar{\alpha}/-\eta-$ could be back-formed from verbs that could be interpreted synchronically as denominative, such as those in $-\acute{\alpha}\omega$, $-\acute{\epsilon}\omega$, $-\acute{\alpha}\acute{\iota}\omega$, or $-\acute{\alpha}\acute{\iota}\nu\omega$.³

Distinguishing between these different categories of words in $-\bar{\alpha}/-\eta$ is not always easy. In particular, both derivatives such as $\kappa\lambda\omicron\pi\acute{\eta}$ ‘theft’ (cf. $\kappa\lambda\acute{\epsilon}\pi\tau\omega$ ‘steal’) and back-formations such as $\acute{\alpha}\gamma\acute{\alpha}\pi\eta$ ‘love’ (cf. $\acute{\alpha}\gamma\alpha\pi\acute{\alpha}\omega$ ‘greet with affection’) are nouns formed on the basis of a verbal stem. It is worth considering the justification for speaking of derivation in one case and back-formation in the other, especially as there has traditionally been some confusion in this area.

The word $\acute{\alpha}\rho\mu\omicron\gamma\acute{\eta}$ ‘joining’ will illustrate the problem. This word is formed on the basis of the verb $\acute{\alpha}\rho\mu\acute{o}\zeta\omega$ ‘fit together’. The verb is in origin a formation in $*-\acute{\lambda}e/o-$ built on a stem that historically was probably $\acute{\alpha}\rho\mu\omicron\delta-$ (cf. $\acute{\alpha}\rho\mu\acute{o}\delta\acute{\iota}\omicron\varsigma$ ‘fitting together’; Frisk 1960-72: i.144; Chantraine 1968-80: 111; Schwyzer 1953: 734 n. 2). Synchronically, however, the present termination $-\zeta\omega$ could belong equally well to a stem in $-\gamma-$ as to one in $-\delta-$, and some attested non-present forms of the verb presuppose the reinterpretation of the stem as $\acute{\alpha}\rho\mu\omicron\gamma-$ (e.g. the Doric aorist $\sigma\upsilon\nu\acute{\alpha}\rho\mu\omicron\zeta\epsilon\nu$ at Pindar, *N.* 10. 12). Synchronically, the verb could thus be interpreted as built on the stem of the noun $\acute{\alpha}\rho\mu\omicron\gamma\acute{\eta}$. Historically this cannot have been the

³ On back-formation from verbs in $-\acute{\alpha}\omega$, see Risch (1974: 13).

stem of the verb: most non-present forms of the verb, such as the usual aorist ἤρμυσα, presuppose a stem ἄρμυδ- and, as Buck and Petersen (1945: 633) point out, ‘the verb is... demonstrably earlier’ (the verb is attested in Homer, the noun first in Eupolis). Buck and Petersen therefore speak in this and similar cases of ‘back-formation’.⁴

If we regard ἄρμυγή ‘joining’ as ‘back-formed’ from the verb ἄρμύζω ‘fit together’, it is difficult to see how this process differs from that of ‘derivation’ whereby the noun κοπή ‘cutting’ is derived from κόπτω ‘smite, cut’. In such cases, the standard analysis is simply as a derivative. Thus, Frisk (1960-72: i.915) simply lists κοπή as a ‘derivative’ (*Ableitung*) from κόπτω. However, κόπτω is in origin a *-jē/o- present no less than ἄρμύζω, and from a synchronic point of view κόπτω would be open to interpretation as based on κοπή. If we speak of back-formation in the case of ἄρμυγή ‘joining’, should we not then do the same in the case of κοπή ‘cutting’?

On the other hand, neither ἄρμυγή ‘joining’ nor κοπή ‘cutting’ actually *needs* to be analysed as a back-formation. As mentioned above, verbal nouns in -η can be created on any stem of the verb – present, aorist, or perfect. The present ἄρμύζω can be analysed synchronically as belonging with a non-present stem ἄρμυγ-, just as κόπτω is synchronically (as well as diachronically) analysable as a present belonging to a non-present κοπ-. In both cases, the non-present stem implied by the present can be used as a base for the derivation of a *nomen actionis* in -η. The relevant non-present stem may of course exist as such, as in the aorist ἔκοψα [ekopsa] ‘smote’, where the -s- is clearly an aorist formant and is not taken over in derivation. But this is less important than that the stem in question be synchronically extractable from some form of the verb, e.g. the present.

For this reason, I have made the decision not to count words in -γη formed to verbs in -ζω as back-formations, but simply as derivatives, and to reserve the term ‘back-formation’ for cases such as the creation of a noun ἀγάπη ‘love’ to ἀγαπάω ‘greet with affection’. In this case, the -α- that precedes (or contracts with) the verbal endings is not merely a present-formant but runs right through the verbal system (sometimes appearing as -η- rather than -α-, as in the Homeric (unaugmented) aorist ἀγάπησα, but nevertheless clearly existing). A real derivative of this verb in -ᾱ/-η ought therefore to have ended in -αη or -ηη, but clearly neither ἀγάπη nor similar nouns formed to verbs in -άω result from the contraction of such forms. If they did, we might expect to find some survivals of uncontracted forms. We would also not find a recessive accent on the penultimate syllable, as in ἀγάπη, but the accent resulting from contraction: **ἀγαπῆ. Thus, I take nouns in -ᾱ/-η formed to verbs in -άω to be back-formations. By similar reasoning, -ᾱ/-η nouns formed to verbs in -έω, -αίω, and -αίνω are taken to be back-formations. Those formed to verbs with what were historically -jē/o- presents, however, are treated as straightforward derivatives. Nouns in -ᾱ/-η formed to verbs

⁴ Frisk (1960-72: i.144), on the other hand, speaks cautiously of the noun existing ‘beside’ the verb (*daneben*), Chantraine (1968-80: 111) of the noun having ‘come from’ the verb (*issu de*).

in $-\acute{\alpha}\nu\omega$ are also treated as straightforward derivatives if (as always occurs for the instances in the data here considered) there is an aorist stem consisting simply of verbal root plus thematic vowel (as in the case of $\beta\lambda\acute{\alpha}\sigma\tau\eta$ ‘shoot; growth; birth’ beside $\acute{\epsilon}\beta\lambda\alpha\sigma\tau\omicron\nu$, Attic aorist of $\beta\lambda\alpha\sigma\tau\acute{\alpha}\nu\omega$ ‘sprout, grow’).

3. Data Considered

The list of words to be studied here has been assembled by sifting in search of relevant items through the various sections of Buck & Petersen (1945) in which nouns in $-\bar{\alpha}/-\eta$ appear. Words that can be identified as deverbative \bar{a} -stems have been included unless (a) they are likely to be compounds, prefixed forms, or derivatives of compounds; (b) they are only attested on inscriptions or as unaccented writings on papyri; (c) they are first attested later than the second century BC (but words are included if attested for an author of the second century BC or earlier in a quotation from a later author, unless the only source for the word is Hesychius⁵), or (d) they exist only as conjectures or doubtful readings. Altogether, 185 words are considered.

4. Accentuation

Of the 185 words identified as *nomina actionis* in $-\bar{\alpha}/-\eta$, at least in origin, 136 are finally accented (74%) while 48 are recessive (26%). The accent of one word, $\sigma\alpha\gamma\acute{\eta}/\sigma\acute{\alpha}\gamma\eta$ ‘pack, baggage’ was variable or disputed, according to Arcadius (120. 3-4); hereafter in making statistical statements I shall ignore this word. A majority of deverbatives in $-\bar{\alpha}/-\eta$, then, is finally accented but a sizeable minority is recessive. In the following sections we shall consider three factors that have been claimed to correlate with this accentual split:

(a) Bally (1945: 50-1) notes that those \bar{a} -stem *nomina actionis* with *o*-grade root vocalism typically have final accentuation (thus $\kappa\lambda\omicron\pi\acute{\eta}$ ‘theft’) while those with other root vocalisms are sometimes accented on the final syllable, sometimes recessive (thus $\acute{\alpha}\phi\acute{\eta}$ ‘lighting, kindling; touch’ but $\lambda\acute{\eta}\theta\eta$ ‘forgetting, forgetfulness’).

(b) Vendryes (1904: 149-51, 155-6), Bolelli (1950: 92-3), and Kuryłowicz (1958: 115-16, 1968: 91)⁶ note that $-\bar{\alpha}/-\eta$ derivatives⁷ with abstract meaning are normally finally accented (so $\kappa\lambda\omicron\pi\acute{\eta}$ ‘theft’) while those with concrete meaning are often recessive (so $\sigma\tau\acute{\epsilon}\gamma\eta$ ‘roof’). Two minimal pairs mentioned by Vendryes (1904: 150) and Kuryłowicz (1958: 116, 1968:

⁵ Hesychius’ lexicon is preserved in only one manuscript, the accentuation of which is highly idiosyncratic (see Latte 1953-66: i. pp. viii, xxvii).

⁶ Cf. also Postgate (1924: 44-5).

⁷ Both Vendryes and Kuryłowicz also include some other types of $-\bar{\alpha}/-\eta$ stems in their discussion (e.g. words with suffix $-\omicron\nu\acute{\eta}/-\acute{\omicron}\nu\eta$), but these do not concern us here.

91)⁸ lend support to the view that the distinction between abstract and concrete meaning is important for the accentuation of these words. The abstract σκαφή ‘digging’ is finally accented but the concrete σκάφη ‘trough; light boat’ is recessive. Similarly, we have ἀρπαγή ‘seizure’ (abstract with final accentuation) but ἀρπάγη ‘hook, grappling iron’ (concrete with recessive accentuation).⁹

(c) Bonfante (1930) holds the accentual distribution to be determined in part by a phonological rule shifting the accent from a final heavy syllable onto a penultimate heavy syllable ($_ _ < * _ _ _$; cf. μήτηρ ‘mother’ < *μητήρ¹⁰), although the majority of affected *deverbative* -ᾱ/-η nouns would have restored final accentuation analogically.

5. Root Vocalism

Bally’s observation that \bar{a} -stem deverbatives with *o*-grade root are more consistently accented on the final syllable than other \bar{a} -stem deverbatives is clearly correct. Table 1 shows the numbers of finally and recessively accented deverbative \bar{a} -stems first among those words where the suffix -ᾱ/-η is added directly to an *o*-grade verbal root, and secondly among those words formed in other ways. I have counted words as having an *o*-grade root (but not a suffixed stem) only if they show synchronically a short -*o*- or a diphthong containing short -*o*-.¹¹ I have excluded from this count altogether the following words whose synchronic short -*o*- derives historically from * h_3 : βόσκη ‘fodder, food, pasturage’; θορή ‘semen’; ὄζη ‘bad smell’; ὄπη ‘opening, hole’; στόρνη ‘belt, girdle’.¹² It would obviously be wrong to treat these

⁸ Cf. Bolelli (1950: 93).

⁹ Another possible minimal pair (mentioned by Vendryes 1904: 150 and Kuryłowicz 1958: 116) is κάμπη ‘winding’ (also with concrete meaning ‘turning-post’) : κάμπη ‘caterpillar’. I have not included this pair because it is uncertain whether κάμπη ‘caterpillar’ is in fact etymologically connected to κάμπω ‘bend’ (see Frisk 1960-72: i.774 and cf. Bolelli 1950: 93 n. 1), although, as Frisk notes, there is likely to have been at least a popular etymology connecting κάμπη ‘caterpillar’ and κάμπω ‘bend’. Vendryes mentions also a pair πλαταγή ‘noise’ : πλατάγη ‘castanet’. I have not been able to find the evidence for different accents depending on the difference in meaning here (cf. Bolelli 1950: 93 n. 1, with the same problem); the word is in any case not relevant for us as it is not a verbal derivative but a back-formation from πλαταγέω ‘clap the hands’ (cf. Frisk 1960-72: ii.552).

¹⁰ The reconstruction of final accentuation in the nominative of this word is often assumed on the basis of the accentual correspondence between Vedic *mātā* ‘mother’ and Germanic forms such as Old English *mōdor* (implying proto-Germanic **māter-*), but this reconstruction has not gone unchallenged. Beekes (1972) regards Greek as continuing the original accentuation in the nominative of this word. The argument is supported by the difficult evidence of dialectal Lithuanian *mótė* ‘mother’ as well as the synchronic irregularity of the Greek form.

¹¹ Bally includes also words with synchronic long - \bar{o} -, but it is too often difficult to see exactly why a word has synchronic long - \bar{o} - in the root and therefore whether we should speak of an *o*-grade. Cf. e.g. λώπη ‘covering, robe, mantle’, formed on the root of λέπω ‘strip off the rind or husks, peel, bark’; here one might have expected an *o*-grade form ** $\lambda\omega\pi-$.

¹² The etymology of βόσκω ‘feed, tend’ is unclear, but a root containing * h_3 (* $g^h h_3-$ or the like) is likely in view of the persistent *o*-vocalism of related forms (for which see e.g. Chantraine 1968-80: 185-6). For the roots of the other words listed, see Rix (2001) s.vv. * $d^h erh_3-$, * $h_3 ed-$, * $h_3 ek^h-$, and * $ster h_3-$.

as having an *o*-grade root since historically the *-o-* has a different origin. However, it is possible that synchronically at least some of them were felt to be equivalent to the *o*-grade type of κλοπή ‘theft’, and for this reason they have been left out of the count entirely. We find that a much higher proportion of the *o*-grade root formations has final accentuation than is the case for the other formations, although in both cases final accentuation occurs in a higher proportion of lexical items than recessive accentuation:

Table 1: Numbers of finally accented and recessive deverbative \bar{a} -stems (a) with the suffix added directly to an *o*-grade root, and (b) with other formations

	<i>O</i> -grade root formations (% out of 65)	Other formations (% out of 114)
Finally accented	56 (86%)	77 (68%)
Recessive	9 (14%)	37 (32%)

The difference between the accentual distribution among the *o*-grade words and that among the words of other formations is statistically significant at the 1% level.¹³ We shall need to return to the question why *o*-grade root formations show a particularly strong preference for final accentuation, but it is also clear that root vocalism is not the only factor correlating with the accentuation of deverbative \bar{a} -stems; we now turn to the possibility of a correlation between abstract meaning and accentuation on the final syllable.

6. Abstract Versus Concrete Meaning

The two minimal pairs mentioned under (b) in section 4 above, σκαφή ‘digging’ versus σκάφη ‘trough; light boat’ and ἄρπαγή ‘seizure’ versus ἄρπάγη ‘hook, grappling iron’, make it likely that there is indeed some connection between abstractness of meaning and final accentuation, and between concreteness of meaning and recessive accentuation. It is also clear, however, that not every $\bar{\alpha}$ -η derivative with abstract meaning has a final accent, and not every one with concrete meaning is recessive. Thus, μάθη ‘act of learning’ is abstract in meaning but recessive in accentuation, while ὀροφή ‘roof, ceiling’ has concrete meaning but final accentuation. Also, many $\bar{\alpha}$ -η derivatives have both abstract and concrete meanings, and most of these show the same accentuation in both meanings. The minimal pairs just mentioned are unusual in showing an accentual split between different meanings. We must check to what extent, if at all, the group of abstract words as a whole shows different accentuation from the group of concrete words. If there is indeed an overall accentual difference between these two groups, we must then ask how a third group of words, those with both abstract and concrete meanings, fits in.

In order to check the suggestion that the distribution of final and recessive accentuation among deverbative \bar{a} -stems is conditioned at least in part by the development of concrete

¹³ $X^2=7.51$; $p=0.0061$.

meanings, I have assigned each of the words considered to one of three semantic categories: abstract, concrete, or abstract/concrete. The last of these categories includes those words with both abstract and concrete meanings.

Deciding whether a given meaning of a given word is abstract or concrete or both can be difficult. I have followed the rule of thumb that if a word denotes something that can be directly apprehended by one of the five senses, it has a concrete meaning. If it denotes something that cannot be apprehended as such by any of the senses, it has an abstract meaning. But difficulties remain, and in such cases I have made a decision based on my judgement of how abstractly or concretely the word is to be taken where it is attested. In assigning the words to semantic categories very rare meanings of otherwise relatively common words were left out of account, since if this was not done very few words could be classified as either purely concrete or purely abstract in meaning. Very rare meanings of a word are in any case unlikely to play a significant role in determining its accentuation.

The data may now be summarised as shown in table 2:

Table 2: Numbers of finally and recessively accented deverbative \bar{a} -stems among (a) words with only abstract meaning, (b) words with both abstract and concrete meanings, and (c) words with only concrete meaning

	Abstract	Abstract/Concrete	Concrete
Final	63 (22 <i>o</i> -grade)	44 (23 <i>o</i> -grade)	29 (11 <i>o</i> -grade)
Recessive	17 (1 <i>o</i> -grade)	2 (0 <i>o</i> -grade)	29 (7 <i>o</i> -grade)

Of the 80 words with only an abstract meaning, 63 are finally accented (79%), while of the 58 words with only concrete meaning, 29 show final accentuation (50%). It thus appears that words with only abstract meaning show a definite preference for final accentuation while those with only concrete meaning are about equally divided between final and recessive accentuation. The difference between the behaviour of the abstract words and that of the concrete words is statistically significant at the 1% level.¹⁴ Curiously, the words with both abstract and concrete meanings do not fall half way between the two categories but show a much stronger preference for final accentuation (44 out of 46 words, or 96%) than do those words with only abstract meaning. The difference between the distribution of accentual types for the words with abstract meaning only and that for the words with both types of meaning is significant at the 5% level.¹⁵

The figures given in parentheses in table 2 show how many words in each category are formed by the addition of the suffix directly to an *o*-grade root (as defined in §5 above). The distribution of *o*-grade forms cuts across the semantic categories abstract, concrete, and abstract/concrete so that the distribution of accentual types between the words with abstract

¹⁴ $X^2=12.51$; $p=0.00041$.

¹⁵ $X^2=6.52$; $p=0.011$.

meaning, concrete meaning, and both abstract and concrete meanings cannot be explained as simply dependent on the distribution of *o*-grade forms between these semantic categories. It is clear from table 2 that if we take the *o*-grade words alone we still find a much higher incidence of recessive accentuation among the words with concrete meaning (7 out of 18 words, or 39%) than among the words with abstract meaning alone (1 out of 23 words, or 4.3%) or both types of meaning (0 out of 23 words, or 0%).¹⁶ If we take the non-*o*-grade words alone we find, again, that the lowest incidence of recessive accentuation is among the words with both types of meaning (2 out of 23 words are recessive, or 8.7%), followed by the words with abstract meaning alone (16 out of 57 words, or 28%), while the highest incidence of recessive accentuation is among the words with only concrete meaning (22 out of 40 words, or 55%). The difference between the distribution of accent types for the words with abstract meaning only and that for the words with concrete meaning only is again significant at the 1% level.¹⁷ The difference between the distribution of accent types for the words with abstract meaning only and that for the words with both types of meaning this time misses being significant at the 5% level.¹⁸

The view of Vendryes, Bolelli, and Kuryłowicz that accentuation in deverbative \bar{a} -stems correlates in some way with abstractness or concreteness of meaning is thus confirmed by the data. We shall need to explain why words with only concrete meaning are more likely to be recessive than those with only abstract meaning, and why those with both abstract and concrete meanings are even less likely to be recessive than those with abstract meanings alone.

7. Bonfante's Μήτηρ Rule

In seeking to show that his accent retraction rule (called by him '*la legge di μήτηρ*' and by Bolelli (1950: 91) '<*la legge*> di Bonfante') applies to \bar{a} -stem nouns, Bonfante (1930: 266) starts with the premise that in Indo-European all feminine nouns in $*\bar{a}$ were accented on the final syllable (cf. Hirt 1895: 245, 1929: 257), and he assumes that this was also the case in Proto-Greek prior to the operation of the μήτηρ rule. The μήτηρ rule ought then to have caused a retraction of accent in those words ending in a spondaic sequence (heavy—heavy *syllables*),¹⁹ while those ending in an iambic sequence (light—heavy *syllables*) should have retained their original final accentuation. He then (1930: 267-8) produces some apparently impressive lists of words that seem to bear out this prediction (211 disyllabic and 135 polysyllabic words ending $\underline{\quad}'\underline{\quad}$; 58 disyllabic and 46 polysyllabic words ending $\cup\underline{\quad}'\underline{\quad}$; counterexamples cited are comparatively few). He is concerned here not only with deverbative

¹⁶ A chi-square test would not be valid for these data as some of the expected frequencies are smaller than five.

¹⁷ $X^2=7.15$; $p=0.0075$.

¹⁸ $X^2=3.53$; $p=0.060$.

¹⁹ Bonfante (1930: 266 n. 2) takes stop plus liquid sequences to have been heterosyllabic both in IE and in Proto-Greek, *contra* Hirt (1929: 44).

- $\bar{\alpha}$ /-η words but with feminine \bar{a} -stems in general. Deverbative words such as κλοπή ‘theft’ therefore appear in Bonfante’s lists alongside \bar{a} -stems of other origins such as θεά ‘goddess’, secondary feminine to θεός ‘god’.

Not all \bar{a} -stems conform to Bonfante’s prediction, and where possible he suggests reasons why those that do not have either resisted the μήτηρ rule (in the case of finally accented words with spondaic termination) or have retracted the accent even though they should not have been affected by the μήτηρ rule (in the case of recessive words with iambic termination).

Bonfante (1930: 268-9) notes that deverbative words are particularly resistant to accent retraction. Thus, alongside forms with iambic termination such as κλοπή ‘theft’ or νομή ‘pasturage’, there are numerous forms with spondaic termination, e.g. πομπή ‘conduct, escort’ or σπονδή ‘drink-offering’. He regards the latter type as accented by analogy with the former and sets up the following as a typical proportion (1930: 269):

$$\begin{aligned} \text{νέμω} : \text{νομή} &= \text{σπένδω} : x \\ x &= \text{σπονδή} \end{aligned}$$

He regards the *o*-vocalism of forms such as σπονδή as particularly conducive to such analogical reaccentuation, but allows that deverbative \bar{a} -stems with spondaic endings and non-*o*-vocalism may also have retained final accentuation analogically (thus e.g. πληγή ‘blow, stroke’). Such analogical accentuation is admitted even where the base verb was lost from Greek before the historical period, as in ἀνδρή ‘human voice’.²⁰

The deverbative \bar{a} -stems are thus regarded as offering strong resistance to the retraction of the accent predicted by the μήτηρ rule. Nevertheless, *some* of these deverbatives have recessive accents, and where these end in spondaic sequences they are adduced as evidence for the μήτηρ rule. Where such nouns are concrete in meaning this is regarded as helping to allow the retraction to take place by separating the noun semantically from the base verb:

Tuttavia qualche volta esse è penetrata perfino in questa roccaforte: es. ἀμόργη da ἀμέργω, λήθη da λανθάνω. Qui il significato concreto del sostantivo («marc d’olives») lo allontanava dal verbo («cueillir», ἀμοργός «qui pressure»).

(Bonfante 1930: 269)

As far as the deverbative \bar{a} -stems are concerned, therefore, Bonfante’s view, if correct, should lead us to expect a positive correlation not only between recessive accentuation and spondaic termination but also between recessive accentuation and concrete meaning, and we have seen that the latter correlation exists. Bonfante’s view would therefore provide a clear and, if the assumed μήτηρ rule is valid, satisfying mechanism by which such an accentual split could

²⁰ The root is that of Sanskrit *vádati* ‘speak’.

arise in deverbative \bar{a} -stems, and by which this accentual split could be correlated with abstract or concrete meaning.

When we take the deverbative \bar{a} -stems by themselves (rather than \bar{a} -stems of all types together) we appear to find the predicted correlation between recessive accentuation and spondaic termination to some degree (see table 3):

Table 3: Numbers of finally and recessively accented deverbative \bar{a} -stems (a) with spondaic termination, and (b) with iambic termination (stop plus liquid sequences are counted as heterosyllabic, as by Bonfante 1930)

	Spondaic termination (percentage out of 77)	Iambic termination (percentage out of 107)
Finally accented	53 (69%)	83 (78%)
Recessive	24 (31%)	24 (22%)

Although recessive accentuation is not confined to words with spondaic termination, a somewhat higher proportion of words with spondaic termination has recessive accentuation than is the case for words with iambic termination. The difference is not statistically significant at the 5% level.²¹ However, if the $\mu\acute{\eta}\tau\eta\rho$ rule can be accepted, and especially if it finds strong support from \bar{a} -stem nouns in general, we ought to take seriously the possibility that the $\mu\acute{\eta}\tau\eta\rho$ rule had an influence on the accentuation of our deverbative words. However, Bonfante's argument that the \bar{a} -stems in general provide massive evidence for the $\mu\acute{\eta}\tau\eta\rho$ rule is flawed. As mentioned earlier, the lists of feminine \bar{a} -stem words with which Bonfante supports the $\mu\acute{\eta}\tau\eta\rho$ rule include both deverbative and non-deverbative words. However, the deverbative words are much more likely to end in an iambic sequence than the non-deverbative words. This is because in the deverbative type the suffix is simply $-\bar{\alpha}/-\eta$, and if a derivative in $-\bar{\alpha}/-\eta$ is made to a verbal stem ending in a VC sequence the derivative will have a light penultimate syllable. A high proportion of Bonfante's finally accented words ending in an iambic sequence, especially the disyllables, in fact consists of deverbative \bar{a} -stem words, whereas a high proportion of his recessive words ending in an iambic sequence historically had a suffix of the form $-C\bar{\alpha}/-C\eta$, causing the penultimate syllable to be heavy if the stem ended in a consonant.

The apparently impressive number of feminine \bar{a} -stems that seem to conform to Bonfante's prediction ceases to be usable as evidence for the $\mu\acute{\eta}\tau\eta\rho$ rule once we observe that deverbative \bar{a} -stem nouns are more likely to end in an iambic sequence than non-deverbative \bar{a} -stems. The pattern noticed by Bonfante can then simply be ascribed to the fact that deverbative \bar{a} -stems are most often finally accented (as Bonfante allows) whereas \bar{a} -stems of different origins are more often recessive. This is not the place to argue in detail for or against Bonfante's $\mu\acute{\eta}\tau\eta\rho$ rule, but a significant part of the evidence adduced in its favour, that of the feminine \bar{a} -stems, needs to be rejected.

²¹ $X^2=1.77$; $p=0.18$.

8. Explaining the Distribution of Final and Recessive Accents

Both Vendryes (1904: 149-50) and Kuryłowicz (1958: 115, 1968: 91) suggest reasons why $\bar{\alpha}$ -stem deverbatives with abstract meaning should be accented differently from those with concrete meaning. I have discussed these ideas elsewhere (Probert 2006: 295-6) and give only a brief recapitulation here.

For Vendryes, at least where there are minimal pairs these appear to come under a general principle of accentual differentiation between words designating an action and corresponding words designating the author, instrument, or concrete object of an action. As mentioned above (§6), however, words with both abstract and concrete meanings are most often accented identically in both meanings: precisely where such accentual differentiation might really be motivated, it is most rarely found. In addition, it is unclear what the mechanism for such differentiation would be.

For Kuryłowicz, the law of limitation ensured that the accent of a genitive plural in $-\acute{\alpha}\omega\nu$ (later contracted to $-\hat{\omega}\nu$) would have fallen in the same place whether the form belonged to a finally accented paradigm or a recessive one, and such genitive plural forms provided the starting point for the analogical creation of whole recessive instead of finally accented paradigms. This analogical change to recessive accentuation only took place, however, in nouns that had acquired concrete meanings, and only at the moment when the law of limitation came into operation. Any later changes in meaning did not affect the accent: hence the existence of finally accented concrete nouns such as ὀροφή ‘roof; ceiling’. The existence of recessive nouns with abstract meaning, such as μάχη ‘battle’, is more difficult to account for on Kuryłowicz’s hypothesis, but he suggests that such nouns have become separated from other *nomina actionis* by subtle changes in meaning (1958: 115) or that correlations between form and meaning produced by the law of limitation have in some way been lost (1968: 92). A drawback to this approach is that it is apparently unfalsifiable, given that secondary semantic developments are allowed to have obscured the original situation to any degree. Perhaps more seriously, it is not clear why the analogical generalisation of recessive paradigms should have operated specifically in nouns that had acquired concrete meanings.

I have suggested instead that what is relevant is that the suffix $-\bar{\alpha}/-\eta$ productively forms finally accented abstract nouns on the basis of verbal stems, but some originally deverbative nouns in $-\bar{\alpha}/-\eta$ have changed their meaning so that they are no longer typical members of this class. Under these circumstances the abstract-forming suffix becomes functionally irrelevant and the stem may cease to be analysed synchronically as containing this suffix. If this loss of analysis occurs, the final accentuation originally associated with the suffix becomes instead an idiosyncratic feature of the unanalysed stem. A further change that may, but need not, occur is the loss of this accentuation and its replacement by recessive accentuation – the most globally regular or ‘default’ accentuation for the language, and the accentuation most expected in unanalysed stems. The process involved would be similar to those I have argued for in nouns

formed historically with the inherently adjectival suffixes -ρο-, -το-, -νο-, and -λο-, and in concrete or otherwise atypical nouns formed historically with the abstract-forming suffix -μο- (Probert 2006, esp. chh. 10, 11, 13).

The propensity to final accentuation displayed by deverbative \bar{a} -stems with an *o*-grade root also fits well the process suggested here. *O*-grade root vocalism remained productive (although not obligatory) for deverbative \bar{a} -stems during the historical period, and since it was not regularly associated with non-deverbative \bar{a} -stems it provided an extra marker of deverbative status, making the stem-final $\bar{\alpha}/\eta$ less likely to lose its interpretation as our suffix.

The two following sections address questions raised by this conclusion. Section 9 is devoted to the nouns that have retained an abstract meaning but are nevertheless recessive. Section 10 investigates the possibility of a link between the accentuation of a deverbative \bar{a} -stem and its text frequency, such as might be expected in the light of frequency effects found in nouns formed with the adjectival suffixes -ρο-, -το-, and -νο- (Probert 2006: chh. 6-8, 10, 13).

9. Deverbative \bar{a} -stems with Abstract Meaning but Recessive Accentuation

Of the nouns I classify as having abstract meaning or both abstract and concrete meanings, twenty are accented recessively. They fall into four groups, as follows:

- (a) δύη ‘misery, anguish, pain’; εἴλη/ἔλη ‘the sun’s heat or warmth’; νόρκη ‘numbness, deadness; torpedo, electric ray’: for these nouns the base verb does not survive into Greek.²²
- (b) τύχη ‘fortune, providence, fate; chance; success; misfortune; act (of a god or human)’; λύη ‘dissolution, separation; faction, sedition’; μάχη ‘battle’: although the meanings of these words remain abstract, they have been specialised so that they are no longer entirely predictable from those of the base verbs.²³
- (c) φθόη ‘decay, perishing’; ὄρᾱ ‘care, concern’: the vocalic alternations between the roots of these nouns and those of the synchronically most closely related verb forms (φθίνω ‘decay’ and ὁράω ‘see, look’ or Homeric ὄρονται ‘they keep watch’) are not typical for deverbative \bar{a} -stems.

²² For the evidence that these were originally deverbatives, see the appendix.

²³ Most obviously, τυγχάνω means ‘hit the mark’, ‘happen’, or ‘succeed’, but τύχη hardly means ‘hitting the mark’, ‘succeeding’, or even straightforwardly ‘happening’. The verb λύω ‘release’ is used in a wide range of contexts, but λύη is confined to a narrow political sense. The verb μάχομαι means ‘fight’ but in the vast majority of its attestations μάχη means not simply ‘fighting’ but ‘battle’: an organised event of fighting.

(d) ὄνη ‘fulfilment’; ῥέμβη ‘wandering’; ὄγη ‘wonder, amazement; envy, malice’; ῥέγγη ‘snoring’; αὔξις ‘growth, increase; dimension’; βλάστη ‘shoot; growth; birth’; μύνη ‘excuse, pretext’; μάθη ‘act of learning, getting of knowledge’; πάθη ‘what is done or happens to a person or thing; suffering; passive state’; λήθη ‘forgetting, forgetfulness’; πατάγη ‘clatter, crash, clapping’: I see no clear reason for the recessive accentuation in these words.²⁴

More often than for abstract or abstract/concrete words with final accentuation, we see here various sorts of weakening of the link between a derivative and the class of derivatives to which it belongs. The words listed under (d) suggest that some words with the deverbative suffix $-\bar{\alpha}/-η$ became recessive even where there is no obvious reason why their connection with the class of deverbative \bar{a} -stems should have ceased to be felt. It should be stressed, too, that there are also some finally accented deverbative \bar{a} -stems for which the base verb has been lost from the language (e.g. αὐδή ‘human voice, speech; sound’; κραυγή ‘crying, screaming, shouting’), or which have become semantically specialised while retaining ‘abstract’ meaning (e.g. πομπή ‘conduct, escort, sending away, sending home; solemn procession’), or whose root vocalisms relate in unusual ways to those of the synchronically most closely connected verbs (κονή ‘murder; hemlock’ ~ κίνω ‘kill’, aor. ἔκονον; κουρά ‘cropping of the hair’ ~ κείρω ‘cut short’). A change to recessive accentuation was a possible, but never an inevitable, consequence of the weakening or loss of synchronic connection between derivative and base verb.

Although loss of abstract meaning was one way in which a deverbative \bar{a} -stem became liable to lose its analysis as such, there were other ways in which the link between derivative and base word could be weakened. We may note here that while the semantic category ‘concrete’ has proved useful, it is somewhat too crude. For most deverbative \bar{a} -stems that have acquired a recessive accent we can say that the meaning has become concrete, but a word may lose its connection with the category of deverbative \bar{a} -stems by types of semantic specialisation other than specifically concretisation as seen under (b) above (as well as by loss of the base word from the language, the development of unusual vowel alternations between base word and derivative, and perhaps other factors which remain obscure).

²⁴ For a suggestion regarding πάθη, perhaps applicable also to μάθη, see Bolelli (1950: 98). It is possible that μύνη is back-formed from μύνᾱμαι (or μῦνάομαι) ‘divert’ (Frisk 1960-72: ii.271). There is some uncertainty about the accentuation of πατάγη: Eustathius, *ad Dionysium* 266, quoted in §11 below, suggests that Eustathius thought the word was finally accented in the Koine but that Herodian took recessive accentuation for granted and used the recessive accent to support a view of the word’s derivation. I have counted the word as recessive following Herodian, who is the earlier witness to the accentuation, but there may have been dialectal variation or a final accent may have been restored at a date after Herodian.

10. Text Frequency of Deverbative \bar{a} -stems

Frequency effects observed for the accentuation of nouns with the fundamentally adjectival suffixes -ρο-, -το-, and -νο-, for which I have argued that recessive accentuation is due to loss of morphological analysis followed by a change to ‘default’ recessive accentuation (Probert 2006: chh. 6-8, 10, 13), might lead us to expect similar frequency effects among deverbative \bar{a} -stems that had lost their abstract meanings. Specifically, very frequent lexical items should be more likely to retain their original final accentuation than less frequent ones, but *very* infrequent lexical items might be expected to retain their final accentuation. The reason for such U-shaped frequency distributions is likely to be that very infrequent items resist loss of morphological analysis, while very frequent items readily lose their morphological analysis but then resist subsequent regularisation of the accent.

In fact, a frequency count carried out using the corpus of Crane (1999) shows that our words with only concrete meaning display the expected pattern to some degree, but not a very significant one.²⁵ In particular, there are too few very high frequency words (only two attested over a hundred times in the corpus) to base firm conclusions on these.

Those nouns that keep abstract meanings and have not acquired concrete meanings have, as expected, retained final accentuation to a much greater degree than those that have acquired a concrete meaning and lost their abstract meaning. However, even here we have noted that some words are recessive. There is no very striking dependence on frequency, although the very high frequency words (over a hundred occurrences in the corpus) show a slightly greater tendency to final accentuation.²⁶

Although these frequency effects are small, frequency is likely to hold the key to the apparently odd fact that words with both abstract and concrete meanings are significantly *more* prone to final accentuation than words with abstract meaning only (§6 above). Only two words with both abstract and concrete meanings are recessively accented, and so there is little point in looking for frequency effects within this group (although the two recessive words, νάρκη ‘numbness, deadness; torpedo, electric ray’ and βλάστη ‘shoot; growth; birth’, do occur in the middle of the frequency range, occurring in the corpus 4 and 12 times respectively). However, words that have more than one meaning in use are unlikely to be highly infrequent words. Table 4 shows how few of the words with both abstract and concrete meanings occur either not at all or only once in the corpus of Crane (1999), by contrast with

²⁵ 11 out of 19 words not occurring at all in the corpus are finally accented (58%); 17 out of 37 words occurring between one and a hundred times in the corpus are finally accented (46%); 1 out of 2 words occurring over a hundred times in the corpus is finally accented (50%).

²⁶ 15 out of 19 words not occurring at all in the corpus are finally accented (79%); 37 out of 48 words occurring between one and a hundred times in the corpus are finally accented (77%); 10 out of 12 words occurring over a hundred times in the corpus are finally accented (83%).

the considerably higher proportion of nouns with only abstract meanings occurring not at all or only once.

Table 4: Numbers of words (a) with abstract meaning only and (b) with both abstract and concrete meanings occurring not at all or only once in the corpus of Crane (1999).

Number of occurrences in corpus	Number of words (out of 79) with abstract meaning only (percentage)	Number of words (out of 46) with both abstract and concrete meanings (percentage)
0	19 (24%)	2 (4.3%)
1	11 (14%)	1 (2.2%)

When the words with only abstract meaning and those with both abstract and concrete meanings are considered together we find, as for the words with abstract meaning only, that the very highest frequency words (over 100 occurrences) show a rather greater tendency to be finally accented than do the words of lower frequency.²⁷ This time the conclusion is more significant because it is based on a larger number of words, especially in the higher frequencies.

Neither words with only abstract meanings nor those with both abstract and concrete meanings show any clear difference in accentuation between the words not occurring at all in the corpus and those occurring between one and a hundred times. Since it is likely that the vast majority of words retaining abstract meanings are still analysed as containing our suffix, infrequent words may not be sufficiently special here for any effect of low frequency to be discernible. It is clear, however, that at least high frequency is relevant to accentuation. Occasional words have lost their analysis although they retain abstract meanings, and at least in some cases we have been able to see why a particular word might have been dissociated from the class of deverbative \bar{a} -stems (§9). These occasional words resist subsequent change to recessive accentuation if they are very frequent.

In conclusion, although the frequency effects we have seen in the various semantic groups of deverbative \bar{a} -stems are small, they clearly exist and are in line with those found in other suffixes displaying accentual change following loss of analysis. Furthermore, the involvement of text frequency explains the otherwise odd fact that words with both abstract and concrete meanings are even more prone to final accentuation than words with abstract meanings only.

²⁷ 17 out of 21 words not occurring at all in the corpus are finally accented (81%); 69 out of 82 words occurring between one and a hundred times in the corpus are finally accented (84%); 20 out of 22 words occurring over a hundred times in the corpus are finally accented (91%).

11. Conclusion

The data considered here strongly support the hypothesis that deverbative \bar{a} -stems were regularly accented on the final syllable when they were created, but that some have become synchronically dissociated from the category of deverbative \bar{a} -stems, and in some cases a change to more generally regular or ‘default’ recessive accentuation has resulted. We may mention in conclusion Eustathius’ report of Herodian’s reasoning on the derivation of the word *πατάγη* ‘clatter, crash, clapping’ (which Herodian took to be uncontroversially recessive):

Τὸ δὲ παταγή κοινότερον μὲν ὀξύνεται, ὡς τὸ ἀλαλαγή, ὁ δὲ Ἡρωδιανὸς βαρύνει αὐτό, λέγων ὅτι οὐκ ἐκ τοῦ πατάσσω γίνεται, ὡξύνετο γὰρ ἂν ὡς τὸ ἀλαλαγή, ἀλλ’ ἀπὸ τοῦ πάταγος, οὗ τὸ θηλυκὸν φησιν ἡ πατάγη.

‘The word *παταγή* is given a final acute in the Koine, like *ἀλαλαγή* (‘shouting’), but Herodian makes it recessive, saying that it does not come from *πατάσσω* (‘beat, knock’), for then it would have a final acute like *ἀλαλαγή* (‘shouting’), but from *πάταγος* (‘clatter’), of which, he says, the feminine is *πατάγη*.’

(Eustathius, *ad Dionysium* 266)

Herodian’s judgement that final accentuation would be inevitable if *πατάγη* were derived from *πατάσσω* is not an obvious one to reach without some sense that deverbative \bar{a} -stems are finally accented (and therefore that recessive \bar{a} -stems are not deverbative). Herodian cannot, of course, be taken as an unreflecting native speaker, and Eustathius’ report suggests that Herodian may have been arguing against somebody who *did* derive *πατάγη* from *πατάσσω*. Nevertheless, Herodian’s argument suggests that at least for one speaker the synchronic connection between derivative and base word had been lost in those originally deverbative \bar{a} -stems that had become recessive: in diachronic terms, that a change to recessive accentuation did not occur without the synchronic connection between deverbative \bar{a} -stem and base verb being lost, either after or (as argued here) before the change to recessive accentuation.

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Appendix: list of words considered

Words are listed in reverse index order. Each word is followed by a gloss and then, in parentheses, by (a) the related verb, (b) the number of occurrences in the corpus of Crane (1999), which contained 3413018 words at the time I used it (January 1999); and (c) an indication of the classification of the word as abstract, concrete, or both abstract and concrete (A=abstract in meaning; C=Concrete in meaning; A/C=both abstract and concrete meanings are attested. A question mark after a code letter indicates that uncertainty was involved in the classification of the word as abstract or concrete. Where a word is classified as A/C and classification of the meanings taken to be abstract is uncertain, this is indicated thus: A?/C. Where the classification of the meanings taken to be concrete is uncertain, this is indicated thus: A/C?. Where a word has a range of meanings, the translation of the word given in the entry does not necessarily give all of them, but at least one abstract meaning is given where one exists, and at least one concrete meaning where one exists). For reasons of space, references to etymological dictionaries have not been given for most words; the etymologies are based primarily on Frisk (1960–72), with comparison of Chantraine (1968–80).

λαβή ‘handle, haft; occasion; attack (of fever); taking, accepting’ (λαμβάνω, aor. ἔλαβον ‘take, grasp, seize’; 0; A/C); **θλιβή** ‘rubbing’ (θλίβω ‘squeeze, chafe’; 0; A); **λοιβή** ‘pouring of drink-offering; drink-offering’ (λείβω ‘pour; make a libation’; 18; A/C?); **ἀμοιβή** ‘requital, recompense; change, exchange’ (ἀμείβω ‘change, exchange’; 25; A); **στοιβή** ‘thorny burnet, *Poterium spinosum*; cushion; padding’ (στείβω ‘tread or stamp on’; 3; C); **τριβή** ‘rubbing, rubbing down, wearing away; practice; spending (of time), delay’ (τρίβω ‘rub; wear out; spend (time)’; 28; A); **στίβη** ‘rime, hoar frost’ (στείβω ‘tread or stamp on, tread under foot’; 2; C); **στίλβη** ‘lamp’ (στίλβω ‘glitter, gleam’; 0; C); **κράμβη** ‘cabbage, *Brassica cretica*’ (root of OHG (*h*)*rimfan* ‘wrinkle, bend’, IE **kremb-*; 0; C); **ρέμβη** ‘wandering’ (ρέμβω ‘turn round and round’; 0; A); **φόβη** ‘lock or curl of hair; mane of horse; foliage’ (φέβομαι ‘be put to flight, flee in terror’; 12; C); **φορβή** ‘pasture, food, fodder, forage’ (φέρβω ‘feed, nourish’; 17; C); **καλύβη** ‘hut, cabin’ (καλύπτω ‘cover’; 7; C); **κρυβή** ‘concealment’ (κρύπτω ‘hide, cover’; 0; A?); **ἄγη** ‘wonder, amazement; envy, malice’ (ἄγαμαι ‘wonder, admire; feel envy’; 5; A); **ἄγη** ‘fragment, splinter; place where the wave breaks, beach; curve’ (ἄγνυμι ‘break’; 2; C); **ἀλαλαγή** ‘shouting’ (ἀλαλάζω ‘raise the war-cry; cry, shout aloud’; 2; A); **πάγη** ‘snare, noose, trap’ (πήγνυμι, aor. pass. ἐπάγην ‘stick or fix in’; 9; C); **ἀρπαγή** ‘seizure, robbery, rape; thing seized, booty, prey’ (ἀρπάζω ‘snatch away’; 100; A/C); **ἀρπάγη** ‘hook, grappling iron, rake’ (ἀρπάζω ‘snatch away’; 1; C); **ρήγη** ‘fissure, chink, crevice’ (ρήγνυμι, aor. pass. ἐρράγην ‘break asunder’; 0; C); **σαγή/σάγη** ‘pack, baggage; harness; equipment’ (σάττω, aor. ἔσαξα ‘fill quite full, pack, stuff’; 7; C); **ταγή** ‘line of battle, front; ration’ (τάττω, aor. ἔταξα ‘draw up in order of battle, array’; 3; C); **πατάγη** ‘clatter, crash, clapping’ (πατάσσω ‘beat, knock’; 0; A?); **σφαγή** ‘slaughter’; wound; throat’ (σφάζω ‘slay, slaughter’; 97; A/C); **κλαγγή** ‘any sharp sound, e.g. clang (of the bow); scream (of birds)’ (κλάζω ‘make a sharp piercing sound’; 21; C); **φθογγή** ‘voice’ (φθέγγομαι ‘utter a sound or voice’; 16; C?); **στέγη** ‘roof’ (στέγω ‘cover’; 120; C); **πληγή** ‘blow, stroke’ (πλήσσω, aor. ἐπληξα ‘strike, smite’; 274; A); **πηγή** ‘running water, spring, source (and metaphorically ‘origin’)’ ((?)πήγνυμι ‘make solid or stiff, freeze’; 353; C); **κρηγή** ‘shrieking’ (κρίζω ‘screech’; 0; A); **ἀμολγή** ‘milking’ (ἀμέλω ‘milk’; 0; A); **ἀρμογή** ‘joining, fitting; arrangement (e.g. of clauses)’ (ἀρμόζω ‘fit together, join’; 0; A); **όργή** ‘temperament, disposition; anger’ (ἔρδω < **férō* ‘do’; over 500; A); **έοργή/έόργη** ‘stirrer, ladle (for stirring things while boiling)’ (perfect έοργα of έρδω ‘do’; 0; C); **ἀμόργη** ‘watery part which runs out when olives are pressed’ (ἀμέρω ‘pluck, pull’; 0; C); **στοργή** ‘love, affection’ (στέρω ‘love, feel affection’; 4; A); **αυγή** ‘light of the sun, ray, beam’ (probably derived from a lost primary verb (Frisk 1960–72: i. 184); Albanian *agó* ‘become day’ has been compared; 81; C); **κραυγή** ‘crying, screaming, shouting’ (Frisk (1960–72: ii. 11) assumes a lost primary verb on the root of e.g. Lithuanian *kraukiù* ‘croak’; 85; A?); **ιυγή** ‘howling, shrieking’ (ιύζω ‘shout, yell’; 2; A?); **όλολυγή** (όλολύζω ‘cry with a loud voice’; 6; A?); **ἀμαρυσή** ‘sparkling, twinkling, glancing’ (ἀμαρύσσω ‘sparkle, twinkle, glance’; 2; A?); **έρυγή** (and έρευγή) ‘belching’ (έρευγομαι, aor. ήρυγον ‘belch out, disgorge’; 0; A); **όρυγή** (and όρυχή) ‘digging’ (όρύσσω ‘dig’; 0; A); **φυγή** ‘flight; exile; (less frequently) body of exiles’ (φεύγω, aor. έφυγον ‘flee’; 374; A/C); **άγωγή** ‘carrying away;

bringing in; training' (built on a reduplicated form of the root of ἄγω 'lead', aor. ἤγαγον; 42; A); **ἰωγή** 'shelter' (from **f₁*ωγή, built on a reduplicated form of the root of (f)ἀγνῦμι 'break'; see Frisk (1960–72: i. 544, s.v. ἐπιωγαί); 1; A); **οἰμωγή** 'wailing, lamentation' (οἰμῶζω 'wail aloud, lament'; 29; A?); **ἀρωγή** 'aid, succour' (ἀρήγω 'aid'; 22; A); **φραδὴ** 'understanding, knowledge; hint, warning' (φράζω 'point out, show', φράζομαι 'think, consider'; 5; A?); **χλιδὴ** 'delicacy; wantonness; fine raiments, costly ornaments' (likely to be built on the root of Gothic *glitmunjan* 'shine', Old West Norse *glita* 'glisten', IE **g^hlei(d)-* (a form without *-d-* is found in Greek χλίω 'luxuriate, revel'); 20; A/C); **κομιδὴ** 'attendance, care; provision, supplies' (κομίζω 'take care of'; 97; A/C); **ἀοιδὴ** (and φῶδῆ) 'art of song; act of singing; thing sung, song'; 248; A/C); **σπονδὴ** 'drink-offering; solemn treaty or truce; document embodying a treaty' (σπένδω 'make a drink-offering'; 414; A/C); **πορδὴ** 'fart' (πέρδομαι 'fart'; 0; C?); **αὐδὴ** 'human voice, speech; sound' (root of Sanskrit *vádati* 'speak': see Frisk (1960–72: i. 184); 69; A/C); **σπουδὴ** 'haste, speed; zeal' (σπεύδω 'hasten'; 404; A); **ἐδωδὴ** 'food; act of eating' (perfect stem ἐδηδ- of ἔδω 'eat': see Schwyzler (1953: 423); 32; A/C); **ὄδωδὴ** 'smell, scent' (perfect ὄδωδα of ὄζω 'smell'; 0; C?); **ὄζω** 'bad smell' (ὄζω 'smell (intransitive)'; 0; C); **πλαυθία** (Doric form) 'modelled figure' (πλάσσω < *πλάθ-ιω 'mould'; 0; C); **μάθη** 'act of learning, getting of knowledge' (μανθάνω, aor. ἔμαθον 'learn'; 0; A); **πάθη** 'suffering; passive state' (πάσχω, aor. ἔπαθον 'have something done to one; suffer'; 20; A); **λήθη** 'forgetting, forgetfulness' (λήθομαι 'forget'; 68; A); **ποθή** 'longing, desire for' (built on the primary verb continued by the aorist θέσσασθαι (inf.) < **g^hed^h-s-* 'pray for'; 12; A); **φυλακὴ** 'watching, guarding; station, post' (φυλάσσω 'keep guard'; 483; A/C); **ἄϊκὴ** 'rapid motion, flight' (ἄϊσσω 'dart, glance'; 1; A); **ὀλκή** 'drawing, trailing, dragging' (ἔλκω 'draw, drag'; 6; A); **πλοκὴ** 'twining, twisting; web, mesh' (πλέκω 'plait or make by plaiting'; 5; A/C); **κρόκη** 'thread passed between the threads of the warp; thread' (κρέκω 'weave'; 16; C/R); **νάρκη** 'numbness, deadness; torpedo, electric ray' (primary verb preserved in OHG *sner(a)han* 'tie, bind'; 4; A/C); **βοσκή** 'fodder, food, pasturage' (βόσκω 'feed, tend'; 2; A/C); **ἰωκὴ** 'rout, pursuit' (φιώκει (3.sg.) 'he pursues' (attested on a Corinthian vase, *GDI* 3153); 1; A); **παλί/πάλη** 'finest meal; fine dust' (πάλλω 'sway; shake': see Leumann (1950: 239) and for a semantic parallel see the following word; 0; C); **παιπάλη** 'finest flour or meal' (παιπάλλω 'σεῖω' 'shake' (Hesychius): see Leumann (1950: 236–9); 2; C); **εἶλη** (and ἔλη) 'the sun's heat or warmth' (verb preserved in OEng. *swelan*, NHG *schwelen*, Lith. *svilti* 'sing (intransitive), burn without flames'; 1; A?); **ὀφειλή** 'debt; one's due' (ὀφείλω 'owe'; 0; A); **βολή** 'throw; stroke, wound (of missile); cast (of dice)' (βάλλω 'throw'; 31; A); **στολή** 'equipment, fitting out; armament; clothes, garment' (στέλλω 'make ready, fit out'; 89; A/C); **χολή** 'gall, bile; (sg. or pl.) gall-bladder; anger' (related words include e.g. Latin *holus* 'vegetable' and Skt. *hári-* 'yellow'; Frisk (1960–72: ii. 1110) assumes χολή 'gall, bile' and related words to be derived from a lost primary verb referring to the green colour of germinating vegetation; 27; A?/C); **εὐλή** 'worm, maggot' (probably root **uel-* of εἰλέω < **uel-néō* 'wind, turn round', ἴλλω < **mi-ul-ō* 'wind, turn round'; on the prothetic vowel see Solmsen (1901: 168, 229); 6; C); **μύλη** 'mill' (μύλλω 'have sexual intercourse', originally 'grind'; 6; C); **βουλή** 'will, determination; counsel, advice; deliberation; Council of elders; Athenian Council of 500 created by Cleisthenes' (βούλομαι 'will, wish, be willing'; over 500; A/C); **δομή** 'bodily frame' (δέμω 'build'; 0; C); **νομή** 'pasturage; food from pasturing; feeding, grazing' (νέμω 'deal out, dispense; pasture, graze (flocks)'; 56; A/C); **δρομή** 'course, race' (ἔδραμον 'I ran'; 0; A?); **τομή** 'end left after cutting, stump (of a tree); cutting, cleaving' (τέμνω, aor. ἔταμον 'cut'; 36; A/C); **ἄνη** 'fulfilment' (ἀνύω 'effect, accomplish', ἄνω 'accomplish, finish'; 1; A); **γενή** 'race, family (in the sense of 'descent')' (γίγνομαι, aor. ἐγενόμην 'come into being, be born'; 58; A); **κλίνη** 'couch' (κλίνω 'cause to lean', κλίνομαι 'lean'; the present tense formant *-v-* has been extended to other verbal forms (e.g. aorist ἔκλινω) as well as the substantive κλίνη; 94; C); **γονή** 'offspring, race, seed; act of generation; child-birth' (γίγνομαι 'come into being, be born'; 35; A/C); **κονή** 'murder (Hesychius); hemlock (Pseudo-Dioscorides)' (καίνω 'kill'; 0; A/C); **μονή** 'abiding, tarrying' (μένω 'stay, wait'; 22; A); **τονή** 'prolongation of a note at the same pitch' (τείνω 'stretch, extend'; 0; A); **φονή** 'carnage; blood shed by slaying' (θείνω < **g^hen-iō* 'strike', aor. ἔπεφνον < **e-g^he-g^hn-o-m* 'I slew'; 13; A/C); **πόρνη** 'prostitute' (πέρνημι 'sell'; 28; C); **στόρνη** 'belt, girdle' (probably στόρνυμι 'spread'; 0; C); **μύνη** 'excuse, pretext' (exact meaning uncertain; possibly root of ἀμύνω 'ward off', but may be back-formed from μύνᾶμαι or μυνάομαι 'divert'; 1; A); **ὠνή** 'buying, purchasing; contract for the farming of taxes (or other sources of revenue); purchase-money, price' (primary verb preserved in Hittite *wa-ši* (3. sg.) 'he buys'; 31; A/C); **ζώνη** 'belt, girdle' (ζώννυμι 'gird'; 33; C); **αὕξη** 'growth, increase; dimension' (αὕζω 'cause to grow, increase'; 15; A); **φθόνη** 'decay, perishing' (root of φθίνω 'decay'; 2; A); **ἀκοή** (and ἀκούη) 'hearing' (ἀκούω 'hear'); 163; A); **χλόνη** 'first light green shoot of plants in spring' (root of Lith. *želiù* 'grow green', IE **g^hel-*; 16; C); **πνοή** (and Epic πνοή)

‘blowing, blast, breath’ (πνέω ‘breathe’; 84; A); **χνόη** (and χνοίη) *iron box of a wheel in which the axle turns*, ‘nave’ (probably root of Old West Norse *gnūa* ‘rub’; 5; C); **ῥοή** ‘river, stream, flood; flowing, flux’ (ρέω ‘flow’; 88; A/C); **καμπή** ‘winding, bending; turning-post’ (κάμπω ‘bend, curve’; 20; A/C); **πομπή** ‘conduct, escort, sending away, sending home; solemn procession’ (πέμπω ‘send’; 129; A); **ὀπή** ‘opening, hole’ (root ὀπ- of perf. ὄπωπα ‘I have seen’; 12; C); **κοπή** ‘cutting’ (κόπτω ‘smite; cut off’; 0; A); **σκοπή** ‘lookout-place, watch-tower; look-out, watch’ (σκέπτομαι ‘look about carefully’; 17; A/C); **κλοπή** ‘theft; fraud’ (κλέπτω ‘steal’; 62; A); **ῥοπή** ‘turn of the scale, fall of the scale-pan; balancing, suspense; weight placed in the scale-pan, small additional weight’ (ρέπω ‘turn the scale, sink’; 54; A/C); **τροπή** ‘turn, turning; change; rout’; when τροπή is used to mean ‘solstice’, ἡλίου ‘of the sun’ is expressed or implied and so the meaning ‘turning’ is essentially retained. (τρέπω ‘turn or direct towards a thing, turn round or about’; 91; A); **πύρη** ‘brooch, clasp’ (reduplicated form of the root of πείρω ‘pierce’; 5; C); **τυπή** ‘blow, wound’ (τύπτω ‘beat, strike’; 1; A/C?); **κώπη** ‘handle’ (κάπτω ‘gulp down’: see Frisk (1960–72: ii. 63); 66; C); **λώπη** ‘covering, robe, mantle’ (λέπω ‘strip off the rind or husks, peel, bark’; 1; C); **ὄπωπή** ‘sight, view; outward appearance; power of seeing; eyeball, eyes’ (perf. ὄπωπα ‘see’; 5; A/C); **χαρά** ‘joy, delight’ (χαίρω ‘rejoice’; 45; A); **βωρά** ‘food’ (primary verb preserved in Arm. *eker* (aor.) ‘he ate’, Lith. *geriù* ‘drink’, replaced in Greek by a reduplicated *-ske/o-* derivative βιβρώσκω ‘eat’: Frisk (1960–72: i. 251); 49; C); **ἀγορά** ‘assembly; place of assembly’ (ἀγείρω ‘gather together’; over 500; A/C); **δωρά** ‘skin when taken off, hide’ (δέρω ‘skin, flay’; 22; C); **θωρή** ‘semen’ (θρώσκω, aor. ἔθωρον ‘mount, impregnate’; 1; C); **φθορά** ‘destruction, ruin’ (φθειρώ ‘destroy’; 149; A); **μόρα** ‘division (of the Spartan army)’ (μείρομαι ‘divide’; 44; C); **σπορά** ‘sowing (of seed); origin, birth; procreation; seed-time; seed; offspring; race’ (σπείρω ‘sow’; 14; A/C); **φορά** ‘carrying, bringing in; fare, freight; bringing forth, productiveness; rapid motion, impulse; load, freight, burden; rent, tribute; fruit, produce, crop’ (φέρω ‘bear, carry’; 131; A/C); **κουρά** ‘cropping of the hair; cropping, lopping; lock of hair; wool shorn; cut-off end’ (primary verb preserved in Hittite *karšmi* ‘cut off’, continued in Greek by a **-jo-* derivative κείρω < *κερ-ιω: Frisk (1960–72: i. 935, 810); 17; A/C); **ῶρα** ‘care, concern’ (root of ὁράω ‘see, look’; cf. the primary verb preserved in Homeric ὄρονται (3. pl.) ‘keep watch’; 7; A); **φορά** ‘theft’ (φέρω ‘bear, carry’; Frisk (1960–72: ii. 1059) regards φορά as derived from the noun φόρ ‘thief’, but the derivational pattern would be unparalleled (although the vocalism of φορά ‘theft’ may well have been influenced by that of φόρ ‘thief’); I accept, however, Frisk’s view that the probably recessive noun φόρα ‘detection, discovery’ is a backformation from φωράω ‘search after a thief or theft; detect, discover’; 1; A); **λιτή** ‘prayer, entreaty’ (λίσσομαι < *λίτιομαι ‘beg, pray’; 42; A?); **ποτή** ‘flight’ (πέτομαι ‘fly’; 1; A); **βλάστη** ‘shoot; growth; birth’ (βλαστάνω ‘sprout, grow’, Attic aorist ἔβλαστον; 12; A/C); **δύη** ‘misery, anguish, pain’ (probably root of Skt. *dumōti* ‘burn’ (transitive) and cognates; 22; A); **σκευή** ‘equipment, attire, apparel’ (probably a primary verb on the root of σκευάζω ‘prepare’; 55; C); **θυία** (and θύα) ‘odorous cedar’ (θύω ‘offer by burning’; 0; C); **λύη** ‘dissolution, separation; faction, sedition’ (λύω ‘loosen’; 1; A); **φυή** ‘growth, stature; nature’ (φύω ‘bring forth’, φύομαι ‘grow’; 29; A); **ἀφή** ‘lighting, kindling; touch’ (ἄπτω ‘kindle, set on fire’, ἄπτομαι ‘touch’; 22; A); **βαφή** ‘dipping (of red-hot iron in water); temper or edge of a tool produced thereby; dye’ (βάπτω ‘dip’; 20; A/C); **σκάφη** ‘trough, tub; light boat, skiff’ (σκάπτω ‘dig’; 6; C); **σκαφή** ‘digging’ (σκάπτω ‘dig’; 0; A); **ῥαφή** ‘seam; suture (of the skull); sewing, stitching’ (ῥάπτω ‘sew together, stitch’; 8; A/C); **γραφή** ‘representation by drawing, delineation; that which is drawn, picture; the art of writing; that which is written’ (γράφω ‘draw; write’; 419; A/C); **ταφή** ‘burial; burial-place’ (θάπτω ‘honour with funeral rites’; 96; A/C); **ἄλοιφή** ‘anything with which one can smear or anoint, hog’s lard, grease, unguent; anointing; erasure’ (ἀλείφω ‘anoint the skin with oil; daub, plaster, besmear’; 14; A/C); **ῥιφή** ‘throw, cast’ (ρίπτω ‘throw’; 1; A); **ἀγρίφη** ‘harrow, rake’ (γριφᾶσθαι: γράφειν. Λάκωνες. οἱ δὲ ξύειν καὶ ἀμύσσειν ‘to write (Laconians); but for some to scratch and to tear’ (Hesychius; see Frisk 1960–72: i. 16 s.v. ἀγρεῖφνα); 0; C); **ἀλφή** ‘produce, gain’ (ἀλφάνω, aor. ἤλφον ‘bring in, yield’; 1; C); **ῥαμφή** ‘hooked knife’ (probably root of ῥέμβομαι ‘roam, rove, roll about’; 0; C); **ὀμφή** ‘voice’ (root of Goth. *siggan* ‘sing’ < IE **seng^h*; 17; C?); **μομφή** ‘blame, reproof’ (μέμφομαι ‘blame’; 10; A); **ὀροφή** ‘roof of a house; ceiling of a room’ (ἐρέφω ‘cover with a roof’; 25; C); **τροφή** ‘nourishment, food; nurture, rearing’ (τρέφω ‘rear; nourish’; 505; A/C); **στροφή** ‘turning, revolving; twist, slippery trick, dodge; turning of the chorus; the strain sung during this evolution, strophe’ (στρέφω ‘turn about’; 16; A/C); **κάρφη** ‘hay’ (κάρφω ‘dry up, wither’; 1; C); **μορφή** ‘form, shape; appearance’ (Frisk (1960–72: ii. 258) reconstructs an *s*-stem **μέρφος* from the compositional form ἀμερφές: αἰσχρός (‘shameful’; Hesychius), and assumes the former existence of a primary verb by comparison with the pattern γένος (*s*-stem) ‘race’: γονή ‘offspring, race’: γίγνομαι ‘come into being, be born’; 126; A?); **κυφή** *kind of shrimp* (derived from

κύπτω ‘bend forward’, if we may believe the plausible etymology given by Athenaeus (324e); 0; C); **γλυφή** ‘carved work’ (γλύφω ‘carve’; 2; C); **δρυφή** ‘tearing’ (δρύπτω ‘tear, strip’; 0; A); **τρυφή** ‘softness, delicacy; luxuriousness’ (θρύπτω ‘break in pieces; enfeeble’; 75; A); **διδασχί** ‘teaching’ (διδάσκω, aor. ἐδίδαξα ‘teach’; 24; A); **ιαχή** (and ἰακχή) ‘cry, shout’ (ἰάχω ‘cry, shout’; 25; A?); **λαχή** ‘a share (?)’ (This word occurs in the phrase τάφων πατρῶϊων λαχαί ‘shares in their fathers’ tombs’ (translation from LSJ, *exempli gratia*) at Aeschylus, *Septem* 914, a corrupt and difficult passage. It is likely to be the same word as Hesychius’ λάχη· λήξις, ἀποκλήρωσις (‘appointment by lot’) and a derivative of λαγγάνω, aor. ἔλαχον ‘obtain by lot’. However, it has also been related to λαχαίνω ‘dig’, in which case the phrase would mean ‘the diggings of their fathers’ tombs’. See Frisk (1960–72: ii. 69–70, 92); 1; A); **παλαχή** ‘anything acquired by lot (e.g. office)’ (παλάσσω ‘besprinkle’, perf. middle πεπάλαγμα ‘shake, i.e. draw (lots)’; 0; C); **μάχη** ‘battle, combat’ (μάχομαι ‘fight’; over 500; A); **στοναχή** ‘groaning, wailing; (in pl.) groans, sighs’ (στενάχω ‘groan, sigh’; 20; A/C); **ταραχή** ‘disorder, confusion; tumult’ (ταράσσω, aor. ἐτάραξα ‘stir, trouble’; the present ταράσσω may be derived from ταραχή, but the aorist ἐτάραξα is attested earlier than the noun and likely to be primary: see Frisk (1960–72: ii. 855); 185; A); **ρέγχι** ‘snoring’ (ρέγκω ‘snore’; 0; A); **λόγχι** ‘lot, plot’ (λαγγάνω, Ionic perf. λέλογχα ‘obtain by lot’; 0; C); **ὀχή** (and ὀκχή) ‘prop, support; support, food’ (ἔχω ‘have, hold’; 0; C?); **δοχή** ‘receptacle; reception, entertainment’ (δέχομαι ‘take, accept, receive’; 2; A/C); **βροχή** ‘rain; moistening’ (βρέχω ‘wet; rain’; 2; A); **ἀρχή** ‘beginning, origin; sovereignty; magistracy, office’ (ἄρχω ‘be first, begin’; over 500; A); **λέσχι** ‘lounging place; talk, gossip’. (Frisk (1960–72: ii. 108) reconstructs a verb with suffix *-ske/o-, *λέχ-σκ-εται on the root of Hesychius’ λέχεται· κοιμᾶται (‘falls asleep’); 15; C); **εὐχή** ‘prayer, vow; wish’; (εὐχομαι ‘pray; wish for; vow’; 168; A); **ἀλυχή** ‘anguish, disquiet, tossing about’ (ἀλύσσω ‘be uneasy, restless’; 0; A); **ἀμυχή** ‘scratch, skin-wound; scarification; tearing’ (ἀμύσσω ‘scratch’; 2; A/C); **τύχη** ‘fortune, providence, fate; chance; success; misfortune; act (of a god or human)’ (τυγχάνω, aor. ἔτυχον ‘happen, befall’; over 500; A); **ψῶχή** ‘life; departed spirit; soul’ (ψόχω ‘breathe, blow’; over 500; A/C?); **ὀκωχή** ‘hold, stay’ (reduplicated form of the root of ἔχω ‘hold, have’; cf. the perfect stem ὀκωχ- attested in the Homeric συνοκωχότε ‘bent in’ (*Il.*2.218); 0; A); **ζωή** ‘life, existence’; in Homer also ‘property’ (ζῶω ‘live’; 76; A); **ἔρωή** ‘quick motion, rush, force’ (root of Old Norse *rasa* ‘collapse’, NHG *rasen* ‘race’ (intransitive); the verb ἐρωέω ‘rush, rush forth’ could be either deverbative or denominative: see Frisk 1960–72: i. 573); 11; A).

2. Vowel-weakening

Vowel-weakening is the label traditionally attached to the phenomenon in archaic Latin (occurring in the late sixth to early fifth centuries BC)⁴ whereby short vowels in internal syllables were neutralised totally in open syllables,⁵ resulting in the production of whatever vocalic sound came naturally to the speaker in any given phonetic environment, and to a lesser degree in closed syllables. For a speaker of Latin, the neutral vowel appears to have been as high on the vowel quadrilateral⁶ as the phonetic environment allowed, thus in the absence of intervening phonetic conditions, all vowels were neutralised as /i/, e.g. (from Meiser 1998: 67): /a/: *cadō* ‘I fall’ vs. *cecīdī* ‘I fell’; /e/: *legō* ‘I gather’ vs. *ēligō* ‘I choose’; /i/: *ītus* ‘going’ vs. *adītus* ‘way’; /o/: *cupidus* < **kupidos* ‘desirous’ vs. *cupidītās* < **kupidotāts* ‘desire’, and /u/: *caput* ‘head’ vs. *capītis* ‘head (gen.)’.

In certain environments, the neutral vowel was realised differently, and the following consonant in particular often had a coarticulatory effect. Before /r/, all vowels in internal open syllables were neutralised as /e/, e.g. (from Meiser 1998: 68): /a/: *pariō* ‘bring forth’ vs. *peperī* ‘brought forth’; /i/: *cinīs* ‘ashes’ vs. *cineris* ‘ashes (gen.)’; /u/: *socer* ‘father-in-law’ < **suekuros* (cf. Gk. ἑκυρός ‘step-father’). Before a labial (/p/, /b/, /f/, /m/), the open-syllable vowel was assimilated to the consonant’s labial feature, giving a high rounded vowel (Allen 1978: 59), written <i> or <u>, e.g. (from Meiser 1998: 68): /a/: *taberna* ‘inn’ vs. *contubernālis*/CONTIBERNALIS (CIL 3.10506) ‘comrade’; /e/: *optimus/optumus* ‘best’ < **-emo-*; /i/: *pontifex*/PONTUFEX ‘high priest’ < **pontifaks*; /o/: *aurifex/aurufex* ‘goldsmith’ < **aurofaks*; /u/: *stupeō* ‘I am stunned’ vs. *obstupescō/obstupescō* ‘I am stupefied’. A third such effect can be seen where the vowel was followed by a velar /l/ (Allen 1978: 33-34 for its distribution): its back feature spread to the neutral vowel, giving /o/ after archaic vowel weakening (which became /u/ in the historical period as a result of a later raising), e.g. (from Meiser 1998: 68-69); *CONSOLVERVNT* ‘they took counsel’ < **konsel-* (classical Lat. *cōnsuluērunt*).

However, the quality of the neutralised vowel cannot be predicted in terms of its phonetic environment alone; not only a segmental, but also a structural description is required.⁷ Thus syllable structure dictated the quality of the neutral vowel, the above developments holding only in open syllables; in closed syllables, the neutralisation was much

⁴ Judging from Latin inscriptions as well as similar trends in the Sabellian languages and Etruscan, thus forming a picture of areal phonological traits.

⁵ Note that this resulted in the erosion of all phonemic contrasts in such positions.

⁶ For an explanation of the quadrilateral, see *HIPA* 10-13. In Latin, the key contrasts were back vs. front, and high vs. mid vs. low. The theoretically possible six vowel system is reduced to five in Latin due to the absence of a back vs. front distinction at the low level, i.e. /a/. At the high level, we have front /i/ vs. back /u/, and at the mid level, front /e/ vs. back /o/. The neutral product of vowel weakening in Latin was also non-back.

⁷ The effect under discussion is found solely in non-initial, non-final syllables. I leave aside the raising of vowels in final syllables, on which see Meiser (1998: 71) and Sihler (1995: 65-67).

restrained. Notably, a back vs. front distinction remained, but the three tiers of vowels (high – mid – low) were reduced to two by neutralisation of /a/ and /e/, e.g. (from Meiser 1998: 70) *factus* ‘done’ vs. *perfectus* ‘completed’. The high vowels remained intact, e.g. *dictus* ‘spoken’ vs. *praedictus* ‘foretold’, thus the vocalic contrasts in closed syllables were back vs. front and level 1 (high) vs. level 2 (mid). In the back series the levels were conflated in the second century B.C., merging as the high /u/, e.g. *euntis* ‘going (gen.)’ < **ejontes* (Meiser 1998:70).

Note the difference between the treatment of the inherited high vowels in closed syllables and before /r/ in open syllables: in the former, the high vowels remained intact, whereas in the latter, there was total neutralisation yielding a mid-vowel. The fact that the conflation of levels in closed syllables in the back series occurred also before /r/ (e.g. Gk. ἀμόργη > Lat. *amurca*, ‘olive-juice’)⁸ indicates that this phonetic environment was irrelevant in conditioning the vowel in a closed syllable.

3. Weakening Before *McL*

The standard account of vowel-weakening before *McL* sequences posits that in archaic Latin, *McL* closed the preceding syllable, and was thus heterosyllabic like all other consonantal sequences (Sommer 1948: 282-84; Allen 1973: 138; Maniet 1975: 30; Leumann 1977: 83; Sihler 1995: 77, 240; Meiser 1998: 70). Thus, *integrum* ‘whole (acc.)’ < **η-tag-ro-m* (cf. Umb. *antakres*), *genetrīx* ‘mother’ < **genatrīx* < **genh₁-trih₂-k-s* (cf. *genitor* ‘begetter’). However, there are numerous difficulties with this position.

3.1. Stop + /l/ Sequences Show Open-syllable Reflexes

Whereas *Tr* sequences show closed-syllable weakening to near consistency, *Tl* sequences conversely seem to show only open-syllable reflexes. The position is clouded somewhat by the regular insertion of an anaptyctic vowel in all *Tl* sequences (e.g. *cubiculum* ‘bedroom’ > *cubiculum*),⁹ but this phenomenon seems to date from considerably later than vowel-weakening to judge from the appearance of both forms in early Latin poetry, for example:

(2) *perīclum vītae meae tuō stat perīculō.*
‘At your peril is the peril of my life.’

(Pl., *Capt.* 740)

⁸ Even if Latin borrowed the word via Etruscan, as the devoicing of the stop suggests, the conditioned weakening in Latin should still have yielded /e/ if operative in closed syllables.

⁹ De Groot (1921: 13-14) acknowledges this regularity, but his study concentrates on the later sporadic anaptyxis. An investigation into the chronology and exact phonetic and phonological nature of this early, regular anaptyxis would be useful.

In fact, many words which appear with the terminations *-culum* and *-cula* at a later stage are scanned as *-clum* and *-cla* in Plautus. Although the appearance of the non-anaptyctic forms in verse of the classical period can be attributed to poetic licence or metrical necessity, the apparent free variation in Plautus indicates a recent history for the phenomenon; our earliest attestations are POCOLOM ‘cup’ (*CIL* 1².439), which Wachter attributes to the third to second century BC (1987: 465), and which in addition seems to appear¹⁰ beside the form without anaptyxis AISCLAPI ‘Asclepius (gen.)’ (*CIL* 1².440, from a similar time). From 217 BC, we have the form HERCOLEI ‘Hercules (dat.)’ (*CIL* 1².607). The phenomenon therefore dates from much later than weakening in internal syllables (6th-5th cent. BC).

Armed with this knowledge, we therefore detect open syllables preceding *Tl*: consider *cubiculum* ‘bedroom’, *vehiculum* ‘cart’ and the numerous other forms in *-iculum*, which appear to be deverbatives from verbs with stems ending in thematic vowels, thus **kubē-klom* and **vehē-klom* < **-tlom*. Maintaining that *McL* was always heterosyllabic at the time of weakening is therefore an untenable position.

3.2. Some Stop + /r/ Sequences Show Open-syllable Reflexes

In addition to the apparently regular tautosyllabicity of *Tl* sequences, we also find some *Tr* forms which show what appear to be open-syllable reflexes in the preceding vowels. Consider *lūdicrum* (adj.) ‘connected with sport/the stage (acc.)’,¹¹ apparently < **lūde-klom* < **-tlom*; *reciprocus* ‘moving backwards and forwards’, apparently < **reque proque* or similar;¹² *tonitrus* ‘thunder’; *tālitrūm* ‘hit with the knuckle’; *calcitrō* ‘I kick’, *arbiter*, *-trī* ‘witness; judge’, and *pullitra* ‘young chicken’. Evidence for the assimilatory effect of a following labial, peculiar to open syllables, could also be found in *colubra* ‘snake’ if again the starting point was the thematic verb *colō* ‘I circle around’.

3.3. Tautosyllabicity in Early Latin

A final difficulty with this position is that in our earliest evidence for Latin prosody, mainly Plautus, *McL* sequences appear to be universally tautosyllabic. Undeniably, the position could have changed from the time of vowel-weakening to the second half of the third century BC, but some literary trace of the earlier treatment would corroborate the reconstruction.

And this is precisely what some authors have attempted. In the face of overwhelming evidence for tautosyllabicity in the plays of Plautus, Terence and Ennius, a fine toothcomb

¹⁰ The word is incorrectly spelt POCOCOLOM in this inscription.

¹¹ The neuter substantive *lūdicrum* is clearly later; the nominative form of the adjective (**lūdicer*?) is unattested, with the back-formed *lūdicrus* appearing only in the glosses (Serbat 1975: 166-67).

¹² The exact etymology and development, in particular the reason for the internal /o/ (see §4.2.1), are unclear, but it is difficult to reconstruct an original /i/ before *McL* here. See Hoenigswald (1992: 83 and fn. 9).

could eke out isolated examples of heterosyllabicity. But sadly for the champions of this position, none of these are compelling.¹³

But a degree of consensus is attained regarding the role of Greek in the scansion of *McL* in Ennius. The poet introduced into his *Annals*, but not his plays, heavy scansion preceding *McL* on the basis of his Greek models, Homer and the tragedians. This prosodic practice was however strictly restricted to Greek words (e.g. 321 *Cyclopis* ‘Cyclops (gen.)’) and words otherwise not amenable to dactylic metre (e.g. 221 *sacrificāre* ‘to offer up as a sacrifice’). But the practice became more widespread in the poetry of the classical era onwards: a heterosyllabic treatment of *McL* was permitted in the composer’s armoury in even native Latin words, as the example in §1 demonstrates.¹⁴ Again, this has traditionally been put down to the imitation of Greek models and *metri gratia*, and should therefore not be interpreted as an indication of how Latin was spoken in the late Republic.¹⁵

However, one could challenge such simplicity by questioning the plausibility of the borrowing and subsequent spread of a prosodic feature from Greek that was in no way felt to belong to the Latin language. One must ask whether or not heterosyllabicity was really so alien to Latin; I shall return to this question below (§4.2.1). However, on the basis of Plautus, Terence and Ennius’ plays, we can conclude that *McL* in early Latin was tautosyllabic and we have no trace of the purported heterosyllabicity of archaic Latin. The fact that the earliest attestations of heavy scansion before *McL* are in Ennius’ hexameter poetry and exclusively in Greek, or otherwise unmetrical, words is strong support for the hypothesis that heterosyllabicity was introduced into Latin literature from Greek models, and subsequently spread to native Latin words.

4. Alternative Theories

In §3, we saw that there are difficulties in maintaining the hypothesis that *McL* in archaic Latin was heterosyllabic and triggered closed-syllable vowel-weakening in the preceding vowel. The evidence demands an alternative interpretation, but more than one position is possible.

¹³ The arguments for and against heterosyllabicity in the early authors can be found at: Plautus: (pro) Timpanaro (1965: 1084-88), Pascucci (1975: 64-66), Questa (1976, which is amplified in 1984: 277-90); (con) Skutsch (1968: 117-18), Untermann (2000: 650-51), Hoenigswald (1985: 382 fn. 12); Naevius: (pro) Pascucci (1966); Terence: (pro) Pascucci (1975: 62-63); (con) Bianco (1979); Ennius: (pro) Timpanaro (1965: 1075-83); (con) Skutsch (1968: 112-18).

¹⁴ A good introduction to the scansion of *McL* in Latin verse with an appreciation of the different positions can be found in Timpanaro’s discussion of the terms *positio fortis* and *positio debilis* at *EV* iv.232-35.

¹⁵ See Grassi (1970) for numerous arguments in favour of this position.

4.1. The Bernardi Perini View

This is the position expounded by Bernardi Perini (1974: 56-70), based upon the observation by Juret (1919: 94, 1938: 77) that /a/, /e/ and /i/ became /e/ not only before /r/, as noted in §2 above, but also before the syllable-initial groups /pr/, /br/, /cr/, /gr/ and /tr/. If therefore the quality of the vowel preceding *Tr* was conditioned by the /r/ in the sequence and not by a closed syllable, we would have an explanation for the divergence in quality of the vowel preceding *Tr* and *Tl*; the syllable preceding the *McL* sequence would be open in both cases, but only the latter would show the high vowel /i/. Thus, *impetrō* ‘I get’ developed in the same way as *imperō* ‘I order’.

In phonetic terms, Bernardi Perini posits coarticulation of the stop and /r/, but a clearer boundary between the articulation of the stop and /l/. If the speaker was preparing for the production of the /r/ as early as the vowel preceding *Tr*, the preceding vowel could be conditioned, itself a coarticulatory effect.

This claim needs to be considered from three angles: the ability to account for the evidence, chronology and phonetics.

4.1.1. Accounting for the Evidence

If the vowel preceding *Tr* should always have been /e/ as a result of the /r/ in the *McL* sequence, we have a handful of forms for which we should need to develop alternative accounts. These are listed in §3.2 above as words where the vowel preceding *Tr* shows open-syllable weakening. To those, we can add here forms which show neither open-syllable weakening, nor *r*-lowering, namely *molucrum* ‘blade of a mill (and other meanings)’ and *volucer, -cre* (adj.) ‘flying, winged’.

Although all of the forms showing /i/ (*lūdicrum* (adj. acc.), *tonitrus, tālitrum, calcitrō, arbitrī* (gen.),¹⁶ *reciprocus* and *pullitra*) had a voiceless stop after the vowel, voicing is clearly not a factor, as shown by compounds of *sacrō* ‘I consecrate’ (e.g. *consecrō* ‘I dedicate’), and those of *patrō* ‘I accomplish’ (e.g. *impetrō* ‘I get’), and the old derivatives *genetrīx* ‘mother’ (vs. *genitor* ‘father’), *meretrīx* ‘courtesan’ (vs. *meritus* ‘deserved’), *obstetrīx* ‘midwife’ and *moletrīna* ‘mill’ (vs. *molitor* ‘miller’). It is notable, however, that these are categorially quite well-defined counter-examples: it is unlikely that *sacrō* and *patrō* were morphologically analysable at the time of weakening, and the second group is dominated by forms in **-trīx*. Let us bear this in mind as we continue our investigation.

Molucrum ‘blade of a mill (and other meanings)’ and *volucer, -cre* (adj.) ‘flying, winged’ appear to be unaffected by the /r/. It is sufficient here to note that these two words of

¹⁶ The etymology of this word is sufficiently obscure for it to be omitted from the discussion henceforth.

very similar shape and unclear etymologies¹⁷ show a similar phonological shape, which is more likely to be the result of an open syllable (which could be more susceptible to labial-colouring from the initial consonant + vowel, perhaps also velarising the /l/) than a closed, as what little our etymologies tell us does not indicate the presence of an original back vowel (e.g. if *molucrum* is connected to *molere* ‘to grind’).

This leaves *colubra* ‘snake’ (etymology unclear; for discussion, see *DELL* 133-34; *WH* 248, Serbat 1975: 132-33), *lūcubrāre* ‘to work by night’ < **leukos-rā-(?)* (Serbat 1975: 113-15), *lūgubris* ‘mournful’ < **lūgos-ris(?)* (Serbat 1975: 129), and *manubrium* ‘handle of a utensil’ < **man-hab-r-(?)* (Serbat 1975: 135). Supporters of the Bernardi Perini view could argue that the vowel was conditioned by the following labial (in which case it would have to be in an open syllable; see e.g. *contubernālis* ‘comrade’ in §2), rather than the /r/. But perhaps this went through an intermediate /o/ stage as a result of the lowering effect of /r/. This /o/ could then have been raised to /u/ (as in closed syllables), at a time after the non-high-conditioning of /r/ was no longer felt. We shall return to these forms below with alternative explanations.

4.1.2. Chronology

Determining an absolute chronology for the conditioning of vowels before /r/ is difficult. The bone of contention is this: is the merger to /e/ of vowels before /r/ a part of the general archaic weakening, as suggested by Meiser’s presentation (1998: 68), or is it a separate phonological development of *r*-lowering which occurred later (Parker 1988)? Although this is a worthy matter for investigation, we find, however, that the question is of little relevance to our problem as there is no evidence for words caught in the stage between Parker’s two diachronic changes, even if one adds *McL* words to the search.¹⁸ By all indications, the development to /e/ of vowels before *Tr* occurred at the same time as vowel weakening and this is therefore the position adopted here.¹⁹ As the neutralised result of vowel-weakening showed allophonic differences in height, roundness and backness according to the environment, we could attribute the output before (*T*)*r* to ‘*r*-conditioning’.

¹⁷ *molucrum*: Serbat (1975: 155-57); *volucer*: *WH* 832, s.v. *volvō*; Serbat (1975: 199-201, 281-82).

¹⁸ The only attested evidence for post-weakening *r*-lowering comprises the divine name *Numisios* < (supposedly) **Numasios* in two inscriptions (cf. Lat. *Numerius*). Leaving aside the question of the posited identity of the personal name *Numerius* and the divine one *Numisios*, a closer look at the inscriptions renders this interpretation unconvincing on the grounds of dialectal variation, e.g. *CIL* 1².33 includes the name *TEREBONIO*, with irregular anaptyxis in the initial *Tr* sequence. Besides, archaising inscriptions (these date from c. 200 BC) are prone to etymologise falsely.

¹⁹ The relative chronology of the changes provides conflicting evidence: *prīmus* ‘first’ < **prīsmo-* < **prīsemo-* < **pri-ise-* suggests that syncope, which can be seen as the ultimate destination of vowel-weakening, preceded rhotacism, as we do not have the development **prīsemo-* > **prīremo-* > **prīrmo-*. However, evidence for the opposite ordering could be seen in *ornus* ‘ash-tree’ < **ōšeno-/ōsino-* (cf. Russ. *jásenʹ* ‘ash’). See Meiser (1998: 95-96).

4.1.3. Phonetics

One must pause to consider whether any of this is phonetically plausible. That vowels before (or after) /r/ tend to lower is uncontroversial (Lindau 1985: 158), and that the effect of /r/ on the quality of a preceding vowel can be strong is demonstrated in American English (Olive et al. 1993: 220-25). Although the precise phonetic nature of Latin /r/ at the time of vowel-weakening is difficult to gauge – the merger of /s/ and /r/ intervocalically ('rhotacism') suggests a fricative rather than the trill described by later writers, in this position at any rate (Allen 1978: 33) – our evidence supports an instantiation of the lowering effect. What remains at issue is whether such an effect can occur when a stop consonant intervenes. In other words, what is the domain of anticipatory coarticulation (i.e. coarticulatory effects of a later segment in an earlier one)?

The literature on coarticulation, and in particular its domain, is immense.²⁰ The principle that one phoneme can affect the production of another is at the heart of a long-standing problem: how are phonological segments (phonemes) realised as a phonetic output? Hockett (1955: 210-11) asks us to imagine a row of Easter eggs (the phonemes) carried along a moving belt, which brings them between the two rollers of a wringer, smashing them and rubbing them into each other (the phonetic output). A colourful image no doubt, but one which captures the extent to which the discrete units of phonology can be coarticulated.

And indeed, experimental evidence demonstrates the far-reaching coarticulatory effects of /r/: Heid & Hawkins (2002) detect anticipatory resonance effects in as many as five syllables before a conditioning /r/, passing through up to two stressed syllables, in Southern British English. What is more, effects are found both if /r/ is a simple onset or part of a complex *Tr* onset. They find (2002: 79-80) a short-range effect (up to one intervening syllable) and a long-range effect (from one to five intervening syllables); the latter effect is smaller, but less sensitive to segmental context, whereas the former can be greatly reduced by local consonantal perturbation, such as the stop in *Tr*. However, this reduction does not detract from the evidence that in the short-range, all formant frequencies of the vowel are usually lower, regardless of the segmental context (2002: 78).²¹

4.1.4. The Correct Interpretation?

Should we then accept this as the correct interpretation? Difficulties remain, notably the forms showing preceding /i/. Furthermore, a handful of forms showing /u/ before *Tr* escape simple explanation, and that proffered (i.e. the influence of a labial between the vowel and the /r/) fails to explain the group of words in *-ebra* (on which see §4.2.2 below), as well as *cerebrum*

²⁰ A useful survey of the different approaches is provided by Kent & Minifie (1977).

²¹ Consider also in this context the long-range effect of /r/ on /n/ in word-internal sandhi in Sanskrit, e.g. *sarpéna* vs. *agninā* (Mayrhofer 1987: 22).

‘brain’ < **keras-ro-*, *fēnebris* ‘usurious’ < **faenes-ri-s* (Serbat 1975: 129) and *fūnebris* ‘funereal’ < **fūnes-ri-s* (Serbat 1975: 129). Perhaps these show the front-vowel orthographies available for the labially-conditioned vowels in these positions, e.g. normally *optimus* vs. *optumus* ‘best’, but *fūnebris* vs. **lūgobris* > *lūgubris*, where *r*-conditioning yielded a mid- not high vowel.

There appear to be additional factors at play in vowel-conditioning and we still cannot rule out the possibility of syllable closure before *Tr*, at least in certain words, as this would account neatly for some of the difficulties above (e.g. *lūgubris*). However, although many of the details of Bernardi Perini’s view must be discarded,²² we cannot utterly reject the role of *r*-conditioning in informing the quality of the vowel preceding *Tr*.

4.2. The Hoenigswald View

Hoenigswald (1992: 83) suggests that the quality of the vowel was indeed determined by whether or not the syllable was open or closed, but that syllable boundaries were determined in *McL* sequences by morphological boundaries. Therefore, where we find reflexes of the IE morphemes **-tlo-*, **-tro-*, **-d^hlo-* and **-d^hro-* (all apparently with the same ‘mediative’ function, on the semantics of which see Serbat (1975: 373-75)), and others beginning with *McL*, we should find a preceding open syllable; but where we find IE **-ro-*, **-lo-* etc., preceded by a stem ending in vowel + stop, we should have a closed syllable. Thus, *integrum* ‘whole (acc.)’ < **ḡ-tag-ro-m*, and *cerebrum* ‘brain’ < **keras-ro-m*, but *lūdicrum* ‘pertaining to the games/stage’ < **lūde/o-tlo-m*, and *tālitrum* ‘a hit with the knuckle’ < **tālo-tro-m* (cf. *tālus* ‘knuckle; heel’).

4.2.1. In Favour of Hoenigswald

In favour of this view, we can praise its ability to explain the forms where /i/ precedes *McL*, namely all formations in *-iculum* etc. as well as the isolated forms with *Tr*, such as those quoted above and *lūdibrium* ‘laughing-stock’ (whatever the formation, a morpheme boundary after *lūdi-* seems clear), and *pullitra* ‘young chicken’ < **pullo-trā(?)*. Beside *lūdibrium*, perhaps we see in *manubrium* evidence for the open-syllable <u/i> alternation before labials; in fact, the form *manibrium* is also attested (*OLD* s.v.). The theory’s finest hour is perhaps its explanation of *reciprocus* ‘moving backwards and forwards’ < **reque proque* (see fn. 12). As the outcome began life as two distinct words, there is a clear morphological boundary, which is felt after univerbation at the time of vowel-weakening, thus we have open-syllable weakening to /i/. Furthermore, the /o/ could perhaps be explained if speakers clearly identified a distinct semantic unit here (*pro*), which was as important in the understanding of the word as

²² For reasons of space, it is not possible to discuss the theory in depth. Much of the phonetics is built on shaky ground, but the principle of coarticulation is of course sound.

the initial *re-*. Perhaps there was even a secondary stress after univibration, assuring the survival of the /o/.

Notably, there are no forms in *-etra/-us/-um* which cannot be explained as non-original, borrowings or peculiarities which need not be taken into serious consideration, thus closed-syllable weakening appears not to occur before **-tro-*. The only form showing /e/ before the **-tro-* suffix is *fulgetrum* (also *fulgetra* (fem.)) ‘lightning’, but Serbat (1975: 347) believes this to have developed from an earlier **fulgebra*, under the influence of *tonitrus* ‘thunder’.²³

To the objection that many of the forms in *-iculum* are undeniably analogical, since this has been reanalysed as the suffix in the place of *-clum* (Hoenigswald acknowledges something similar regarding the *Tr* forms at 1992: 83, fn. 11), one could argue that a basis for the origin of the widespread /i/ was precisely the outcome of a vowel in an open syllable. In fact, most of the early deverbative formations appear to be built on a stem ending with a thematic vowel giving a third conjugation verb, thus: *vehiculum* ‘cart’ : *vehere* ‘to carry’; *cubiculum* ‘bedroom’ : *(re)cumbere* ‘to recline’; *curriculum* ‘course’ : *currere* ‘to run’.

Tonitrus, *-ūs* ‘thunder’ is unusual as there is no IE suffix *+tru-*, hence the form must be analogical. *DELL* (695, s.v. *tonō*) and *WH* (690-91) agree that *tonitrus* is a hybrid form arising from a combination of a reconstructed masculine **tonitus*, *-ūs* ‘thunder’ (cf. *sonitus*, *-ūs* ‘sound’, which could in fact be the base for the analogy, without the need for the reconstructed form) and neut. **tonh₂-tro-* > **tonatro-*. Per *DELL*, Ved. *tanyatúh* ‘thunder’ also supposes a contamination. The plausibility of this equation would surely increase if the form which underwent change was a post-open-syllable weakening neut. **tonitrum*.

Perhaps the strongest evidence in support of this theory is that morphologically controlled syllabification is a fact of Latin in the historical period in *McL* sequences. Allen (1973: 140) notes that their syllabification is ‘strongly influenced by grammatical boundaries, and generally speaking does not distinguish between word boundaries and morph boundaries within the word’. The phenomenon to which Allen is referring occurs where a compound is made up of a prefix ending in a stop and a stem beginning with a liquid, thus *ab-ripiō* ‘I abduct’, *ab-rumpō* ‘I break off’, *ob-linō* ‘I smear’, *ob-ligō* ‘I bind’; these and the like always, even in early Latin verse, began with a heavy syllable. Conversely, words which were similar in shape, but had a morpheme boundary before the *McL* began with light syllables, thus *re-clūdō* ‘I lay open’, *re-trahō* ‘I drag back’.

Returning to a question raised at §3.3 above regarding heterosyllabicity of *McL* in Latin, we can see that such a syllabification was not totally alien to the language and therefore it is not a great leap of faith to presume that composers in Latin felt that the more widespread heterosyllabicity in Greek could be adopted. Indeed, it is entirely possible that the dual

²³ *Feretrum* ‘bier’ is clearly a borrowing from Greek (Serbat 1975: 333) and the origin of and vowel quantity in *veretrum* ‘male sexual organ’ are unclear (Serbat 1975: 332-33).

syllabification of *McL* in Latin not only influenced poetic conventions, but also the spoken language.²⁴ That such a variation existed could be seen in the Romance developments, where words such as *integrum* developed with an open internal syllable, which nonetheless bore stress, as if it were closed, thus It. *intiero*, Fr. *entier*, both ‘whole’. Also consider English: the Oxford English Dictionary tells us that the expected pronunciation of the word *integral* is [ˈɪntɪgrəl], but in modern British English speech it is not uncommon to encounter an alternative form, namely [ɪnˈteɪgrəl], again perhaps indicating a dual syllabification available in the language.²⁵

4.2.2. Difficulties with a Morphological Analysis Theory

One feels uneasy at the number of *Tr* forms with opaque histories which this theory claims to explain and many permit alternative stories. The /r/ in *lūdicrum* appears to have dissimilated from /l/, thus **lūde/o-klom*, and is therefore non-original and possibly not present at the time of vowel-weakening. Perhaps this form should therefore be treated as all others in *Tl* and share whatever explanation seems best for them. *Pullitra* is a bizarre form (there are no other denominatives in *-tra*) where the **-trā-* suffix appears to play no particular semantic role. It is much more likely that a diminutive suffix was original, but how it developed to this form with /t/ can only be speculation. The etymologies of *colubra*, *lūdibrium* and *manubrium* are also uncertain, although for the latter two, it does not seem too hasty to presume the existence of a clear morpheme boundary between the stems and the *-brium* suffix (cf. also *manus* ‘hand’ and *lūdus* ‘game’).

The base noun for the denominative verb *calcitrāre* appears to be **calcitrum* per *DELL* (88-89 s.v. 1.*calx*) and Leumann (1977: 83, 313), built on the root noun *calx* ‘heel, foot’. This denominative formation in **-tro-* would only be paralleled by *tālitrūm*. *DELL* states that the genitive plural of *calx* was in *-ium* according to the grammarians, but there are no examples (*Thes.* iii.195, s.v. 1.*calx*). This evidence indicates an original /i/ in **calcitrum* and therefore the word does not provide evidence for weakening (but also resists an explanation through *r*-conditioning).

Serbat (1975: 340) reconstructs a totally different origin. He suggests that *calcitrāre* is a doublet of an older **calcitāre*, an iterative of *calcāre* ‘to trample down’, built in the same way as *clamitāre* on *clamāre* ‘to shout’ and *vocitāre* on *vocāre* ‘to call’. He discusses parallels for the replacement of *-t-* by *-tr-*, most of which are late, but some of which can be dated to a much older time and seem to be of a vulgar character. Thus we find *culcita* ‘mattress’ in

²⁴ Variation based upon morphological facts such as these is more attractive than Bernardi Perini’s attempts (1974: 70-77) at reconstructing a *lentoform* (heterosyllabic) and an *allegroform* (tautosyllabic), whose distribution was register-sensitive.

²⁵ Perhaps the unexpected form *reclusit* at Pl., *Capt.* 918 is a further indication of such variation, although we must be wary of extravagant conclusions built on isolated forms. If there had been genuine variation in Plautus’ time, surely the author would have made greater use of it.

Plautus (*Cas.* 307), Varro (*Men.* 448), Cicero (*Tusc.* 3.46) and Seneca (*Epist.* 87,2), but then *culcitra* at Petronius 38.5, a reading all the MSS agree upon. Furthermore, the reality of the form is confirmed by the Romance languages (OFr. *coltre*, It. *coltrice*). This hypothesis neatly explains the internal vowel *-i-* as belonging to the iterative suffix *-itāre*; the iterative sense of *calcitrāre* is in fact felt in the attestations, according to Serbat, and the derivative *calcitrō*, *-ōnis*, masc. ‘kicker’, found at e.g. Pl., *Asin.* 391. Such an interpretation altogether denies the existence of a form **calcitrum*.

However, the alternation between *-t-* and *-tr-* is far from firmly established in the early period. *Culcita* has an unclear etymology, as Serbat accepts, and the only two other forms comprising the early evidence are notably borrowings from Greek: *aplustra* (*-tria*) ‘stern-ornament’ in Ennius, representing Gk. ἄφλαστον (probably via Etruscan; note also the variation in the form) and *emplastrum* ‘plaster’ at Cato, *Agr.* 39.2, representing Hippocratic Gk. τὸ ἔμπλαστον. Furthermore, Serbat’s rejection of *tālitrum* on the basis that it would be an unparalleled denominative formation is also unmotivated. Therefore, although *calcitrāre* probably does not give us evidence for open-syllable vowel weakening, on the basis that the /i/ was original, it does give us some support for the formation of *tālitrum*, where /i/ < /o/.

If the morpheme boundary hypothesis were to encompass both *Tr* and *Tl*, we should like to have further evidence for closed-syllable treatment before heteromorphemic *Tl*. Given the paucity of forms with inherited IE **-lo-/-lā-* (a complete list is at Zucchelli (1970: 29-31) and almost all involve monosyllabic stems), such evidence is difficult to find. However, the old forms *obsecula* ‘devotee’ and *assec(u)la* ‘hanger-on’ < **ob-/ad-sek^h-lā* could be the forms the devotees/hangers-on of this theory crave. Analogy is the only alternative explanation, but the word *secula* ‘sickle’ (Var. *L.* 5.137) is not a candidate as it is clearly from the unrelated root of *secō* ‘I cut’. Therefore, the analogical bases must be the verbs *obsequor* ‘I devote myself to’, *assequor* ‘I follow’, and indeed *sequor* ‘I follow’ itself. All derivatives of this verbal root show *e*-vocalism without fail, whether in initial or internal, open or closed syllables, indicating a strong analogical pressure to maintain the phonological shape of the forms. Therefore, we do not have any evidence for closed-syllable weakening before *Tl*.

There are numerous forms this theory does not account for. Again, *genetrīx*, *meretrīx*, *obstetrīx* and *moletrīna* escape explanation, as does *impetrāre* < **in-patr-ā-* (cf. *patrō* ‘I accomplish’, *pater* ‘father’). But, as noted by Hoenigswald (1992: 83), the clearest group which fails to fit comprises the words in *-ebra* < **-V-d^hrā*: *latebra* ‘hiding-place’, *palpebra* ‘eyelid’, *scatebra* ‘bubbling spring’, *terebra* ‘drill’, *vertebra* ‘vertebra’, and *ē-/il-/pel-lecebra* ‘enticement’.

Hoenigswald suggests that these have at least in part arranged themselves around the old inherited *tenebrae* ‘darkness’ (*DELL* 683; *WH* 664). The stem of this word continues a well paralleled IE *s*-stem **temH-e/os-* (cf. Skt. *tāmaḥ*, gen. *tāmasaḥ* ‘darkness’), which survives in the Latin adverb *temere* ‘by chance’. An exact parallel for this stem with a **-ro-* suffix and a

plural ending can be found in Skt. *támisrāḥ* (pl.) ‘silent night’, where the **-e/os-* suffix appears in the zero-grade, resulting in the vocalisation of the laryngeal. The development of the nasal from /m/ to /n/ in Latin can be explained by appeal to dissimilation of the labials at a stage when the sequence **-sr-* had developed to *-br-*. Therefore, *tenebrae* < **temas-rai*, with a morpheme boundary between the consonant and the liquid providing motivation for the closed-syllable reflex of the vowel. Hoenigswald suggests that the analogical spread of *-ebra* could have started with *latebrae* (usually plural), on the basis of the association of *tenebrae* with *tenēre* ‘to hold’ by folk etymology (cf. *tenebrae Orcī*), the equation *tenēre* : *tenebrae* :: *latēre* ‘to lie hidden’ : *latebrae*, and finally the close semantics of the two derivatives. The formation could thence have spread as a marker of *pluralia tantum*, as *scatebrae*, *illecebrae* and *palpebrae* appear to have been originally.

This solution is not built on solid foundations. Serbat (1975: 58-63) comments that the regularly invoked proximity between *tenebrae* and *latebrae* is difficult to support on the basis of textual evidence. It is based upon one Plautine trochaic septenarius (*Poen.* 835: *tenebrae latebrae*); aside from this, there is no other such explicit association in the sixty-seven uses within phrases of *latebrae* in Plautus, Lucretius, Vergil, Tibullus, Horace, Ovid, Lucan and Seneca’s tragedies.

A final objection questions whether speakers of Latin actually felt morpheme boundaries in such a thoroughgoing fashion at the time of vowel weakening. Certainly, it is feasible that formations with clear stems and suffixes could be analysed as such subconsciously by the speaker (e.g. *cubiculum*, *genetrīx*), but can the same really be said about forms such as *consecrō* ‘I consecrate’ and *cerebrum* ‘brain’, both with the suffix **-ro-*, or even *tālitrum*, as the suffix **-tro-* was supposedly no longer productive by an early stage of Latin prehistory (Serbat 1975: 344, 380)?

4.2.3. Some Conclusions

One is tempted to maintain the essence of this theory, namely syllabification at morpheme boundaries, in order to provide a historically paralleled motivation for two different syllabifications. However, there are without doubt other conditioning factors in play, as is only to be expected in a neutralisation phenomenon such as vowel-weakening. The theory also needs to be polished in order to account for the morphological sensibilities of a speaker of Latin at the time of vowel-weakening.

4.3. A Simpler Solution?

On the whole, *Tr* forms show closed-syllable vowel weakening, whereas *Tl* forms open-syllable reflexes. What then prevents us from simply positing that this is the solution: *Tr* was heterosyllabic, whereas *Tl* was tautosyllabic? Aside from being unable to explain the

admittedly small handful of *Tr* forms which do not seem to conform, this view has a weakness of motive. Indeed, if the individual segments in *Tl* forms were more distinctly pronounced, as later anaptyxis suggests, and those in *Tr* forms more coarticulated, we should if anything expect the former to be heterosyllabic and the latter tautosyllabic. A better motivated theory should therefore be preferred.

5. A Solution

Our evidence can be summarised in groups as follows:

- a) Forms in *-iculum/-icula* < **-tlo-/-tlā* and *-ibulum/-ibula* < **-d^hlo-/-d^hlā*, showing open-syllable weakening., e.g. *vehiculum*.
- b) Forms in *-ebra* < **-d^hrā* showing closed-syllable weakening/*r*-conditioning, e.g. *palpebra*.
- c) Forms in *-etrīx* (these are transparently older than the many forms in *-itrīx*, which are clearly analogical formations on masculine nouns in *-itor*), e.g. *genetrīx*, and the isolated *moletrina*, showing closed-syllable weakening/*r*-conditioning.
- d) Forms with the inherited suffixes **-ro-* and **-ri-* which are uniformly old in nature, e.g. *tenebrae*, *fūnebris* and forms without clear morpheme boundaries, such as *impetrō*, showing closed-syllable weakening/*r*-conditioning.
- e) A handful of *Tr* forms which appear to show open-syllable weakening and no *r*-conditioning, e.g. *manubrium/manibrium*.

The following developments can account for the above most neatly:

- i) *McL* was heterosyllabic in archaic Latin, unless a clear morphological boundary was felt immediately preceding the stop + liquid, in which case it was tautosyllabic, as was the case for formations from inherited **-tlo-/-tlā* and **-d^hlo-/-d^hlā*, forms in *-brium*, *-trīx*, *-trīna* and **-tro-* when used denominatively (see below).
- ii) Rhotacism and vowel weakening occurred, with /a/ and /e/ merging in closed syllables and an environmentally conditioned neutral vowel resulting in open syllables. *R*-conditioning took place where the neutral vowel was also preceded by a mid-vowel in the previous syllable. Thus, a) *vehiculum*; b) *palpebra*; c) *genetrīx*; d) *tenebrai*, and e) *manVbrium* (where *V* was a labialised neutral vowel).

Some clarifications are required. To begin with, I presume that speakers at the time of vowel-weakening were not subconsciously sensitive to the morphological boundary in the inherited category of forms in **-d^hro-/-d^hrā*. This does not entail that they were morphologically opaque

– when questioned, a speaker may have been able to identify the suffix – but merely that the boundary was not automatically felt when one used the word casually. It is clear that the suffix ceased to be productive by the historical period (Serbat 1975: 120), and it is possible that the later *vertebra* used a reanalysed suffix *-ebra*.

The Latin continuations of **-tlo-/tlā* and **-d^hlo-/d^hlā* clearly had a longer life, with the suffix *-clum* being particularly productive. The **-d^hlo-/d^hlā* forms, giving *-blum/-bla*, seemed to have undergone a sterile period, with virtually no attestations of new products from Augustan times (Serbat 1975: 79), suggesting an earlier death as a productive suffix. This situation is analogous to that found for **-d^hro-/d^hrā*, but two observations suggest that the formation in /l/ had a longer life. Firstly, there are denominative formations in *-blum/-bla* (e.g. *tūribulum* ‘censer’, cf. *tūs*, *tūris* ‘incense’), but none in *-brum/-bra*, if we accept that *candelābrum* is the result of dissimilation (Serbat 1975: 125). Given that denominative formations from mediative suffixes seem to have developed later than primary and deverbative formations (Serbat 1975: 344, 375-77), it is likely that a suffix forming denominatives survived longer than one which did not. Secondly, the suffix *-blum/-bla* underwent a renaissance in the second century AD, indicating that its value was still felt during the early historical period. Therefore, it is not unfeasible that the morpheme boundary before *-blum/-bla* was still felt at the time of vowel weakening, but that before *-brum/-bra* was not.

However, **-tro-* appears to have been the earliest casualty among these mediative suffixes (Serbat 1975: 344, 380), as all formations are early, with no productivity in the historical period. But evidence that this suffix survived longer in the isolated denominative function arises from *tālitrum* and **calcitrum*, both rejected by Serbat (1975: 340-41) partly on the very grounds that they are isolated denominatives. If these are true denominative formations, and there is little reason to doubt that, then we have evidence for a limited survival after the end of the productive era of *-brum/-bra*.

The forms with the inherited suffixes **-ro-* and **-ri-* which derive from *s*-stems (i.e. *cerebrum* < **keras-ro-m*, *fēnebris* < **faines-ri-s(?)*, *fūnebris* < **d^hūnes-ri-s*, *lūgubris* < **lūgos-ri-s* and *lūcubrāre* < **leukos-rā-*) show both /u/ and /e/ before the *McL* sequence. This must be the result not of phonological conditioning, but rather the inheritance of either an *e-*, *o-* or zero-grade.

We come finally to the posited vowel-conditioning, whereby vowels preceding *Tr* and in a syllable following a mid-vowel were realised as /e/ by *r*-conditioning. This accounts for the forms in *-trīx* and *-trīna* (*genetrīx*, *meretrīx*, *obstetrīx* and *moletrīna*) and in addition has phonetic motivation. As we saw in §4.1.3, /r/ can have a lowering effect on surrounding vowels. However, the coarticulatory effects of the /r/ were not sufficient to cross an intervening stop consonant (note Heid & Hawkins’ short-range effect discussed in §4.1.3),

unless the central quality was already present when the vowel before *Tr* was articulated from a preceding mid-vowel.

The fact that the preceding vowel was not always /e/, but also sometimes /o/, is not relevant as vowel height is the important factor: the neutral vowel was realised lower in this environment than in others, due to a combination of anticipatory (/r/) and retentive (/e/, /o/) coarticulation. In other words, when articulating the conditioning mid-vowel /e/ or /o/, the speaker was aware that an /r/ would need to be articulated in the onset of the syllable after the following one; as a result the tongue was retained at a constant height for the intervening neutral vowel, resulting in its realisation as a mid- rather than high vowel. All of this is entirely consistent with the findings regarding anticipatory coarticulation /r/ in Heid & Hawkins (2002) and coarticulatory planning in Whalen (1990).

Thus we have *genetrīx*, *meretrīx*, *obstetrīx* and *moletrina*, but *manubrium/manibrium* and *tālitrūm* with preceding low-vowels, and *lūdicrum*, which would have the correct outcome regardless of whether the dissimilation of /l/s took place before or after vowel weakening. *Tonitrus* must have acquired its vowel by analogy on *tonitus* and *reciprocus* showed the usual open-syllable weakening due to the stronger morphological boundary before the *Tr* sequence (§4.2.1), thus preventing the anticipation of the /r/.

Molucrum and *volucer*, *-cre* still escape simple explanation, although one might argue that the tongue-raising required for the /k/ in the *-cr-* sequences prevented the retention of a constant mid-level tongue height, thus resulting in a high vowel as to be expected. As suggested at §4.1.1, the back quality of the vowel could be explained by the labialising influence of the initial stop +vowel. Contrast *moletrina* where the anticipatory coarticulation of the /r/ results in the more fronted /e/. See the effects of local consonantal perturbation on short-range coarticulation noted by Heid & Hawkins, considered in §4.1.3.

6. Conclusions

We can detect a progressive development of the syllabification of *McL* in Latin. In archaic times, the sequence was heterosyllabic unless a clear morpheme boundary was felt immediately preceding it. This perhaps indicates an earlier stage whereby syllabification of the sequence was motivated by morphology more completely. As morphemes ceased to be productive and were no longer felt to be distinct when speaking casually, they adapted to the default position of heterosyllabicity, perhaps itself based ultimately on the antiquity of formations in **-ro-/-rā*.

Vowel weakening occurred at a stage when speakers were sensitive to some, but not all morphological analysis. *R*-conditioning (after rhotacism) resulted in vowels in open syllables being realised as /e/ when preceded by a mid-vowel in the previous syllable. After this stage, the default position seems to have changed from heterosyllabicity to tautosyllabicity, with

only clear morpheme boundaries (such as verbal prefixes) motivating syllable boundaries and thus heterosyllabicity. Why the change in the default position occurred can only be the subject of speculation. Perhaps there was an analogical spread of tautosyllabicity based upon those forms which remained so throughout (e.g. *-clum*) at a time when the archaic initial stress accent was being replaced by the Law of the Penultimate.

But again, as morpheme boundaries came to be felt less, heterosyllabicity spread to forms other than those like *oblinō*, this time supported to a degree by the influence of Greek metrical conventions. As there were thus templates for both syllabifications, the uniform tautosyllabicity in Plautus was replaced by variation in later authors and perhaps the spoken language, as some Romance evidence suggests. This study therefore illustrates the phonological impact of loss of morphological analysis.

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Homeric θυμολέων and the Question of Greek ‘Reversed Bahuvrīhis’¹

Olga Tribulato

1. Introduction

Asked about the most characteristic features of Greek, any first year Classics undergraduate would mention compounds. Unless particularly thrilled by word-formation studies, he or she would also hasten to add that compounds are ‘incredibly difficult’ to understand. This is hardly surprising, given that in Greek the compositional categories and formation patterns inherited from Indo-European achieve a level of productivity and sophistication which is perhaps only surpassed by Sanskrit. Over the centuries, their formal classification has led scholars to develop an unwavering patience, untiring devotion and seemingly incomprehensible love for lists of ‘members’. Yet, it is still common for scholars to argue over the correct classification of certain forms which are more obscure. In this paper I hope to contribute towards the clarification of the structure and formation process of the epithet θυμολέων ‘lion-heart’ and of a small handful of Homeric compounds which have been interpreted as ‘reversed bahuvrīhis’ in the past.

2. Greek Right-oriented and Left-oriented Compounds

The Greek compositional system is a markedly right-oriented one. This means that the head of the compound tends to be placed on the right, as e.g. in ἀκρόπολις ‘high city’. Right orientation characterises both exocentric compounds (e.g. the bahuvrīhi λευκώλενος ‘having white arms’) and endocentric compounds (e.g. the determinative ἀκρόπολις and the verbal οἰκοφόρος ‘house-carrying’).

Within this system, left-oriented compounds are productive only really among governing compounds, namely: in verb-first compounds (e.g. φερέοικος ‘carry-house’) and in prepositional compounds (e.g. ἔφραλος ‘by the sea’). Besides these two minor and well-defined categories one ought to include compounds which present adjectival first members with governing properties (e.g. ἀξιόλογος ‘worthy of mention’, ἰσόθεος ‘equal to a god’, etc.), as well as a limited number of nouns mostly attested in taxonomic language (e.g. ὀποβάλαμον ‘juice of the balsamon’, ἵπποπόταμος ‘hippopotamus’ lit. ‘horse of the river’, etc.).

By using compound orientation as a criterion, the bulk of Greek compounds may thus be divided:

¹ I am grateful to Daniel Kölligan and Ranjan Sen for corrections and comments.

	Right-oriented	Left-oriented
Determinative	ἀκρόπολις ἀνάξιος	ἵπποπόταμος ἀξιόλογος
Verbal	οἰκοφόρος	φερέοικος
Possessive	λευκώλενος	?
Prepositional	ἔφαλος	None

2.1. Left-oriented Bahuvrīhis in Greek?

As the above chart shows, it is a matter of debate whether a class of left-oriented bahuvrīhis existed in Greek. While a survey of the standard literature would show that it is common to use the label 'reversed bahuvrīhis' to describe a handful of unusual compounds, the question of whether it is correct to consider them an existing and productive class is rarely posited. An example of this attitude is the following observation:

- (1) Some ancient possessive compounds, since they are fossilised in onomastics, may have the order *modified* + *modifier* which is marginal with respect to the traditional ordering of bahuvrīhi's of the λεύκιππος type.

(Dubois 2000: 49)

The above sentence conveys the following information: 1) some possessive compounds may have a reversed order; 2) they are marginal, and 3) they are fossilised in onomastics, hence they are ancient (or: they are ancient, hence they are fossilised in onomastics – it is not clear to me what the consequentiality of these statements is).

In this particular article Dubois is not concerned with the origin of the reversed type and he should not be criticised for not stating whether such 'ancient possessive compounds' are an inherited pattern and whether they are a Greek compositional class in their own right. The reader interested in these issues, though, will be left with the following doubts: is it to be assumed that such a 'fossilised' type was exclusive of onomastics? Did it once exist in the non-onomastic lexicon and was lost later on? Is it still possible to find traces of its presence in the non-onomastic lexicon? Clearly these issues are central ones, and require a more systematic analysis. In what follows I will consider the alleged instances of adjectival and substantival 'reversed' bahuvrīhis (type πόδαργος 'foot-swift', §4 and type θυμολέων 'heart-lion', §5) in early Greek. But first, a few structural considerations are necessary.

3. Bahuvrīhis, ‘Reversed Bahuvrīhis’ and Armstrong Compounds in Indo-European

Two main options are given for the formation of a (regular) bahuvrīhi in IE languages:²

- (2) Noun (Determining) – Noun (Determined): e.g. ῥοδοδάκτυλος ‘rose-fingered’, Skt. *rājā-putra-* ‘having kings as sons’.
- (3) Adjective – Noun: e.g. λευκώλενος ‘white-armed’, Skt. *ugrá-bāhu* ‘having powerful arms’.

In order to form ‘reversed bahuvrīhis’, the order of the constituents needs to be reversed. Thus we would have:

- (4) Noun (Determined) – Noun (Determining): e.g. ?θυμολέων ‘lion-heart’? (cf. Risch 1949: 285).
- (5) Noun – Adjective: e.g. Skt. *putrá-hata-* ‘whose sons have been killed’, MWelsh *bron-fraith* ‘song-thrush’ < ‘breast-speckled’ (cf. Zimmer 1992: 425); OIr. *Barr(f)ind* ‘having fair hair’ < ‘hair-fair’ (cf. Uhlich 1993: 108); Gk. ὀνομάκλυτος ‘having a famous name, famed for the name’.

If we look at the distribution of such ‘reversed bahuvrīhis’, we notice that (4) and (5) do not occur as frequently as (2) and (3). (4) is almost absent from the records of the IE languages and (5) is productive only in Germanic and Celtic.³

The term ‘reversed bahuvrīhi’ is itself of course highly ambiguous. Far from merely describing the order of the compositional members, it strongly implies that instances of (4) and (5) represent the inversion of existing bahuvrīhi compounds. What at first appears as a handy name is in fact a statement on the origin and formation of such types. The issue is overlooked by Zimmer, but explored by Uhlich, who prefers to call instances of (5) *Armstrong* compounds. This is a better term, as it uses an existing word as a paradigm of the category and it avoids the temptation of drawing parallels with another category, namely bahuvrīhis.

With the Celtic and Germanic evidence in mind, Uhlich (1997) admits that a number of Armstrong compounds in these languages might arise from existing bahuvrīhis. He argues though that the inversion of existing bahuvrīhis cannot be the source of all the Armstrong compounds in Celtic and Germanic, nor the origin of the whole category in the parent language, where such a gratuitous inversion of bahuvrīhis would be unjustified. Hence, Uhlich

² I leave bahuvrīhis with a prepositional or adverbial first member (e.g. ὑπάρρυρος ‘having silver underneath’) aside, as they are of no importance for the present discussion.

³ The Germanic and Celtic evidence is examined by Zimmer (1992) and Uhlich (1997).

maintains that Armstrong compounds are better explained as endocentric determinative compounds with an adjectival second member (i.e. 'strong with respect to the arms').

The re-interpretation of adjectival determinative compounds as 'reversed bahuvrīhis' was only possible when the adjectival second member could be interpreted to refer to the nominal first member, rather than to an external entity. Thus *Armstrong* could be interpreted to mean 'having strong arms' (bahuvrīhi) instead of 'strong with respect to the arms' (endocentric determinative compound). Such semantic reinterpretation later triggered two other phenomena: that regular bahuvrīhis might be interpreted as adjectival determinative compounds⁴ and that Armstrong compounds might be created through the inversion of existing bahuvrīhis. The latter stage is somewhat productive in Celtic languages and can account for the formation of a number of Old Irish compounds, although it cannot be held as the starting point of the whole category.

Adjectival determinative compounds are more common in recently attested IE languages. The frequency of adjectival determinative compounds in Celtic and Germanic versus their paucity in the early attested stages of the IE languages is probably due to an ancient ban on the endocentric compounding with primary adjectives as the second member (Hoenigswald 1977: 10), which the later attested Celtic and Germanic seem to have fully overcome: hence the higher number of Armstrong compounds. This 'trend towards endocentricity', as Henry Hoenigswald defined it, is clearly represented by English, where compounded adjectives are more common and more elaborate than in other languages: cf. instances such as *garden-fresh* (as in *these flowers are garden-fresh*) and *girl crazy*.

4. Are There Any 'Reversed Bahuvrīhis' with an Adjectival Second Member in Greek?

The Armstrong pattern proves useful to explain a number of the alleged instances of Greek 'reversed bahuvrīhis', those with an adjectival second member. Compounds such as πόδαργος (the name of an ox in Mycenaean, probably 'white-footed'; and a name for horses and a harpy in Homer, probably 'swift-footed'),⁵ στόμαργος (in Mycenaean the name of an ox, 'white-muzzled', and later occurring with the meaning of 'loud-tongued'), ὀνομάκλυτος 'famous for the name' (Homer) and κορυθαίολος 'with glistening helmet' (Homer)⁶ are in fact compounded adjectives. Their origin is the univertation of sequences of an accusative of

⁴ In Greek, this would be the case with ποδόκης 'swift-footed'. The compound is a regular bahuvrīhi ('having speed of feet'), but because of the parallel existence of ὠκύπους, it was semantically interpreted as 'having fast feet' and as if it contained the adjective ὠκύς in the second member; cf. Meissner (2006: 182-6) and §5 below.

⁵ Hesychius understood πόδαργος as corresponding to λευκόπους 'white-footed'. This meaning as opposed to 'swift-footed' may be appropriate for a horse, although perhaps less appropriate for a harpy. For the semantics of ἀργός cf. Heubeck (1974: 41).

⁶ The second member of κορυθαίολος is quite clearly the adjective αἰόλος 'quick-moving, glittering' and not a verbal noun from αἰόλλω, as is erroneously reported in LSJ. αἰόλλω is in fact a denominative derived from αἰόλος.

respect and an adjective. The existence of the syntagm κύνες πόδας ἄργοί (*Iliad* 18.578), which clearly corresponds to πόδαργος, lends further support to this hypothesis.⁷

Before continuing, I must acknowledge that my use of terms such as ‘syntagms’, ‘separate words’ and ‘univerbations’ consciously bypasses the question of whether Greek speakers had a notion of ‘word’, and quite superficially focuses on the written representation of those units which we recognise as ‘words’ from a modern perspective. That the writing habits of classical Greek made it impossible to discern words in the written language and that the written evidence must therefore be used with extreme caution has already been argued by Anna Morpurgo Davies (1987) with her customary acumen and I need not repeat it here.

The underlying syntagms might explain why these formations, but not others, made their way into the archaic Greek compositional system, which is not prone to adjectival determinative compounds. In all these syntagms the first word is a third declension noun in the accusative (στόμα, ὄνομα, κόρυθα and, perhaps, also πόδα, although the Homeric syntagm has the plural form). In στόμαργος, πόδαργος and κορυθαίολος the process leading from the syntagm to the univerbated form was rather simple: since the final vowel of the first word and the first vowel of the second word were identical, it is likely that the pronunciation of such syntagms was e.g. [stóm^(a) argós] and this would have triggered their eventual univerbation. The univerbation of ὄνομα κλυτός could also occur without any formal changes, as an accusative in -α did not need to lose its ending in order to become a regular first member, -α- being a very frequent compositional vowel. It was also (and crucially) problem-free from the point of view of the metre: ὀνομάκλυτος scans exactly as ὄνομα κλυτός.

We cannot be sure of when such syntagms became univerbated. In principle, ὀνομάκλυτος might have entered the Homeric diction as two words, which might have become univerbated at a second stage, without this entailing any changes from the metrical point of view.⁸ However, Πόδαργος (the name of one of Hector’s horses in *Il.* 8.185 and also said of one of Menelaus’ horses) and Ποδάργη (the name of a harpy in *Il.* 16.150 and 19.400)

⁷ It should be mentioned that στόμαργος has an -ης doublet, the name Στομάργης attested in Hippocrates. The latter is better explained by assuming that it is compounded with the unattested neuter noun **τὸ ἄργος ‘swiftness, whiteness’, as Heubeck (1974: 42) and Frisk (1954-72) s.v. ἐναργής do. Accordingly, Πόδαργος and Στόμαργος could be interpreted as *Kurznamen* from **Ποδάργης and Στομάργης rather than as univerbations. Both interpretations are possible (and indeed might have coexisted), as they are the outcome of two different word-formation processes: regular composition (with subsequent shortening of the name) and univerbation. However, since the reconstruction of a neuter **τὸ ἄργος is tentative and since Homer has two other compounds (ὀνομάκλυτος and κορυθαίολος) which derive from univerbations and follow a pattern that is productive in other IE languages, the latter seems a better interpretation.

⁸ Unfortunately, in the case of ὀνομάκλυτος (which occurs in the last two feet of the hexameter) it is impossible to apply any test to verify its status, as the hexameter rules would admit both ὄνομα κλυτός and ὀνομάκλυτος. When possible, a metrical test may prove very useful. For instance, it is successfully applied by Hoenigswald (2005) to prove that Ἡλλήσποντος is in fact treated as one word in Homer, as Meister’s Rule does not allow for a spondaic word end before the fifth dieresis.

are used as personal names; Πόδαργος in particular is unequivocal and cannot be interpreted as a syntagm in apposition to a noun, as it occurs at the end of lists containing other names for horses.

In conclusion, forms in -αργος were certainly univertated when they entered those particular Homeric lines, which gives us a (vague) *terminus ante quem* for the transformation of these syntagms into univertations. Moreover, we also have the Mycenaean oxen's names *to-ma-ko* and *po-da-ko*. In principle, since the Mycenaean writing conventions do not give us any clue as to whether the writings <*to-ma-ko*> and <*po-da-ko*> represent a single word (as the result of a univertation) or two (e.g. [stóm^(a) argós], [pód^(a) argós]), one cannot be sure whether these are names or syntagms identifying the oxen.⁹ However, the Knossos Ch-tablets bear other examples of oxen's names, one of which is compounded,¹⁰ thus confirming that <*to-ma-ko*> and <*po-da-ko*> are indeed names and therefore, in all probability, also univertated.

4.1. Productivity of Armstrong Compounds in Greek

Compounds such as πόδαργος never achieve a degree of productivity. This is to be ascribed to the overall paucity of compounded adjectives in Greek. The most common instances have a prepositional or negative first member (e.g. ἐπιείκελος 'like' and ἄϊδρις 'ignorant'). There are only a few instances of compounded adjectives showing a substantival first member, for instance θεοείκελος 'similar to a god', γαστρίμαργος 'glutton', ναυσίκλυτος 'famed for ships' – the origin of some of these forms, as for πόδαργος, is the univertation of a preceding syntagm.

Once univertated, the individual forms become part of the vocabulary, and may trigger the sporadic creation of compounds with an identical second member, but not to the point that a large number of adjectives are employed in similar formations. πόδαργος (which remains quite isolated and connected with the names of horses and dogs) and στόμαργος (in classical Greek with the meaning 'loud-tongued') seem to have prompted only two other Armstrong compounds, both referring to animals: πύγαργος 'white-rump'¹¹ and χηλαργός 'with fleet hoofs'.¹² A second member -αργος is also found in the PN Κύναργος, which, according to

⁹ Mycenaean scribes are usually accurate in their separation of words by means of a word-divider. Yet, omissions occur exactly in set of words that might be interpreted as univertations (e.g. *pa-si-te-o-i*) and the scribes seem at times to ignore word-boundary, as in *te-ko-to-na-pe* /tēktōn apēs(t)/ vs. *te-ko-to-a-pe*: cf. Morpurgo Davies (1987: 268-9 and fn. 12).

¹⁰ *wo-no-qa-so* 'having a wine-coloured back' (KN Ch 897), cf. Heubeck (1974: 40).

¹¹ This is used as a name for various types of animals, including antelopes (as in Hdt. 4.192) and water-birds (Aristot. *HA* 593^b.5).

¹² Soph. *El.* 861.

Bechtel (1981: 33), is an adjectival determinative compound meaning ‘swift as a dog’.¹³ As far as ὀνομάκλυτος is concerned, apart from occurrences in Homer, Ibycus, Pindar and Nonnus, this adjective is employed only by scholiasts and grammarians. It might have triggered the formation of other compounds showing a comparable structure, e.g. τοξόκλυτος ‘famous for archery’ (Pindar, Bacchylides).

5. Are There Any ‘Reversed Bahuvrīhis’ with a Substantival Second Member in Greek?

We are now better equipped to turn to the question of whether Greek ever possessed real ‘reversed bahuvrīhis’. Having ruled out the hypothesis that some of the adjectival compounds might be understood as such, we are left with a number of words which may be interpreted to represent an inversion of the bahuvrīhi type. In this paper I focus on three Homeric forms.

One of the words liable to the ‘reversed bahuvrīhis’ interpretation is the Homeric epithet θυμολέων ‘lion-heart’, which occurs five times in Homer as an epithet of Heracles (*Il.* 5.639, *Od.* 11.267), of Achilles (*Il.* 7.228) and of Odysseus (*Od.* 4.724 = 4.814), and always in the accusative θυμολέοντα. The compound is later used exclusively in poetry and appears in prose texts only when the authors quote the relevant Homeric verses.¹⁴ Its structure is peculiar: it follows one of the semantic patterns typical of bahuvrīhis (‘having a X like that of X’), as in θεοειδής ‘having the appearance of a god’ but the order is inverted, as the feature (θυμός) possessed by the person to whom the epithet refers occurs in the first member rather than in the second.¹⁵

A comparable structure features in another Homeric term, ποδήνεμος ‘having feet like the wind’ (*Il.* 2.786 and eight other occurrences in Homer, always as an epithet of Iris), and in the name of Proteus’ daughter Εἰδοθέη ‘having the appearance of a goddess’ (*Od.* 4.366). The explanation traditionally provided for the two is that they represent the inversion of the Homeric bahuvrīhis ἀελλόπος and θεοειδής (cf. Risch 1949: 286, 1974: 213; Schmitt 1972: 348). According to this explanation, the trigger for ποδήνεμος was the pair ὠκύπους/ποδώκης. Both compounds are regular bahuvrīhis, but the misinterpretation of ποδώκης as the inversion of ὠκύπους authorised the formation of other reversed forms, and in particular of ποδήνεμος from ἀελλόπος. This latter had the same semantics as

¹³ Differently Schmitt (1972: 347), who sees in Κύνναργος the reversed form of an unattested **Ἀργικύων, which he reconstructs on the basis of Ved. *Rjísvan-*.

¹⁴ See, for example, Plut. *Mor.* VI.988D, who quotes this adjective together with other expressions comparing men and animals, some of which are possessive compounds (e.g. λυκόφρων and ἀνθρώποθυμος).

¹⁵ This peculiar compound has not found an adequate treatment in any of the major works concerning Homeric word-formation, e.g. Bechtel (1914); Leumann (1950). In his article on the Greek determinative compounds, Risch (1949: 285) considers the interpretation of θυμολέων as a ‘reversed bahuvrīhi’, although he deems it dubious. In the *Wortbildung* the question of whether such a class can be attributed to the Homeric language is not addressed: θυμολέων is tentatively interpreted as the present participle of a denominative verb deriving from an unattested **θυμόλης (Risch 1974: 308-9).

ὠκύπους/ποδώκης¹⁶ and its first member ἄελλο- 'storm' would have prompted the use of ἄνεμος 'wind' in ποδήνεμος.

Given the artificial character of the Homeric language, the inversion of an existing compound is of course a likely possibility. However, simply to claim that ποδήνεμος is the reversed form of ἀελλόπος would be to formulate an apodictic statement which does not formally address the central questions. What is the structure of these compounds? What is the relation between the members? What exactly was the process that led to their formation? These questions are crucial, because if ποδήνεμος and Εἰδοθέη are the left-oriented counterparts of existing bahuvrīhi compounds, then one would have to conclude that Greek did indeed possess a number of 'reversed bahuvrīhis', however artificial their origin might be. In turn, this would authorise the classification of θυμολέων as a left-oriented bahuvrīhi *tout court*. But is this the only way to interpret these compounds? And should one really wish to explain their unusual structure by invoking a pattern which does not unambiguously occur in other IE languages (cf. (4) in §2)? In what follows I consider two possible solutions. The first is more traditional, but still presents some problems and does not take Εἰδοθέη into account; the second is more daring, but has the advantage of explaining all three forms with the same pattern.

6. A Traditional Explanation

I begin with the traditional hypothesis. A way to overcome the label 'reversed bahuvrīhi' might be to suppose that θυμολέων and ποδήνεμος are in fact regular right-oriented bahuvrīhis in which the first member has a locative meaning: 'having a lion in the heart' and 'having wind in the feet' respectively. However, this pattern is not established in Homer. According to the list in Risch (1974: 184), nouns indicating body parts occur frequently in the second members of bahuvrīhis, but never in the first: a pattern 'having X in X part of the body' is unattested in Homer.

Moreover, none of the few compounds tentatively classed by Risch (1974: 186) as having a locative first member (e.g. ἀκρόκομος 'with hair on crown', μέσσαυλος 'inner court',¹⁷ ἄγραυλος 'dwelling in the field', and χαμαιεύνης 'having the bed on the earth') is unequivocal. For instance, there is no need to assume that in ἀκρόκομος, ἄκρο- has a locative meaning: it simply determines the second word as in the corresponding syntagm ἡ ἄκρη κόμη 'the tip of the hair'. The locative function is a question of translation and appears less obvious if one adopts a different translation, e.g. 'having high up hair'. Similarly, the substantive μέσσαυλος (*Il.* 17.657) does not mean 'having a court in the middle' (Risch himself is

¹⁶ Schindler (1986: 397) assumes that the inversion took place starting from an unattested **ἀνεμόπος. In another contribution, Schindler (1997: 540) also notes that the interpretation of ποδώκης as a reversed bahuvrīhi later triggered ἱππώκης 'having fast horses' in Bacchylides.

¹⁷ Interpreted as a bahuvrīhi by Risch.

sceptical about it), but ‘middle of the court’, and derives from the syntagm ἡ μέση αὐλή. The prepositional first member of compounds such as ὑπόρρηνος ‘with a lamb under it’ does not offer a comparable example either, as the locative meaning is implicit in such prepositions. The same applies to those adverbs indicating location, such as χαμαί (cf. χαμαιεύνης ‘sleeping on the ground, having the bed on the ground’, for which a verbal derivation from εὐνώω might also apply)¹⁸ and πάλιν (cf. πάλινορος ‘going backwards’). In conclusion, bahuvrīhis with a nominal or adjectival first member with a clear locative function do not seem to be a common pattern in Homer.

The locative interpretation, were one to follow it anyway, might well explain θυμολέων and ποδήνεμος as right-oriented, but not Εἶδοθέη (‘having a goddess in appearance’?). Are we then to conclude that Εἶδοθέη is a one-off example, whose odd structure is determined by its onomastic status? It is of course a fact that in Greek compounded PNs the compositional members are often exchanged. This might at times explain why some names either make no sense as normal lexical compounds (Dubois 2000: 41-2; Morpurgo Davies 2000: 18-9)¹⁹ or present a peculiar structure.²⁰ In the case of Εἶδοθέη the meaning is quite clear and is also validated by the meaning of the adjective θεοειδής. The structure however remains unexplained and in the absence of a more appealing solution it is simply described as an inversion of the constituent members of the ‘more standard’ θεοειδής. To hold this as a universal principle misleads one into believing that a large number of Greek PNs simply do not follow any formation pattern other than the inversion of other existing and more established names. While this is certainly true for a number of Greek compounded names (including Κλεοπάτρη), it should not be held as a general rule and should not discourage us from seeking meaningful structural patterns which may justify such apparently ‘reversed’ forms. In turn, this might also cast new light on the formation patterns of the non-onomastic lexicon.

7. An Alternative Interpretation

The point just raised leads me to investigate another interpretation, which may account for all of three Homeric compounds within a framework not as foreign to Greek nominal composition as the ‘reversed bahuvrīhi’ model. I suggest that rather than forcing such

¹⁸ Vegas Sansalvador (1991: 149) interprets this compound as a later re-elaboration of an original compound containing the zero-grade of the word for ‘bed’, which would still be attested in the Elean epithet of Demeter Χαμόνη ‘sleeping on the ground’. The second member would have been changed in -ευνης in the Homeric form in order to maintain its intelligibility. In Χαμόνη the first member ‘earth’ would have a locative meaning. I owe this reference to Daniel Kölligan.

¹⁹ Many ‘irrational’ names arise from the wish to combine names which are in the family tradition, which in turn leads to the use of a popular second member as a sort of suffix devoid of a real meaning, as in the case of some of the -ιππος names discussed by Dubois.

²⁰ For instance, it would be difficult to interpret Κλεοπάτρη as anything but the reversed form of Πατροκλέης, to quote just an example.

compounds to fit the bahuvrīhi pattern at all cost, it might be possible to interpret them as determinative compounds deriving from predicative syntagms. In such syntagms, the predicate would correspond to the second member of the compound: e.g. 'X is a lion' > -λέων. The first member specifies in what sense X is a lion – in the corresponding syntagm, this function would be covered by the accusative of respect: 'X is a lion with respect to his heart' > θυμο-.²¹

If this hypothesis is correct, compounds such as θυμολέων would show the same structure as the Armstrong type discussed above. The only difference between these two types resides in the fact that in πόδαργος the second member is adjectival, whereas in θυμολέων it is substantival. At first, this might prove a problem. While the syntagm κύνες πόδας ἀργοί clearly supports the hypothesis that πόδαργος derives from the univerbation of an accusative of respect and an adjective, syntagms such as **θυμὸν λέων are not attested in the Homeric text. Yet, both evidence from Homer and other Greek authors, and the structure of a number of Greek personal names lend support to my hypothesis.

The use of the accusative of respect with nouns, albeit less frequent than with adjectives or verbs, is attested in Greek. Homer has at least one instance in *Od.* 16.242 (χειράς τ' αἰχμητὴν ἔμεναι καὶ ἐπίφρονα βουλήν 'a warrior in strength of hand and wise in counsel') and the pattern is also found in later authors, for instance in Aristoph. *Pa.* 935 (ἐσόμεθ' ἀλλήλοισιν ἀμνοὶ τοὺς τρόπους 'we shall be like lambs in our behaviour towards each other') and Xen. *Hell.* 3.3.5 (ἦν καὶ τὸ εἶδος νεανίσκος 'he was like a youth in appearance'). But it is Pindar who provides us with the closest parallel, in *Isth.* 4.47: μῆτιν δ' ἀλώπηξ 'a fox in skill'. Having ascertained that Greek indeed possessed syntagms formed by an accusative of respect and a noun, it now ought to be considered whether it might have been possible for predicative syntagms of this kind to generate the sort of Homeric compounds here investigated.

7.1. An Excursus into Onomastics

At this stage of the enquiry, it might be best to bring onomastics into the picture, as personal names often correspond to predicative syntagms. A large number of Greek compounded PNs are classifiable as determinative compounds: an example is Θεόδωρος 'god's gift'. The three compounds here under scrutiny agree with Θεόδωρος insofar as, according to my own interpretation, the main idea expressed by their members occurs on the right: Εἰδοθέη is someone who is (like) a goddess (with respect to her appearance), θυμολέων is someone who

²¹ While I was writing this paper I was pleased to discover that this hypothesis, which I formulated independently, had already been advanced by the late Jochem Schindler at the 1994 Madrid Colloquium of the Indogermanische Gesellschaft. In the short pre-print version that remains of that paper, he commented 'Durch Neubezug auf πόδας ὠκύς (Akk. der Beziehung) konnte Homer θυμο-λέωντ- kreieren', cf. Schindler (1997: 540).

is (like) a lion (with respect to the heart), and ποδήνεμος is someone who is like the wind (with respect to her feet); just as Θεόδωρος is someone who is (like) a gift (from a god).

The links with the onomastic lexicon also concern the compositional members used in Εἰδοθέη and θυμολέων. The *Lexicon of the Greek Personal Names* (www.lgpn.ox.ac.uk) only records one instance of Εἰδοθέα (Tenos, imperial period), but a second member -θεος/-θεα is very frequent and its productivity need not be discussed here. Suffice it to say that among these, compounds with a likely determinative structure are not infrequent: e.g. Δαμόθεος '(like) a god for his people' (Sicion, 230-20 BC), Καλλιθέα '(like) a goddess with respect to beauty' (Samos, 4th cent. BC), and Κλεόθεος 'like a god with respect to fame' (Tenos, 3rd cent. BC). According to my interpretation, the latter is not merely the inversion of the bahuvrīhi Θεοκλήης, but a type of compound in its own right. The Homeric Εἰδοθέη is therefore part of a larger onomastic pattern.

As for θυμολέων, it is a determinative compound characterising an individual and corresponding to the many Greek PNs containing animal names. Side by side with those which are particularly productive as compounds (e.g. those in -ιππος), there also exist a large number of non-compounded names that simply use the name of an animal to signify a person: e.g. Λύκων 'wolf', Ἀλεκτρυών 'cock', Μόσχος 'young bull' and, of course, Λέων 'lion'. Masson (1995-1996: 286-7) has convincingly argued that the simplicia do not derive from compounds as back-formations, but often predate them. Compound PNs include those in which the name of the animal is preceded by a qualifying member (e.g. Ἄγρολέων 'wild lion', Δεινολέων 'terrible lion', Θρασυλέων 'audacious lion' and Δημολέων 'like a lion for his people')²² and those in which it is coupled with another animal name (e.g. Ἄρκολέων 'bear-lion' or Λυκολέων 'wolf-lion'). Names of the first type are determinative compounds and their carrier is described as (or wishes to be like) a wild lion or a terrible lion, etc. Names of the second type are dvandva compounds and their carrier is described as possessing (or wishing to possess) the virtues (in most likelihood of strength) of both animals (Masson 1988: 174). Such determinative and dvandva compounds derive, again, from predicative syntagms ('X is (like) a terrible lion', 'X is (like) a wolf and a lion together', etc.), the same that seem to give rise to our three Homeric compounds.

θυμολέων works perfectly well as a determinative compound characterising a person as being like a lion.²³ The first member restricts the field, as it were, in which the given person resembles the lion: not in appearance, nor in violence, but in his θυμός. A first member θυμο- is not frequent among Greek PNs, but interestingly when it appears it is often interpretable as an accusative of respect: cf. Θυμόσοφος 'wise with respect to his heart' (Euboea 4th/3rd cent. BC), Θυμάγαθος 'good with respect to his heart' (Boeotia 245-40 BC) and perhaps

²² The last already attested in Homer: cf. von Kamptz (1982: 93), where Δημολέων is classified as a determinative compound.

²³ All the other non-onomastic compounds in -λέων are also determinative, e.g. αἰνολέων 'terrible lion' (Theocritus) and μουνολέων 'solitary' (*Anthologia Palatina*).

Θύμανδρος 'a man with respect to his heart' (Euboea 4th/3rd cent. BC). It would be difficult to consider these names as the reversed counterparts of more frequent specimens as there are no attested PNs such as ** Σοφόθυμος.²⁴

Let us now review the data considered so far. The onomastic evidence suggests three things: 1) that a determinative compound referring to a person is absolutely normal in the onomastic lexicon; 2) that such a structure derives from the transformation of predicative syntagms into compounds, and 3) that -θεος/-θεα and -λεων are two common second members in compounded PNs. This leads us to the formulation of the following hypothesis: the unusual compounds θυμολέων and Εἰδοθέη (itself a PN) follow a determinative structure which is frequent in the onomastic lexicon. In turn, the two compounds might have influenced the formation of ποδήνεμος, for which a convincing onomastic parallel is missing.²⁵

8. Homeric Phraseology and the Accusatives θυμόν, εἶδος, and πόδα/πόδας

Having discussed the structure of θυμολέων, Εἰδοθέη and ποδήνεμος I now set out to investigate whether there is internal evidence in the Homeric text which explains their meaning and justifies their creation. As mentioned above, Homer does not have syntagms which may have provided the compounds by way of univertation. This is perhaps not surprising, given that all of three syntagms would not fit the hexameter for metrical reasons: θυμόν λέων and εἶδος θεά contain a cretic and πόδα/πόδας ἄνεμος contain a sequence of four short syllables. However, a number of elements suggest that such syntagms are possible in theory and indeed likely to have existed at some point in the Greek language.

εἶδος and πόδα/πόδας are among the most common nouns used in Homeric syntagms containing an accusative of respect. εἶδος is particularly frequent in expressions comparing two individuals, e.g. *Od.* 5.217 εἶδος ἀκιδνοτέρη μέγεθός τε 'inferior in appearance and stature'. πόδα and πόδας occur with adjectives, including ἀργός, ὠκύς, ταχύς (all meaning 'fast'), χωλός 'lame' (*Il.* 2.217), ἀμείνων 'better' (*Il.* 15.641), αἰόλος 'quick' (*Il.* 19.404) and ἐλαφρός 'nimble' (*Od.* 1.164), and also with verbs, in particular in *Od.* 19.381 σὺ δέμας φωνήν τε πόδας τ' Ὀδυσῆϊ ἕοικας 'you resemble Odysseus in body, voice and feet'. Finally, θυμόν occurs (often in the so-called 'accusative of the whole and part') in association with verbs of emotion, particularly anger (e.g. *Il.* 16.616 θυμόν ἐχώσατο 'grew angry at heart'), but also cheerfulness (e.g. *Od.* 23.47 θυμόν ἰάνθης 'you would be moved to joy in your heart') and grief (e.g. *Il.* 5.869 θυμόν ἀχεύων 'grieved at heart'). It is therefore possible that

²⁴ According to an electronic search of the *Lexicon of the Greek Personal Names* website (www.lgpn.ox.ac.uk), there exist nine different personal names endings in -θυμος, two of which are verbal governing compounds, but none is the reversed form of any of the above PNs in Θυμο-. It goes without saying that their absence may also be due to chance.

²⁵ There are no other PNs containing ἄνεμος in Greek, except for Ποδήνεμος (Argolis, 5th cent. BC; Sparta 394 BC). Bechtel (1917: 563) lists this name among the names deriving from poetic words.

such accusatives provided material for the first members of compounds, as is well documented in the case of πόδαργος and ὀνομάκλυτος.

The Homeric poems also show evidence of a close connection between θυμόν, εἶδος and πόδα/πόδας and the words constituting the second members of the compounds in which they appear as first members. This is especially evident in the association of the lion with heroic and warrior virtues in several Iliadic similes.²⁶ In two of these, θυμός plays an important role:

- (6) βῆ ῥ' ἔμεν ὥς τε λέων ὀρεσίτροφος ὅς τ' ἐπιδευῆς
 δηρὸν ἔη κρειῶν, κέλεται δέ εἰ θυμὸς ἀγήνωρ
 μήλων πειρήσοντα καὶ ἐς πυκινὸν δόμον ἐλθεῖν (...)
 (...) ὥς ῥα τότε ἀντίθεον Σαρπηδόνα θυμὸς ἀνήκε κτλ.

'He set out to go like a mountain-nurtured lion that has long
 Lacked meat, and his proud spirit tells him
 To make an attempt on the flocks and go into the compact fold (...)
 (...) So did his spirit then urge god-like Sarpedon etc.'

(*Il.* 12.299-301; 307)

- (7) Πηλεΐδης δ' ἐτέρωθεν ἐναντίον ὦρτο λέων ὥς (...)
 (...) ὥς Ἀχιλῆ' ὄτρυνε μένος καὶ θυμὸς ἀγήνωρ
 ἀντίον ἐλθέμεναι μεγαλήτορος Αἰνείαο

'And the son of Peleus on the other side rushed against him like a lion (...)
 (...) So his fury and proud spirit urged Achilles
 To go and face the great-hearted Aeneas'

(*Il.* 20.164; 174-5)

In these similes, both the lion and the hero are characterised by a 'heroic θυμός' and it is in relation to the θυμός that the comparison between man and beast is drawn. This adds a strong visual background to the hypothesis that θυμολέων might mean 'a lion with respect to his θυμός' (i.e. with respect to temper, courage and strength) rather than 'having a lion in his heart' (in which θυμο- would simply signify the seat where the unspecified qualities the hero has in common with the lion reside). The matter is decisively settled by the lines preceding the Pindaric syntagm μῆτιν δ' ἀλώπηξ which was mentioned above (§7): τόλμα γὰρ εἰκὼς θυμὸν ἐριβρεμετᾶν θηρῶν λεόντων '(Melissos) resembling the boldness of loud-roaring wild lions in his heart' (*I.* 4.45-6).

²⁶ E.g. *Il.* 5.136ff. 12.40ff., 15.629ff., 17.61ff., 24.572.

The connection between εἶδος and deities, especially female ones, is similarly well-attested. εἶδος occurs in numerous comparisons between mortal women and goddesses,²⁷ and is often accompanied by adjectives or verbs indicating resemblance (e.g. *Od.* 6.16 ἀθανάτησι φύην καὶ εἶδος ὁμοίη '(Nausicaa) similar to immortals in stature and appearance'). To have one's looks compared to a god or goddess clearly was a much sought-after compliment, and the name Εἶδοθέη fittingly expresses the concept in one word.

As far as ποδήνεμος is concerned, it is clear enough that this epithet was created to describe Iris, a deity characterised by two peculiarities: swiftness of feet (πόδας ὠκέα Ἴρις) and association with the winds, in particular Zephyrus.²⁸ Apart from the other compound ἀελλόπος, Homer never associates Iris' swiftness with the wind. However, such an association is used for horses, which, crucially, are among the other Homeric beings characterised by swift feet (e.g. *Il.* 10.437: θείειν ἀνέμοισιν ὁμοῖοι 'in running similar to the winds'). Here the infinitive θείειν covers the same function of the accusative of respect πόδας. The epithet ποδήνεμος therefore might have arisen from a syntagm such as **πόδας ἀνέμοισιν ὁμοίη or perhaps **πόδας ἄνεμος ὄς.

In conclusion, several reasons induce us to interpret the Homeric compounds quoted above as right-oriented determinative compounds deriving from syntagms containing an accusative of respect and a noun. Firstly, the accusative of respect + noun pattern, although not common, is attested in Greek and at least once in Homer (*Od.* 16.242: χεῖράς τ' αἰχμητήν 'a warrior in strength'), thus providing a reasonable model for the syntagms from which the compounds would derive. Secondly, although the syntagms I proposed above are never attested in Homer (probably because of their unfitness for the hexameter), the poems offer enough comparable syntagms containing the accusatives πόδας, εἶδος and θυμόν in contexts where ἄνεμος, θεός/-ά and λέων also occur. Thirdly, the determinative nature of the PN Εἶδοθέη, whose structure is identical to that of θυμολέων and ποδήνεμος, makes their determinative interpretation very likely. One of the consequences of such interpretation is that the number of Homeric determinative compounds is in fact not as restricted as traditionally assumed, e.g. by Risch (1944: 5ff., 1974: 212ff.). By the chronological stage represented by the Homeric poems, determinative compounds, probably the last compositional category to arise in Proto-Indo-European, appear to have already acquired a relatively high degree of productivity.

²⁷ E.g. *Od.* 4.14. Ἑρμιόνην, ἣ εἶδος ἔχε χρυσέης Ἀφροδίτης 'Hermione, who had the beauty of golden Aphrodite' and the comparison between Calypso and Penelope in the fifth book of the *Odyssey*, especially *Od.* 5.212-3 ἐπεὶ οὐ πῶς οὐδὲ ἔοικεν θνητὰς ἀθανάτησι δέμας καὶ εἶδος ἐρίζειν 'since in no way is it possible that mortal women should compete with goddesses in form or in stature'.

²⁸ In Homer, Zephyrus is the Harpies' spouse. These are Iris' sisters and run with the storm-winds (cf. Hes. *Th.* 268 ἀνέμων πνοιῆσι καὶ οἰωνοῖς ἅμ' ἔπονται ὠκείης πτερύγεσσι 'who on their swift wings keep pace with the blasts of the winds and the birds'). The first mention of Iris' union with Zephyrus is in Alceus. Iris is also the personification of the rainbow, itself associated with wind (cf. Emped. fr. 50). Cf. also *Il.* 23.98 and A.R. 4.764 ff.

9. Conclusion

This paper has suggested a different interpretation for the Homeric forms often described as ‘reversed bahuvrīhis’. It has been argued that those compounds which might at first appear to be ‘reversed bahuvrīhis’ can in fact be interpreted as determinative compounds deriving from syntagms containing an accusative of respect. The accusative of respect + adjective pattern, which was proposed as one of the sources of Greek ‘Armstrong’ compounds, now appears to be both better established and mirrored by the accusative of respect + noun construction. Syntagms such as θυμὸν λέων are the origin of substantival determinative compounds of the θυμολέων type.

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Sanskrit *svāmin-*, Avestan *hūuōišta-* and the Indo-European Root **seu_h₁-* ‘to impel’

Elizabeth Tucker

1. The Traditional Etymology of Sanskrit *svāmin-* ‘master’

Sanskrit *svāmin-* ‘master’,¹ particularly in its nom. sg. form *svāmī*, has enjoyed an enormous popular fortune, far surpassing that of most Sanskrit nouns. Yet in one sense it is an impoverished Sanskrit noun as its linguistic analysis is not securely established.

A connection with the pronominal adjective *svá-* ‘one’s own’ appears in the early Indian grammatical tradition, and the possibility of derivation from *svá-* < IE **seu_h₁-* is mentioned cautiously in both of Mayrhofer’s Sanskrit etymological dictionaries (1956-80: iii.569; 1986-2001: ii.797), but *svāmin-* appears as a separate lemma. Wackernagel & Debrunner (1896-1954: II.2.776), whom Mayrhofer quotes, suggested that *svāmin-* arose through dissimilation from **svāvin-* and that **svāvin-* was a bye-form of attested *svávant-* ‘having one’s own possession’ (*Taittirīya and Maitrāyaṇī Saṃhitās (TS, MS)*). The suffixes *-vant* and *-vin* are similarly employed in Old Indo-Aryan (OIA) secondary derivation, and a number of such doublets are attested, but an exact parallel for a dissimilation **svāvin-* > *svāmin-* is lacking.² A further difficulty is raised by the long vowel *-ā-*, since in the case of *svávant-* there is no evidence at all for any variation in vowel quantity, even though it is attested in the *Taittirīya Saṃhitā*, which, according to Bloomfield & Edgerton (1930-34: ii.229), favours long quantity in *-vant* and *-vin* derivatives where there is fluctuation.³

The problem of this long *-ā-* was taken seriously by one or two scholars, notably Uhlenbeck (1909: 146) who explained *svāmin-* as a secondary derivative in *-ín* from a compound **svā́ma-* (*svá-* + *áma-*) ‘*Selbst-Macht*’ (‘self-power’), comparing the semantics of

¹ This paper was presented at the 17th Annual Indo-European Conference at UCLA in October 2005. I am grateful to the Faculty of Oriental Studies, Oxford, for paying my air-fare to LA, and to other participants at the conference, especially Birgit Olsen, Calvert Watkins and Ilya Yakubovich, for their comments. I also thank Almut Hintze for reading the first draft of a paper on this subject. Above all I am indebted to Nicholas Sims-Williams for encouragement in 2004 to argue my case for a connection between Avestan *hūuōišta-* and Skt. *svāmin-*.

A joint article whose second part contains a revised version of this paper will be published in due course. In the first part Nicholas Sims-Williams will discuss in detail the Iranian forms related to Avestan *hūuōišta-*, and present some new evidence in the context of an examination of Bactrian comparative and superlative formations.

² There is only one other possible case in OIA where *-min* might replace an earlier suffix *-vin*: *vāgvín-* *Atharvaveda Śaunaka Saṃhitā (AVŚ)* 5.20.11, *vāgmín-* *Śatapatha Brāhmaṇa (ŚB)* 10.3.3.1. But the phonological environment is not exactly the same, and it is in any case more likely that two separate words with different meanings are involved, cf. Tucker (2002: 278).

³ No cases of vowel lengthening before *-mant* and *-min* are recorded.

Gk. αὐτοκράτωρ ‘one’s own master’. Mayrhofer’s objection that Indo-Iranian (Iir.) **áma-* means ‘*Angriffskraft*’ (‘aggressive strength’) has some cogency but is not decisive as in derivatives such as Vedic *ámavant-*, Av. *amauuant-* the sense of aggression is not very prominent. A more serious difficulty is the fact that Uhlenbeck’s theory demands a basic *Tatpuruṣa* compound, whereas **svāma-* is more likely itself to have been employed as a *Bahuvrīhi* ‘having one’s own *áma-*’, and it is hard to see why a secondary derivative in *-ín* should have been needed to express this meaning.⁴

2. Avestan *hūōišta-*

This paper will suggest a new analysis for *svāmin-*, which has nothing to do with *svá-* ‘one’s own’, but is based on a comparison with the Avestan superlative adjective *hūōišta-* ‘eldest, most senior’. The meaning (Bartholomae 1904: 1856 ‘*der älteste*’) is confirmed by the fact that in two out of the three Younger Avestan passages where this superlative occurs, its antonym is *yōišta-* ‘youngest’ (cf. *RV yáviṣṭha-*), e.g.:

- (1) *kō nmānahe aθaurunəm pāraiiāṭ? yō aṣāi bərajaṣtəmō hūōištō vā yōištō vā.*
 ‘Who of the household should go forth to the priesthood? He who is most welcoming to truth, either the eldest or the youngest.’

(*Hērbedestān* 1 = Bartholomae (1904) *N* 1; text after Kotwal & Kreyenbroek 1992-2003: i.26)

The third occurrence (*Nērangistān* 40 = Bartholomae (1904) *N* 58) is in an incomplete and obscure sentence, and so one of the meanings given by Bartholomae, ‘*der wertvollste*’ (‘the most valuable’), is less secure.

It has been recognized for some time that YAv. *hūōišta-* has cognates in Middle Iranian, such as Manichaean Sogdian *xwyštr* ‘superior, chief’, *xwyštk* ‘teacher’ (in both these cases the original superlative has received additional suffixes), and Khotanese *hvāṣṭa-* ‘best, chief, preminent’ (Bailey 1979: 507). The diphthong of *hūōišta-* could be variously explained, but Khotanese *hvāṣṭa-* points to a root in long *-ā-*, as seen by Bailey and accepted by Skjærvø (1997).⁵

If Av. *hūōišta-* is to be connected with an Iranian root **hvā-*, what is this root? Bartholomae suggested that it is a form of *hū-* (*hav-*) ‘to impel’, cognate with Skt. *sū-* < IE **suh₁-*, the root of *suvāti*, *Savitár*, etc. His proposed semantic development ‘best at impelling’

⁴ A pleonastic use of *-ín* does occur very occasionally in early *Bahuvrīhis*, e.g. *Rig Veda (RV) amitra-* ‘with no alliance, an enemy’ (x35), *amitrín-* (x1), but the primary *a-* stem is normally attested alongside.

⁵ *hvāṣṭa-* does not, of course, directly continue the Old Iranian superlative seen in Av. *hūōišta-*. In the future joint publication referred to in footnote 1, Nicholas Sims-Williams will explain the vocalism of Khotanese *hvāṣṭa-* via the analogy of the corresponding comparative **hvā-yah-*: cf. Manichaean Middle Persian *pr’yist* [*frāyist*] ‘most’ which shows the same vocalism as *pr’y / fr’y* [*frāy*] ‘more’ in contrast to that of Av. *fraēšta-*.

→ ‘most authoritative, eldest’ has a striking parallel within Iir. in *RV jyēṣṭha-*, a superlative based on the root *jyā-* ‘to overpower, coerce’ (3sg pres. *jināti*, cf. Av. *zināt*, OP *adinā*). Here an original sense ‘best at overpowering’ led to ‘most important, eldest’, the opposite of *kaniṣṭhá-* ‘least, youngest’ (cf. the contrasting comparatives *jyāyas-/kánīyas-* at *RV* 7.20.7, 7.32.24, 7.86.6). *huuōišta-* could have become the antonym of *yōišta-*, the inherited word for ‘youngest’ in Avestan, via a similar route.

On the other hand, the root form **hvā-* appears at first sight more problematic, because derivatives from the inherited root ‘to impel’ are much more plentiful in OIA than Iranian and all the OIA evidence points to a State I full-grade **seu_h-* (*savá-* m. ‘impulse’, *savitár-* m. ‘impeller, (god) Savitar-’, *sávīman-* n. ‘impulsion, incitement’, intensive present *sóṣavīti* ‘repeatedly incites’ -*iṣ-* aorist *ásāvīt* ‘impelled’, etc.). However, the theoretical possibility of a State II full-grade **seu_h-* finds support from the forms made by a root of similar shape, **dū-* < **duh₂-*, the root seen in Iir. **dūrá-* ‘far’. Here Vedic shows a State I full-grade superlative *daviṣṭhá-* (comparative *dávīyas-*), whereas Old Persian has an adverbially used form *duvaiṣtam* ‘very far off’ (*Darius Persepolis e23*) built on the State II full-grade **dye_h-*, which also appears in Arm. *erkar*, Gk. *δηρός, δήν*. If YAv. *dbōišta-* means ‘farthest’,⁶ it represents the same Old Iranian superlative and its morphology is identical to that of OP *duvaiṣtam* (< **dvaH-išta-*). In any case, we have evidence that Old Iranian preserved archaic superlatives in *-išta-* built on inherited State II full-grades.⁷ Hence Bartholomae’s derivation of Av. *huuōišta-* from a full-grade *hvā-* (**hvaH-*) of *hū-* is likely to be correct.

3. The Earliest Evidence for *svāmin-* in OIA

The rest of this paper will argue that the same inherited State II full-grade **seu_h-* (> Iir. **svaH-* > OIA *svā-*) from the root ‘to impel’ can provide an explanation for the Skt. noun *svāmin-*.

As *svāmin-* does not occur in the Vedic *Samhitās* its early history has received relatively little attention, but nevertheless there is evidence to suggest how the meaning of this word may have developed. What is possibly the earliest documented occurrence does not provide much useful information, as it is as a mantra variant in the *Taittirīya Brāhmaṇa* (TB):

⁶ The most likely meaning for this *hapax* at *Hērbedestān* 9,6 (= Bartholomae *N* 3), cf. Hoffmann & Forssman (1996: 87), who follow Bartholomae’s later explanation. The only doubt is because *db-* < **dye-* is not the normal development expected for YAv., but it is for OAv., except for the lack of (late recitational) epenthesis (cf. OAv. *daibiṣṇāntī*: Vedic *dviṣānti*).

⁷ Forssman (2004: 137) has recently drawn attention to the case of another root (*préṣṭha-*, *práyas-*, etc., versus *nipriyāyáte*) where OIA may have eliminated inherited State II full-grades in a range of derivatives.

- (2) *agnisríyo marúto viśvákr̥ṣṭayah*
ā tveṣám ugrám áva īmahe vayám
té svāmíno rudrīyā varṣánirñijah
simhā ná heṣákratavah sudānavah

‘The Maruts, shining fire, belonging to all peoples – we pray for their strong energy – those masters, children of Rudra, who have rain as their clothes, like lions whose intent is harm, possessing good streams.’

(*TB* 2.7.12.4)

The corresponding *pāda* in *RV* 3.26.6 has *svānino rudrīyā* ‘noisy children of Rudra’, obviously an appropriate description for the Maruts, who are gods of the thunderstorm. *TB svāmíno* could represent a genuinely ancient variant, but as the mantra only occurs in these two Vedic texts, it is impossible to tell.

The next earliest evidence comes from three *Śrauta Sūtras* belonging to different Vedas: *Lāṭyāyana* (*LāṭyŚS*), *Kātyāyana* (*KātŚS*), and *Āpastamba* (*ĀpŚS*), 6 attestations in total. Here the word *svāmin-* is only applied to humans, viz., the master of the sacrifice who hopes to gain if the sacrifice is correctly performed, e.g.:

- (3) *svāmíno 'gner devatāyāḥ śabdāt karmanah pratiṣedhācca pratinidhir nivṛttah*
 ‘In the case of the master, the fire, the divinity, the word and the prohibition of a ritual action, substitution is forbidden.’

(*ĀpŚS* 24.4.1)

- (4) *svāmī phalayogāt*
 ‘The master (cannot be changed) because of his connection with the fruits (of the sacrifice).’

(*KātŚS* 1.6.9)

- (5) *svāmíno hi sarve sattreṣu teṣām pratigrahaṇam na vidyate*
 ‘Because all (the priests) are masters in the *sattras* there is no remuneration for them.’

(*LāṭyŚS* 10.17.17)

A comparison between (5) and *KātŚS* 12.1.8 *yajamānāḥ sarve sattreṣu* ‘In the *sattras* all (the priests) are sacrificers’ shows that in such texts *svāmin-* is a synonym of the much more frequent *yajamāna-* ‘sacrificer’. But the use of the word *svāmin-* in the context of the prohibitions against substitution in (3) and (4) has more point if it indicates the person who instigates or authorizes the sacrifice rather than merely ‘one who has his own possession’, i.e. ‘a householder’.

A sense ‘owner’, in particular ‘legal owner’, predominates in the *Dharmasūtras* and *Dharmaśāstras*. Yet it is not the only sense in the three *Dharmasūtra* passages. At *Āpastamba* 2.28.6-7 the *svāmin-* is the owner of cattle who have wandered, at *Baudhāyana* 3.2.2 the owner of fallow land, but at *Āp.* 2.3.10 he is the boss of the cook who prepares food for a domestic rite. Then in the *Mānava Dharmaśāstra* (*MDŚ*), for instance, *svāmin-* occurs 14 times (12 of the 14 examples being in Book 8) and typically it refers to the owner of livestock as opposed to the herdsman, *pāla-* (8.45, 230, 233, 244). However, in 3 passages it is a person in authority, a commander or ruler:

- (6) *balasya svāminaścaiva sthitiḥ kāryasya siddhaye*
 ‘The army and its master stop (in different places?) for the success of the undertaking.’⁸
 (*MDŚ* 7.167)

- (7) *tasmād yama iva svāmī svayam hitvā priyāpriye*
varteta yamyayā vṛtṭyā jitakrodho jitendriyaḥ
 ‘Therefore like Yama the master (= *rājan-* ‘king’ in 8.172) should disregard his own likes and dislikes (and) he should behave in a Yama-like fashion, with his anger subdued (and) his senses subdued.’
 (*MDŚ* 8.173)

The third such passage (*MDŚ* 9.294) catalogues the seven elements which make a complete kingdom and the first two are *svāmyamātyau* ‘the king and the minister’ (‘lord, official’, cf. Olivelle 2005: 205). Also, on close examination other passages of *Manu* may combine the meaning ‘someone who has authority over, who authorizes’ with ‘legal owner’, for example 8.293, where the *svāmin-* is the owner of a vehicle who is liable to pay a fine if he authorizes an incompetent driver and injury results.

A comparison of this evidence with that of the *Śrauta Sūtras* suggests that the original meaning of *svāmin-* was ‘instigator, authorizer’ and that ‘legal owner’ could represent a secondary development from ‘authorizer, one with authority over’.

It is notable that Pāṇini glosses *svāmin-* in terms of authority or lordship (*aiśvarya-*):

- (8) *svāminnaiśvare*
 ‘The (irregular) stem *svāmin* (is used) in the sense “lord”.’
 (*Aṣṭādhyāyī* 5.2.126)

Furthermore, there may be some support for this hypothesis from Pāli. The frequent sense ‘husband’ of *sāmika-* in Canonical Pāli could be explained via the same sort of semantic

⁸ The exact nature of the stratagem referred to here is not certain, and the whole verse has been variously interpreted, cf. Olivelle (2005: 163 and 301).

development which must have occurred at a prehistoric date in Skt. *pāti-*, Gk. *πόσις*. In addition,⁹ *sāmi* occurs as a form of address to a king or minister (*Vin.* I, 74; 241), and in the compound *nagarassāmi* ‘ruler of a city’ (in a simile, *S IV*, 194ff.). Perhaps, most interestingly, the Buddha himself is called *dharmassāmi* in the *Suttanipāta* (*Sn* 83) which is usually translated ‘lord/master of the doctrine’, but could refer to his role as an instigator (cf. *S III*, 66).¹⁰

4. *svāvant-*

On the other hand, *svāvant-*, which Wackernagel and Debrunner compared, only ever means literally ‘possessing one’s own thing, endowed with one’s own possession’, e.g.:

(9) *yó vā adhvaryóḥ svāmī véda svāvān evá bhavati*

‘He who knows the Adhvaryu’s own possession becomes endowed with his own possession.’

(*TS* 3.1.2.3)

(10) *bahv āsya svāmī bhāvati ná svācchidyate vāyavyām ālabhyāśrāvayati svāvān evá bhavati*

‘His own possession becomes much, he is not separated from his own possession, taking the Vāyu cup he recites, so he becomes endowed with his own possession.’

(*MS* 4.5.6)

Here the connection with *svā-* is obvious, and its use is quite different from that of *svāmin-*.

5. Morphology of *svāmin-*

If *svāmin-* is built on a full-grade **svā-* from the IIr. root **sū-* ‘to impel’, two morphological analyses appear possible:

- (i) A secondary derivative in *-ín* from an action noun **svāma-* (**svā-ma-*) ‘act of impelling, impulsion’.

⁹ I am indebted to Lance Cousins for all this information. However, he also points out that the traditional Indian derivation from *svā-* may be alluded to at *Majjhima Nikaya* 1366: *sāmino hi, bhante, sāni harantī ti* (about repossession of loaned valuables).

¹⁰ This comparison of passages was made by Lance Cousins in an e-mail dated 30/11/05: *S III* 66: *tathāgato... anuppanassa maggassa uppādetā...; maggānugā ca... etarahi sāvakā viharanti pacchāsamanāgatā*. ‘The Tathāgata... is the arouser of a way which had not arisen...; and disciples now who follow the way dwell as subsequent possessors’.

cf. *bhāmin-* ‘radiant, shining’: *bhāma-* m. ‘radiance, brightness’;
śuśmīn- ‘vehement’: *śuśma-* m. ‘vehemence’, etc.
 (Wackernagel & Debrunner 1896-1954: ii.776)

- (ii) An old agent noun **svāmi-* (**svā-mi-*) ‘impeller’ remodelled as a stem in *-in*.

cf. *ūrmī-* m. ‘wave’: acc. sg. *ūrmīṇam* *RV* 9.98.6
tuvikūrmī- ‘moving strongly(?)’: voc. sg. *tuvikūrmin* *RV* 8.6.12
kīrī- m. ‘singer, poet’: gen. sg. *kīrīṇas* *RV* 5.52.12
RV paśurākṣi- ‘herdsman’ (nom. sg. *paśurākṣih* 6.49.12): *MDŚ paśurakṣin-*
 (Wackernagel & Debrunner 1896-1954: ii.350 and 776)

Although (i) appears at first sight the most obvious analysis, there is an obstacle in that there is no trace at any date of a primary action noun **svāma-*. From *MDŚ* onwards *svāmya-* n. or *svāmitva-* n. is employed in the sense ‘mastership, ownership’.

(ii) is not a very frequent source of OIA stems in *-in*, but it continues to be marginally productive right up to Epic Sanskrit (cf. Oberlies 2003: 85-86). The path for remodelling as a stem in *-in* was via the instr. sg. *-inā*, and masculine *i*-stems which designated people appear to have been most susceptible to this process. Although OIA *-in* was fundamentally a suffix used to build secondary adjectives, from an early date many such formations were employed as substantives referring to animate beings (e.g. *aśvīn-* ‘horseman’, *vājīn-* ‘racer’, cf. Wackernagel & Debrunner 1896-1954: II,2.332-41). Hence original **svāmi-* ‘impeller, instigator’ could easily have been accommodated in this class.

6. Reconstruction of **svāmi-* m. ‘impeller’

A reconstruction **svāmi-* is also preferable because it fits into an archaic Indo-Iranian pattern of word-formation that is found for another inherited root in *-ā*.

Old Avestan has a noun *dāmi-* (*daṃmi-*) built with suffix *-mi* from the inherited root *dā-* (< IE **d^heh₁-* and IE **deh₃-*). It functions as a *nomen agentis* in Gathic passages such as *Yasna* (Y) 31,7-8; 44,4; 45,7; 51,10, and is usually translated ‘creator’, referring to Ahura Mazda. From the same root (or rather two diachronic roots) the *RV* attests the superlatives *dhéṣṭha-* and *déṣṭha-*, which are applied to deities such as Indra and Agni (*RV* 1.170.5, 4.41.3, 7.93.1, 8.66.6). It has often been observed that this type of superlative in *-iṣṭha-* derived directly from the root supplies a sort of relative *nomen agentis*. Thus Vedic **svāmi(n)-* and Avestan *hūuōišta-* could continue a parallel pair of prehistoric Iir. formations:

- (11) OAv. *dāmi-/daṃmi-* m. ‘creator’: *RV d(h)éṣṭha-* ‘best at bestowing/giving’ from **d(h)ā-*
 (12) OIA **svāmi-* ‘impeller’: YAv. *hūuōišta-* ‘best at impelling, most authoritative’ from **svā-*

The absence of **svāmi-* from the earliest Vedic texts might be explained by the fact that it was replaced in its function as a divine appellative by *savitár-*, an agent noun built with the productive suffix *-tar*, just as OAv. *dāmi-* was largely, though not entirely, replaced by *dātar-* in YAv. By the time the demoted *nomen agentis* surfaces in the texts of the *Kalpasūtra* period it is applied to human ‘impellers’ or ‘authorizers’, and the remodelling to the more frequent type of masculine stems in *-in* is complete.

It might be objected to the parallel proposed above that the full-grade root seen in Avestan *dāmi-/dāmi-* should be explained via the specifically Iranian process of full-grade restitution (found in some forms from root *dā-* where weak-grade was inherited, such as Av. and OP past pass. pple. *dāta-*), and that Gk. $\vartheta\acute{\epsilon}\mu\iota\varsigma$ shows the most ancient root gradation for a stem in **-mi*. It is true that many of this small unproductive class of IIr. nouns have a weak-grade root (*RV bhūmi-* f., Av. *būmi-* f. ‘earth’; *RV ūrmí-* m., Av. *varəmi-* f. ‘wave’; *RV jāmi-* adj. ‘related’ (< **ḡnh₁-mi-*)), but the accentuation of *RV bhūmi-* and the vocalism of *raśmi-* m. ‘ray’¹¹ suggest that in at least some inflectional forms from stems in *-mi* the accent originally fell on the root. Hence **svāmi-* could have been generalised from an IIr. kinetic paradigm with an alternation **svāmi-/sūmāi-*.

7. Postscript: **suh₁-* ‘to impel’ and its Present Stems in Indo-Iranian

In conclusion it is worth pointing out that the above reconstruction of full-grade forms showing *Schwebeablaut* **seuh₁-* and **sueh₁-* for the inherited root in Indo-Iranian might have some relevance for the diachronic problems raised by the various stems attested for the IIr. verb ‘to impel’. A great range of stems are attested in Vedic literature,¹² but the discussion here will be limited to a few issues to do with the IIr. prehistory of this verb.

For OIA the earliest attested transitive present is *suvāti* (*RV+*), whereas OAv. possesses a twice attested nasal present *hunāitī* (*Y* 31,15), *huuqnmahi-cā* (*Y* 35,5). Narten (1986: 110) has pointed out that these two present stems have similar meanings and syntax, and are employed in parallel expressions in both the OIA and Old Iranian traditions:

- (13) *devébhyo... amṛtatvām suvási*
 ‘You assign immortality to the gods.’

(*RV* 4.54.2)

¹¹ The parallel Vedic stems in *-man*, *bhūman-* n. ‘earth’ and *raśmán-* m. ‘ray’, which show similar accentuation and root vocalism, are likely to be secondary to the stems in *-mi*, as they are built with a productive suffix. *raśmán-* only occurs once in the *RV* (compared with *raśmi-* 72 times) and *bhūman-* has no counterpart in Old Iranian.

¹² A full catalogue of forms is given by Gotō (1991: 692-97). I am grateful to Agnes Korn for helping me to obtain a copy of this article. Forms from the root **sū-* ‘to impel’ clearly have to be kept apart from those belonging to the homophonous root ‘to give birth’ in both OIA and Old Iranian.

- (14) *yā drāguuāitē xšaθrəm hunāitī*
 'Who assigns power to the Lie-follower.'

(Y 31.15)

But why does the verb's morphology differ in the two branches of Indo-Iranian? The *RV* present *suvāti* has often been considered an inheritance because it has been directly compared to YAv. *aiβišuuat* 'impelled' (*Vidēvdāt* 2.10, 14, 18), Hitt. *šuwe-* 'push' (*šu-ú-iz-zi KBo* VI 2, IV 48, etc.), and Old Irish *soid* (cf. Narten 1986: 110, fn. 97; Gotō 1991: 697; Mayrhofer 1986-2001: iii.715).

However, the supposed support from Younger Avestan is based on Bailey's explanation (1971: 219-24) of a single difficult *Vidēvdāt* form, *aiβišuuat*, which does not certainly belong with the Ir. root **sū-* 'to impel'.¹³ The argument for an inherited weak-grade thematic present rests on the comparisons from Hittite and Old Irish, and in both these cases derivation from an inherited IE present **suh₁-e/o-* is not the only possibility.¹⁴

From an Ir. perspective it is more likely that *suvāti*, like most OIA *tudāti*-type presents, has arisen via thematicization of an earlier athematic root formation (cf. Rix 2001: 538-9). As the verb in question is transitive (as shown by (13) above), the OAv. stem characterized by nasal infixation could represent the oldest present. In this case, it would be expected that the athematic root would have functioned as an aorist stem. But in Vedic an *s*-aorist is attested from *RV+* (*asāvīt*, *asāviṣur*). However, this could represent an OIA replacement of an inherited root aorist, and it becomes easier to understand why the root aorist was replaced if it showed an ablaut alternation involving a State II full-grade **á-svāt*/**á-suvan*, as this would have been completely unparalleled in OIA.¹⁵ In other words, the inherited tense stems could be reconstructed according to the canonical pattern of nasal present versus root aorist:

- (15) Nasal present **sunéh₁-ti*/**sunh₁-ónti* cf. **p₁néh₁-ti* (> *pṛṇāti* 'fills')

- (16) Root aorist **é-sueh₁-t*/**é-suh₁-ont* cf. **é-pleh₁-t* (> *áprāt* 'filled')

The regular phonological development of root aorist **é-sueh₁-t*/**é-suh₁-ont* would have been OIA **ásvāt*/**ásuvan*. A remodelling based on the 3pl could have led to a thematic paradigm *ásuvat*/*ásuvan*, which was then reinterpreted as a present stem because of the frequent use of

¹³ Kellens (1984: 105, 107), following Hoffmann, emended to *aiβišāuuat* 'set in motion'; in a recent reconsideration of the whole *Vidēvdāt* 2 passage Sims-Williams (2001: 335) has proposed that *aiβisuuat* means 'pricked', and represents a verb cognate with the accompanying instr. *subriia* 'with a goad'.

¹⁴ Hitt. *šuwe-* may be built with the productive Anatolian deverbative suffix *-ya-* and continue **suh₁-ye-* according to Melchert (1984: 16). The Celtic forms probably represent a simple thematic stem, but the thematicization is not necessarily of IE date.

¹⁵ If an athematic present OIA **sávīti*/**suvānti* is reconstructed, it is less easy to understand why it would have been remodelled to a thematic present at a prehistoric date, since its ablaut pattern would have been identical to that of the common verb of speaking *brāvīti*/*bruvānti*.

imperative and subjunctive forms (*suvá RV x9*, *suvāti RV x4*), whose morphology was ambiguous. Hence the present indicative *suvāti* could be a relatively new creation in the *RV* which was seized upon by poets such as Vāmadeva, the author of 4.53-54, because of the opportunity it afforded for alliteration with the name of *Savitár* and the cognate noun *savá-*.

In short, the State II full-grade from the inherited root **sū-*, which, it was argued above, appears in *svāmin-* and *huuōišta-*, may once also have existed in the verb¹⁶. Remodellings which were a consequence of the elimination of the full-grade **svā-* may provide an explanation for the morphological differences between the present stems in OIA and Old Iranian, and, as is often the case in morphology, Old Avestan appears to have been more conservative than Vedic.

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¹⁶ It is conceivable that there was some difference in meaning between the State I and State II full-grades already at a prehistoric date, since it is remarkable that in both the Indian and Iranian branches the nominal formations based on State II have come to refer to someone with authority, a master or teacher.

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Unholy Diseases, or why Agamemnon and Tuthaliya should not have offended the gods

An Inaugural Lecture delivered before the University of Oxford on 12 May 2005

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Mr. Vice-Chancellor, ladies and gentlemen,

Ziplantawiya was an unpleasant person. At least that is what Tuthaliya thought about her. And he was in a position to know, for he was her brother. Apart from that, he was King of the Hittite Empire, and, as usual, busy defending his power and lordship over Anatolia, against envious Western and Eastern neighbours. At one point, for instance, no less than twenty-two countries in the West, reaching as far as the Aegean Sea, banded together to form an anti-Hittite alliance: [L]ugga, Kispuwa, Unaliya, Dura, Halluwa, Huwallusiya, Karakisa, Dunda, Adadura etc. etc. – ending with two countries all of you know: Wilusiya and Taruisa, Ilion and Troy.¹ So Tuthaliya did have things enough to worry about, even without Ziplantawiya, his sister. But then: the imperial troubles and his sister's machinations, were they really unrelated? Hardly so. When things were not going well, one thing was reasonably clear: the gods were not pleased. But *why* should they be upset? Most definitely, Tuthaliya would not have been amused had he read the title of my lecture today: "I should have offended the gods?! No, certainly not. If anything, it's all Ziplantawiya's fault! Cherchez la femme!"

What had Ziplantawiya done? She had bewitched him and, even worse, she had told slanderous things about the king and his wife and his children. And not just to anyone: she had told these things to the Sun-God of the Blood and to the Weather-God! No wonder if Tuthaliya had lost the favour of these divinities. For there was no doubt about that: witness the decline of his well-being. Something had to be done – a ritual. Duly recorded in every detail of course, for ritual records were to the Hittite empire what the grey Examination Rules book is to Oxford University. All the prayers to the Sun-God of the Blood and the Weather-God are included, the amount of fat and honey used is included, the number of cups and jugs involved is included (5 + 2), the small dog to be sacrificed is mentioned. The record survives, and that is why we know about Tuthaliya's problems and Ziplantawiya's evil tongue.²

¹ For the historical context of this early-fourteenth-century Western alliance against Tuthaliya I/II see e.g. Bryce (1998: 133-7). There is no textual evidence to suggest that there was a particular connection between the above-mentioned 'Assuwan confederacy' and the internal problems with Ziplantawiya.

² The text is edited in Szabó (1971); on the story to be inferred from *KBo XV 10 I 13-21* see Szabó (1971: 88): 'Der Zweck des Rituals [...] besteht darin, den Zorn der Götter den Opfermandanten gegenüber zu besänftigen, diese vom Zauber zu befreien und den Zauber auf seine Urheberin zurückfallen zu lassen.'

Two hundred years later, once again trouble in Troy. The campaign had not gone all that well for Agamemnon, the commander of the Greeks. Ten years of war, no real victory. And now this plague all over the army. No doubt because he had been a bit harsh towards Chryses, a local priest of Apollo who had asked him to accept a ransom for the return of his good-looking daughter whom Agamemnon held as a captive. Of course, he had suspected that Chryses would call upon Apollo, to take revenge. But he had not foreseen that the revenge might be so quick and so devastating, that Apollo might shoot his arrows of disease so precisely, that so many pyres might have to be set up to burn the corpses of the Greeks who died of the plague. But perhaps the worst thing was this: unlike Tuthaliya, he had no evil sister to blame. In the dark corners of his mind, Agamemnon knew that it was all *his* fault, that he *had* offended the gods. And the consequences of it were going to fill an entire epic, the *Iliad*.

You may wonder where comparative philology comes into all of this. And where is the link between Tuthaliya and Agamemnon, the link between Anatolia and Greece? Although in one sense, even to ask this question may be preposterous, here in Oxford. For over thirty years my predecessor Anna Morpurgo Davies has acted here as a go-between between Greece, more precisely: Agamemnon's Greece of the Mycenaean Age, and Anatolia – though there perhaps more on the side of Tuthaliya's enemy: the Luwians. Nevertheless, I have no doubt that even Tuthaliya, presumably not the easiest man to please, would have been pleased with her, and felt inspired by her: not just because I do not know of anyone who wasn't and isn't, but also because, after all, it was Anna Davies who pointed out some years ago that one of those annoying Luwian kings in the West was called as he should be: 'Donkey'.³ My gratitude, of course, is of a different and much more existential kind: having been taught by Anna Davies, I was shown how a passion for the ancient world, for its people and languages, can and should combine with both academic rigour *and* a deep sense of kindness and humanity. And I know that without this source of inspiration I would not stand here today, taking over a legacy compared to which I sometimes feel like an undeserving Luwian king who may deserve to be called 'Donkey'.

But let us move back to our commanders-in-chief campaigning against Troy, at different times and from different directions: Agamemnon and Tuthaliya. Again: what do they have to do with comparative philology? Pathology, yes, *pathology* might connect the two – if only we knew what precisely Tuthaliya was suffering from: but the Hittite text does not tell us whether the Sun-God of the Blood and the Weather-God employed the same methods of punishment as Homer's Apollo. But what about *philology*, a discipline that should be dealing with the history of language and words rather than commanders-in-chief and illnesses?

Alright then, we will stick to the word. The Greek word for 'illness' to be precise: νόσος. According to Homer, it is a νόσος Apollo sends upon the Greek army to punish Agamemnon's misbehaviour. And νόσος is one of those words many people know even if

³ Cf. Morpurgo Davies & Hawkins (1998).

they don't know Greek: from high-flown English terms like *nosology*, 'the science of illnesses', or *nosography*, 'the description of illnesses'. But what does νόσος really mean? *That* is a question a comparative philologist should be dealing with, not Ziplantawiya's gossip.

And philologists have in fact tried to deal with it, tried to explain the origin of the word νόσος.⁴ But with limited success. Some have thought there might be an etymological link with νέομαι 'to come home', but you do not have to be a philologist to see a certain semantic mismatch between 'illnesses' and 'homecomings' – quite apart from the fact that the phonology does not work very well. Others have etymologized the word as meaning 'rocking the nose', which again you may find unconvincing: or did your nose ever rock when you felt ill? Finally, the most recent attempt has been to connect νόσος with a Greek word for 'corpse', νεκρός, and a Latin word for 'to kill', *necare*, both containing a root **nek-/nok-* 'to kill'. But again the phonology does not really work: the laws of Greek phonology would predict the word to come out as **νόσσοσ* or the like. Apart from that, already the great comparative philologist Karl Brugmann, one of the founding-fathers of the discipline, has shown that νόσος generally designates any form of 'disruption of the psychological equilibrium and of well-being',⁵ and I at least find that your well-being has to be *seriously* disrupted before you are justified to call it a 'killing'. So it is fair to say that the etymological source of the word νόσος 'illness' remains to be found. Ideally this afternoon, while Tuthaliya and Agamemnon are suffering. And I'm afraid you may even have to suffer with them for a minute or two while things become a bit technical – but did you expect there was going to be *only* Ziplantawiya's gossip in a lecture on comparative philology?

Those of you who have ever been interested in Greek historical phonology may know that whenever we find a consonant *-s-* between two vowels in any Greek word – in words like νόσος for instance –, then we must reconstruct something more complicated than a simple **-s-* for the original form in Proto-Greek, from which the word derives; for a simple Proto-Greek **-s-* between vowels would have been lost without a trace. But there were some consonant clusters which were simplified so as to give new simple *-s-*'s between vowels in historical Greek. All the etymological ideas I have briefly mentioned before reconstruct some such cluster: **nokios*, **nortsuos*, **nod^hsuos* have all been suggested. In addition, the etymologist has to take into account one further point: that νόσος is the form of the word only in the Attic dialect of Greek. In the Ionic dialect of Homer, for instance, the lexeme is νοῦσος with a long first vowel. This dialectal difference implies that perhaps the consonant cluster in the proto-form of νόσος was not all that complicated; and that what we should reconstruct is simply **nosuos* with just one additional consonant, a [w] which was regularly lost in historical

⁴ See Prellwitz (1905: 316) for the connection with νέομαι, Thieme (1984: 370-1) for 'die Nase erschütternd/schüttelnd', and Meier-Brügger (1990) for the connection with **nek-* (after Curtius 1878 and Szemerényi 1979). Further problematic suggestions are made by Brugmann (1897; 1911: 363-5) and Peters (1988-90: 690v).

⁵ Brugmann (1911: 363).

Greek. In some dialects like Attic [w] was lost without a trace, and in other dialects, like Homer's Ionic, a preceding vowel was lengthened to make up for the loss of [w]. So I suggest that the etymon of historical νόσος is *nosyos. (And at this point I must open a short parenthesis because I can see how my colleagues are frowning inwardly, ready to tell the Sun-God of the Blood slanderous things about me. They must be thinking of what is taught in our introductory classes on Greek phonology: a consonant group *sy is lost in Greek. So even a first-year undergraduate should know that nosos cannot derive from *nosyos! I must confess I slightly revised this doctrine when I taught the class earlier this year. I think there is sufficient evidence to suggest that *sy did not *always* get lost, but that it did develop into -s- under certain circumstances, notably after the accent. The Greek word for 'equal', Attic ἴσος, Ionic ἴσος, provides a good parallel; and what could be better in historical phonology than developments being equal to words meaning 'equal'?)⁶

Of course, there wouldn't be much point in stating that νόσος derives from an original form *nosyos if I didn't think this will in due course explain a few things about Tuthaliya's and Agamemnon's medical record. We will come back to semantics in a moment. But first one more formal observation. νόσος is a feminine noun, it is ἡ νόσος. This is remarkable because most Greek nouns which end in -ος are masculine: ὁ νόμος, ὁ λόγος, ὁ οἶνος. Feminines typically end in -η instead. With adjectives it is more or less the same: masculines end in -ος, feminines in -η. But with adjectives there is one big exception. Whenever you have an adjective which is composed of two elements – adjectives like *breath-taking*, *hyper-sensitive* or *nose-rocking* –, then both the masculine and the feminine form end in -ος. Hence the suspicion that νόσος might in origin *also* be such a compound adjective. But then we have to explain two things: how could an adjective become a noun? And how can a word as short as νόσος be further divided into two parts forming a compound?

The first question is not so difficult to answer. In many languages, not just in Greek, there are words being adjectives in origin and becoming nouns later on in their history. Often such words start off in a group of adjective + noun, and then the noun is lost because the adjective on its own expresses the entire concept well enough. At this time of the year, many in Oxford are thinking of *Greats* and *Finals*, great or final examinations, that is. But at this time of the day, with dinner approaching, the Romance word for 'liver' may be more memorable, French *foie*, Italian *fegato*. These do not derive from the Latin word for 'liver', *iecur*, but from the Latin adjective *ficatum* 'stuffed with figs'. The starting-point was a Latin

⁶ In connecting ἴσος/ἴσος with Skt. *visu-* and positing *yisyos (rather than a morphologically problematic *yidsyos or the like, as suggested by Bechtel (1886: 15), Brugmann (1897: 31), and others) I follow Curtius (1873: 381-2), Jacobsohn (1909: 89-91) and Wackernagel & Debrunner (1896-1957: ii/2.927); that the development *sy > -s- depends on the position of the accent (contrast e.g. ναός 'temple' < *nasyos) had already been suggested by Schulze (1892: 88 n. 4, 404 n. 2). Note also the parallelism with the double representation of word-initial *sy- in e.g. Gk. σιγ- : OHG *swīgen* 'to be silent' or Gk. σέλας : Skt. *svār-* 'light, brightness' (cf. Lejeune 1972: 135 with further examples) vs. usual *sy- > h- (e.g. Gk. ἑκυρός 'father-in-law' < *syekyros).

combination of noun + adjective, *iecur ficatum* ‘liver stuffed with figs’. Before dinner the Romans would say “Let’s have stuffed liver for dinner, *iecur ficatum*”. But after dinner they felt too tired to say “That was a nice stuffed liver”; all they could still manage was “That was a nice stuffed, a *ficatum*”. So the *iecur* word was lost on the way. And as I said, the unusual feminine gender of the Greek word for ‘illness’ strongly suggests that a similar thing happened there too.⁷

But what about the shortness of νόσος if this is supposed to be a compound adjective? Fortunately this problem too can be solved. Proto-Indo-European, the ancestor language of Greek, did have one lexical element which was extremely frequent as the first part of compound adjectives and extremely short at the same time. In the Latin alphabet, we transcribe this element by just one letter, **n-*. Since the sound [n] could be either a consonant or a vowel in Proto-Indo-European, depending on whether it stood next to other vowels or other consonants, this **n-* element could be either vocalic **n̥-* or consonantal **n-*. This may sound funny, but even in English there are both vocalic and consonantal **n*’s: depending on how you pronounce it, the name of the College which is so kindly hosting this lecture today contains both: /s(ə)ndʒəns/, with first a vocalic and then a consonantal [n]. Now, vocalic **n̥*’s developed in many different ways in the Indo-European languages. In English for instance, every vocalic **n̥* of Proto-Indo-European developed into *un*. And that is why there are so many adjectives beginning with *un-*: *unkind*, *unfair*, *unlike*, *unholy*. These are just preserving a good Proto-Indo-European tradition.

Greek, too, has many adjectives descending from Proto-Indo-European adjectives starting with vocalic **n̥-*. In historical Greek they come out as adjectives starting with ἄ-, the same *a-* as in *atypical* or *agnostic*. Like the genuine English adjectives with *un-* such adjectives always mean ‘not being something’ or ‘not having something’.

So much for the Greek and English adjectives from Proto-Indo-European *vocalic *n̥-*. But as I said, Proto-Indo-European **n-* did not *have* to be vocalic. When it stood at the beginning of a word followed by a vowel, then it was a well-behaved consonantal **n-*. And such a consonantal **n-* would have remained *unchanged* in Greek. So if we assume that νόσος derives from a compound adjective **nosuos*, we can divide it by cutting off the initial consonant and saying that its original meaning must have been something like ‘not having **-osuos*’. Or more precisely: ‘not having **osu*’, for *-os* is nothing but the ending as we have already seen.⁸

All very well, you may say, but isn’t there a flaw in all of this? There is *no* Greek word that continues a Proto-Greek word **osu*; so how can we dare to reconstruct such a word? But don’t give up on philology too quickly. What Proto-Greek did have was an adjective **esús*

⁷ For another Greek example cf. e.g. ἡ διάλεκτος (sc. γλῶσσα) ‘dialect’.

⁸ Cf. e.g. Homeric πολύδακρυς *and* thematized πολυδάκρυος next to δάκρυ ‘tear’; Risch (1974: 226-7).

‘good, well’, an adjective which survives as εὖς ‘good, well’ in Homeric Greek, and as εὖ- or eu- in words like *eulogy* and *euphemism*.⁹ A neuter noun from the same word-stem could regularly have a vowel *o instead of *e in the first syllable¹⁰ – and I underline ‘regularly’ because otherwise you might agree with Voltaire’s definition of etymology: ‘a science where consonants count for little and vowels for nothing’. So I can only assure you that we *are* entitled to postulate for Proto-Greek and even Proto-Indo-European the existence of a neuter noun *osu: a noun with a meaning ‘that which is good/well’, or more simply: ‘wellness’. And once we have done that, the meaning ‘not having *osu, lacking *osu or wellness, (hence:) unwell’ follows for our negative compound νόσος. Remember: we said that in origin νόσος may have been an adjective standing next to a noun. Perhaps this lost noun was something like ‘state, condition’.¹¹ Saying that Agamemnon’s men were affected by a νόσος therefore literally meant that they were affected by a ‘condition lacking wellness’, or more simply by ‘unwellness’. The semantic fit is perfect, the formal link with the Greek word for ‘good, well’ is unobjectionable, the diagnosis for the Greek army is precise – even though no noses are rocking.

Admittedly, so far things *are* a bit hypothetical. It would still be better to find an actual trace of our reconstructed noun *osu. Luckily, Agamemnon is not the only patient in our ward. His Royal Highness Tuthaliya will personally confirm our hypothesis. Listen to what the priest is praying on his behalf, according to the Hittite ritual text: “O Sun-God of the Blood, o Weather-God, o gods, look, for you I broke the thick breads of salvation, of *assul*. Destroy evil, *idālu harnikten*. To the lord, to his wife, to his children, let there again be well-being, *āssu namma ēstu*. To him, o Sun-God and o Weather-God, give back, *namma piskatten*, well-being, *āssu*, life, strength, a drawn sword!”¹²

Perhaps you noticed how one concept reoccurs in Tuthaliya’s prayer, like a litany: well-being, salvation. What I translated as ‘salvation’ is Hittite *assul*. And what I rendered as ‘well-being’ is *āssu*. *assul* is a word derived from *āssu*. And *āssu* is the regular Hittite descendant of Proto-Indo-European *osu, precisely the word for ‘well-being’ we just reconstructed from

⁹ For the sake of simplicity I adopt here and elsewhere a notation without initial laryngeal, but the basic development remains the same with a more sophisticated reconstruction *h₁ósu (next to *h₁s-ús > Gk. εὖς). More explicitly one would have to posit *h₁os- > Gk. νοσ- (according to the rule formulated by Fritz (1996: 5-6), ‘in einer Sequenz *R.HV [...] gerät durch den Ausfall des Laryngals der Sonorant in antevokalisches Position, und es tritt sein unsilbisches Allophon ein: *RV’).

¹⁰ For Greek neuter u-stem nouns with o-grade root cf. γόνυ ‘knee’, δόρυ ‘spear’, πῶν ‘flock’ (< *póH₁-u), οὐ ‘not’ (< *h₂ó_i-u ‘eternity’: Cowgill 1960), κοῖλυ· τὸ κοῖλον (Hsch. κ 3247); note also the vocalism of πολύς, which is hard to reconcile with the expected zero grade *p_lh₁-ús and may be due to the former existence of a neuter noun *pólu < *pólh₁-u (cf. Benveniste 1935: 52-6).

¹¹ Gk. φύσις, ψυχή or the like: cf. Brugmann (1897: 31-2; 1911: 365), Meier-Brügger (1990: 247).

¹² *KBo* XV 10 II 10 II (Szabó 1971: 24); for similar prayer-wishes involving the notion of *āssu* cf. e.g. *KUB* XLI 23 II 10 with *nu labarnan āssu suwai* ‘porte (littér. pousse) le labarna vers le bien(-être)’ (Catsanicos 1984: 144), *KUB* II 2 III 12-13 *dankuwai-ma taknī [idalauwa(?)] munnandu, assū-ma [sic, prob. for āssū-ma]* *LUGAL-i labarn[ai piyandu]* ‘But in the dark earth may they conceal the bad things; but the good things may they give to the king, the labarna’ (Watkins 1982: 253).

Greek νόσος.¹³ Tuthaliya is in a condition lacking **osu* and he prays to the gods for its return. The gods give and withdraw **osu*, as they like, in the Hittite imagination. And Apollo does exactly the same to Agamemnon's army: he withdraws **osu* as he sends 'not-**osu*', unwellness, disease, the plague: νοῦσον ἀνὰ στρατὸν ὄρσε κακὴν as Homer says (*Il.* 1.10). That is why Agamemnon and Tuthaliya should not have offended the gods: the most elaborate health and safety regulations cannot protect you if νόσοι are sent by divinities, be they called Apollo, Zeus, or Sun-God of the Blood.¹⁴

But there is also a good side to this. The Greeks did not depend on the length of an NHS waiting list to get rid of an illness. The same gods who send illnesses can also lift them – as Tuthaliya's prayer shows, and as we also know about Apollo, who is invoked as ἰητὴρ νόσων, as 'healer of νόσος', in one of the Homeric hymns (*h.Hom.* 16.1). The Greeks around Agamemnon may well have sung such a hymn in their predicament. Though perhaps not only to Apollo, but also to the other great healing-god of Greece, *Asklepios* or *Asklapios*, Latin *Aesculapius*, a healing-god whose origin is uncertain though perhaps again to be located in Asia Minor, in the Anatolian world. And a god whose name has been explained as borrowed and transformed from an Anatolian name, a name from a language akin to Hittite. According to this theory, Greek *Asklapios* continues Anatolian *ass(u)lāpiyas*, 'giver of health', or more precisely 'giver of *assul*' – the same derivative of *āssu* we already saw in Tuthaliya's prayer!¹⁵

But we shouldn't understand *āssu* only as 'health'. Health is just one component in it. *āssu* is more generally any form of well-being. For Tuthaliya it includes strength, power, life-force, energy; and in other Hittite texts it also denotes prosperity, affluence, luck:¹⁶ whatever you like – or, if you prefer since we are in Oxford, whatever might be expressed in Latin as *Salus Mundi*: the name of Professor Richard Diebold's foundation which so generously endowed the chair I am allowed to occupy today and which I would therefore like to thank and address quite literally as the *salus* and **osu* of comparative philology both in Oxford and, I add, all over the world.

Now if, just like *salus* or Hittite *āssu*, our reconstructed **osu* must not be limited to a physical form of well-being, this further explains why even Greek νόσοι do *not* have to be

¹³ Cf. e.g. Friedrich (1923: 370-2), Melchert (1994: 63), and Kimball (1999: 439, cf. 142), also on the (inner-Hittite) problem of the geminated -s-.

¹⁴ Cf. already Cels. *Prooem.* 4 (*eodem vero auctore [sc. Homero] disci potest morbos tum ad iram deorum immortalium relatos esse, et ab isdem opem posci solitam* 'from the same author (= Homer) one can learn that at that time a connection was made between illnesses and the wrath of the immortal gods, and that they themselves would also be asked for help'): the belief in divine agency continued in classical times as shown for instance by Hp. *Morb. Sacr.* 1.1-2.3 and Thuc. 2.47.4; see further Laser (1983: S 62-3), Lloyd (2003: 40-83).

¹⁵ Szemerényi (1974: 155), against the problematic connection of Ἀσκληπιός etc. with the noun σκάλωψ/ἀσπάλαξ 'mole' (Grégoire 1949; refuted by Edelstein 1954); on the different forms of Asclepius' name cf. already Kretschmer (1943: 116).

¹⁶ Cf. Friedrich & Kammenhuber (1975–2004: i.492-527, s.v. *aššu-*), Puhvel (1984-: i.199, s.v. *ass-*, *assiya-*).

diseases in the narrow sense of the word. In Greek literature, we also find the word νόσος referring to folly, injustice, wickedness, distress, love-madness, political faction, childlessness and anguish¹⁷ – just about everything that can make you feel unhappy and unwell, everything that makes you realize the gods do not look favourably upon you, that you have lost divine favour. And this leads us one step further in our etymological journey: a step which takes us into the realm of Greek religion. For if illness has to be interpreted both culturally and etymologically as a divine punishment, then we must ask next whether the word for it, νόσος, is really an isolated survivor, a lonely stray sheep of some forgotten Proto-Graeco-Anatolian semi-medical, semi-religious terminology. Might not the concept of **osu* survive elsewhere too, perhaps equally well-hidden by the evolution of the Greek language, but also equally recoverable by the methods of comparative philology?

Again some technicalities first, very briefly. We have seen that Greek νόσος is a compound with a negative particle **n-* at the beginning. We have also seen that the same negative particle often appears as a vowel in Greek, as ᾶ-, in words like *a-typical*. The shape of the outcome depends on whether a vowel or a consonant follows. So ‘without justice’ is Greek ἄδικος, because the word for ‘justice’, δίκη, starts with a consonant. But ‘without name’ is Greek νόνημος, because the word for ‘name’, ὄνομα, starts with a vowel.¹⁸ However, at some point in the history of Greek, the vocalic form of the negative particle came to be regarded as *the* standard form for building such negative compounds. Hence, even in words like νόνημος ‘without name’, which already included the negative particle, the ᾶ- was added, to make sure the concept was clear – so you got ἀνόνημος ‘without name, anonymous’. Under normal circumstances, the same clarification would have happened to νόσος. But it didn’t and it is easy to see why: when the initial ᾶ- was added to the relevant compound adjectives, νόσος had already become a normal noun and people no longer knew that it had been a compound adjective to begin with. So they did not add the redundant ᾶ-, and νόσος survived unmodified.

Of course the word **osu* on its own may still have existed at that time, together with its meaning ‘well-being as a result from divine favour’. Whoever wanted to qualify something as ‘lacking **osu*, i.e. lacking divine favour’, could build a *new* adjective, *including* the additional ᾶ- which had become generalized. So at this stage, such an adjective would have been *ἄνοσφος. But now there was a problem: *ἄνοσφος could either be understood as ἄν-σφος ‘lacking **osu*’ or as ᾶ-νοσφος ‘lacking νόσφος, lacking unwellness’. In fact, the second ἄνοσφος is well-attested in historical Greek, as ἄνοσος ‘without illness’. And yet, there may *also* be a trace of the first *ἄνοσφος, the one meaning ‘lacking well-being and divine favour’. In our context, *this* *ἄνοσφος is more interesting as it continues the archaic notion of **osu* much more directly.

¹⁷ Cf. Lloyd (2003: 12 n. 2), with references.

¹⁸ Again simplifying things slightly: here too there is of course a laryngeal involved (**n-Hn-* > νων-).

The trace I am speaking of is not the adjective itself but a noun derived from it. From a negative adjective ἄτιμος ‘without honour’, you can form a noun ἀτιμία ‘the condition of not having honour, i.e. lack of honour, dishonour’. Similarly, if there was an adjective *ἄνοσφος ‘without well-being and divine favour’, one could build a noun *ἄνοσφία (or later ἀνοσία) ‘the condition of not having well-being and divine favour, i.e. lack of well-being and divine favour’.¹⁹

With this knowledge we sail to Cyprus. Happily and quite literally insulated, the Greek Cyprians are well known for conserving, in their dialect, many features and words that descend directly from second-millennium Mycenaean Greek – and once again this is something we would know much less about without the seminal work of Anna Davies.²⁰ In the fifth century BC the Cyprian city of Idalion employed a public doctor, Onasilos. Obviously, to rely on healing-gods alone would have been like relying on the NHS to treat you within 48 hours. To Dr Onasilos and to his descendants the city of Idalion granted generous property rights, a merit award so to speak. We know this from an inscribed tablet found in a local sanctuary (*ICS* 217). The last paragraph on the tablet first states that the local king and the city have sworn oaths not to break the contract; and then it invokes divine sanctions against whoever violates the terms set down: ὅτι σίς κε τὰς φρήτας τάσδε λύση, ἀνοσία φοι γένοιτο, ‘if anyone breaks these dispositions, let there be ἀνοσία to him’. Now this is interesting. The clause certainly does not want to say that the offender should enjoy ‘freedom from illness’. So ἀνοσία cannot be a derivative of νόσος. But what it can, or *has to*, be is precisely the *other* type of ἀνοσία I mentioned: ‘lack of well-being or divine favour’. This is a curse: may the gods withdraw their favour and all forms of **osu* from whoever dares to harm Onasilos and his family. The Cyprian ἀνοσία φοι γένοιτο ‘let there *not* be **osu* to him who does this’ is the exact opposite to Tuthaliya’s prayer which read *ANA BELI āssu ēstu* ‘let there be **osu* to the King’.²¹

Now, perhaps you feel slightly uncomfortable with this and ask: does this Cyprian ἀνοσία really have anything to do with **osu* and *āssu*, isn’t it rather derived from the Greek adjective ὅσιος ‘holy, pious’? If you think this, you are quite right: the dictionary by Liddell and Scott thinks exactly the same.²² Cyprian ἀνοσία is there translated as ‘impiety’. But does this really work? After all, the curse is not that the offenders shall be struck *by* impiety, no, they shall be struck *for* the impiety they have already committed. This is not to say that

¹⁹ See Schwyzer (1939: 468) and Risch (1974: 116-17); the latter stresses that the Homeric deadjectival examples of this type occur almost exclusively with compounds.

²⁰ Cf. especially Morpurgo Davies (1992).

²¹ The lack of *-f-* in ἀνοσία (*a-no-si-ya*) can be ascribed to the fact that postconsonantal *-f-* was lost early in Cyprian (cf. Morpurgo Davies 1988: 101-8, 124); after *-s-* this loss may have occurred even earlier than after liquids. For a similar spelling of an original group **su* cf. the PN Ἰσάγαθος/Ἰσαγάθας (gen.) written as *i-sa-za(?)*-to/ta-se in *ICS* 79 and 154.

²² LSJ, *Supplement*, s.v. ἀνοσία (B); Masson (1983) also adopts an interpretation of ἀνοσία as a noun (‘hapax dont le sens est clair’: but his ‘sacrilège’ raises the same problems as LSJ’s ‘impiety’).

there is no link with the adjective ὅσιος ‘holy’ – another Greek word whose etymology is as obscure as it is controversial.²³ All I want to say is that we must not mix up chronology. And that the Cyprian word ἀνοσία ‘lack of well-being and divine favour’ is actually older than the adjective ὅσιος ‘holy’.

This may seem bold: as I said it is only attested in the fifth century. But then, the terminology of religious law often retains particularly ancient formulae. And contrary to what one might think, the adjective ὅσιος is a young word: it does not occur in our oldest Greek texts, in Homer, Hesiod, the Homeric hymns, the archaic lyric poets etc. It first occurs just once in a line of Theognis and then with some frequency from Aeschylus onwards, in the fifth century.²⁴ And that, even though there is no reason why a word meaning ‘pious’ or ‘holy’ should not have been used long before that time – *if* it really existed. So probably it simply didn’t.

Not so for ἀνοσία. With three short syllables at the beginning, there was no way of fitting this word into an early Greek hexameter line. *If* an epic poet – Homer or Hesiod – would have wanted to express the concept, he would have had to do it differently. For instance by taking off the first syllable ἀν- and by replacing it with some metrically acceptable negative marker; a negative marker such as Greek οὐκ ‘not’. And what do we find in Homer? Two attestations of οὐχ ὀσίη, Ionic for οὐχ ὀσία – or we might say: for ἀνοσία.²⁵ At the same time, there is no attestation of ὀσίη *without* οὐκ: hardly a coincidence. One of the two passages features Odysseus who has killed the suitors who threatened his wife and kingdom, and next to him the faithful servant Eurykleia who wants to shout out for joy about her master’s feat; but he holds her back: οὐχ ὀσίη καταμένοισιν ἐπ’ ἀνδράσιν εὐχετάασθαι ‘it is not ὀσίη, it is ἀνοσίη, to boast over slain men’ – the gods would not appreciate such behaviour, they would not reward it with their favour, with **osu*.

So the negative term comes first, οὐχ ὀσίη precedes ὀσίη. The famous classicist Ulrich von Wilamowitz had intuitively seen this when he observed that the concept of the ὅσιον, the ‘holy’ or ‘pious’, is grasped only through its negative counterpart, the ἄνοσιον, that which offends the gods, ‘eine direkte Kränkung, Verletzung der Götter’.²⁶ Therefore, a positive adjective ὅσιος could not be created before ὀσίη had been formed to express the opposite of ἀνοσίη, or at any rate not before there was a negative adjective ἀνόσιος.

²³ Cf. e.g. Ruijgh (1961: 201 n. 5), Chantraine (1968-80: ii.832, s.v. ὅσιος), Frisk (1960-72: ii.435, s.v. ὅσιος), Peters (1980: 185 n. 140), Mastrelli (1985: 34-7): explanations on the basis of **hes-* ‘to be’ are semantically and formally problematic; instead of Peters’s **sotiyos* (from **set-* ‘good, true’) one would expect **sotyos*, and Mastrelli’s root **yet-* ‘to stand (at one’s place)’ fails to yield a plausible semantic link with the Greek lexical family.

²⁴ Thgn. 132; later e.g. Aesch. *Sept.* 1010, *Supp.* 27, *Cho.* 377 etc.

²⁵ *Od.* 16.423 and 22.412; the first examples of ‘positive’ ὀσίη occur in the Homeric hymns (*h.Cer.* 211, *h.Ap.* 237, *h.Merc.* 130 etc.).

²⁶ Wilamowitz (1919: 61); the evidence compiled by Terstegen (1941: 157-68) illustrates the continuing frequency of οὐχ ὀσιος and ἀνόσιος (as compared to ὀσιος alone) in postclassical texts.

On the other hand, it is with the adjective ὅσιος that all those notions of divine favour attached to **osu* and Hittite *āssu* survive longest. So far, I have translated ὅσιος as ‘holy’ or ‘pious’, as do many dictionaries. But we have to be more precise. For ὅσιος frequently appears associated with another Greek adjective meaning ‘holy’, ἱερός; but not associated as a synonym – no: associated as the *opposite* of ἱερός. (And here I open another *very* short parenthesis for the philologically-minded: it is this association of ὅσιος and ἱερός which explains why ὅσιος is ὅσιος and not *ὄσιος: it has taken on the aspiration of ἱερός, just like ἡμέρα ‘day’ has taken on the aspiration of its opposite ἑσπέρα ‘evening’ – end of parenthesis.²⁷) Now listen for instance to the classic description of the second most famous disease striking Greek antiquity, the plague in fifth-century Athens. As the black death rages through the city, people become so desperate that they deposit the dead wherever they can; they no longer care for either holy or profane places, as Thucydides writes (2.52.3), ἐς ὀλιγορίαν ἐτρέποντο καὶ ἱερῶν καὶ ὀσίων ὁμοίως. For this passage, Liddell and Scott suggest ‘profane’ as a translation of ὅσιος. Languages do many weird things, it is true, but is it *really* possible for any language to have a word which means both ‘holy’ and ‘profane’ at the same time?²⁸

In order to understand what is going on, we *must* think again of our notion of **osu* ‘well-being as a result of divine favour’. Places which are ἱερά are places which belong to the gods, temples for instance. In Aristophanes’ comedy *Lysistrata* the Athenian women occupy the sacred precinct of the acropolis; but one of them is terrified, or rather claims to be terrified, by the thought that she might give birth on holy ground – and she prays to the goddess of childbirth to hold back the child until she reaches a profane place, ἕως ἂν εἰς ὄσιον μὴ γὰρ χωρίον (Ar. *Lys.* 742-3). Similarly, stacking their corpses in temples was about the worst thing the Athenians could do during the plague: this is what Thucydides means by ὀλιγορία ἱερῶν ‘disregard for sacred places’.

However, common sense suggests that it is equally unwise to let the dead lie around near wells, or in the streets: in other words, to show what Thucydides calls ὀλιγορία ὀσίων ‘carelessness about profane places’. The difference is just that in this case the Athenians do not offend the gods. And *that* is why these places, wells and streets as opposed to temples, and all the things done there, are and remain ὄσια – or more specifically: not ἀνόσια. They are

²⁷ On such ‘analogische Übertragung von *h-* [...] in etymologischen oder begrifflichen Reihen’ see Schwyzer (1939: 205); another set of words that might be relevant in this context is ἀγνός, ἄγιος etc. (where the comparison with the noun ἄγος also shows some irregularity with regard to the initial aspiration: cf. Chantraine & Masson 1954). For the regular coupling of ὄσιος and ἱερός cf. apart from Thuc. 2.52.3 (referred to below) e.g. Pl. *Rep.* 344a, *Leg.* 857b, *Isoc.* 7.66, *Dem.* 24.9.

²⁸ Cf. Chadwick (1996: 221): ‘many users of LSJ must have been puzzled to find that a word which is translated as *holy* can in certain contexts bear the meaning *profane*’; however, Chadwick’s line of argument, which essentially denies that ὄσιος can ever mean ‘profane’, is exactly the wrong way round and results in a series of strained textual interpretations.

places and things where death or blood do not provoke the withdrawal of **osu*, of ‘well-being and divine favour’. In *this* sense, they are indeed ‘profane’.

What then about ὅσιος meaning ‘holy’ as well as ‘profane’? If by ‘holy’ we refer to things which belong to the sphere of the gods, then ‘holy’ is always ἱερός in Greek, never ὅσιος.²⁹ Actually, our texts show that the concept of ὅσιος should rather be compared to that of δίκαιος ‘just’. In conservative Sparta, for instance, it was said to be impossible to change the established order of things, without violating the obligations of justice to men and those of piety to gods, ἄνευ τοῦ παραβῆναι καὶ τὰ πρὸς τοὺς ἀνθρώπους δίκαια καὶ τὰ πρὸς τοὺς θεοὺς ὅσια.³⁰ Everything which is sanctioned or allowed by human law is δίκαιον, and everything which is sanctioned or allowed by divine law is ὅσιον (or again: not ἀνόσιον). And that is just another way of saying that what is δίκαιον is whatever is ‘well looked-upon by men’, and what is ὅσιον is ‘well looked-upon by the gods, enjoying their divine favour, and hence characterized by, or repaid with, **osu*’.

So even a normal human being can be ὅσιος. If the Sun-God of the Blood listened to Tuthaliya’s prayer and restored his *āssu*, then he made him ὅσιος again. And once Agamemnon finally gave back the captive daughter of Apollo’s priest, the plague stopped because Agamemnon and with him the whole Greek army were no longer ἀνόσιοι. Which of course did not mean that Agamemnon had become a ‘holy man’, far from it. To make up for his ‘loss’ of the priest’s daughter, he abducted another captive girl from his best warrior, Achilles. With the most horrible results, as told in the *Iliad*. But this, unacceptable though it was, was an affair between two mortal men, leaving Apollo unaffected. So there was no reason not to restore **osu* to the Achaean army, to give them back their health and to stop the plague.

We now see how the spheres of divine law, human well-being, acceptable behaviour and transcendental punishment all overlap in the concept of **osu*. Certain acts almost inevitably bring about the loss of **osu*, at least if the gods are correctly informed – not as in the case of Tuthaliya where **osu* is withdrawn only because of Ziplantawiya’s slander. And with this we come to a last text, no longer one from exotic places like Anatolia or Cyprus, but one from the centre of Hellenic culture, Athens: a text which proves that even though the *word* **osu* may have died in the days of Agamemnon and Tuthaliya, the *thinking* behind Tuthaliya’s prayer and Agamemnon’s reparation remained alive not only in the curses of remote Cyprian cities.

²⁹ On the opposition of ὅσιος vs. ἱερός cf. further Bolkestein (1936: 192-3), Terstegen (1941: 166), Jeanmaire (1945: 73-4), and Rudhardt (1992: 34-6), and on the connection between the concept denoted by ὅσιος and religious purity Parker (1983).

³⁰ Polybius 22.10.8-9; cf. further e.g. Thuc. 5.104, Antiphon 1.25, van der Valk (1941: 118) and already Schmidt (1876-86: iv.334): ‘ἀνόσιος ist der unheilige, der durch seine Denk- und Handlungsweise sich der Gottheit entfremdet und *ihres Segens unteilhaftig* gemacht hat’ (italics added).

I have mentioned that temples can be defiled by death or blood. But defilement, ἄγος, can also affect people, for instance after a murder. By killing, a man separates himself from other men, and normally the gods will no longer grant him well-being either. But what about the man who has killed justly? *Human* justice may decide that he has not committed an offense, that he remains δίκαιος ‘just’. But how will the *gods* react, how can this man also remain ὅσιος? How can he possibly be protected from the withdrawal of **osu*? A human lawgiver could do little about this – except one thing: he could formulate a wish to the gods on behalf of the whole community: “let this man not suffer from his acts, let him remain ὅσιος”!

The paradigm of such a just murderer was the murderer of a tyrant. One of the early laws of Athens, the laws of Solon, speaks about him: ‘If anyone shall suppress the democracy at Athens or hold any public office after its suppression, he shall become a public enemy and be slain with impunity; his goods shall be confiscated and a tithe given to the Goddess. No sin shall he commit, no defilement shall he suffer who slays such a one or who conspires to slay him, ὁ δὲ ἀποκτείνας τὸν ταῦτα ποιήσαντα καὶ ὁ συμβουλεύσας ὅσιος ἔστω καὶ εὐαγής’.³¹ ‘Let him be εὐαγής, positively affected by the (inevitable) defilement’: that is one thing. And ὅσιος ἔστω is the other: ‘let him be ὅσιος, let him enjoy **osu*’. What the archaic Athenian legal formula presents is once again a variation on what you are familiar with by now. Solon’s ὅσιος ἔστω ‘let him be endowed with **osu*’ is not only the exact opposite to the Cyprian ἀνοσία φοι γένοιτο ‘let there be lack of **osu* to him’; no, Solon’s formula ὅσιος ἔστω is also virtually *identical* to the Hittite formula, pronounced 800 years earlier, far from Athens, on behalf of King Tuthaliya: *ANA BELI āssu ēstu* ‘let **osu* be to the King’.

An evil sister in fourteenth-century Anatolia, a selfish king in twelfth-century Greece, a faithful nurse in Ithaca, a public doctor in Cyprus, a comic woman on the Acropolis, a killer of tyrants in sixth-century Athens: there is little to connect the figures we have met on our philological journey. Except that they and their societies share the same ideas about divine retribution for human virtue and vice, about piety and well-being, about health and justice. But that’s not all: they also draw from the same age-old stock of words to *express* these ideas, words powerful enough to make them survive until today, ready to be rediscovered by all those who know about the lasting power of words. A power about which you can *never* know enough – unless, well, unless you are called Ziplantawiya. Thank you.

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³¹ Transmitted (possibly in a refined version) in Andocides 1.96; on the precise meaning of εὐαγής and the word-family of ἄγνός etc. see Benveniste (1969: ii.202-5), Rudhardt (1992: 38-46).

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Figurae Etymologicae in Gothic

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Because of the generally one-to-one nature of the translation of the New Testament into Gothic, any case where a single Greek lexeme is rendered by more than one Gothic word stands out, and repays study. The investigation reported in this article begins with consideration of the Greek words βλασφημία, ἔκστασις and παράδοσις, each of which has multiple outcomes in Gothic:

Table 1: The reflexes of βλασφημία, ἔκστασις and παράδοσις in Gothic.

Greek Original	Verses of Attestation	Gothic Outcomes	English Meaning
βλασφημία	Mt 26:65 Mk 7:22, 14:64 Jo 10:33	<i>wajamereins</i>	blasphemy
	Mk 2:7, 3:28, Lk 5:21	<i>naiteins</i>	
ἔκστασις	Mk 16: 8, Lk 5:26	<i>usfilmei</i>	fear, terror
	Mk 5: 42	<i>faurhtei</i>	fear, amazement
παράδοσις	Mk 7:3	<i>anafilh</i>	tradition
	Mk 7:5.8.9	<i>anafilhan</i> (verb)	to pass down (by tradition)
	Mk 7:13	<i>anabusns</i>	commandment

The two reflexes of βλασφημία differ slightly in meaning: *naiteins* seems straightforwardly to mean ‘blasphemy, slander’, while *wajamereins* means ‘ill-speech’ and is closely related to reputation words such as *wajamerei* ‘ill-repute, δυσφημία’ and to *wailamereins* ‘evangelism, κήρυγμα’, all of which are derived from *merjan* ‘to proclaim’ (Lehmann 1986: 251-252). *Naiteins* conversely is derived from *ga-naitjan* ‘to treat shamefully, ἀτιμᾶν’. No distinction in the meaning of the Greek is apparent for which this variation should have been made in Gothic. A possible explanation is that *naiteins* is preferred as the object of a verb of saying. Thus, ‘to speak blasphemies, λαλεῖν βλασφημίας’ is always translated as *rodjan naiteinins*, as at Mark 2:7 and Luke 5:21. Mark 3:28, although it does not follow the same pattern exactly, still contains the idea of speaking:

- (1) αἱ βλασφημίαι ὅσα ἐὰν βλασφημήσωσιν
naiteinos swa managos swaswe wajamerjand
 ‘blasphemies wherewith soever they shall blaspheme’

(Mark 3:28)

Naiteinos (nom. pl.) is the antecedent of a relative pronoun, which is the direct object (indeed, an internal accusative) of a verb of speaking. Conversely, *wajamereins* occurs in a list of evil things at Mark 7:22, as the object of the verb (*ga-*)*hausjan* ‘to hear’, at Mark 14:64 and Matthew 26:65, and finally as the object of the preposition *in* ‘for, περί’¹ at John 10:33. It seems likely that Wulfila did not wish a word so transparently formed from another verb of saying to be the object of a verb ‘to say’, and hence reached for *naiteins* in such cases.

The most salient feature of the varying translation of ἔκστασις is that two idioms are at work. In the *usfilmei* cases, the idea of being ‘seized by fear’ is translated, whereas *faurhitei* reflects ‘they were amazed with amazement’. Thus, Mark 16:8 has εἶχεν γὰρ αὐτὰς τρόμος καὶ ἔκστασις, *dizuh-ban-sat ijos reiro jah usfilmei*, ‘for fear and trembling had them’, and Luke 5:26 καὶ ἔκστασις ἔλαβεν ἅπαντας, *jah usfilmei dissat allans*, ‘And amazement/fear took them’, but Mark 5:42 has a different construction:

- (2) καὶ ἐξέστησαν ἐκστάσει μεγάλῃ
jah usgeisnodedun faurhtein mikilai
 ‘and they were astonished with great astonishment’

(Mark 5:42)

The best explanation is that Gothic had an idiom of its own *usfilmei dissitan* which was applied to Greek phrases of the ‘fear took them’ type. Note, however, that the Gothic translation of Mark 5:42 does not replicate the *figura etymologica* of the Greek: we have *usgeisnodedun faurhtein* rather than ***faurhtidedun faurhtein* or ***usgeisnodedun* with some derived noun for fear.²

Although the periphrastic verbal rendering of παράδοσις is only rare, it is not semantically exceptional, e.g.:

- (3) κατὰ τὴν παράδοσιν τῶν πρεσβυτέρων
 ‘according to the tradition of the elders’; rendered by:

bi þammei anafulhun þai sinistans
 ‘according to what the elders passed down’

(Mark 7:5)

- (4) κρατεῖτε τὴν παράδοσιν τῶν ἀνθρώπων
 ‘you hold to the tradition of men’; rendered by:

¹ περί of course generally means ‘about’, in either the sense of ‘concerning’ or ‘near’. But also well attested from classical times is a meaning ‘for, on account of’.

² Cognates for which exist in other languages: Ice. *geiski* ‘fright’, ON *geiska-fullr* ‘fear-filled’, cf. Lehmann (1986: 382).

habaiþ þatei anafulhun mannans
 ‘you hold to what men passed down’

(Mark 7:8)

- (5) ἵνα τὴν παράδοσιν ὑμῶν στήσητε
 ‘so that you may keep your tradition’; rendered by:

ei þata anafulhano izwar fastaiþ
 ‘so that you may keep your passed down (thing)’

(Mark 7:9)

The final Gothic verbal form at verse 9 is participial. Although the parts of speech have changed, the content of the phrase has not. No Greek manuscript tradition shows such a change. It might be claimed that Gothic did not have a single word for tradition, but rather the idiom ‘what men have passed down’, except for the *anafilh* in verse 3, unless this is a new coinage. Such a claim cannot be substantiated, however, because of the etymological difficulties surrounding *filhan* (Lehmann 1986: 115). As it is, without comparative evidence no persuasive argument can be made as to why Wulfila should have resorted to a verbal paraphrase in two cases, used a deverbal noun in one, and a past participle in another. Potentially more interesting and susceptible to interpretation is the use of *anabusns* in Mark 7:13. *Anabusns* has a definite meaning, ‘ἐντάλμα, commandment’, used just before this pericope in verse 7, where ἐντάλματα ἀνθρώπων ‘commandments of men’ is rendered *anabusnins manne*. What if, instead of having a secondary meaning ‘tradition’, ‘commandment’ were simply what was meant in verse 13?

- (6) ἀκυροῦντες τὸν λόγον τοῦ θεοῦ τῇ παραδόσει ὑμῶν ἣ παρεδώκατε.
 ‘abolishing the word of God through your tradition, which you have passed down’;
 rendered by:

Blaupjandans waurd gudis þizai anabusnai izwarai, þoei anafulhuþ
 ‘abolishing the word of God through your commandment, which you have passed down’

(Mark 7:13)

Perhaps the translator thought to improve the text somewhat, and to contrast a human commandment with a divine one. Or is the solution to be found in Gothic avoidance of *figurae etymologicae*? This particular case is unrepresentable in English since there is no verb associated with ‘tradition’. But perhaps to the Gothic ear ‘the tradition you passed down’, seemed inferior to ‘the commandment you passed down’. Alternatively, since commandments and traditions have been being contrasted in the verses before this, perhaps looking for any explanation more profound than a substitution slip by the translator or a copyist is grasping for the wind.

As we have seen in the cases of βλασφημία, ἔκστασις and παράδοσις above, one possible explanation for variant translations is that Gothic avoids a *figura etymologica*, which is the name in classical rhetoric for placing two different words of shared origin in proximity to one another. Although simple pairings such as found in Shakespeare’s Sonnet 116 qualify (“...love is not love / which alters when it alteration finds, / which bends with the remover to remove”), the term generally describes cognate objects, such as *he died the death*, where an object of the verb is cognate with the verb itself. The object in such a case is termed the cognate accusative, as opposed to the more common internal accusative. Where an internal accusative is simply an (often pleonastic) addition to a verb to clarify or emphasize its meaning (e.g. *he fired a shot*), a cognate accusative requires the added direct object to share an etymological origin with the verb (e.g. *he shot a shot*), but is often no less pleonastic.

The three cases of potential avoidance of *figurae etymologicae* are therefore (1), (2) and (6). Is there enough evidence to support the contention that Gothic systematically avoided *figurae etymologicae*? There is no question that they are commonly avoided in many languages, as inelegant and pleonastic; *he died the death* in English is memorable for its strangeness. However, even in English, examples where real specification is intended abound: *she slept a restful sleep; he laughed a hysterical laugh; they danced a slow, romantic dance*.³

Moulton & Howard (1919: 245) claim ‘This [*scil.* the cognate object] follows a Semitic principle’. A similar point is made in Blass & Debrunner (1961: 85): ‘A comparable idiom is found in both Aramaic and Hebrew’. The issue is therefore not simply one of Gothic versus Greek, but of Gothic versus potentially Semitic-influenced Greek. One may note that the *figura etymologica* is found in classical works from Homer (Louden 1995), though the cognate accusative subset is of more limited distribution.

Further examples of Gothic non-imitation (avoidance?) may be found, drawing on the book of Luke:

- (7) φυλάσσοντες φυλακὰς τῆς νυκτὸς ἐπὶ τὴν ποιμνὴν αὐτῶν
witandans wahtwom nahts ufaro hairdai seinai
 ‘keeping watch over their flocks by night’, or literally ‘watching their charges by night over their flocks’⁴

(Luke 2:8)

³ Examples taken from Piroska Csuri of the NEC Research Institute, Princeton, in his 1998 cross-linguistic investigation into cognate objects (Csuri 1998).

⁴ The meaning of the Greek verb without the cognate accusative is illustrated at Luke 18:21 ταῦτα πάντα ἐφύλαξα ἐκ νεότητος. ‘All these I have kept from my youth’. Gothic *wahtwa* and **witan* are not cognate, but it is just conceivable that they might have been analysed as so. A more likely motivation however is simple alliteration.

- (8) ὅμοιός ἐστιν ἀνθρώπῳ οἰκοδομοῦντι οἰκίαν
galeiks ist mann timrjandin razn
 ‘he is like a man who built a house’
 (Luke 6:48)
- (9) ἐξῆλθεν ὁ σπείρων τοῦ σπείραι τὸν σπόρον αὐτοῦ
urrann saians du saian fraiwa seinamma
 ‘a sower went out to sow his seed’⁵
 (Luke 8:5)
- (10) ἵνα μήποτε θέντος αὐτοῦ θεμέλιον
ibai aufto, biþe gasatidedi grunduwaddju
 ‘lest by chance when he had founded the foundation’
 (Luke 14:29)

On the other hand, cognate objects are not unknown in Gothic: Streitberg (1906: 156) writes: *Neben dem Akkusative des äußern findet sich auch der des innern Objectes; in seinen einfachen Formen ist auch dieser germanisch, die Ausdehnung seiner Anwendung in der gotischen Bibel beruht jedoch auf der Nachahmung des Originals.*⁶ Examples include:⁷

- (11) ἵνα ἐργαζώμεθα τὰ ἔργα τοῦ θεοῦ
ei waurkjáima waurstwa guþs
 ‘that we might work the works of God’
 (John 6:28)
- (12) τὸν καλὸν ἀγῶνα ἠγώνισμαι
haifst þo godon haifstida
 ‘I have fought the good fight’
 (II Timothy 4:7)
- (13) καὶ ἐφοβήθησαν φόβον μέγαν
jah ohtedun sis agis mikil
 ‘and they feared exceedingly’, literally ‘and they feared a great fear’⁸ (*ohtedun* is the weak preterite of the verb *ogan*, cognate with *agis*)
 (Mark 4:41)

⁵ Note that Luke is the only evangelist to include the object here, cf Matthew 13:1-23, Mark 4:1-20.

⁶ ‘Besides the external accusative one finds also that of the internal object; in its simple forms this is also Germanic, the extension of its application in the Gothic Bible is based however on imitation of the original’. (vide supra)

⁷ These examples are drawn from the Gothic Online articles by Todd B. Krause and Jonathan Slocum of the A. Richard Diebold Center for Indo-European Language and Culture.

⁸ Also note Luke 2:9, where the same Greek phrase is rendered *jah ohtedun agisa mikilamma* (i.e. with a dative rather than accusative cognate object).

Further, where the qualifying phrase is introduced by a relative pronoun, we have:

- (14) τὸ βάπτισμα ὃ ἐγὼ βαπτίζομαι
daureinai bizaiei ik daupjada
 ‘the baptism which I am baptized’

(Mark 10:38)

All these, of course, follow the original Greek, just as the earlier examples did not. Does Gothic ever introduce a cognate object where the Greek has none?

- (15) καὶ ἐπέγνωσαν ὅτι ὀπτασίαν ἑώρακεν ἐν τῷ ναῷ
jah froþun þammei siun gasahv in alh
 ‘and they perceived that he had seen a vision in the temple’

(Luke 1:22)

Luke 1:22 has an internal accusative in Greek, but no cognate object, which in Gothic is transformed into a cognate object which is not an internal accusative: *Siuns*, although cognate, represents a specification of the type of things that might be seen, where ὀπτασίαν means simply ‘sight’. Still, the cognate object formulation was not avoided.

At Mark 1:40, Jesus, who is in Galilee preaching and casting out devils, is approached by a leper:

- (16) καὶ ἔρχεται πρὸς αὐτὸν λεπρὸς παρακαλῶν αὐτὸν [καὶ γονυπετῶν] καὶ λέγων
 αὐτῷ ὅτι ἐὰν θέλης δύνασαι με καθαρίσαι.
*jah qam at imma þrutsfill habands, bidjands ina jah kniwam knussjands jah qibands
 du imma þatei jabai wileis, magt mik gahrainjan.*
 ‘And there came to him a leper beseeching him [and kneeling], and saying to him, “if you wish, you can make me clean.”’

(Mark 1:40)

The ‘and kneeling’ is not present in every manuscript, while some manuscripts add αὐτὸν ‘(to) him’ after it. ‘Kneeling’ was certainly present in the tradition that underlies the Gothic, where the verse is given. Not only does the Gothic include *knussjands* ‘kneeling, γονυπετῶν’, but it also has *kniwam*, the dative plural of *kniu* ‘knee’. What exactly this means is unclear. *Knussjands* appears on its own at Mark 10:17:

- (17) καὶ ἐκπορευομένου αὐτοῦ εἰς ὁδὸν προσδραμῶν εἰς καὶ γονυπετήσας αὐτὸν
 ἐπηρώτα αὐτόν...
jah usgaggandin imma in wig, duatrinnands ains jah knussjands þaþ ina qibands...
 ‘and when he had gone out into the road, one running up knelt to him and asked...’, or literally, ‘one running up, kneeling asked...’

(Mark 10:17)

The main difference between the Greek originals in (16) and (17) is that in the first, the participle is present in tense, whereas in the second, it is aorist. The image at (16) is either of a man beseeching, kneeling and saying all that at the same time, or perhaps more likely, of a man doing these things repeatedly. That is, kneeling and rising, prostrating himself and looking up, in the manner of Middle-Eastern prayers to this day. Is this the force which *kniwam knussjands* captures? Or could the knees in question be those not of the suppliant, but of the supplicated, in the manner of the Odyssey (e.g. Book III line 90-95) or elsewhere in the New Testament: Luke 5:8 contains the only other attestation of *kniwam*. *Seimon Paitrus draus du kniwam Iesuis qipands* ‘Simon Peter fell down at Jesus’ knees, saying’. The preposition present here accounts for the dative case of *kniwam*, and perhaps should be considered understood in Mark 10:17.

Another question remains: are *kniu* and *knussjan* really cognates? The derivation of the former is unimpeachably Indo-European, from PIE **ǵenu-*, *ǵneu-*; it is *knussjan* that is more difficult to account for. A derivation from *kniu* is most likely according to Lehmann (1986: 220), but its exact nature is unclear. An alternative, proposed by Kögel (1880:178), is for the word to be cognate with Old Norse *knosa*, Old English *cnossian*, and Old High German *cnussan*, all meaning ‘to press’, but this raises more issues than it lays to rest. In any case, the words are of sufficient similarity in both form and meaning that the usage *kniwam knussjands* was undoubtedly intended as a *figura etymologica*, but possibly one with a distinctive meaning, relaying the iterativeness of the Greek present participle.

Thus, avoidance of *figurae etymologicae*, or at least of cognate objects, seems to be an authentic point of Gothic, or at least Wulfila’s style. Although there are certain instances of Greek *figurae* being taken into Gothic, for the most part they were avoided, and were certainly not felt to be integral to the meaning of their sentence. The two instances of Gothic introducing a *figura etymologica* are dispositive of nothing. The first, with *siuns*, *figura* though it be, would replicate the Greek internal accusative except that it is more specific: Wulfila has improved the text, and the cognate nature is secondary. In the second case, there are ample alternative explanations for the presence of *kniwam* ranging from aspectual force to omitted prepositions.

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Dybo's Law: Evidence from Old Irish

Nicholas A. S. Zair

1. Introduction

Certain roots in the Italic, Celtic and Germanic languages show short vowels in roots which the evidence of other Indo-European languages suggests should have long vowels. In this article I discuss previous attempts to explain this phenomenon, in terms of shortening by 'Dybo's law', and assess them in the light of evidence from Old Irish. On the basis of this evidence I suggest a new possible explanation, and assess its advantages and difficulties.

2. Dybo's Law: An Overview

In 1961 V. A. Dybo published an article (Dybo 1961), in which he addressed the question of Proto-Indo-European roots which appeared to show variants with a long vowel or resonant beside those with a short vowel or resonant. Both these variants were assumed to go back to Indo-European times, but Dybo observed that the vast majority of the short root variants were in fact attested in the western Indo-European area: the Italic, Celtic, and to some extent Germanic languages. Furthermore, where it was possible to compare words with the same or a similar structure, the Celtic and Italic languages both showed the short root variant, as did Germanic where the root ended in a resonant. Dybo's examples included Lat. *fūturus* 'about to be', Old Irish *ro-both* 'he was', but Sanskrit *bhūtá-* 'become, been, past'; Lat. *vīr*, OIr. *fer*, Gothic *wair*, all 'man', but Skt. *vīrá-*, 'hero' Lithuanian *výras* 'man'. Dybo concluded that in Celtic and Italic, long vowels were preserved only under the stress, and otherwise were shortened. This probably occurred in a period of Italic-Celtic unity, at a time of close contact with Proto-Germanic, since this pretonic shortening also occurred before resonants in the Germanic languages. He also concluded that 'long resonants' (i.e. *RH combinations, in modern terms) were affected. So, for example, *rH and *lH clusters would give *ar*, *al* respectively in unstressed position, *rā*, *lā* under the Indo-European stress.

Agreement in accentual evidence from Baltic and Slavic languages, Germanic (e.g. Verner's law), and the evidence for the accent drawn from his observation of pretonic shortening in Italic, Celtic and Germanic, led Dybo to maintain that these languages represented the best evidence for the position of the original Proto-Indo-European accent, and that the Sanskrit and Greek accentuation was the result of innovation. This position is no longer tenable. It is generally agreed that the best evidence for the Proto-Indo-European accent, especially where ablaut and accentuation coincide, is provided by Vedic Sanskrit and Greek. The Baltic and Slavic accents can provide further evidence, but only once the historical processes which led to the attested situation are taken into account.

Observing these problems, attempts have been made to reformulate the phenomenon which has come to be known as Dybo's law; these make the assumption that short vowels are indeed the result of pretonic shortening, and it is consequently necessary to try to explain apparent evidence for non-root accent which combines with a long vowel in the root in Italic, Celtic or Germanic.

The first step taken by Kortlandt (1981) was to disregard Dybo's assumption that pretonic shortening affected the 'long resonants', since, for example, OIr. *lán*, Welsh *llawn* 'full', from Proto-Celtic **lān* < **(p)l̥h₁-no-* do not show shortening, despite the evidence of oxytonesis provided by Skt. *pūrṇá-* 'full'. In order to explain cases such as Lat. *fūmus* vs. Skt. *dhūmá-* (both 'smoke'), Greek *θυμός* 'spirit' < **d^huHmó-* he maintained that the development of the long vowels *ā*, *ē*, *ō* from short vowel plus laryngeal came before the pretonic shortening rule, but that **iH* and **uH* shared with the resonants **rH*, **lH*, **nH* and **mH* the retention of the laryngeal until after the rule of shortening had taken place, whereupon they gave *ī* and *ū*. This explanation has certain advantages, but also several problems, including OIr. *béu*, W. *byw*, Cornish *byw*, *bew*, Middle Breton *beu*, Breton *beo*, Goth. *qius*, all 'alive', and all with original short root vowel, where Skt. *jīvá-* 'alive' shows long root vowel and final accentuation. Kortlandt's answer was to assume that in words such as these, the original form was not **g^hih₃-uó-*, as would be expected, but rather **g^hh₃i-uó-*. His evidence for this came from Slavic and Baltic cognates. Thus, for example, Russ. *žilá* '(she) lived' and Latv. *dzīvs* 'alive' do not show the retraction of the accent expected under Hirt's law. Kortlandt maintained that retraction did not occur when the long vowel originated in a metathesised **Hi* or **Hu* combination. Thus, in Kortlandt's formulation the process in Baltic and Slavic was as follows: **g^hh₃i-uó-* (or similar) was the original form. Then Hirt's law occurred, with no retraction of the accent, since it only took place where the accent followed **iH*. Finally, laryngeal metathesis happened, giving **g^hih₃-uó-*.

The idea of laryngeal metathesis is not unique to Kortlandt. It was first formulated by Winter (1965: 192), on the basis of the comparison between e.g. Gk. *πῦρ* and Hitt. *paḫḫur*, both 'fire', and consequently it has been assumed that in the non-Anatolian Indo-European languages the zero-grade sequences **CHiC* and **CHuC* were metathesised to **CiHC* and **CuHC*. Kortlandt's version has two new features. The first is that he supposes that in Italic and Celtic **Hi* and **Hu* did not metathesise when they occurred before the accent. This explains pretonic **ĩ* and **ũ* in these languages (note that Kortlandt assumes that unmetathesised **Hi* and **Hu* gave short vowels in Italic and Celtic, but long **ī* and **ū* in Germanic). The second is that Kortlandt's view imagines the metathesis as a phenomenon which took place separately across several Indo-European language families: it did not occur in Anatolian; Hirt's law, a specifically Balto-Slavic phenomenon, has to be completed before metathesis in that language family; and Italic and Celtic have a different version of the metathesis from the other languages.

This picture of drift across several language families seems unlikely on general grounds, and is particularly problematic since laryngeal metathesis is poorly attested anyway; there is not space here to discuss all the evidence, but although it is by now fairly mainstream (e.g. discussed in Mayrhofer 1985: 173-175) it is not universally accepted as a late PIE phenomenon, let alone as a series of separate developments. An additional problem with Kortlandt's idea that $*iH > *ī$ did not undergo shortening is the obvious exception of Lat. *uīr*, OIr. *fer*, W. *gwr*, Goth. *wair*, all 'man' < $*\mu_{i}ros$ vs. Skt. *vīrā-* 'hero'. The evidence of Lith. *výras* and Latvian *vīrs*, both 'man', shows that retraction according to Hirt's law has occurred, and hence we must reconstruct original $*\mu_{i}Hró-$.

Kortlandt suggests that the Latin form can be explained by analogy with *uīrere* 'to flourish', which he reconstructs as being from $*g^{h}Hi-$ (although the etymology is not certain), while the original length was preserved in *uīs* 'power' < $*\mu_{i}Hs$. This is acceptable according to his own terms. However, his attempts at explanation for the Celtic form are semi-openly acknowledged as weak:

- (1) ... is it possible that the Celtic word is a borrowing from Germanic, where the short vowel is phonetically regular in the originally pretonic vowel before the intervocalic resonant? Anyway, the homonymy with OIr. *fīr* 'true', W. *gwir*, would be embarrassing.

(Kortlandt 1981: 16)

Unless it is possible satisfactorily to explain the Celtic evidence (which Kortlandt is evidently unable to do), it seems foolish not to hope that this shared shortening should be explained by a unitary theory. Furthermore, it is not clear what Kortlandt means when he says the Germanic form would be phonetically regular.

Schrijver (1991: 334-357) takes the Italo-Celto-Germanic $*wīros$ as the corner-stone for his rejection of Kortlandt's formulation of Dybo's law. He instead replaces it with the assertion that in Celtic and Italic, as in Germanic, shortening of a pretonic vowel takes place only before a resonant consonant. Where the long vowel occurred before a non-resonant consonant, no shortening occurred. Schrijver's consideration of the problem is part of his discussion of the reflexes of the Proto-Indo-European laryngeals in Latin, so the majority of his evidence comes from Latin. The evidence for lack of shortening in pretonic position before a stop consists of Lat. *suāuis* 'sweet' < $*s_{ueh_2}dú-$, *fāgus* 'beech' < $*b^heh_2gō-$, *in-uītus* 'unwilling', *-uītāre* 'to invite' < $*\mu_{i}Htó-$ and **rūtus* 'dug up' < $*HruH-tó$, and apparent examples of shortening are rated doubtful by Schrijver (although *pūter* 'rotten' is problematic). A difficulty for his version of Dybo's law is Lat. *fūmus*, which, on the evidence of Skt. *dhūmá-*, Gk. *θῦμός*, ought to have a short vowel. He suggests that the long vowel was restored on the basis of *fūligō* 'soot, carbon' < $*d^húH-li-$ (originally barytone cf. Lith. *dūlis*, Latv. *dūlis* 'smoke used in bee culture').

Note that Schrijver accepts Kortlandt's idea that original **Hi* and **Hu* clusters were metathesised in the Indo-European daughter languages, except in Anatolian and in Italo-Celtic when in pretonic position, and that remaining **Hi* and **Hu* clusters gave **ĩ* and **ũ* respectively in Italo-Celtic. This allows him to explain e.g. Lat. *lūcrum* 'gain, profit' < **lh₂u-tló-*, and *fūtūrum* 'about to be' < **b^hHu-* (especially if derived from a past participle **b^hHu-tó-*), where the shortening cannot be explained by his formulation of Dybo's law, since the putative long vowel occurs before a stop.

Table 1: Summary of different formulations of Dybo's law

Dybo	Kortlandt	Schrijver
$\bar{V} \rightarrow \check{V} / _ CV _ (_ R\acute{V} \text{ in Gmc. })$ e.g. PIE <i>*ūr-ró-s</i> > Skt. <i>vīrá-</i> , Lith. <i>výras</i> but Lat. <i>vīr</i> , OIr. <i>fer</i> , Goth. <i>wair</i> PIE <i>*b^hū-tó-</i> > Skt. <i>bhūtá-</i> , Lith. <i>būtas</i> , but Lat. <i>fūturus</i> , OIr. <i>ro-both</i>	$\bar{V} \rightarrow \check{V} / _ CV _ (_ R\acute{V} \text{ in Gmc. })$ <i>*iH</i> and <i>*uH</i> > <i>ī, ū</i> after Dybo's law is complete. Thus e.g. Lat. <i>fūmus</i> is fine. Where we do find <i>ĩ, ũ</i> , the original sequence was <i>*CHiC</i> , which underwent metathesis to <i>*CiHC</i> in all Indo-European languages except Anatolian family, and Italic and Celtic in pretonic position. It is assumed that <i>*CHiC</i> would produce <i>CĩC</i> . Thus <i>*b^hHu-tó-</i> > Lat. <i>fūturus</i> , OIr. <i>ro-both</i> , but > <i>*b^huHt-</i> > Skt. <i>bhūtá-</i> , Lith. <i>būtas</i>	$\bar{V} \rightarrow \check{V} / _ R\acute{V}$ Pretonic long vowels before stops are no longer problematic. Lack of metathesis explains occasions where we do find short vowels.

C: any consonant

V: any vowel

R: resonant consonant

Schrijver's formulation of Dybo's law seems the most satisfactory thus far. However, note that he derives, from the limited evidence available, two separate sources of short vowels in Italic and Celtic from clusters including a vowel and a laryngeal. Thus we can get short **ũ* and **ĩ* from **CIHRV̄* (Dybo's law; where *I* = **ũ* or **ĩ*) or **CHiCV̄* (no metathesis in Italo-Celtic in pretonic position). Long **ū* and **ī* can come from **CIHCV̄* if *C* is not a resonant (since Dybo's law only occurs before resonants) or from **CHiC* (since laryngeal metathesis occurs when the vowel falls under the accent). In full-grade roots the situation is somewhat simpler: **CeHRV̄* > **CeRV̄* (ignoring vowel colouring); *CéHCV* > **CēCV*, **CeHCV̄* > **CēCV̄*.

3. Dybo's Law in Old Irish

3.1. The Evidence

Dybo, and consequently Kortlandt, focussed on evidence for short vowels where long ones would be expected across Italic, Celtic and Germanic. They did not claim to provide a full list of all possible examples. Schrijver did carry out an extensive search for all possible Latin evidence, but used only Kortland and Dybo's examples for Celtic and Germanic evidence. Since the number of possible examples is not huge in the first place, any additional evidence should be valuable. Consequently, I have carried out a search for Old Irish evidence that might be pertinent to Dybo's law. Old Irish is the oldest of the Celtic languages which is well enough attested to make such a process worthwhile. The primary source for information was Vendryes et al. (1959-). Since this unfortunately covers only the letters A-D and M-U, the other resources most frequently used include de Bernardo Stempel (1999) and Thurneysen (1946).

Schrijver's brief examination of the Old Irish evidence turned up only three 'probable' examples of shortening in the language (he divided his examples of apparent shortening into 'probable' and 'possible' categories), and a further eight 'possibles'. Note, however, that his investigation into the Latin evidence revealed as many 'probables' and only five 'possibles'. My own investigation has not revealed any new 'probable' examples.¹ There are a few new 'possible' examples, some of which will be discussed shortly. However, there do seem to be several Old Irish words in which oxytonesis is plausible, and yet shortening does not seem to have occurred. These will be the starting point of our discussion.

The first example is one that Schrijver himself has discussed: OIr. *úr* adj. 'new, fresh' has cognates in W. *ir* 'fresh, green' and Lat. *pūrus* 'pure', suggesting a reconstruction **puH-ro-s* cf. Skt. *pūtá-* 'clean' < **puH-tó-*. Schrijver (1991: 247, 535) argues that this root is the same as in Gk. *πῦρ*, Hitt. *pa-ah-hu-ur*, both 'fire', and consequently reconstructs **ph₂u-ro-*. Since an oxytone form would have resulted in Lat. *^xpūrus* according to Kortlandt's rules of metathesis, Schrijver assumes that it must have been barytone. However, barytonesis in a zero-grade *ro*-adjective seems extremely unlikely. The association of oxytonesis with these forms is generally accepted:

- (2) ... primary '*-ró-adjectives' in PIE normally exhibit zero grade of the root and accent on the suffix – a commonplace observation hardly requiring elaborate demonstration or reference.

(Vine 2002: 329)

¹ Although I think one form, *othar* noun 'suffering, illness' and adj. 'suffering, ill' < **pūtro-* < **puHtro-* is a 'probable' rather than 'possible' instance of shortening. See below.

In fact, Joseph (1982: 34) uses precisely this form as an example of a problem for Dybo's law, 'since most Indo-Europeanists would automatically reconstruct **pūró-*'. Schrijver (1991: 355) argues against taking Sanskrit as evidence for oxytonesis in *ro*-adjectives on the grounds that 'adjectives in *-ra-* show a marked tendency towards oxytonesis in Sanskrit'. This is also the case in Greek, but Probert (2006: 229), takes the opposite view that 'it is likely that the adjectives have simply retained the original accentuation associated with the suffix'. Given an overwhelming majority for final accentuation of *ro*-adjectives in both Vedic Sanskrit and Greek, it seems perverse to use this as an argument for barytonesis in Proto-Indo-European, especially in zero-grade roots.

Consequently, OIr. *úr* provides evidence both against Dybo's view that all pretonic long vowels were shortened, and Schrijver's, that pretonic long vowels before resonants were shortened. Kortlandt's explanation is not affected, since he would expect the retention of long **ū*, even when pretonic. In looking for further evidence, we find OIr. *bán* adj. 'white'. This has cognates in Skt. *bhānam* 'shining, appearance', and OEng. *bōnian* 'to polish'. Although the Sanskrit shows barytonesis, it is likely that adjectives in **-no-* were originally oxytone, with retraction of the accent occurring in the substantivised Sanskrit form (Probert 2006: 197-208; 289-294). Further evidence is found in Gk. φηρός, glossed by Hesychius and Herodian as λαμπρός 'bright'. The Greek form also suggests a reconstruction **b^hā-no-* rather than **b^hō-no-*, which the Irish, Sanskrit and Old English evidence allow.

Consequently we reconstruct the original form as PIE **b^heh₂-nó-*, which cannot be explained by any formulation, since all would expect shortening. This word provides counter-evidence against all versions of Dybo's law, since shortening does not seem to have occurred in pretonic position.

After considering these two pieces of evidence, therefore, we discover that none of the formulations of Dybo's law provide a satisfactory framework of explanation. Dybo's is undermined by both *úr* and *bán*. Further Old Irish forms for which it is helpless include *ro-críth* 'he was bought', a preterite passive, formed from the original passive participle **k^hriH-tó-* to *crenaid* 'he buys' < **k^hri-nH-ti*. Similarly, *ro-bíth* 'he was struck' is the preterite passive to *benaid* 'he strikes' < **b^hi-nH-ti*, and we consequently reconstruct an original *to*-participle **b^hiH-tó-*.

It was evidence such as this that led Kortlandt to argue that **iH* and **uH* clusters lost the laryngeals and gave **ī* and **ū* after other vowel plus laryngeal clusters had given long vowels and after Dybo's law had shortened these long vowels, and then ceased to function. However, as already mentioned, Kortlandt's view has the major disadvantage of failing to explain satisfactorily OIr. *fer*, Lat. *uīr* etc.

Schrijver maintained instead that shortening of pretonic long vowels occurred only when the vowels were before resonants. He suggested that Lat. *pūter* 'rotten' is from **puHtri-*, by a

rule involving loss of laryngeal in the sequence **-IHTC-*, where *T* represents any stop. It seems more likely that OIr. *othar* 'suffering, illness; suffering, ill' < **pǔtro-* and Lat. *pūter* are both directly from **puHtrV-* by Dybo-style shortening. At any rate, *úr* and *bán* speak against Schrijver's formulation of the law.

3.2. A Solution?

One thing these forms share is the reconstruction of the second laryngeal. A glance at Schrijver's Latin counter-examples to Dybo's law (1991: 340-341) shows that where the quality of the laryngeal can be ascertained, it too is **h₂*: *suāuis* 'sweet' < **suādui-* < **sueh₂dú-* cf. Gk. ἡδύς, Skt. *svādú-* 'sweet'; *suādēre* 'persuade'; *fāgus* 'beech' < **b^heh₂gó-* cf. Gk. φηγός 'oak'.

I tentatively suggest, therefore, that Dybo's law is in fact connected with the loss of the laryngeals. The reflexes of the original laryngeals are different, in Celtic and Italic, when in a pretonic syllable:² long vowels as the reflexes of original **Vh_{1,3}* are shortened in pretonic position. Long vowels which are the reflex of **Vh₂* are not shortened. It would follow that any form in which the quality of the laryngeal is unknown can now be identified. If it is pretonic and not short, the original laryngeal must have been **h₂*. Thus Lat. *fūmus* 'smoke', which is proved to be oxytone by Skt. *dhūmá-*, Gk. θῆμός can be reconstructed as **d^huh₂-mó-*.³ Conversely, e.g. OIr. *fer* must be from **u^hih_{1,3}-ró-*, which is unsurprising, if it is connected to the root **ue^hih₁-*, as found in Skt. *véti* 'he turns himself to, covets, chases', Gk. ἕμαι 'I aim for, covet'.

This formulation helps to explain several more difficult forms in Old Irish. For example, *déol* m. 'sucking' is the verbal noun of *dinid* 'he sucks'. It appears to be derived from the PIE root **d^heh₁-*, which sometimes appears with a root extension **-i-*. If it were formed as zero-grade **d^hih₁-tlo-*, then one would expect, assuming Winter's law holds, a change to **d^hi^h₁-tlo-*. Assuming oxytonesis, since *nomina abstracta* in **-tlo-* are oxytone in Sanskrit (Wackernagel & Debrunner 1954: 701), shortening would then give **d^hitlo-* which could regularly give **dētla-* > **dēl*, by compensatory lengthening. The *-o-* is not regular, but may be analogical on *céol* 'musical instrument; music' and *téol* 'theft', derived differently. For a direct parallel, compare *éol* (m.) 'direction, guidance; lore, history', remodelled from **i-tlo-*, the root meaning 'to go'. Schrijver and Kortlandt's assumptions about metathesis would work equally well; that is, **d^hih₁-tló-* would give **d^hitlo-* etc. However, since we have established that Dybo's law affects both **iH* and **uH* clusters and vowels before stops, there is no need for them, in addition to shortening by Dybo's law.

² As noted above, it is generally assumed that shortening does not occur in Germanic before a non-resonant. I have not examined the evidence, so cannot say whether this remains the case even by my rules.

³ And indeed, if we look in *LIV* (Rix 2001: 158) the root is **dueh₂-*.

Alternatively, we could posit a form without **-i-*: **d^heh₁-tló-* could have shortened to **d^hě-tlo-* > **dětla-* > **děl*. There is no way of telling which of these is the correct reconstruction, but despite the remodelling, this word looks convincing as an example of shortening by Dybo's law. Note that, by regular sound change, non-shortened **d^httlo-* or **d^hētlo-* would both give OIr. **dīl*

Similar is *ól* n. 'draught of liquor; act of drinking'. The correspondence with Lat. *pōc(u)lum* 'drinking cup' makes a reconstruction **peh₃-tlo-m* necessary. This gives the Latin form regularly, but we would expect **eh₃* > **ō* > *ā* in Celtic. The Irish word suggests **pōtlom*, with subsequent lenition and loss of *-t-*, and compensatory lengthening of *-ō-*. Vendryes et al. (1959-: O19) assume a root **pō-*, comparing Gk. *πότος* 'drinking', *πόσις* 'drinking' etc. and Russ. *pójlo* 'drink'. However, the Greek forms continue the zero-grade root **ph₃*, which ought to give *pǎ-* in Celtic. The Russian word is a case of secondary ablaut. It looks as though there has been vocalic shortening (or loss of the laryngeal) here. If this were the case, one could argue that the Latin form with long vowel is perhaps due to analogy with other forms with regular long vowel. These are difficult to find, but e.g. *pōtus* 'drunk' demonstrates that there was remodelling of forms with this root in Latin. Since any zero-grade root **(p)h₃-* should have given *-ǎ-* in Celtic, while **(p)eh₃-* gave *-ā-*, it is difficult to think of a form of the root which could have acted as the catalyst for the creation of **-ō-* in **(p)ōtlom*. Consequently, it might be more likely that Celtic has inherited the 'original' shortened form.

However, Germanic has pervasive barytonesis in stems in **-tlo-*, and in Sanskrit *nomina instrumenti* in *-tra-* < **-tlo-* are barytone, while *nomina abstracta* are oxytone. There are three possibilities: all forms in **-tlo-* were oxytone in Proto-Indo-European; the meaning of this word was originally nearer the Old Irish 'act of drinking' than the Latin 'drinking cup'; or we have to deal here with another shortening, unconnected with Dybo's law, before Proto-Celtic (when **ō* > *ā*), but after Italo-Celtic.

3.3. Problems

My version of Dybo's law has the advantage of efficiency. For example, it is not necessary to assume, with Kortlandt and Schrijver, complicated differences in laryngeal metathesis in forms such as *bith* m. 'world, existence, life' and *both²* f. 'hut'. They assume that these were originally **g^hh₃i-tú-* and **b^hHu-téh₂*, which then underwent independent laryngeal metatheses in separate language families, but gave short vowels in Italo-Celtic, because metathesis was retarded pretonically. I am able to start with **g^hih₃-tú-* and **b^huH-téh₂*, and explain the shortening by Dybo's law.

However, it must be admitted that, as with the other theories, there are some recalcitrant forms which refuse to be included within my formulation. I have not looked extensively outside Old Irish for counter-evidence, but there are a couple of forms in Latin and Gothic which are difficult. First of all, let us consider the evidence from Old Irish. If *dub* 'black'

should be reconstructed as $*d^huh_2b^h-ú-$, which a connection with the root $*d^heuh_2-$ (Lat. *fūmus* etc.) would suggest, then we seem to have a case of shortening involving the second laryngeal. However, there is the obvious difficulty that *fūmus* has not undergone the same shortening.⁴ Furthermore, while Gk. τύφομαι 'I smoke, am on fire, am reduced to cinders' has a long vowel, τυφλός 'blind' does not. Chantraine (1968: 1147-8) attributes both to a zero grade $*d^huh-$, but does not address the difference in vowel length. Liddell et al. (1925 s.v. τυφλός) maintain that the Greek words are unconnected, and compare τυφλός to OIr. *dub*. The relationship between the root with laryngeal and that without in these forms is uncertain. Even if they share the same origin, since we also find a short vowel in Greek, it is not clear that the short vowel in Irish should be considered to be due to shortening by Dybo's law, and we can disregard this form as too uncertain to be counter-evidence.

Largely on the basis of the OLat. subjunctive *fuāt* < $*b^h_{\lambda}eh_2-e-$ and the Italic imperfect suffix $*-\beta\bar{a}-$, and OIr. *ba* 'was', *LIV* (Rix 2001: 98-101) reconstructs the PIE root 'be' as $*b^h_{\lambda}eh_2-$. However, although there is not room here to discuss all the possibilities,⁵ this picture of the origin of the long \bar{a} - in Latin is by no means a view on which there is consensus. The Old Irish evidence with regard to this form is hardly reliable. Consequently, it is not incumbent on one to accept the presence of $*h_2$ in this root. Even if that is the case, there are plenty of forms from this root in which the laryngeal must have been lost regularly in between two vowels, with consequent analogical replacement of $*b^h_{\lambda}u-$ by $*b^h_{\lambda}i-$ in Old Irish. Hence e.g. *both* < $*b^h_{\lambda}i-t\bar{a}$. Alternatively, one could follow McCone (1991:128), who supposes a secondary ablaut scheme $\bar{i}: \check{i}; \bar{u}: \check{u}$ in Celtic, which also occurred independently in Greek, and explains the short vowel of e.g. φύσις 'nature'.

The final problem from Old Irish is *caraid* 'he loves'. It is a denominative verb, apparently to the adjective found in Latin as *cārus* 'dear' < $*keh_2-ro-$, and the noun in Goth. *hors* 'adulterer'. If *caraid* is a possible case of shortening the original adjective would have to be barytone, and the verb to be oxytone. An alternative, naturally, is that we should posit a zero-grade form as the base. Could it be that this is an example of Vine's idea (Vine 2002), whereby *e*-grade *ro*-forms were back-formed old barytone collectives, while *ro*-adjectives were always zero-grade? He compares Gk. δηρός 'long' < $*d_{\lambda}eh_2-ro-$ and Skt. *dūrā-* 'far' < $*duh_2-ro-$. We would then reconstruct the collective $*k_{\lambda}eh_2-reh_2$, which, remodelled, gave the Latin and Gothic forms, with a cognate adjective $*kh_2-ró-$, which was the basis for OIr. *caraid*.

The outside-Irish difficulties include Goth. acc. sg. *lun* 'ransom', *us-luneins* 'release', where the short vowel is confirmed by Old English *ā-lynnan* 'to loosen' < $*-lun_{\lambda}ian$. This may be cognate with Skt. *lūnā-* 'cut off' < $*luh_2-nó-$. However, the identification of the laryngeal rests on connecting it with the root in Gk. λαίον 'part of a plough, sock or blade' < $*leh_2u_{\lambda}iom$,

⁴ Although if Schrijver is right to see this as analogical, this is not a problem.

⁵ See the entry in *LIV* (Rix 2001) for bibliography, and also McCone (1991: 127-129).

which is not certain. More difficult is Lat. *lūcrum* ‘gain, profit’, which Schrijver compares to Gk. ἀπο-λάω ‘I profit from’ < **lh₂u-*, Doric Greek λαίᾱ ‘loot, profit’ < **leh₂uieh₂*. Thus, it ought to be from **luh₂-tlo-m*, without shortening on account of the second laryngeal. One possibility is to accept Schrijver’s idea of laryngeal loss in **IHTC* sequences (1991: 339) where *T* = any stop, although this weakens the case for Lat. *pūter*, and possibly OIr. *othar* as examples of shortening. The only alternatives are to accept the Kortlandt/Schrijver hypothesis that **Hu* does not metathesise to **uH* when pretonic, or to re-examine Winter’s law of laryngeal metathesis altogether. The latter seems as though it might be more productive.

4. Conclusion

An examination of the Old Irish evidence has not produced much in the way of new evidence for shortening by Dybo’s law. However, it has revealed several forms which are problematic for all the attempted formulations. I have tentatively suggested a new explanation of my own: that shortening occurs when the vowel in a pretonic syllable is followed by a first or third laryngeal. When a second laryngeal is involved, shortening does not occur.

Although ‘vowel shortening’ has been used to describe this process, there are two conceivable possibilities to explain the situation. It could be due to differences in laryngeal loss according to context, i.e. **h₁* and **h₃* were lost exceptionally in pretonic position, without lengthening the previous vowel, while stressed **h₁* and **h₃*, and **h₂* in all positions were lost with vowel lengthening. The alternative is that **h₁* and **h₃* were lost earlier than **h₂*, lengthening preceding vowels. Shortening by Dybo’s law then occurred, and after it had ceased to function **h₂* was lost, creating new long vowels in pretonic position. Possible avenues for determining which of these is correct would involve finding forms which have original PIE long vowels (not from laryngeal loss) and oxytonesis, of which there are likely to be few. Two possible, but by no means certain examples of this might be OIr. *mír* ‘morsel’ (cf. Gk. μηρός ‘thigh’) and *dám* ‘retinue’ (if this is a *vṛddhi* formation to **dom-* ‘house’). The second of the two possibilities would seem more likely, since otherwise the lack of compensatory lengthening would be peculiar. It is difficult to tell whether **RH* clusters, which have been ignored in the present work, might be informative, since there seems to be little consensus on the regular reflexes of these clusters in Celtic, whether originally stressed or not.⁶

Given the paucity of the evidence, it is doubtful whether the question of pretonic shortening in Celtic, Italic and Germanic will ever be truly solved. There seem, however, to be weaknesses in previous explanations, and my attempt at a formulation is proffered in the hope of explaining the Old Irish evidence more efficiently, and solving some of the problems, while keeping to a minimum the creation of new ones.

⁶ For an overview, see Irslinger (2002: 22-26). There is a brief discussion in Schrijver (1991: 335). Longer arguments in de Bernardo Stempel (1987: 40-47) and Joseph (1982).

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