

Perfect Periphrases in Post-classical and Early Byzantine Greek

An ecological-evolutionary account*

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Abstract

I analyze the use and development of perfect periphrases with the verbs “be” (εἶμι) and “have” (ἔχω) in Post-classical and Early Byzantine Greek. While their importance has often been stressed in the context of the restructuring of the verbal system (more in particular the loss of the synthetic perfect), they have not received an in-depth, corpus-based treatment yet. The approach adopted in this article builds on insights from recently developed ecological-evolutionary models, which recognize the fact that language change is a two-step process, consisting of *innovation* and *propagation*, and that multiple ‘ecological’ factors influence the spread of a construction through the population (what I discuss in terms of ‘register’).

Keywords

Ancient Greek, perfect, periphrasis, diachrony, ecology, register

1. Introduction

This article discusses the development of the Post-classical and Early Byzantine Greek verbal system, concentrating on the functional domain of perfect aspect.¹ As shown by Haspelmath (1992) among others, during its history the so-called ‘synthetic’ perfect underwent two major semantic shifts² (both shifts being common from a cross-linguistic point of view, see Bybee & Dahl 1989; Bybee, Perkins & Pagliuca 1994), whereby it came to denote an increasingly more salient (past) event. Appearing in Archaic/Homeric Greek with a stative/resultative function (as in πέπηγα (*pepēga*) “I am stuck”), it developed into an anterior perfect in Classical Greek (though maintaining its earlier resultative function), a semantic shift which increased its past-

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¹ The aspectual functions of the perfect (as a universal, cross-linguistic semantic category) can be placed onto a continuum which ranges from *subject/state-orientedness* to *event-orientedness*, with a major distinction between a *stative/resultative* perfect (e.g. ὄλωλα (*olōla*) “I am destroyed”, λέλυται (*lelutai*) “it is solved”), denoting the state in which the subject finds him/her/itself (whether or not as a result of a past event), and an *anterior* perfect (e.g. γέγραφα ταῦτα (*gegrapha tauta*) “I have written these things”, ἀπέκτονα αὐτόν (*apektona auton*) “I have killed him”), denoting a past event with current relevance.

² There is no consensus as to when these shifts should be dated, which can be (partly) attributed to the fact that we are dealing with a continuous process, whereby examples with the old aspectual function still remain in use. The first shift is often dated to the Classical period (V – IV BC) (but see Ruijgh 2004:32 for an earlier dating), and the second shift to the Early Post-classical period (III – I BC) (but see McKay 1980:23 and Porter 1989:273 for a much later dating).

orientedness (now denoting the current relevant of a past event, as in ταῦτα ἀκηκόατε (*tauta akēkoate*) “you have heard this”). This tendency continued in Post-classical Greek, where the synthetic perfect even came to be used as a perfective past.³ This second semantic shift brought the synthetic perfect in direct competition with the synthetic aorist, eventually leading to its disappearance.

In this context, many scholars have drawn attention to the importance of periphrastic constructions (partially) replacing the synthetic perfect (see e.g. recently Gerö & Von Stechow 2003:283; Dickey 2009:155; Horrocks 2010:178), together with the aorist.⁴ In what is still the standard work on the subject, Aerts (1965) singles out two major periphrastic constructions, εἰμί (*eimi*) with perfect participle and εἰμί (*eimi*) with aorist participle, describing the former as ‘intransitive and situation-fixing’ (i.e. resultative) and characterizing the latter as a ‘pluperfect periphrasis’ (i.e. past anterior (presumably)). Aerts (1965:161) also refers to the construction of ἔχω (*ekhō*) with passive perfect participle, but does not consider it periphrastic. In this article, I present the results of a corpus-based investigation into the diachrony of perfect periphrases with εἰμί (*eimi*) and ἔχω (*ekhō*), showing that (a) the standard account is oversimplified when it comes to the use and diachrony of these (two/three) major periphrases, and (b) that the number of different perfect periphrases is much greater than has commonly been assumed (due to the fact that there has not been any systematic investigation of a representative corpus of texts; but see most recently Giannaris 2011a, 2011b, focusing on the construction with εἰμί (*eimi*)). I concentrate on the period from the third century BC to the eighth century AD, which I divide into four sub-periods (based on a suggestion by Lee 2007:113), called ‘Early Post-classical Greek’ (‘EPG’; 3^d – 1st c. BC), ‘Middle Post-classical

³ See e.g. passages such as καὶ εἴληφεν ὁ ἄγγελος τὸν λιβανωτόν, καὶ ἐγέμισεν αὐτόν (*kai eilēphen ho angelos ton libanōton, kai egemisen auton*) (Rev. 8.5) “and the angel took the censer and filled it”, where the perfect is co-ordinated with an aorist form.

⁴ Already in the Archaic and Classical periods, the aorist could be used with a perfect-like value. See e.g. Mandilaras (1972:14; ‘perfective aorist’) and Friedrich (1974:12; ‘resultative aorist’).

Greek’ (‘MPG’; 1st – 3^d c. AD), ‘Late Post-classical Greek’ (‘LPG’; 4th – 6th c. AD) and ‘Early Byzantine Greek’ (‘EBG’; 7th – 8th c. AD).

The linguistic study of the Post-classical and Byzantine periods confronts us with a number of difficulties. One element which is particularly often referred to concerns the nature of our primary (written) sources. As Browning (1969:13) writes, “any formal utterance, and in particular any written sample of language, differed considerably from ‘normal’ speech”. In general, the approach that has been advocated for the past decades has consisted in attempting to *reconstruct* or *approximate* the spoken language by focusing almost exclusively on ‘authentic’ texts such as the papyri and other low/middle-register documents (see e.g. Mirambel 1966:169-70; Browning 1969:14; Moser 1988:17; for ‘textual authenticity’, see Herring, van Reenen & Schösler 2001). I should stress from the outset that this will not be my intention. In my view, this strategy does injustice not only to the fundamental difference between spoken and written texts (Biber & Conrad 2009:85, 109), but also to their interrelationship. I take it that Ancient Greek can only be approached as a text-language (Fleischman 2000), and that our primary aim should be to describe and analyze the variation found in different types of texts (cf. similarly Manolissou 2008:74), rather than trying “to acquire a complete picture of the contemporary vernacular” (Markopoulos 2009:17).

Before going into the analysis of perfect periphrases with εἰμί (*eimi*) and ἔχω (*ekhō*) (§4), I introduce the theoretical framework adopted in this article (§2), and its application to written text (§3).

2. The ecological-evolutionary framework

In order to describe and analyze the variation found in the texts under analysis, I adopt an ‘ecological-evolutionary’ perspective. In this framework, language is explicitly compared to other cultural and natural phenomena such as biological life, human and animal societies, national economies, the internet etc.⁵ and their evolutionary principles are compared (though not excluding ‘species-specific principles’, Mufwene 2001:145). While in the nineteenth century attention was repeatedly drawn to similarities between linguistics and biology, in the twentieth century (with the advent of structuralism and its intellectual successor, generative grammar) such parallels were no longer appreciated (to say the least). In recent years, however, evolutionary models of language have again increased in popularity (Croft 2002:75 speaks of a “renaissance of interest”), perhaps due to the influence of socio-historical linguistics. In what follows, I will focus on the work of two leading proponents, Croft (e.g. 2000, 2002, 2006a, 2006b) and Mufwene (e.g. 2001, 2008).

2.1. *Language: multiple levels of existence*

Language is considered to exist at two main (interdependent) levels, namely that of the individual (as *idiolect*) and the community (as *communal language*, which is conceived of as a population of idiolects) (Mufwene 2001; what Frank & Gontier 2010 call the ‘local’ and the ‘global’ level). Contrary to what is upheld by linguists working within the generative paradigm,⁶ not *homogeneity* but (structured) *heterogeneity* is central to the ecological-evolutionary framework, at both of the above-mentioned levels.

⁵ For a number of typical characteristics of *complex adaptive systems*, see e.g. Mufwene (2001:157).

⁶ Cf. the oft-quoted passage where Chomsky (1965:3-4) writes that “linguistic theory is concerned with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention

As Frank & Gontier (2010:41-2) note, both levels belong to one single unified dynamic system. They describe the interrelationship between these two levels in terms of a *bottom-up* and *top-down* process (Frank & Gontier 2010:39):

“the CAS [Complex Adaptive System, KB] approach to language states that *global order* derives from *local* interactions. Language agents are carriers of individual linguistic knowledge which becomes overt behavior in local interactions between agents. Through these *local level* (microscopic) interactions agents construct and acquire individual ontologies, lexicons and grammars. When the latter are sufficiently entrenched within the system, they become part of the *global level* (macroscopic) properties of collective ontologies, lexicons and grammars of the speech community. Actually, the process is even non-linear in the sense that individual ontologies, lexicons and grammars continuously contribute to and, in turn, are influenced by the global level”

Of course, the dichotomy between individual and global is a very general one, which can be further refined (especially with regard to the global level). Croft (2000:90-4, 166-73) for example recognizes two types of societal heterogeneity. Firstly, a society is made up out of different *speech communities*, which can be defined in terms of (social) domains (e.g. school, family, friends) or shared expertise (e.g. linguistics, cooking, informatics), rather than individuals. Since each individual typically belongs to multiple speech communities, each with their own code,⁷ (s)he will speak multiple codes (known as the individual’s *repertoire*). Secondly, Croft also recognizes the existence of *social networks*, which provides an alternative (lower-level) way of looking at speech communities, focusing on the individual. The social network of a given individual consists of the links between that individual and the other persons with whom (s)he is in contact.

and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance”.

⁷ Of course, much of the language of such specialized communities overlaps, especially when it comes to core expertise (Croft 2002:81).

2.2. Language evolution

The most detailed model of language evolution that has been proposed so far is that of Croft (called “the theory of utterance selection” or TUS; see especially Croft 2000, 2006a, 2006b). Rather than using metaphors or analogies derived from biological evolution, Croft departs from an abstract model of change, which distinguishes between three types of replication, that is, *normal replication*, *altered replication* and *differential replication*.

Before looking into the details of Croft’s proposal, we must clarify what the basic unit of language evolution (called *replicator*) is and how exactly it is replicated. Croft (2002:79) calls the unit of replication the *lingueme*⁸ (compare Nettle’s 1999 *item* and Mufwene’s 2001 (*linguistic*) *feature*), and defines it as ‘a token of linguistic structure’, “anything from a phoneme to a morpheme to a word to a syntactic construction, and also their conventional semantic/discourse-functional (information-structural) values”.⁹ Linguemes are replicated through *utterances* (Croft 2002:78, adopting an ‘utterance-based model of language change’).¹⁰

In what follows, I discuss the three types of replication. As the reader will notice, Croft’s evolutionary model attaches great importance to the notion of *convention* (see Croft 2006b:89 “linguistic convention governs all processes of change”), which allows to account for *stasis* as well as change.

⁸ The notion of lingueme resembles that of *construction* known from *Cognitive Linguistics* (especially that branch called ‘construction grammar’), of which Croft is one of the main proponents. As this notion carries the same load and is much more familiar to most linguists, I will use it in the remainder of this article.

⁹ Croft furthermore distinguishes between *schematic* and *substance* linguemes (words and morphemes can be called substance linguemes, as they have actual phonemic substance).

¹⁰ Croft’s view entails that as we are communicating we are constantly engaging in *abstraction* and *analysis*: “abstraction and analysis are the primary grammatical processes in language use. ... We are presented with grammatical wholes and must analyze them into their component units, syntactic and semantic, in the process of learning and (re)using language. ... The result of this process is a mapping from syntactic units onto components of meaning in the speaker’s mind” (Croft 2000:118).

2.2.1. Normal replication

This first type of replication can be defined in terms of *conformity to convention*. Every time we speak, grammatical structures (e.g. sounds, words and larger constructions) which we have encountered in previous utterances are copied (replicated).

2.2.2. Altered replication ('innovation')

Obviously, communication is hardly limited to identical replication: replication is always imperfect to some extent, most importantly because language use (to a large extent) is a *creative recombination process*, involving the (novel) combination of words and constructions of previously heard (and subsequently internalized) utterances (Croft 2006a:106), thus producing variation (what Croft 2006a:98-99 calls 'first-order variation'). As Garner (2005:96) observes, speakers constantly 'misuse' and invent words, and 'break the rules' of morphology of syntax (through 'error' or creativity, or a combination of both). This is called altered replication, or *breaking convention*. Through altered replication, variation arises, e.g. alternative pronunciations for the same word: [ru:t] ~ [rawt] for route; alternative terms for the same denotatum: *coke* ~ *soft drink* ~ *soda*; alternative syntactic constructions: *there are* ~ *there's* ~ *it's a lot of people there* (I borrow these examples from Mufwene 2008:69). The totality of variants for a given variable is called the 'lingueme pool' (compare Nettle's 1999 *linguistic pool* and Mufwene's 2001 *feature pool*).

2.2.3. Differential replication ('propagation' and 'selection')

Most often, the changes made by individual speakers will not have any effect on the communal language (Croft 2002:52). However, variants may also be differentially replicated: a variant which came into existence into one community will then spread to other communities via an innovator who has network ties with both communities (what Mufwene 2001:18 calls a 'macro-evolutionary development, and Croft 2006a:98-9 'second-order

variation'). Possibly, the other variants will then be eliminated. However, variation does not necessarily lead to elimination: variants can also survive in a newly defined niche, either through *functional specialization* (elimination of synonymy, division of the meaning/use of the competing forms) or *social specialization* (the variants are associated with distinct communities) (Croft 2000:177). Propagation can be considered the adoption and establishment of a new convention (in other words, new communal norms emerge). Once an innovation is sufficiently established (*normalized/conventionalized/generalized*), the social mechanisms that led to the propagation of the innovation in an earlier stage need no longer be at work (it is then normally replicated).

2.3. Causal mechanisms

As Croft (2002:80) notes, “the generalized theory of selection does not specify the causal mechanisms that cause replication, particularly altered replication, and selection”. In other words, these mechanisms are domain- (i.e. language-) specific. Croft distinguishes between three kinds of mechanisms, *teleological*, *intentional* and *non-intentional* ones, the first of which he (largely) dismisses. Croft furthermore makes a strict distinction between mechanisms for normal/altered replication on the one hand and differential replication on the other: the mechanisms for the former are considered *functional* and those for the latter *social*. In what follows, I give a brief overview of the main causal mechanisms.

2.3.1. (Functional) mechanisms for normal replication.

The main (intentional) mechanism for normal replication is conformity to convention (see Keller's 1994:94 maxim “talk in such a way that you are not misunderstood”). Croft also mentions the non-intentional mechanism of ‘entrenchment’ (i.e. psychological routinization due to frequency of occurrence).

2.3.2. (Functional) mechanisms for altered replication

With regard to the intentional mechanisms for altered replication, Croft again refers to Keller's (1994:101) maxims, most importantly the economy principle ("talk in such a way that you do not expend superfluous energy") and the principle of increased expressiveness (Keller 1994:101 provides a series of maxims such as "talk in such a way that you are noticed", "talk in an amusing, funny etc. way"). Crucial for altered replication are also a series of non-intentional mechanisms, most importantly form-function reanalysis (i.e. "the reanalysis of the mapping between morphosyntactic form in constructions and the semantic content that they denote"; Croft 2006b:82). Additionally, altered replication can come about through *interference* (the production of a foreign language lingueme through interlingual identification) and its language-internal variant *intraference* (the creation of a novel variant of a form with a new meaning through intralingual identification).

2.3.3. (Social) mechanisms for selection

In Croft's framework, the propagation of a change is socially determined:¹¹ the main intentional mechanisms for selection are social identification, (covert) prestige,¹² and accommodation. As Croft (2000:176) notes, "there appears to be a natural human tendency for a community to select one alternative as the conventional signal for a recurrent coordination problem". However, Croft also recognizes a non-intentional mechanism for selection, namely the (socio-psychological) factor of change in entrenchment (what Croft 2002:83 calls 'interactor-environment interaction'): when a given lingueme is socially less desirable, it will be less entrenched, and thus less often used.

¹¹ This does not mean that every production of an innovation after the first one will be socially motivated (Croft 2006b:81): a given variant can be produced independently many times before it acquires a social value.

¹² The role of prestige as a social factor has not been without discussion. Milroy & Milroy (1985:369-70) argue that "although a successful innovation needs in some sense to be positively evaluated, generalizations can be made about the social mechanisms controlling innovation and diffusion quite independently of the prestige value attached to any given innovation". Moreover, it has been observed that linguistic innovations can diffuse both upwards and downwards through the social hierarchy (Milroy & Milroy 1985:381).

2.4. *The actuation problem and language ecology*

With regard to the threefold distinction made in §2.3, especially the mechanisms for selection have received much discussion. This issue, known as the ‘actuation problem’, is formulated as follows by McMahon (1994:248): “the real actuation question is why some of these innovations [by individual speakers, KB] die out and others catch on, spreading through the community, or why certain instances of variation become change while others don’t”.

Various scholars do not maintain the strict distinction Croft makes between innovation and functional motivation on the one hand, and selection and social motivation on the other. Nettle (1999) and Haspelmath (1999), for example, both suggest that functional motivations can account for the selection of an innovation (on a par with environmental *adaptation* in biology). The recent overview-article published by Hruschka e.a. (co-authored by Croft) similarly recognizes that “many factors can plausibly influence the rate and success with which novel form-function mappings spread through populations” (2009:467), among others learnability, ease of use or expressivity of the construction, the structure of language itself, social factors and population structure.

One approach which explicitly takes into account the interaction of such multiple factors (functional and social), and which I will follow here, combines the evolutionary framework with a so-called ‘ecological’ perspective (Mufwene 2001, 2008). Similarly to Croft, Mufwene recognizes the existence of the evolutionary processes of *innovation* and *selection* (though Mufwene’s focus lies mostly on the latter). However, Mufwene approaches selection (at both levels) by means of the concept of *ecology*, which is derived from Ancient Greek οἶκος “house” and is employed in biology to express the idea that the whole earth is like a vast, interrelated household (Garner 2004:23). By extension, ecological thinking in linguistics (first

introduced by Einar Haugen in the 1970s) is concerned with the *context* in which language is used, including both *language-internal* and *language-external* ecological factors:

2.4.1. Language-internal ecology

One of the main language-internal ecological factors is variation, and the nature and size of the competing variants (in terms of frequency). Mufwene (2001:30) notes the following: “when there are alternative strategies for the same or similar grammatical functions, each of the variants becomes part of the ecology for the others and each one of them can be affected by what happens to the others” (compare Nettle 1999:9 on *ecological linkage*: “every item evolves in an ecosystem formed by the other items around it in the linguistic pool” and 34: “the total linguistic context acts as an ecosystem for any particular linguistic item”). Language-internal ecology also depends on simple systemic relations among different aspects of the linguistic system (cf. Nettle 1999:55).

2.4.2. Language-external ecology

Language-external factors act on a particular language through its ‘hosts’, the speakers. One very important ecological factor which is everywhere in our day-to-day interactions is language contact (Mufwene 2001:18) and multilingualism in general (Mufwene 2008:181). Another major ecological factor is called ‘social ecology’, referring to the impact of the social status of the model speakers of a given variant on its propagation, which imposes a ‘ranking’ of variants (compare with Croft’s social mechanisms for differential replication).

3. Applying the ecological-evolutionary framework to written text

The ecological-evolutionary approach provides a powerful theoretical framework for the study of linguistic variation. However, one (very important) question remains to be sorted out, namely how the framework can be operationalized for the study of *written* text. To be more

specific, what is needed is a general concept that enables us to compare the variation found in a broad range of texts (so not exclusively ‘spoken-like’ or ‘authentic’ ones),¹³ and possibly to relate our findings to the spoken language (though for text languages such as Ancient Greek the latter must remain hypothetical, and will not concern us here). I believe the concept of *register* is particularly relevant to such purposes. While there have been some studies on register in Ancient (mostly Post-classical) Greek (see e.g. Porter 1989:152-3; O’Donnell 2000; Willi 2003, 2010), most of these have been synchronically oriented. One scholar who has related register to diachrony is Markopoulos (2009). In his study of the diachrony of Ancient Greek future periphrases with the verbs ἔχω (*ekhō*) “I have”, θέλω (*thelō*) “I want” and μέλλω (*mellō*) “I am about to”, Markopoulos observes the following:

“the rise in the frequency of use and the establishment of a construction in a specific register almost without exception follows the demise of another in the same register, so that a situation whereby two or more AVCs [= auxiliary verb (‘periphrastic’) constructions, KB] are equally frequent in a genre or in all contexts in a period never obtains” (Markopoulos 2009:226).

Markopoulos furthermore posits a so-called ‘fifth, sociolinguistic, parameter of grammaticalization’, which predicts that “the further grammaticalized an AVC becomes, the higher up it rises in terms of sociolinguistic (register) acceptability” (Markopoulos 2009:232). From an ecological-evolutionary perspective, both observations make perfect sense, in view of what has been called ‘differential replication’ (i.e. the gradual spread of innovative constructions, and the elimination of variants).

A register can be broadly described as “a variety associated with a particular situation of use (including particular communicative purposes)” (Biber & Conrad 2009:6), presenting a set of typical linguistic features. Biber & Conrad (2009:2) note that one can also study a text from a genre or a style-perspective, but that these perspectives are more specialized (“a

¹³ For a similar perspective, cf. O’Donnell (2000:277-8): “in compiling a corpus of Hellenistic Greek ... it is also important to represent the broader extremes of the continuum, that is, both vulgar and Atticistic language, so that the whole of the language is represented and comparison studies can be undertaken”.

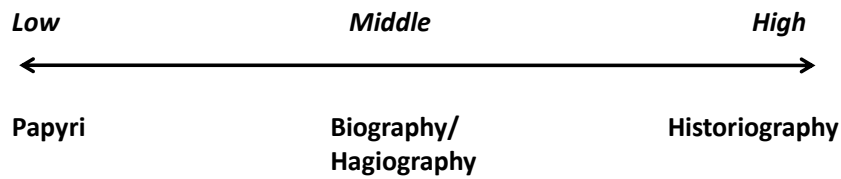
register analysis seeks to characterize a variety of language – not a particular text or an individual writer’s style”; Biber & Conrad 2009:10). Registers can be defined at various levels of specificity (Biber & Conrad 2009:32-3; Willi 2010:304), depending on the number of situational characteristics one takes into account (for an overview of such characteristics, see Biber & Conrad 2009:40). Perhaps the most well-known classification of registers in Post-classical Greek is that proposed by Porter (1989:152-3) and O’Donnell (2000:277), who recognize four main groups: ‘vulgar’ (e.g. papyri concerned with personal matters), ‘non-literary’ (e.g. official business papyri, Epictetus), ‘literary’ (Philo, Josephus, Polybius) and ‘Atticistic’ (Dionysius of Halicarnassus, Plutarch). For the purposes of this article, I make use of a threefold distinction between ‘low’, ‘middle’, and ‘high’ (following the recent studies of Høgel 2002 and Markopoulos 2009). Whether we recognize four or three registers, what is important is that these constitute points on a continuum. Two authors (or even one and the same) can both write in a linguistically high level, but differ in degree of Atticism.¹⁴

When compiling a corpus, it will thus be important to make it ‘register-balanced’ (O’Donnell 2000), so as to be able to describe variation in texts from different linguistic levels, and to analyze their interrelationship. Since there is not a single genre which covers the entire register-continuum, I have compiled a corpus consisting of texts belonging to three genres, (1) non-literary (documentary) papyri, (2) biographical/hagiographical texts, and (3) historiographical texts, covering the period from the third century BC to the eighth century AD.¹⁵ Generalizing, the non-literary papyri can be located towards the left side of the register-continuum, the biographical/hagiographical texts towards the middle, and the historiographical ones towards the right side, as shown in figure 1:

¹⁴ Note that even within one and the same text we can have register variation. As O’Donnell (2000:277) notes: “on the whole, the New Testament is closest to the non-literary variety, though parts might be considered vulgar (e.g. Revelation), while others could be seen as close to literary (e.g. Hebrews)”.

¹⁵ The only text which is less easily classified under one of these three genres is the Septuagint, which I have also included in the investigation (being one of the major linguistic sources for the Early Post-classical period).

Figure 1. The register-continuum (Post-classical and Early Byzantine Greek)



In what follows, I will discuss each of these genres in greater detail, with particular attention to three main situational characteristics, namely (a) author, (b) addressee, and (c) content/communicative purpose. We will see that with each of the three genres it is necessary to bring some nuance to their proposed position on the register-continuum. Figure 1 only provides a necessary starting point, and can be considered a crude generalization.

3.1. *Non-literary (documentary) papyri*

Contrary to biography/hagiography and historiography, the papyri constitute a (mainly) non-narrative genre, which (to a large extent) explains why we find it at the left of the continuum. Conventionally, the documentary papyri are divided into two main groups (and then further sub-divided, see Palme 2009) on the basis of addressee: ‘private’ (e.g. private communications, records of transactions, documents of piety) versus ‘public’ (e.g. petitions to officials, tax receipts, pronouncements of the government/administration). While private documents are generally taken to be written by ordinary people in an ‘unpretentious’ language, we must be careful not to overgeneralize. For one thing, private documents with an ‘official’ character were often written in a more formal register.¹⁶ Moreover, even in the case of the private letters, the educational level of the author could greatly vary (Salonius 1927:3).

¹⁶ In this context, Mandilaras (1972:10), discussing the language of the papyri, makes a broad distinction between two types of language, that is, 'the official language' (official and business documents) and the 'popular language' (private letters), observing with regard to the former that "this form of the language is in general artificial, characterized by repetitions, and built on stereotyped expressions which are always found in the bureaucratic system".

3.2. *Historiographical texts*

At the other end of the continuum, we find the historiographical texts. Indeed, the differences with regard to the three above mentioned situational characteristics could not be greater: the authors of these texts were well educated, writing about the glorious political/military deeds of the past, directing their work at an ‘educated, international public’ (Adrados 2005:196). Again, however, some nuance is necessary. A distinction which is commonly made (see e.g. Rosenqvist 2007:10-3) is that between (more traditional) historiographical works, which in the line of Herodotus and Thucydides try to give an impartial treatment of shorter periods of time, and so-called ‘chronicles’, which start with the creation of the world and continue to the time of the author, often with the purpose of showing the hand of God in historical events.¹⁷ Works of the second type (in our case, the chronicles of John Malalas and Theophanes Confessor, next to the so-called *Paschal Chronicle*) were generally written in a less elevated language than the (often) classicizing histories (see Rosenqvist 2007:18 with regard to Malalas). Even with the first type of texts, however, there were some authors who wrote in a lower register (Polybius being a well-known example, see e.g. Horrocks 2010:96).

3.3. *Biographical/Hagiographical works*

The third genre, which I have situated towards the middle of the register-continuum, is the most disparate with regard to the above-mentioned situational characteristics. In comparison with historiography, biographical/hagiographical texts did not aim at recounting the glorious events of the past, but rather focused on a single personality (Cox 1983:12).¹⁸ Since most of these texts are written in a much lower register than the historiographical ones (see Høgel

¹⁷ According to Rosenqvist (2007:10), so-called ‘church histories’ constitute a third type, but this will not further concern us here.

¹⁸ See already Plutarch, *Pompeius* 8.6.

2002:25 “an idea of simplicity permeated hagiography”), it would seem that they were directed at a much broader audience (readers and listeners!), including people from the general populace (Høgel 2002:30). Their authors could belong to the lower strata of society, but the picture is diverse (in any case, we must take into account that these authors were literate, which was a privilege *in se*): they were written by followers of the saints, monks, deacons, and occasionally even by people with a very high social position, such as the patriarch Athanasius (Høgel 2002:29).

Several remarks are in order. Firstly, the corpus also contains a selection of Plutarch’s pagan biographies, which were written in the high register (since Plutarch adopted the ‘chronological’ rather than the ‘topical’ mode for his biographies (Cox 1983:56), his work is much closer to historiography anyway). Secondly, as can be seen in the appendix, biography/hagiography does not constitute a uniform genre: the corpus contains *acts*, *apocalypses*, *gospels*, *encomia*, *homilies*, *miracles*, *laudations*, *lives* and *passions*. Of these, especially the encomia, homilies and laudations (i.e. subgenres concerned with praise) are more rhetorically elaborated (see Høgel 2002:22) and hence positioned more to the right of the register-continuum. Thirdly, the genre itself was subject to diachronic changes: when in the fourth century Christianity received imperial support, the Cappadocian fathers (who were highly educated) did not write ‘simple language’, but adopted the “style, form and vocabulary of their own earlier training” (Cameron 1991:111), even in hagiography.¹⁹ As a result, biographical/hagiographical texts “ranged over the entire literary spectrum and appealed to readers of all educational levels” (Cameron 1991:147).

¹⁹ As Høgel (2002:27) notes, however, high-register hagiographical texts are mostly confined to the fourth and seventh/eighth centuries (with authors such as Sophronius, Gregory the Presbyter, Ignatius the Deacon, and Stephan the Deacon).

Data have been collected on the basis of two online (lemmatized) databases, the *Thesaurus Linguae Graecae* (TLG)²⁰ (biography/hagiography and historiography)²¹ and the *Duke Databank of Documentary Papyri* (DDBDP, version 2010)²² (papyri). While these are invaluable resources for large-scale diachronic research, it must not be forgotten that they have their limitations. The main disadvantage of the TLG is that it does not display the critical apparatus. Recent research, however, has emphasized the importance of taking into account these variants for diachronic linguistic research (see e.g. Fleischman 2000; Manolassou 2008). A limitation of the DDBDP (which does display the critical apparatus) is that it does not mention the number of words for each text (which, undoubtedly, is to be attributed to the nature of these documents), as a result of which it will not be possible to provide normed rates of occurrence when discussing the papyri. To get a rough image of the number of papyri per period studied, we can rely on the study of Habermann (1998),²³ according to whom the Early Post-classical papyri represent 20% of the total number of papyri, the Middle Post-classical ones almost 50%, the Late Post-classical ones 23% and the Early Byzantine ones only 7% (the low percentage of Early Byzantine papyri being due to the fact that Egypt fell into Arab hands in the seventh century AD, whereby Arabic became the dominant language in the region).

²⁰ At <http://stephanus.tlg.uci.edu> (*University of California*).

²¹ See appendix for an overview of the literary sources. For the abbreviations of the Post-classical and Early Byzantine texts, I follow Lampe (1976).

²² At <http://www.papyri.info> (*Duke University*).

²³ For further discussion, see Dickey (2003).

4. The diachrony of perfect periphrases with εἰμί and ἔχω in Post-classical and Early Byzantine Greek

4.1. Early Post-classical Greek (III – I BC)

4.1.1. Εἰμί with perfect participle: dominant perfect periphrasis

As in Classical Greek (henceforth abbreviated as CG), εἰμί (*eimi*) with perfect participle constitutes the dominant perfect periphrasis in the EPG period. The general characteristics of the construction (with regard to *frequency of occurrence*, *aspectual semantics* and *morphology*) are much the same, though there are some small differences (especially in the middle register).

In table 1, I compare the frequency of occurrence of εἰμί (*eimi*) with perfect participle (normed rate of occurrence or ‘NRO’ calculated per 10000 words) in the Early Post-classical texts from our corpus with that in the work of two representative classical authors:²⁴

Table 1. Frequency of occurrence of εἰμί with perfect participle in EPG

Text	Author	Date	Total	NRO (/10000)
(all works)	Xenophon	V - IV BC	138	4,3
(all works)	Demosthenes	IV BC	120	4,0
Septuagint		III -II BC	202	3,1
Histories	Polybius	III - II BC	48	1,5
Apocalypse of Enoch		II - I BC	4	(4,6)
Roman Antiquities	Dionysius of Halicarnassus	I BC	67	2,3
Life of Adam and Eve		I BC - I AD	2	(4,3)

In comparison with Xenophon and Demosthenes, there does not seem to be an increase in frequency in EPG (to the contrary). Note that there may be a register difference, in that the periphrastic perfect seems to be most often used in middle-register texts (the Septuagint, the *Apocalypse of Enoch*, and the *life of Adam and Eve*). It is difficult to make any

²⁴ The data provided for Xenophon and Demosthenes are taken from Bentein 2012.

generalizations, however, as it is not clear to what extent these isolated texts are representative for the entire register (regrettably, the number of middle-register texts in EPG is limited). In any case, Polybius (who, as I have mentioned above, writes in a lower register than the other historiographers) does not seem to follow this trend.

As for the semantics of εἰμί (*eimi*) with perfect participle, scholars such as Aerts (1965) (see §1) and Moser (1988) consider the aspectual range of εἰμί (*eimi*) with perfect participle to have been limited to a resultative (i.e. stative) function. Moser for example writes that:

“given that it has been established that the same function, that of denoting a state, appears at both ends of the continuum, Homeric and present-day Greek, and that the εἶμαι construction is the oldest of the periphrastic forms under investigation, it seems probable that it has always fulfilled this function” (Moser 1988:229)

Recently, Bentein (2012) has argued that such a view must be dismissed as far as CG is concerned. Bentein shows that the construction was propagated in fifth and especially fourth-century Greek, with an accompanying increase in frequency. During this period, the aspectual semantics of εἰμί (*eimi*) with perfect participle shifted from a resultative to an anterior function, similarly to what was the case for the synthetic perfect. In EPG as well, the construction could be used with both aspectual functions. Consider examples (1) (resultative) and (2) (anterior).²⁵

- (1) ἐλούετο δὲ καὶ τοῖς δημοσίοις βαλανείοις, ὅτε δημοτῶν
eloueto de kan tois dēmosiois balaneiois, hote dēmotōn
 he.bathed PTC also.in the public baths when of.common.people
 ἦν τὰ βαλανεῖα πεπληρωμένα, κεραμίων εἰσφερομένων αὐτῷ
ēn ta balaneia peplērōmena, keramiōn eispheromenōn autōi
 it.was the baths filled jars.GEN being.brought.in for.him
 μύρων τῶν πολυτελεστάτων
murōn tōn polutelestātōn
 of.oils the most.precious

²⁵ The Greek text of the examples is based on the TLG or the DDBDP. The transliteration follows standard rules, and is not intended to reflect the historical pronunciation.

“he also used to bathe in the public baths, when they were full of common people, having jars of the most precious ointments brought in for him” (tr. Shuckburgh, modified) (Pol., *Hist.* 26.1.12)

- (2) καὶ εἶδεν Μουσῆς πάντα τὰ ἔργα, καὶ ἦσαν πεποιηκότες
 kai eiden Mōusēs panta ta erga, kai ēsan pepoiēkotes
 and he.saw Moses all the works and they.were having.been.done
 αὐτὰ ὃν τρόπον συνέταξεν κύριος τῷ Μουσῇ
 auta hon tropōn sunetaksen kurios tōi Mōusēi
 these.things which way he.ordered Lord to.the Moses
 “and Moses saw all the work, and they had done it the way the Lord had ordered
 Moses” (ESV, modified) (Ex. 39.23)

While in (1) a property of the subject is indicated (the public baths being full), in (2) the periphrastic perfect denotes a past event that has current relevance at the time of Moses’ seeing.

Table (2) gives an overview of the percentage of resultative versus anterior perfects, again in comparison with Xenophon and Demosthenes (in whose work the anterior (periphrastic) perfect came to be fully employed, see Bentein 2012:29):

Table 2. Distribution of εἰμί with perfect participle in EPG (aspectual function)

Text	Author	Date	Total	Resultative	Anterior
(all works)	Xenophon	V - IV BC	138	70 (51%)	68 (49%)
(all works)	Demosthenes	IV BC	120	30 (25%)	90 (75%)
Septuagint		III - II BC	202	172 (85%)	31 (15%)
Histories	Polybius	III - II BC	48	24 (50%)	24 (50%)
Apocalypse of Enoch		II - I BC	4	4 (100%)	0,0
Roman Antiquities	Dionysius of Halicarnassus	I BC	67	28 (42%)	39 (58%)
Life of Adam and Eve		I BC - I AD	2	2 (100%)	0,0

This table indicates that the anterior function, which had become predominant in a number of authors in fourth-century Classical Greek (see e.g. Demosthenes), came to be less often employed in EPG. This is most noticeable in three middle-register texts, the Septuagint, the *Apocalypse of Enoch* and the *Life of Adam and Eve* (with percentages ranging from 85 to

100%; but note the small number of instances in the latter works). However, it is much less the case in the work of Polybius and especially Dionysius of Halicarnassus, where anteriors are equally frequent, or in the majority (here, the percentages resemble those for Xenophon).

One language-internal ecological factor which facilitated the spread of εἰμί (*eimi*) with perfect participle in CG were morphological difficulties in certain areas of the synthetic paradigm, most importantly the passive perfect and pluperfect indicative (third person), the (active/)passive subjunctive and optative and the active(/passive) future perfect indicative (see e.g. Smyth 1980[1920]:182-3, 198-9). In these domains, the periphrastic perfect presented an alternative formation, which came to be paradigmatically integrated. Table (3) shows the distribution of εἰμί (*eimi*) with perfect participle with regard to mood in EPG, in comparison again with Xenophon and Demosthenes:

Table 3. Distribution of εἰμί with perfect participle in EPG (mood)

Text	Author	Period	Total	IMP	IND	INF	OPT	PART	SUBJ
(all works)	Xenophon	V - IV BC	138	0	85 (62%)	2 (1%)	29 (21%)	0	22 (16%)
(all works)	Demosthenes	IV BC	120	0	73 (60%)	1 (1%)	27 (23%)	0	19 (16%)
Septuagint		III - II BC	202	13 (7%)	169 (84%)	2 (1%)	7 (3%)	0	11 (5%)
Histories	Polybius	III - II BC	48	0	32 (67%)	3 (6%)	6 (13%)	0	7 (14%)
Apocalypse of Enoch		II - I BC	4	0	4 (100%)	0	0	0	0
Roman Antiquities	Dionysius of Halicarnassus	I BC	67	1 (1%)	57 (86%)	2 (3%)	6 (9%)	1 (1%)	0
Life of Adam and Eve		I BC - I AD	2	0	2 (100%)	0	0	0	0

Key: ‘IMP’ = imperative; ‘IND’ = indicative; ‘INF’ = infinitive; ‘OPT’ = optative; ‘PART’ = participle; ‘SUBJ’ = subjunctive.

Here we see that much more so than in CG, εἰμί (*eimi*) with perfect participle is used in the indicative mood (a tendency which is again most clear in middle-register works, i.e. the

Septuagint, the Apocalypse of Enoch and the Life of Adam and Eve; but note the low degree of subjunctives in Dionysius of Halicarnassus' *Roman Antiquities*). One mood which is more often used than in CG is the imperative (Bentein 2012:30 indicates that there are only ten examples, including the Archaic period). As this table indicates, almost all of the examples can be found in the Septuagint.²⁶

4.1.2. The Ptolemaic papyri: periphrasis and formulaicity

In the Ptolemaic papyri εἰμί (*eimi*) with perfect participle is particularly well attested, more so than in any of the other periods under discussion: the examples (of εἰμί (*eimi*) with perfect participle) from this period account for 55% of all papyrological examples (282/510). Since according to the study of Habermann (1998) the Ptolemaic papyri represent (only) 20% of the total number of papyri, this can be taken as a clear indication of the overall productivity of the construction in this period of the language. From a semantic and morphological point of view, the use of the construction in the papyri is comparable to that in the literary texts. There are some noticeable divergences, but we will see that these can be attributed to the influence of formulaicity.

The construction is mostly used in the indicative mood (72% (= 202/282)). However, it also occurs in the optative and especially subjunctive mood (and exceptionally in the infinitive mood), e.g. ὁ ἄν προειληφὼς ἦι (*ho an proeilēphōs ēi*) (P.Petr.3.43, fr.2, 4, l. 42 (after 245 BC)) “that what he has already received”, ἐὰν ἦι κατεσπαρμένη (*ean ēi ... katesparmenē*) (P.Eleph.14, l. 15 (223 - 222 BC)) “if it has been sown”, ὥς εἴημεν κατεσχηκότες (*hōs eiēmen kateskhēkotes*) (SB.22.15546, l. 9 (II BC)) “that we have gained possession of”. Much more so than in the literary texts, the construction is used in the future tense (98/282= 35% (!)), e.g. [ἔστ]αι πεφροντισμένον (*[est]ai pephrontismenon*) (P.Petr.2.13,

²⁶ See e.g. 2Chron. 6.40; Gen. 27.33; Ex. 28.20; 3Kings 8.52; Prov. 3.5; Sir. 5.10. Cf. also Dion. Hal., *Ant. Rom.* 4.6.4.

19, l. 13-4 (255 BC)) “it will have been considered”, ἔσει βεβο [ι] ηθηκῶ[ς] (*esei bebo [i] ēthēkō[s]*) (P.Cair.Zen.2.59272, l. 5 (251 BC)) “you will have helped”, ἐσόμεθα ἀντειλημμένοι (*esometha anteilēmmenoi*) (BGU4.1193, l. 13-4 (8 BC)) “we will have been helped”. Surprisingly, the construction is more often attested in other persons than 3SG/PL (the latter only represent 40% (114/282)), 1SG being especially well represented: ἵνα ἀπολελυμένος ᾖ (*hina apolelumenos ō*) (PSI.5.529, l. 5-8 (III BC)) “so that I will be discharged”, ἤμην δεδοκώς (*ēmēn dedōkōs*) (P.Tebt.5.1155, l. 5 (114/113 BC)) “I had given”, ἵν’ ᾧ μὴ παρεωραμένος (*hin’ ō mē pareōramenos*) (BGU.8.1830, l. 6 (51 BC)) “so that I will not have been neglected”.

Semantically, both resultative and anterior perfects are well attested, dismissing the view that periphrastic εἰμί (*eimi*) with perfect participle would have been restricted to a ‘stative’ aspectual function. Some resultative examples, where the participle indicates a property of the subject, are: (about a wall) πεπτωκός ἐστιν (*peptōkos estin*) (P.Petr.2.13, 3, l. 3 (255 BC)) “it is ruined”, (about peasants) ἂν τινες ᾧσι κατατεταμένο[ι] ἢ καὶ παντ[ελῶς ἀ]γνεύμενοι (*an tines ōsi katatetameno[i] e kai pant[elōs a]gneimenoi*) (P.Tebt.3.1.703, 2, l. 60-1 (ca. 210 BC)) “if some are hard pressed or even completely exhausted”, (about one’s eyes) κεκλειμ[ένοι] ἦσαν (*kekleimenoi ēsan*) (UPZ.1.78, l. 6-7 (after 159 BC)) “they were closed”. In various other examples, the construction has an anterior function. Such anterior perfects are used in situations where a past event has current relevance, such as a theft in (3):

- (3) τοῦ δὲ κδ (ἔτους), οὔτε ἐκ τοῦ βασιλικοῦ οἱ προειρημένοι
tou de kd (etous), oute ek tou basilikou hoi proeirēmenoi
 in.the PTC 24 year nor from the Treasury the aforementioned
 μμισθωμένοι τὸ ἡμικλήριον, οὔτε πρὸς ἐμὲ ὄντος αὐτοῖς
memisthōmenoi to hēmiklērion, oute pros eme ontos autois
 having.rented the half.a.lot nor towards me existing.GEN for.them
 οὐθενὸς συναλλάγματος, κατέσπειραν σησάμωι καὶ σίτωι καὶ
outhenos sunallagmatos, katespeiran sēsamōi kai sitōi kai
 none.whatever contract they.sowed with.sesame and with.grain and

ἀπενηνεγμένοι εἰσὶν παρὰ πάντα τὰ δίκαια
apēnēnegmenoi eisin para panta ta dikaia
having.taken.away they.are against all the justice

“in the year 24 the aforementioned, without having rented half of the lot from the Treasury, and without there being any contract with me, have sown it with sesame and grain, and have brought in the harvest against all justice” (tr. Guéraud, originally in French) (P.Enteux.55, l. 7-9 (222 BC))

When considering these morphological and semantic findings we must take into account the influence of formulaicity. One type of expression which occurs particularly frequently (for the verb τυγχάνω (*tunkhanō*) “I receive” alone I have found 85 instances) is generally found towards the end of the text, before the closing formula. It stresses the fact that if this or that has been done (i.e. the question or request found in the main body of the text), the writer will be greatly helped by the addressee.²⁷ Typically the content verbs used in this type of formula express a notion of help or aid, e.g. βοηθέω (*boētheō*) “I help”, εὐεργετέω (*euergeteō*) “I show kindness to”, εὐγνωμονέω (*eugnōmoneō*) “I reward”, σώζω (*sōizō*) “I save”, φιλανθρωπέω (*philanthrōpeō*) “I treat kindly”, χαρίζω (*kharizō*) “I show somebody a favour” etc., which is most often passivized (“I will have been ...”).²⁸ Alternatively, a verb such as τυγχάνω (*tunkhanō*) or μεταλαμβάνω (*metalambanō*) “I receive” could be used with a genitival complement, as in (4). In this papyrus a certain woman called Crateia addresses the king because she has not received the burial-money (τὸ ταφικόν (*to taphikon*)) for her brother Apollodotus from Philippus and Dionysius.

- (4) [δέομαι] οὖν σου, βασιλεῦ, εἴ σοι δοκεῖ, προστ[ά]ξαι
[deomai] oun sou, basileu, ei soi dokei, prost[a]ksai
I.ask so of.you king.VOC if to.you it.seems.good to.order
Διοφάνει τῷ στρα[τ]ηγῷ ἐπαναγκάσαι ἀποδοῦναί μοι τὸ

²⁷ This particularly concerns the petitions. As White (1972:xii) notes, reference to “anticipated justice the petitioner will receive if the request is granted” was a structural part of petitions.

²⁸ Another, less often employed, alternative consists in using a verb expressing a notion of neglect such as ἀδικέω (*adikeō*) “I do injustice”, ἀποστρέφω (*apostrephō*) “I abandon”, λυπέω (*lupeō*) “I grieve”, παροράω (*paroraō*) “I disregard”, which is then negated and passivized (“I will not have been ...”).

<i>Diophanei</i>	<i>tōi</i>	<i>stra[t]ēgōi</i>	<i>epanankasai</i>	<i>apodounai</i>	<i>moi</i>	<i>to</i>
to.Diophanes	the	strategus	to.constrain	to.pay	to.me	the
ταφικόν.	τ[ού]του	[γ]ὰρ	γε]νομένου,	<u>ἔσομαι</u>	διὰ	σέ,
<i>taphikon.</i>	<i>t[ou]tou</i>	<i>[g]a[r</i>	<i>ge]nomou,</i>	<i><u>esomai</u></i>	<i>dia</i>	<i>se,</i>
burial.money	this.GEN	for	having.happened	I.will.be	through	you
βασιλεῦ,	τοῦ	δι[καί]ου	<u>τετευχῦα</u>			
<i>basileu,</i>	<i>tou</i>	<i>di[kai]ou</i>	<i><u>teteukhuia</u></i>			
king.VOC	the	justice	having.obtained			

“so I ask of you, oh King, if it seems good to you, to order Diophanes the strategus to constrain (them) to pay me the burial-money. For if this has been done, I will have obtained justice through you, oh King” (tr. Guéraud, originally in French) (P.Enteux.20, l. 6-8 (221 BC))

The use of periphrastic constructions in this type of expression accounts for more than half of the papyrological examples. This explains some of the remarkable features which I have mentioned above, that is, the frequent employment of the construction in the first or second person, in the future, in the subjunctive mood, and with an anterior function.

4.1.3. εἰμί with perfect participle in the Septuagint: Hebrew interference?

As Table 1 shows, most of the examples of εἰμί (*eimi*) with perfect participle can be found in the Septuagint. In this context, we must ask ourselves to what extent the Hebrew model could have exerted an ecological pressure on the use of periphrastic perfects in Greek. The task at hand is facilitated by recent research of Evans (2001), who in his book on verbal syntax in the Greek Pentateuch dedicates an entire chapter to the use of periphrastic constructions. In his analysis of Hebrew interference, Evans (2001:250) distinguishes between different degrees of structural motivation, proposing a division between three broad translation-technical categories. The first of these is most clear, and comprises Hebrew constructions which bear an obvious structural affinity to periphrastic εἰμί (*eimi*): Hebrew הָיָה (*hāyāh*) “be” with participle, and also a Hebrew pronoun or particle (e.g. הִנֵּה (*hinnēh*) “behold”) combined with

the participle.²⁹ The second category mostly consists of Hebrew הָיָה (*hāyāh*) with a noun or adjective, while the third refers to freely used Greek periphrases. In illustration, consider the following examples:

Category 1

- (5) לֹא יִהְיֶה סָגוּר הַזֶּה הַשַּׁעַר יְהוָה אֵלַי וַיֹּאמֶר
lō' yihyeh sāgur hazzeh hašša'ar y^ehōwāh 'elay wayō'mer
 not it.will.be closed the.this the.gate Yehovah to.me and.he.said
 יִפָּתַח
yippātēḥa
 it.will.be.opened

καὶ εἶπεν κύριος πρὸς με Ἡ πύλη αὕτη κεκλεισμένη ἔσται,
kai eipen kurios pros me hē pulē hautē kekleismenē estai,
 and he.said Lord to me the gate this closed will.be

οὐκ ἀνοιχθήσεται

ouk anoikhthēsetai

not it.will.be.opened

“and the Lord said to me, ‘This gate shall be shut, it shall not be opened’” (ESV, slightly modified) (Ez. 44.2)

Category 2

- (6) אָזָר וְהֶאֱמֹנָה מִתְנַיִר אָזָר צְדָק וְהָיָה
'ēzōwr w^ehā^emunāh maṯnāw 'ēzōwr šedeq w^ehāyāh
 girdle and.faithfulness of.his.loins girdle righteousness and.it.will.be
 הָלָצָיו
h^alāṣāw
 of.his.reins

καὶ ἔσται δικαιοσύνη ἐζωσμένος τὴν ὀσφὺν αὐτοῦ καὶ
kai estai dikaiosunēi ezōsmenos tēn osphun autou kai
 and he.will.be with.justice girt the loins of.him and

ἀληθείᾳ εἰλημένος τὰς πλευράς

alētheiai eilēmenos tas pleuras

with.truth bound the side

²⁹ Constructions consisting of a Hebrew pronoun or particle combined with a participle already show a lesser degree of structural affinity with Ancient Greek εἰμί (*eimi*) with perfect participle.

“and he shall have his loins girt with righteousness, and his sides clothed with truth”
(tr. Brenton) (Isa. 11.5)

Category 3

- (7) וְהָיָה־מֵת אֶת־בְּנִי לְהִינִיק בַּבֶּקֶר וָאָקָם
 w^ehinnēh-mēt *'et-b^eni* *l^ehēniq* *babbōqer* *wā'āqum*
 and.behold.he.was.dead my.son to.suckle in.the.morning and.I.rose

καὶ ἀνέστην τὸ πρωὶ θηλάσαι τὸν υἱόν μου, καὶ ἐκεῖνος
kai anestēn to prōi thēlasai ton huion mou, kai ekeinos
 and I.rose the morning to.suckle the son of.me and he

ἦν τεθνηκώς
ēn tethnēkōs
 was dead

“and I arose in the morning to suckle my son, and he was dead” (tr. Brenton)
(1Kings 3.21)

In (5) we encounter the highest degree of structural similarity: Hebrew סָגַר יְהִיָּה (*sāgur yihyeh*) (with imperfect 3SG of הָיָה (*hāyāh*) “be” and the passive participle (qal-formation) of סָגַר (*sāgar*) “to close”) is translated by Greek κεκλεισμένη ἔσται (*kekleismenē estai*) (with future 3SG of εἰμί (*eimi*) “I am” and the passive perfect participle of κλείω (*kleiō*) “I close”). Example (6) is representative of the second category, with a lesser degree of structural affinity: Hebrew אָזַר יְהִיָּה (אֶזְוֹר) (*w^ehāyāh 'ēzōwr*) (with perfect 3SG of הָיָה (*hāyāh*) “be” and the noun אָזַר “girdle” (*ēzōwr*), which is repeated twice (lit. “righteousness shall be the girdle ... faithfulness shall be the girdle ...”)) is translated by Greek ἔσται ... ἐζωσμένος ... εἰλημένος (*estai ... ezōsmenos ... eilēmenos*) (with future 3SG of εἰμί (*eimi*) “I am” and the passive perfect participle of the verbs ζώννυμι (*zōnnumi*) “I girdle” and εἰλω (*eilō*) “I bind” (lit. “he shall be girdled with ... he shall be bound with”)). The third category is illustrated in (7): here the synthetic Hebrew form מֵת (*mēt*) (perfect 3SG (qal-formation) of the verb מוֹת (*mut*) “to die”) is translated by the periphrastic Greek form ἦν τεθνηκώς (*ēn tethnēkōs*) (with

imperfect 3SG of εἰμί (*eimi*) “I am” and the active perfect participle of θνήσκω (*thnēiskō*) “I die”).

Having compared all Greek periphrastic forms with their Hebrew equivalent (so not taking into account the deuterocanonical/apocryphal books included in the Greek Septuagint), we find that 55 out of a total of 140 examples, or 39%, is directly influenced by the Hebrew original (corresponding to Evans’ first category).³⁰ From this category, almost one third of the Hebrew examples (17/55 = 31%) consists of a form of the Hebrew verb הָיָה (*hāyāh*) and a participle of the qal stem-formation.³¹ I have found 10 examples (= 7%) where there is some structural affinity (corresponding to Evans’ second category)³² and a further 75 (= 54%) which show no structural influence whatsoever (corresponding to Evans’ third category).³³ In other words, about half of the examples are structurally influenced while the other half constitute free formations (46 versus 54%).³⁴ The presence of similar formations in the Hebrew original will undoubtedly have stimulated the use of periphrastic constructions in Greek, though the construction clearly had acquired an independent status in Ancient Greek. This is also stressed by Thackeray (1909:195), who writes that “periphrasis in the perfect goes back to the earlier language”.

4.1.4. First order variation: alternative periphrastic perfect constructions

I have argued that εἰμί (*eimi*) with perfect participle can be considered the dominant periphrasis in EPG, in continuation of CG. Nonetheless, my corpus also contains a number of alternative perfect constructions, which occur much less frequently and fall under the heading

³⁰ See e.g. 1Chron. 19.5; Gen. 20.3, 40.6; Isa. 37.10; Jer. 40.1; Josh. 7.22; Job. 1.21; 1Kings 12.6, 13.24; 2Kings 15.11; Mal. 1.7; Prov. 7.11; Pss. 121.2; 2Sam. 10.5.

³¹ These qal-participles are mostly passive, see e.g. 2Chron. 6.20; Lev. 13.45; Ruth 2.19; 1Sam. 25.29.

³² See e.g. Gen. 41.36; 2Esdr. 4.22; Ex. 12.6; Isa. 11.5 (x2), 33.12; Jer. 51.14; Judg. 8.11; 1Sam. 4.13; Zach. 3.3.

³³ See e.g. 2Chron. 5.11; Dan. 6.4, 10.9; Ex. 21.36, 33.13; Ezech. 22.18, 24.17; Gen. 6.12, 43.9; Isa. 10.20, 17.8; Jer. 13.7, 20.1; Job. 31.5; Josh. 10.6; Lev. 14.46; Num. 5.13, 5.27; Prov. 3.5; Pss. 71.17; 1Sam. 14.23.

³⁴ Evans (2001:256) presents slightly different numbers (first category 57%, second category 28%, third category 15%), but his research also takes into account other types of periphrases, and is restricted to the Pentateuch.

of Croft's 'first order variation' (see §2.2). From an ecological-evolutionary perspective, the occurrence of such constructions, which have received very little scholarly attention, is hardly unexpected. With the exception of ἔχῳ (*ekhō*) with aorist (perfect) participle, the motivation for all of these innovative constructions can be found in what Croft (2000) calls *intraference* (see §2.3), i.e. the formal extension of an already familiar construction (e.g. using the aorist instead of the perfect participle).

4.1.4.1. εἰμί with aorist participle (anterior/resultative)

Both Björck and Aerts locate the first Post-classical instances of this construction in MPG (according to Björck 1940:77 in the NT (Lc. 23.19), while according to Aerts (1965:81, 90) (who rejects Lc. 23.19) in the first/second centuries AD). However, examples can already be found in EPG, though with only eight instances the use of this construction is (still) very infrequent (even in comparison with the other innovative constructions). Examples can be found in Polybius, Dionysius of Halicarnassus and (a single instance) in the *life of Adam and Eve*. Semantically, these (and other) examples are much more straightforward than what is the case in CG, where the construction was used both with a perfective and a more perfect-like value (for further discussion, see Aerts 1965:27-35). The Post-classical use can be compared more directly to that of εἰμί (*eimi*) with perfect participle: either to indicate a state/property of the subject (i.e. with a resultative function), as in (8), or to refer to an event which happened in the past and has current relevance at a later time (i.e. with an anterior function).³⁵

- (8) καὶ βοήσας φωνῇ μεγάλῃ εἶπεν· ἐλθέτωσαν πρὸς με
kai boēsas phōnēi megalēi eipen· elthetōsan pros me
 and having.shouted with.voice great he.said let.them.come to me
 οἱ υἱοί μου πάντες, ὅπως ὄψομαι αὐτοὺς πρὶν ἢ ἀποθανεῖν
hoi huioi mou pantes, hopōs opsomai autous prin ē apothanein
 the sons of.me all so.that I.will.see them before that to.die

³⁵ For additional examples, see e.g. Dion. Hal., *Ant. Rom.* 2.23.6 (x2), 8.64.2, 9.60.1, 10.13.3; Pol., *Hist.* 10.2.2, 11.12.1;.

με. καὶ συνήχθησαν πάντες· ἦν γὰρ οἰκισθεῖσα ἡ γῆ
 me. kai sunēkhthēsan pantes· ēn gar oikistheisa hē gē
 me and they.gathered.together all it.was for divided the earth
 εἰς τρία μέρη
 eis tria merē
 into three parts
 “he cried with a loud voice and said: ‘Let all my sons come to me that I may see them before I die.’ And all assembled, for the earth was divided into three parts” (tr. Charles) (*V. Ad. et Ev.* 5.2-5)

4.1.4.2. εἰμί with passive present participle (resultative)

A second construction with εἰμί (*eimi*) is that of εἰμί (*eimi*) with (passive) present participle (which, surprisingly, is mentioned by none of the major treatments on periphrasis in Ancient Greek).³⁶ This construction is quite similar to that with the aorist participle: it provides an innovative alternative for εἰμί (*eimi*) with perfect participle (motivated through intraference), though (contrary to εἰμί (*eimi*) with aorist participle) being semantically restricted to the resultative function. In illustration, consider example (9):

- (9) ἐν τῇ ἡμέρᾳ ἐκείνῃ ἔσται πᾶς τόπος διανοιγόμενος ἐν τῷ
 en tēi hēmerai ekeinēi estai pas topos dianoiomenos en tōi
 in the day this it.will.be every place (being).opened in the
 οἴκῳ Δαυὶδ
 oikōi David
 house of.David
 “in that day every place shall be opened to the house of David” (tr. Brenton) (*Zach.* 13.1)

Here, the fact that the Hebrew (nifal) participle (i.e. נִפְתָּח (niftāḥ) from פָּתַח (pātaḥ) “to open”) does not distinguish between tenses in the same way Ancient Greek does (i.e. *perfect* versus *present* participle), may have stimulated the choice for an expressive alternative.

³⁶ To the best of my knowledge, the interchangeability of the present and perfect participle (in general) has been mentioned by only two authors, that is, Ghedini (1937:460) and Mihevc (1959:115). Interestingly, a similar functional overlap has been observed by Haverling (2009:350, 360-1, 407-8) in the passive voice of the Latin synthetic present and periphrastic perfect. Haverling (2009:360) notes, however, that “often ... the overlap between the functions of the passive present and the passive perfect is not complete”.

However, the construction can also be found in other texts, such as the *Apocalypse of Enoch* and Dionysius of Halicarnassus' *Roman Antiquities*.³⁷ An example from the latter work is given in (10):

- (10) ὅσοι μὲν οὖν ἐρρωμενέστατοί τε αὐτῶν ἦσαν καὶ ἥκιστα
hosoi men oun errōmenestatoi te autōn ēsan kai hēkista
 as.many.as PTC so strongest PTC of.them were and least
 ὑπὸ τραυμάτων βαρυνόμενοι νεῖν τε οὐκ ἀδύνατοι δίχα
hupo traumatōn barunomenoi nein te ouk adunatoi dikha
 by wounds (being).disabled to.swim and not unable without
 τῶν ὅπλων τὸ ρεῖθρον διεπεραιοῦντο
tōn hoplōn to reithron dieperaiounto
 the arms the river they.got.across
 “accordingly, those among them who were strongest, least disabled by their wounds, and had some ability to swim, got across the river, without their arms” (tr. Carry) (Dion. Hal., *Ant. Rom.* 3.25.4)

Here, the co-ordination of the participle βαρυνόμενοι (*barunomenoi*) with the adjectives ἐρρωμενέστατοι (*errōmenestatoi*) “strongest” and ἀδύνατοι (*adunatoi*) “unable” strongly indicates the stative/resultative value of the participle.³⁸

4.1.4.3. ἔχω with active/middle aorist (perfect) participle (anterior)

The construction of ἔχω (*ekhō*) with aorist (perfect) participle first emerged in fifth-century Classical Greek, where it was predominantly used as an anterior perfect (the synthetic perfect and periphrastic εἰμί (*eimi*) with perfect participle being used (to a large extent) with a resultative function). However, with the rise of alternative expressions for the anterior function, the construction gradually disappeared in the fourth century BC (Aerts 1965:160). It

³⁷ See e.g. *Apoc. En.* 14.14, 95.2; Dion. Hal., *Ant. Rom.* 1.45.3, 8.39.2, 8.40.3.

³⁸ Compare with ὁ δὲ Πέτρος καὶ οἱ σὺν αὐτῷ ἦσαν βεβαρημένοι ὑπνῷ (*ho de Petros kai hoi sun autōi ēsan bebarēmenoi hypnōi*) (Lc. 9.32) “Peter and those who were with him were heavy (lit. weighed down) with sleep” (with βαρέω (*bareō*) rather than βαρύνω (*barunō*), both meaning “I weigh down, depress”).

may thus come as a surprise that the construction can still be found in EPG. However, it only occurs in the work of a single author, Dionysius of Halicarnassus, as in (11):³⁹

- (11) ἄγε δὴ, φησὶν ὁ βασιλεύς, ἐπειδὴ ταῦτ' ἀληθεύσας
age dē, phēsin ho basileus, epeidē taut' alētheusas
 well then he.says the king since in.these.things having.spoken.truth
ἔχεις, φράσον ὅπου νῦν ἂν εὔρεθεῖεν
ekheis, phrason hopou nun an heuretheien
 you.have say where now PTC they.could.be.found
 “well then, since you have spoken the truth about these matters, say where they may now be found” (tr. Cary) (Dion. Hal., *Ant. Rom.* 1.82.6)

Since Dionysius is known for his classicizing aspirations, this ‘innovative’ use must have sprung from his contact with the classical authors, more in particular his wish for imitation.

4.1.4.4. ἔχω with passive perfect participle (resultative (anterior))

A second HAVE-perfect occurring in EPG is that of ἔχω (*ekhō*) with passive (and to a much lesser extent active)⁴⁰ perfect participle. It is commonly assumed that this construction first arose in Post-classical Greek (Jannaris 1897:498; Mihevc 1959:141), but this is not quite accurate: it is more correct to say that the construction has never been propagated in CG. Already in Herodotus we encounter instances of this construction, as shown in (12) (cf. Thielmann 1891:305-6). Constructions of this type form an extension of the more regular pattern ἔχω (*ekhō*) + object + predicative complement.

- (12) οὕτω μὲν Πεισίστρατος ἔσχε τὸ πρῶτον Ἀθήνας καὶ τὴν
houtō men Peisistratos eskhe to prōton Athēnas kai tēn
 so PTC Pisistratus had the first Athens and the
 τυραννίδα οὗ κω κάρτα ἐρριζωμένην ἔχων ἀπέβαλε
turannida ou kō karta errizōmenēn ekhōn apebale

³⁹ For additional examples, see e.g. *Ant. Rom.* 6.35.1, 6.36.2, 8.74.2, 9.31.4, 10.31.1, 10.32.2, 10.37.4 (x2), 11.6.4.

⁴⁰ The variant with the active perfect participle is much less frequent. For ease of reference, I will refer to this construction as ‘ἔχω with passive perfect participle’ in the remainder of this article.

sovereignty not yet very.much rooted having he.lost
 “in this way Pisistratus first got Athens and, as he had a sovereignty that was not yet firmly rooted (lit. having the sovereignty not yet firmly rooted), lost it” (tr. Godley) (Hdt. 1.60.1)

In example (12) ἔχω (*ekhō*) with passive perfect participle has a resultative function, indicating a state of the object (τὴν τυραννίδα (*tēn turannida*) “the sovereignty”), rather than a past event with current relevance. Similar examples can be found in EPG, as shown in (13) (from the Septuagint):

- (13) καὶ περιτετμημένον ἤδη ἔχων τὸ τῶν ὀστέων πῆγμα ὁ
kai peritetmēmenon ēdē ekhōn to tōn osteōn pēgma ho
 and severed already having the of.the bones ligaments the
 μεγαλόφρων καὶ Ἀβραμιαῖος νεανίας οὐκ ἐστέναξεν
megalophrōn kai Abramiaios neanias ouk estenaksen
 high-minded and worthy.of.Abraham youth not groaned
 “although the ligaments joining his bones were already severed, the courageous youth, worthy of Abraham, did not groan” (RSV) (4Macc. 9.21)

It may be clear that the only possible interpretation for περιτετμημένον ἔχων is a resultative one: to interpret the example otherwise (i.e. as an anterior) would entail that the youth has severed his own bones. At the same time, however, we find a number of cases which do allow for such an alternative, more agentive interpretation, i.e. as an anterior perfect. Of course, as long as there is concord between the participle and the accusative object, such an interpretation can only come about through *pragmatic inference* (on which, see Traugott & Dasher 2002). Consider example (14):

- (14) ἐστρέβλωσαν δὲ πολλοὺς τῶν Κυναιθέων, οἷς ἠπίστησαν
estreblōsan de pollous tōn Kunaithēōn, hois epistēsān
 they.tortured PTC many of.the Cynaetheans whom they.suspected.of
ἔχειν κεκρυμμένα διάφορον ἢ κατασκευάσματ’ ἢ(περ) ἄλλο
ekhein kekrummena diaphoron ē kataskeuasmāt’ ē(per) allo
 to.have hidden money or plate or other
 τι τῶν πλείονος ἀξίων

ti tōn pleionos aksiōn
 something of.the more worth

“they tortured many of the Cynaetheans whom they suspected of having concealed money, plate, or other valuables” (tr. Schuckburgh, slightly modified) (Pol., *Hist.* 4.18.8)

It could be argued that, similarly to our previous examples (12) and (13), the main point is the (hidden) state of the object (διάφορον ἢ κατασκευάσματ' ἥ(περ) ἄλλο τι (*diaphoron ē kataskeuasmāt' ē(per) allo ti*) “money, plate, or other valuables”). However, an anterior interpretation (by pragmatic inference) does not seem entirely out of the question (contrary to what we have observed for (13)): “they suspected them of having concealed (at an earlier time) money, plate, or other valuables”, whereby the subject of ἔχειν (*ekhein*) is also taken as the agent of the event denoted by the participle (κρύπτω (*kruptō*) “I hide”).

Almost 60% (= 23/39) of the EPG examples⁴¹ comes from Dionysius of Halicarnassus' *Roman Antiquities* (where we also find 83% (= 10/12) of the examples where an anterior inference would be possible).⁴² This may be related to the fact that Dionysius (60 BC – after 7 AD) is on the borderline between two periods (EPG and MPG) (as we will see, in MPG, the construction becomes more frequently attested). We also find two isolated examples in the papyri.⁴³

4.2. Middle Post-classical Greek (MPG) (I - III AD)

4.2.1. A shifting balance of power: functional specialization of εἰμί with perfect participle

Contrary to what the title of this section may suggest, in MPG εἰμί (*eimi*) with perfect participle remains the dominant perfect periphrasis, occurring slightly more frequently than in the previous period (with an NRO of 2.5 per 10000 words in EPG versus 3 per 10000 words

⁴¹ Almost half of these examples are formed with verbs of ‘drawing up’ or ‘composing’ (in the context of the military), such as ἐκτάσσω (*ektassō*) “I draw out in battle-order”, τάσσω (*tassō*) “I array”, συντάσσω (*suntassō*) “I draw up”, συνίστημι (*sunistēmi*) “I set together” and συγκροτέω (*sunkroteō*) “I compose”.

⁴² See e.g. *Ant. Rom.* 1.46.4, 3.51.1, 6.31.2, 7.17.4, 10.24.3, 10.24.4.

⁴³ See PSI.4.420, l. 21-3 (III BC) and SB.5.8754, l. 31 (77 BC).

in MPG (not including the papyri)). What is remarkable, however, is that the construction seems to become more and more functionally specialized towards the expression of the resultative aspectual function. Having encountered the first indications for such a tendency in a number of EPG middle-register texts (the Septuagint, the *Apocalypse of Enoch* and the *Life of Adam and Eve*, though not in Polybius), we now find it attested in a broader sample of texts. Consider the data from Table 4:

Table 4. Distribution of εἰμί with perfect participle in MPG (aspectual function)

Text	Author	Period	Total	Resultative	Anterior
New Testament		I AD	106	76 (60%)	30 (40%)
Parallel lives ⁴⁴	Plutarch	I - II AD	41	22 (54%)	19 (46%)
Roman Histories	Cassius Dio	II - III AD	58	22 (38%)	36 (62%)
Other (middle-register) texts		I - III AD	42	35 (83%)	7 (17%)

As this table shows, in MPG εἰμί (*eimi*) with perfect participle is predominantly used with a resultative aspectual function. In middle-register texts, i.e. the New Testament and other texts (such as the *Confession and Prayer of Aseneth*, the *Testament of Job* and the *Acts of Thomas*), up to 75% (= 111/148) of the examples is used with this function, as in (15) (indicating the open state of the doors):

- (15) οὐχ ἡμεῖς τὰς θύρας ἡσφαλισάμεθα; καὶ πῶς νῦν ἀνεῳγμένοι
oukh hēmeis tas thuras ēsphalisametha kai pōs nun aneōigmenai
 not we the doors fastened and how now opened
εἰσὶν καὶ οἱ δεσμῶται ἔνδον;
eisin kai hoi desmōtai endon
 they.are and the prisoners inside
 “did not we fasten the doors? And how are they now open, and the prisoners within?” (tr. James) (*A. Thom.* 122.11-2)

⁴⁴ See appendix for the specific selection of lives.

This tendency towards functional specialization is much less clear in Plutarch's *Parallel lives* (with only 54% resultatives), and especially in Cassius Dio's *Roman Histories* (where anteriors form the majority).

Morphologically as well, there is a trend towards reduction, which we have already seen in EPG. Consider the data in Table 5:

Table 5. Distribution of εἰμί with perfect participle in MPG (mood)

Text	Author	Date	Total	IMP	IND	INF	OPT	PART	SUBJ
New Testament		I AD	106	1 (1%)	89 (84%)	0	0	4 (4%)	12 (11%)
Parallel lives	Plutarch	I - II AD	41	0	31 (76%)	1 (2%)	7 (17%)	2 (5%)	0
Roman Histories	Cassius Dio	II - III AD	58	0	38 (66%)	1 (1%)	14 (24%)	5 (9%)	0
Other (middle-register) texts		I - III AD	42	0	34 (81%)	1 (2%)	4 (10%)	3 (7%)	0

Key: 'IMP' = imperative; 'IND' = indicative; 'INF' = infinitive; 'OPT' = optative; 'PART' = participle; 'SUBJ' = subjunctive

The only mood in which the periphrastic construction is frequently used is the indicative (cf. Aerts 1965:96). Examples in the subjunctive and optative mood, which formerly (in CG) constituted one of the core areas of the construction, are less often attested. Only the New Testament contains some examples in the subjunctive mood. The only two authors who are fond of the optative mood are Plutarch and Cassius Dio, perhaps not unsurprisingly.⁴⁵ Moreover, it is worth noting that the use of the future tense has almost entirely disappeared (though some examples can be found in the New Testament, as well as Plutarch and Cassius Dio), and that the use of the passive voice for the participle becomes much more frequent, especially in the middle register (with 82% (= 121/148) of the examples in the passive voice;

⁴⁵ For some examples, see e.g. Cassius Dio, *Hist. Rom.* 36.52.4 (x2), 37.38.2, 39.45.3, 41.41.5, 44.15.3; Plutarch, *Alex.* 27.5, 60.9, 73.3, *Dion* 21.3, 27.6, *Mar.* 8.5.

contrast with the high register (represented by Plutarch and Cassius Dio), where only 55% (= 54/99) takes the passive voice).

The papyri more or less confirm this image. Of course, we must again take into account the influence of formulaic expressions of the kind discussed in §4.1.2. With regard to aspectual function, for example, anteriors still abound in formulaic expressions of the type discussed above (note, however, that only 23% (= 41/180) of the anteriors does not occur in a formulaic expression). Morphologically as well, formulaic expressions provide a suitable context for the preservation of older uses. Quite contrary to what we have found in the literary texts, for example, the subjunctive mood is well represented with 159 examples (accounting for 77% (= 159/206) of the total number of examples (!)), the large majority of which occur in formulaic expressions. Other tendencies do transpire, however. The optative mood is virtually unattested, with only 4 examples. Similarly, the future tense is as good as never adopted: there are only 6 examples, all of which formulaic (quite contrary to what is the case in EPG, with 34% (= 98/282) of the examples in the future tense).

How to explain the (gradual) functional specialization of εἰμί (*eimi*) with perfect participle, and its morphological reduction? The ecological-evolutionary framework suggests that specialization is the (possible) outcome of competition with alternative constructions, and this is indeed what we find, as I will show in the following sections. Perhaps more important, however, given the relatively low frequency of occurrence of these alternative constructions, are some broader internal-ecological factors (also from a morphological point of view). Three factors which are of particular relevance are the following: (a) the functional merger of the synthetic aorist and perfect, leading to the disappearance of the latter starting from around the first century BC (see the statistics provided by Duhoux 2000:431); (b) the loss of the optative, partly due to phonetic factors (Mirambel 1966:172); as many scholars have noted, the optative has almost entirely disappeared in the New Testament; and (c) pressure on the formation of

(mostly active) participles following the third declension, which may have started as early as the second century BC (Dieterich 1898:206-9; Horrocks 2010:178-83).

4.2.2. Propagation of alternative periphrastic perfect constructions: εἰμί with aorist participle

While εἰμί (*eimi*) with aorist participle occurs very infrequently in EPG, in MPG it can be found in a larger number of texts, as shown in Table 6:

Table 6. Frequency of occurrence of εἰμί with aorist participle in MPG

Period	Text	Author	Total	NRO (/10000)
I AD	New Testament (Luke)		1	0,5
I AD	Papyri		1	/
II AD	Acts of Andrew		2	2,1
II AD	Acts of John		1	0,8
II AD	Gospel of Peter		2	(16,9)
II AD	Testament of Job		1	1,4
II AD	Papyri		3	/
II-III AD	Acts of the Alexandrines		1	1,5
II-III AD	Papyri		1	/
II-III AD	Roman Histories	Cassius Dio	4	0,1
III AD	Acts of Thomas		8	2,7
III AD	Acts of Xanthippe and Polyxena		2	2,1
III AD	Papyri		15	/

Here we can see that the propagation of the construction should be situated in the second and especially third century AD. The construction mostly appears in the low and middle register, but, perhaps surprisingly, also surfaces in the work of Cassius Dio (though with a low NRO).

As I have already mentioned in §4.1.4, the functional mechanism for this innovation is what Croft calls *intraference*: the formal extension of a structurally similar construction (in this case εἰμί (*eimi*) with perfect participle). This can be looked upon in connection with the development of the synthetic tenses: undoubtedly, the replacement of the perfect participle by an aorist participle will have been stimulated by the syncretization of the synthetic perfect and aorist. Moreover, the fact that the synthetic perfect was losing the competition with the aorist

must be considered a language-internal ecological factor stimulating the propagation of εἰμί (*eimi*) with aorist participle.

In most cases, the construction is used in a discourse context which is typical for the anterior perfect, that is, to provide background-information. In (16), for example, it occurs in an explanatory γάρ (*gar*)-clause:

- (16) Μυγδονίαν δὲ οὐ κατέλαβεν, ἀναχωρήσασα γὰρ ἦν
Mugdonian de ou katelaben, anakhōrēsasa gar ēn
 Mygdonia but not he.found having.withdrawn.herself for she.was
 εἰς τὸν οἶκον αὐτῆς, ἐγνοκυῖα ὅτι ἐμηνύθη τῷ ἀνδρὶ
eis ton oikon autēs, egnōkuia hoti emēnuthē tōi andri
 to the house of.here having.learnt that it.was.told to.the man
 αὐτῆς ὅτι ἐκεῖ ἦν
autēs hoti ekei ēn
 of.her that there she.was
 “but Mygdonia he did not find, for she had withdrawn herself to her house, having learnt that it had been told her husband that she was there” (tr. James) (*A. Thom.* 105.16-8)

However, and this has largely been ignored in the literature (which mostly focuses on the anterior function of εἰμί (*eimi*) with aorist participle), the construction could also be used with a stative/resultative function. This mostly concerns passive aorist participles of the kind found in (17), where the co-ordination with the true adjectives σεμνούς (*semnous*) “reverent” and καθαρούς (*katharous*) strongly indicates the property-value of the participle ἀπαλλαγέντας (*apallagentas*) “free(d) (from)”:

- (17) τοὺς τῷ βασιλεῖ μου ὑπηρετοῦντας σεμνοὺς καὶ καθαρούς
tous tōi basilei mou hupēretountas semnous kai katharous
 the for.the king of.me serving reverent and pure
 χρῆ εἶναι καὶ πάσης λύπης καὶ φροντίδος ἀπαλλαγέντας,
chrē einai kai pasēs lupēs kai phrontidos apallagentas,
 it.is.necessary to.be and of.all grief and care freed
 τέκνων τε καὶ πλούτου ἀνωφελοῦς καὶ ταραχῆς ματαίας

teknōn te kai ploutou anōphelous kai tarakhēs mataias
of.children PTC and of.wealth unprofitable and of.trouble vain
“they who serve my king must be reverend and pure and free from all grief and care
of children and unprofitable riches and vain trouble” (tr. James) (*A. Thom.* 126.10-3)

To this must be added cases such as (18) and (19). Here, it would be hard to speak of ‘resultative perfects’. Quite surprisingly, in both cases the periphrastic construction indicates a durative event, which is ongoing at reference time.

- (18) *ἔστι γάρ τις ἐπιδημήσας τῇ πόλει ταύτῃ ἀνὴρ*
esti gar tis epidēmēsas tēi polei tautēi anēr
he.is for some having.come.to.stay.in/staying.in the city this man
θεοσεβέστατος, ὃς δύναται οὐ μόνον δαίμονας φυγαδεύσαι
theosebestatos, hos dunatai ou monon daimonas phugadeusai
God-fearing who is.able not only demons to.banish
“for some God-fearing man lives in this city, who is able not only to banish demons
...” (tr. Prieur, originally in French) (*A. Andr.* 2.10-2)

- (19) *καὶ ἦν ἡ τοιαύτη ἀγαλλίασις αὐτῶν ἐπὶ ἡμέρας ἱκανὰς*
kai ēn hē toiautē agalliasis autōn epī hēmeras hikanas
and it.was the such rejoicing of.them during days considerably.long
γενομένη, *ἐν αἷς οὐκ ἔσχεν ὁ Αἰγεάτης ἔννοιαν*
genomenē, en hais ouk eskhen ho Aigeatēs ennoian
having.happened/happening in which not he.had the Aegeates thought
ἐπεξελεῖν τὴν κατὰ τὸν ἀπόστολον αἰτίαν
epekselein tēn kata ton apostolon aitian
to.prosecute the against the Apostle accusation
“and rejoicing of this sort went on for many days, while Aegeates took not thought
to prosecute the accusation against the Apostle” (tr. James, modified) (*A. Andr.* 34.6-8)

What we are witnessing in these examples is confusion between the different types of participle, which may be related to the difficulties in the formation of the active paradigm already referred to (cf. Mirambel 1966:181 for the use of εἰμί (*eimi*) with aorist participle to express “une action en cours de développement”).

4.2.3. Propagation of alternative periphrastic perfect constructions: ἔχῳ with passive perfect participle

A second alternative construction which must be mentioned here is ἔχῳ (*ekhō*) with passive perfect participle. While the construction appears rather infrequently in EPG, in MPG we witness a general increase in frequency (NRO 0,3 in EPG versus 0,7 in MPG (excluding the papyri)). Table 7 gives an overview of the texts in which the construction can be found:

Table 7. Frequency of occurrence of ἔχῳ with passive perfect participle in MPG

Period	Text	Author	Total	NRO (/10000)
I AD	New Testament		12	0,8
I AD	Papyri		2	/
I AD	Testament of Abraham (rec. B)		1	3,0
I - II AD	Papyri		1	/
I - II AD	Parallel Lives	Plutarch	21	1,3
II AD	Confession and precaton of Joseph and Aseneth		3	3,5
II AD	Papyri		4	/
II AD	Testament of Job		1	1,4
II - III AD	Roman Histories	Cassius Dio	12	0,3
III AD	Acts of Thomas		5	1,7
III AD	Papyri		4	/

Looking at this table, we see that there are two important differences between the rise of εἰμί (*eimi*) with aorist participle and ἔχῳ (*ekhō*) with perfect participle: (1) the construction appears in a broader array of texts (in terms of register) and (b) the rise of the construction seems to be situated slightly earlier than that of εἰμί (*eimi*) with aorist participle.

When it comes to the expression of the anterior perfect function, we have already seen that the construction of ἔχῳ (*ekhō*) with passive participle constitutes a special case, as it must be related to pragmatic inference. In such cases, the verb ἔχῳ (*ekhō*) loses (part of) its possessive meaning and the context invites us to identify the subject of ἔχῳ (*ekhō*) as the agent of the event denoted by the participle. Consider example (20):

- (20) ἔλεγεν δὲ ταύτην τὴν παραβολήν· Συκὴν εἶχεν τις πεφυτευμένην
elegen de tautēn tēn parabolēn· sukēn eikhen tis pephuteumenēn
 he.said PTC this the parable fig.tree he.had someone planted
 ἐν τῷ ἀμπελῶνι αὐτοῦ, καὶ ἦλθεν ζητῶν καρπὸν ἐν αὐτῇ
en tōi ampelōni autou, kai ēlthen zētōn karpon en autēi
 in the vineyard of.him and he.came seeking fruit in it
 καὶ οὐχ εὑρεν
kai oukh heuren
 and not he.found
 “Jesus then told them this parable: ‘a certain man had a fig tree planted in his vineyard, and he came seeking fruit on it, and found none’” (ASV, slightly modified) (Lc. 13.6)

Here, an anterior interpretation (by pragmatic inference, as there is concord between the object, συκὴν (*sukēn*) “fig tree” and the participle) does not seem entirely out of place; the subject of εἶχεν (*eikhen*) “he had” could be identified as the agent of the verb φυτεύω (*phuteuō*) “I plant”. In other cases, such an equation of subject and agent is much less evident. In (21), for example, Peina might have bound up her hand herself, but this seems rather unlikely:

- (21) ἥτις ὑπὸ τὴν ὥραν τῆς ἐκ τῆς οἰκίας μου ἀφίξεως
hētis hupo tēn hōran tēs ek tēs oikias mou aphikseōs
 who at the time of.the from the house of.me departure
 εἰσεκόμισεν τὴν Πεῖναν ἔχουσαν δεδεμένην τὴν δεξιὰν χεῖρα
eisekomisen tēn Peinan ekhousan dedemenēn tēn deksian kheira
 brought.in the Peina having bound.up the right hand
 “... who at the moment of their departure from my house brought in Peina, who had her right hand bound up” (tr. Bowman, slightly modified) (P.Oxy.50.3555, l. 16-20 (I – II AD))

Given the large degree of context-dependence of ἔχω (*ekhō*) with passive perfect participle, it would seem that – as far as the anterior function is concerned – the construction can be considered a less powerful competitor of εἰμί (*eimi*) with perfect participle than the construction of εἰμί with aorist participle.

4.2.4. HAVE-perfects in Greek and Latin⁴⁶

In recent years, a number of scholars have suggested that Greco-Latin language contact as an ecological factor stimulated the development of ἔχω (*ekhō*) with passive perfect participle. In Latin, a structurally similar construction (*habēō* with passive perfect participle) can be found as early as Plautus, as illustrated in (22) (I borrow this example from Haverling 2009:358):

- (22) *virtute... et maiorum et tua / multa bona bene parta*
by.virtue both of.forebears and yours many means well acquired
habemus
we.have
“thanks to our forebears and yourself, we are well supplied with well-earned means” (tr. Haverling) (Plaut., *Trin.* 346-7)

Horrocks (2010:132) believes that ἔχω (*ekhō*) with passive perfect participle (‘in an active transitive sense’, i.e. what I have called an anterior inference) “is a very strong candidate for classification as a ‘Latinism’ in the koiné, though not one which made much impact at the time, being alien to the general structure of a still prestigious world language”. He furthermore adds that:

“this is a wholly unclassical construction, which begins to appear in the more polished ‘literary’ registers of the Koine in the Roman period (e.g. in the writings of the historian Diodorus Siculus or the biographer and essayist Plutarch). It is not used by the Atticists, and it does not appear in low-level literary or subliterate texts. Furthermore, with the advent of a more stringent Atticist approach in the 2nd century AD, it quickly disappeared even from stylistically middle-brow compositions, and eventually reappears in popular varieties of Greek only after the ‘Latin’ conquest of much of the Byzantine empire after the capture of Constantinople by the fourth crusade in 1204” (Horrocks 2010:131-2)

Horrocks’ view faces some serious difficulties. In general, I do not see much reason to limit the discussion to ἔχω (*ekhō*) with passive perfect participle ‘in an active transitive sense’. As I have already shown, the anterior function of the construction is clearly related to the

⁴⁶ For more details on the relationship between the Greek and Latin constructions of HAVE with passive perfect participle, I refer to Bentein *forthc.*

resultative one (the latter of which is predominant). Furthermore, the proposed diffusion and chronology are incorrect: (a) Horrocks considers the construction ‘wholly unclassical’ and ‘alien to the general structure of a still prestigious world language’; this seems questionable, as instances of the construction can already be found in CG (cf. §4.1.4.4); (b) as I have shown above, the first Post-classical instances of this construction (with anterior inference) can be found EPG, in texts of different registers (the Septuagint, Polybius’ *Histories* and Dionysius of Halicarnassus’ *Roman Antiquities*); (c) in MPG, the period on which Horrocks focuses, the construction is hardly confined to what Horrocks calls the ‘literary’ registers (see again Table 7); and (d) the construction continues to be used in LPG and EBG, as will be shown below.

Recently, Drinka (2007) has argued for a more complex scenario, claiming that the two languages must have influenced each other in the development of this construction:

1. During the first centuries BC, the Greek construction of ἔχῳ (*ekhō*) with active aorist participle (cf. §4.1.4.3, §4.2.5.2) was calqued by well-educated Romans such as Plautus and Cato the Elder, “who had the means and the motivation to bring Greek elements into their language” (Drinka 2007:103).
2. However, since the Romans did not dispose of an active/middle aorist participle, they had to use the passive perfect participle, whereby they were forced “to stretch the semantic range of their own participle, causing it to move towards subject-orientation and possible interpretation as an active” (Drinka 2007:103).
3. At a later stage, i.e. during the first centuries AD, “Greeks may have been imitating prestigious Romans in their use of the HAVE + past passive participle (PPP)” (Drinka 2007:103), as a result of which the construction of ἔχῳ (*ekhō*) with active aorist participle was lost.

This alternative scenario cannot be upheld either. With regard to the first two points, we must ask ourselves whether the employment of *habeō* with passive perfect participle (used as a resultative perfect) by Plautus could really have been motivated by a wish for conscious imitation of Ancient Greek ἔχῳ (*ekhō*) with active aorist participle (used as an anterior perfect). In other words, could his audience really have recognized this literary Graecism? As van Coetsem (2000) has shown, not only does borrowing of lexical material constitute the

more typical case of ‘recipient language agentivity’,⁴⁷ even if grammatical/phonological material would be transferred (what van Coetsem calls ‘the extended mode of borrowing’, whereby the source-language is culturally dominant), *imitation* not *adaptation* is the rule (the use of the passive perfect instead of the active aorist participle being an instance of adaptation). Moreover, I have great doubts about whether speakers/writers can simply ‘stretch the semantic range’ of the participle. In any case, whether the semantic range of the participle really has been ‘stretched’ in the earliest examples is rather questionable; together with most recent treatments of the Latin construction, I would say that it is predominantly stative/resultative, and only occasionally (by pragmatic inference) has an anterior function (contrary to ἔχῳ (*ekhō*) with active aorist participle (supposedly imitated), which is mostly used with an anterior function in the Classical texts). As for the third point, I believe that the loss of the construction of ἔχῳ (*ekhō*) with aorist participle should be dated to the Classical period. Rather than attributing its loss to the rise of ἔχῳ (*ekhō*) with perfect participle in the Post-classical period, as I have already mentioned, it disappeared in the fourth century BC due to the functional extension of the synthetic perfect and periphrastic εἰμί (*eimi*) with perfect participle, leaving the construction without a *raison d’être*.

In my view, Ancient Greek ἔχῳ (*ekhō*) with passive perfect participle and *habeō* with passive perfect participle constitute independent developments, originating from the common pattern HAVE + object + predicate (see Pinkster 1987 for Latin). In both cases, the construction started out as a resultative, from time to time allowing an anterior inference (which in Latin (though not in Ancient Greek), through reanalysis, led to the formation of a true periphrastic anterior perfect). In principle, though, it cannot be excluded that the existence of the construction in one language may have reinforced its use in the other (cf.

⁴⁷ ‘Recipient language agentivity’ can be defined in terms of ‘pull transfer’ (van Coetsem 2000:53), e.g. the case of someone whose linguistically dominant (mother-)language is French and when speaking French from time to time adopts an English word. Contrast with ‘source language agentivity’, which can be defined in terms of ‘push transfer’ (van Coetsem 2000:54), e.g. the case of someone whose linguistically dominant (mother-)language is English and tries to speak French, making pronunciation-errors.

Drinka 2007:108 “the lack of need for external explanation does not preclude the existence of such influence”).

4.2.5. First order variation: Alternative periphrastic perfect constructions

Next to the constructions discussed above there are several other periphrastic perfect constructions, which fall under the heading of Croft’s ‘first order variation’:

4.2.5.1. εἰμί with (passive) present participle (resultative/anterior)

We have seen that in EPG the passive present participle could occasionally be used as a (near) equivalent of the resultative passive perfect participle, in combination with εἰμί (*eimi*). Such examples are also attested in MPG, though they are infrequent (they mostly occur in the papyri and texts from the middle register, though also in Plutarch). Often it can be difficult to decide whether the passive present participle is semantically ‘equivalent’ to the perfect participle. For example, could the use of ὁμολογούμενον ἔστι (*homologoumenon esti* (present participle)) (as in Plut., *Mar.* 36.11) in stead of ὁμολογημένον ἐστί (*hōmologēmenon esti* (perfect participle)), both meaning “it is acknowledged”, have been motivated by the wish to stress the current validity of the statement?

In an example such as (23) we find more direct evidence of the interchangeability of the passive perfect and present participle:

- (23) תְּהִיָּה תְּהִיָּה וּמִנָּה תְּקִיפָה תְּהִיָּה מַלְכוּתָא מִן־קֶצֶת
t^evirāh teh^ewēh uminnah taqqifāh teh^ewēh malkutā’ min-q^eṣāt
 broken will.be and.from.it strong will.be kingdom from.end.of
- μέρος τι τῆς βασιλείας ἔσται ἰσχυρὸν καὶ μέρος τι ἔσται
meros ti tēs basileias estai iskhuron kai meros ti estai
 part some of.the kingdom will.be strong and part some will.be
συντετριμμένον (transl. Gr.)
suntetrimmenon

broken

μέρος τι τῆς βασιλείας ἔσται ἰσχυρὸν καὶ ἀπ’ αὐτῆς
meros ti tēs basileias estai iskhuron kai ap’ autēs
part some of.the kingdom shall.be strong and from it
ἔσται συντριβόμενον (Theod.)
estai suntribomenon
will.be (being).broken
“the kingdom shall be partly strong, and partly broken” (KJV) (Dan. 2.42)

Here, the Hebrew/Aramaic original has a form of הָיָה (*hāyāh*) “be” with a passive peal participle of the verb בָּרַח (*t^evar*) “to break”. While in the oldest (EPG) Greek version, the Hebrew participle has been translated with a passive perfect participle (συντετριμμένον (*suntetrimmenon*)), in the younger version of Theodotio (generally dated to the second century AD) we find the passive present participle of the same verb (συντριβόμενον (*suntribomenon*)).

For the first time we also find an example where the construction with present participle has been extended to the anterior function. Consider (24), where the more regular perfect (or aorist participle)⁴⁸ has been replaced by a passive present participle:⁴⁹

- (24) ἵν’ ᾧ [ἐκ τῶ]ν τοῦ κ[υ]ρίου ἐντολῶν προν[οο]ύμενο[ς]
hin’ ᾧ [ek tō]n tou k[u]riou entolōn pron[oo]lumenos
so.that I.am by the of.the master commands (being).provided.for
“... so that I will have been provided for by the commands of the master” (my own translation) (P.Giss.7, 2, l. 21-2 (117 AD))

⁴⁸ Compare, for example, with P.Tebt.2.332, l. 17-21 (176 AD): ὅθεν ἐ[π]δίδωμι καὶ ἀξιῶ τὴν δέουσαν ἐξέτασιν [γ]ενέσθαι ἐξ ὧν δέον ἐστίν, ἵν’ ᾧ ὑπὸ σοῦ βεβοῦθῃ(μένος) (*hothen e[p]didōmi kai aksiō tēn deousan eksetasin [g]enesthai eks hōn deon estin, hin’ ᾧ hupo sou beboēthē(menos)*) “I accordingly present this petition and beg that due inquiry should be made of the proper persons, so that I will have been helped by you”.

⁴⁹ Cf. similarly P.Mil.Vogl.2.71, l. 26 (172-175 AD).

4.2.5.2. ἔχω with active/middle aorist participle (anterior)

We have seen that in EPG this construction only appears in the high register (i.e. the work of Dionysius of Halicarnassus), in imitation of the classical authors. The same is true for MPG, where we find the construction in the work of authors such as Plutarch and Cassius Dio. An example from the latter is given in (25):

- (25) ὁ δὲ δὴ μάλιστα θαυμάσας ἔχω, ψεκὰς ἐν αἰθρίᾳ
 ho de dē malista thaumasas ekhō, psekas en aithriai
 what PTC PTC most having.marveled.at I.have rain in clear.sky
 ἀργυροειδὴς ἐς τὴν τοῦ Αὐγούστου ἀγορὰν κατερρῦη
 arguroeidēs es tēn tou Augoustou agoran katerruē
 silvery to the of.the Augustus Forum ran.down
 “but what I have marveled at most was this: a fine rain resembling silver descended from a clear sky up the Forum of Augustus” (tr. Cary, slightly modified) (Cassius Dio, *Hist. Rom.* 75.4.7)

It is interesting to note, however, that the construction also appears in a papyrus ([ἐ]χω προστάξας (*ekhō prostaksas*) (P.Oxy.12.1408, l. 12 (210-214 AD)) “I have ordered”). In another papyrus, we have an example of ἔχω (*ekhō*) with active perfect participle (ἐχ[ε]ις πεποιηκώς (*ekheis pepoiēkōs*) (P.Oxy.19.2228, 2, l. 40 (285 AD)) “you have done”). In both cases, it is unclear what may have motivated the use of this high-register construction.

4.2.5.3. ἔχω with active/middle aorist/present participle (anterior)

In her recent book, Moser (2009:219) compares examples of the kind found in (26) with the Classical construction of ἔχω (*ekhō*) with aorist participle (cf. §4.2.5.2). This is incorrect in so far as we are dealing here with an entirely novel, Post-classical formation (example (26) is the earliest instance I have found, from the second-century *Testament of Job*).

- (26) κάθεται ἐπὶ τῆς κοπρίας ἔξω τῆς πόλεως· ἔχει γὰρ
 kathētai epi tēs koprias eksō tēs poleōs· ekhei gar

he.is.sitting on the dung-hill outside.of the city he.has for
 εἴκοσι ἔτη μὴ ἀνελθὼν ἐν τῇ πόλει
eikosi etē mē anelthōn en tēi polei
 twenty years not gone.up in the city
 “he is sitting upon the dung-hill outside of the city; for he has not entered the city
 for twenty years” (tr. James) (*T. Job* 28.8)

Previous scholarship (Tabachowitz 1943:24; Aerts 1965:162-4; Porter 1989:490-1) has primarily focused on the fact that this construction can be ‘reduced’ to ἔχω (*ekhō*) taking a (temporal) object (rather than an accusative of time) and the participle fulfilling an ‘explicative’ function. In support of this claim, Aerts (1965:164) mentions examples such as (27)⁵⁰ and (28), which show that this explicative function could also be fulfilled by a temporal subclause or a locative adjunct:

(27) ἐν ἐξ αὐτῶν ἰδοὺ τέσσαρες μῆνας ἔχει ἐξ ὅτε ἀπέθανεν
hen eks autōn idou tessares mēnas ekhei eks hote apethanen
 one from them behold four months it.has from when it.died
 “behold, one of them (the horses) died four months ago (lit. it has four months since it died)” (my own translation) (P.Oxy.16.1862, l.17-8 (ca. 624 AD))

(28) ἦν δέ τις ἄνθρωπος ἐκεῖ τριάκοντα [καὶ] ὀκτὼ ἔτη
ēn de tis anthrōpos ekei triakonta [kai] oktō etē
 there.was PTC some man there thirty and eight years
 ἔχων ἐν τῇ ἀσθενείᾳ αὐτοῦ
ekhōn en tēi astheneiai autou
 having in the sickness of.him
 “one man was there who had been ill for thirty-eight years” (NRS) (John 5.5)

Aerts (1965) and Porter (1989) both conclude that the construction in examples such as (26) cannot be considered ‘truly’ periphrastic. From a diachronic point of view, this is of lesser importance: that the component parts of a construction are (syntactically/functionally) still comparatively ‘free’ is typical for the early stages of the grammaticalization process. What is

⁵⁰ This example is of a later date, but I include it here because it is one of Aerts’ better examples.

most important is that we are dealing here with an innovative construction, which is not to be considered related to the earlier mentioned ἔχω (*ekhō*) with aorist participle (used in imitation of the classical examples (see above)). This particular construction has come about through form-function reanalysis, i.e. through the structural ambiguity inherent in the construction of ἔχω (*ekhō*) accompanied by an accusative expressing time and a participle. Contrary to Aerts and others, I believe this ambiguity is also present in examples such as (28). As Liddell & Scott-Jones (1968) indicate (see also Aerts 1965:165), already in Classical times, ἔχω (*ekhō*) is well attested with prepositional/locative expressions (without a temporal object), where the verb is more or less equivalent to εἰμί (*eimi*) “I am, find myself” (e.g. ἔχω κατ’ οἴκου (*ekhō kat’ oikou*) (Hdt. 6.39.2) “I am in the house”), so that it is not necessary to interpret ἐν τῇ ἀσθενείᾳ (*en tēi astheneiai*) as an ‘explicative’ element.

It is worth noting that the construction of ἔχω (*ekhō*) with a temporal complement/adjunct and a participle was not limited to the aorist participle: we also find examples with the present participle (see e.g. *A. Thom.* 43.19-20). Since both constructions (i.e. ἔχω (*ekhō*) with aorist and present participle) are equally infrequent, I consider them to be independent innovations (rather than that one construction would be an extension of the other).

4.2.5.4. ἔχω with passive aorist participle (resultative)

As a fourth innovative expression, I can mention ἔχω (*ekhō*) with passive aorist participle. What we observe here is similar to what we have observed for εἰμί (*eimi*) with perfect and aorist participle: the functional merger of the synthetic perfect and aorist has also stimulated the interchangeability of the aorist and perfect participle in periphrastic constructions with ἔχω (*ekhō*). Contrary to εἰμί (*eimi*) with aorist participle, however, in MPG ἔχω (*ekhō*) with (passive) aorist participle (with a resultative value) is very infrequent. In illustration, consider (29):

- (29) καὶ τότε ἡ Κασία περιεζώσατο καὶ ἔσχεν τὴν καρδίαν
kai tote hē Kasia periezōsato kai eskhen tēn kardian
 and then the Kasia girdled.herself and had the heart
 ἁλλοιωθεῖσαν ὥς μηκέτι ἐνθυμεῖσθαι τὰ κοσμικά
alloiōtheisan hōs mēketi enthumeisthai ta kosmika
 transformed so.that no.longer to.think.much.of the wordly.things
 “then the other daughter, Kassia by name, put on the girdle, and she had her heart transformed, so that she no longer wished for worldly things” (tr. James, slightly modified) (*T. Job* 49.1)

4.3. Late Post-classical Greek (IV – VI AD)

4.3.1. Reconsidering the *lingueme pool* in LPG: perfect periphrases with εἰμί and ἔχω

We have seen that in MPG εἰμί (*eimi*) with perfect participle constituted the dominant perfect periphrasis for the expression of the resultative and anterior functions. At the same time, however, I have drawn attention to two innovative constructions which were ‘catching on’, εἰμί (*eimi*) with aorist participle and ἔχω (*ekhō*) with passive perfect participle. In what follows, we will have another look at the internal constitution of the ‘*lingueme pool*’ (cf. §2.2), to see how the competition between the three above mentioned constructions is resolved in terms of elimination and functional specialization.

4.3.1.1. εἰμί with perfect participle

In LPG, εἰμί (*eimi*) with perfect participle is still the dominant perfect periphrasis (252 examples versus 177 for εἰμί (*eimi*) with aorist participle and 69 for ἔχω (*ekhō*) with (passive) perfect participle). In absolute frequency, however, the construction is less often used than in the previous period, with an NRO of 2,3 per 10000 words (versus 3 in MPG). This decrease is perhaps most clearly felt in the papyri, where I have found as little as 21 examples (versus 286 in EPG and 206 in MPG). Moreover, the trend towards functional specialization clearly continues. In table 8, I give an overview of the distribution of aspectual functions for εἰμί

(*eimi*) with perfect participle, with the data grouped on the basis of register (not including the papyri):

Table 8. Distribution of εἰμί with perfect participle in LPG (aspectual function)

Period	Register	Total	Resultative	Anterior
IV - VI AD	Middle	130	104 (80%)	26 (20%)
IV - VI AD	High	101	55 (54%)	46 (46%)

As this table shows, the construction of εἰμί (*eimi*) with perfect participle is predominantly used with a resultative function: 69% of all LPG examples (159/231) have this function. As in MPG, this trend is by far the most pronounced in the middle register, where as much as 80% of the examples εἰμί (*eimi*) with perfect participle is used with a resultative function (versus 75% in MPG). An example is given in (30):

- (30) ἤθελεν ἀνοῖξαι τὰς θύρας, καὶ οὐκ ἠδύνατο· ἦν γὰρ ὁ
ēthelen anoiksai tas thuras, kai ouk ēdunato· ēn gar ho
 he.wanted to.open the doors and not he.was.able it.was for the
 σιτοβολῶν ὅλως πεπληρωμένος σίτου
sitobolōn holōs peplērōmenos sitou
 granary completely filled with.grain
 “he wanted to open the doors, but he could not do so because the granary was
 completely filled with grain” (tr. Wortley) (Jo. Mosch., *Prat.* 28.22-4)

While for the middle register the term ‘functional specialization’ is certainly warranted, this is much less the case for the high register: here, only 54% of the examples has the resultative function, which corresponds to what we have found in MPG for Plutarch and Cassius Dio. An example of εἰμί (*eimi*) with perfect participle with anterior function is given in (31):

- (31) τὴν ἔκθεσιν ἐκείνην ὑπέδειξε, πυνθανόμενος εἰ αὐτὸς ἐκείνους
tēn ekthesin ekeinēn hupedeikse, punthanomenos ei autos eikeinous
 the document this he.showed inquiring if self these
τετοκῶς εἶη τοὺς λόγους

tetokōs *eiē* *tous* *logous*
 having.brought.forth he.was the words
 “he (Constantius) showed him the document in question and proceeded to enquire if
 he had brought forth the words in it” (tr. Schaff, modified) (Thdt., *H.E.* 160.20-1)

Another trend which continues in the LPG period is the restricted contexts of use of the construction (with regard to mood, tense and voice), when compared to EPG and especially CG. Table 9 shows the distribution of the construction in the middle and high register with regard to mood:

Table 9. Distribution of εἰμί with perfect participle (mood)

Period	Register	Total	IMP	IND	INF	OPT	PART	SUBJ
4-6 AD	Middle	130	2 (2%)	104 (80%)	7 (5%)	7 (5%)	7 (5%)	3 (3%)
4-6 AD	High	101	0	69 (68%)	8 (8%)	10 (10%)	12 (12%)	2 (2%)

Key: ‘IMP’ = imperative; ‘IND’ = indicative; ‘INF’ = infinitive; ‘OPT’ = optative; ‘PART’ = participle; ‘SUBJ’ = subjunctive

Especially in the middle register, εἰμί (*eimi*) with perfect participle is predominantly used in the indicative mood (80% of the examples), with only few examples in the other moods. As for tense, the future perfect rarely occurs, with only five instances in the literary texts. Moreover, in three out of five examples, we are dealing with a quote from the New Testament (Mt. 16.19). As far as voice is concerned, 78% (181/231) of the examples occurs in the passive voice. There is no notable register difference: both in the middle and the high register the passive is clearly favored (with respectively 102/130 (78.4%) and 79/101 (78.2%)).

As for the papyri, I have already mentioned that the construction occurs rather infrequently (with 21 examples). It is noteworthy that statistically the tendencies which I have described above are less pronounced in these documents (62% of the examples has the resultative

function, 57% occurs in the indicative mood),⁵¹ which may be (partly) due to the low total number of examples. The use of εἰμί (*eimi*) with perfect participle in formulaic expressions is now limited to a single instance (P.Stras.6.560, l. 11 (324 AD)).

4.3.1.2. εἰμί with aorist participle

In LPG, the construction of εἰμί (*eimi*) with aorist participle takes off: while in MPG we have a ratio of 1:11 (εἰμί (*eimi*) with aorist participle: 42 ex.; εἰμί (*eimi*) with perfect participle: 453 ex.), in LPG the ratio shifts quite dramatically to 1:1,4 (εἰμί (*eimi*) with aorist participle: 177 ex.; εἰμί (*eimi*) with perfect participle: 252 ex.). The rise of εἰμί (*eimi*) with aorist participle should be situated in the (low and) middle register: the NRO for the high register is 0,5 per 10000 words (28 examples), while that for the middle register is 2,4 per 10000 words (135 examples). In table 10, I have grouped the middle-register texts in which the construction occurs most frequently:

Table 10. Frequency of occurrence of εἰμί with aorist participle in LPG

Period	Text	Author	Total	NRO (/10000)
IV AD	Life of Anthony	Athanasius	6	3,1
V AD	Acts of Barnabas		2	(9,0)
V AD	Life of Alexander		4	4,3
V AD	Life of St. Hypatius	Callinicus	7	3,2
V AD	Life of Porphyrius bishop of Gaza	Mark the Deacon	5	3,1
V AD	Life of St. Syncletica		4	2,7
VI AD	Life of Abramius	Cyrillus of Scythopolis	2	(18,0)
VI AD	Chronography	John Malalas	56	6,1
VI AD	Life of Cyriacus	Cyrillus of Scythopolis	1	2,6
VI - VII AD	Spiritual Meadow	John Moschus	21	4,1

⁵¹ Surprisingly, we still find three examples with the periphrastic construction in the subjunctive mood (P.Stras.6.560, l. 12 (324 AD); P.Ammon.1.13, l. 66 (348 AD); P.Oxy.16.1870, l. 6 (V AD)) and two in the optative mood (P.Oxy.10.1265, l. 13 (336 AD); P.Muench.1.6, l. 38 (583 AD)). As noted above, only one of these instances is formulaic.

The data from this table show that the construction was most frequently used in fifth- and sixth-century Greek, especially in John Malalas and John Moschus.

We must look upon the spread of εἰμί (*eimi*) with aorist participle in the middle register in terms of language-internal ecology, connecting it with the diachrony of εἰμί (*eimi*) with perfect participle: the fact that the latter construction became functionally specialized towards the expression of the resultative function in the middle register (already in MPG), must have favored the development of εἰμί (*eimi*) with aorist participle, which is predominantly used with an anterior function ((83% (= 112/135)).⁵² In the high register, on the other hand, εἰμί (*eimi*) with perfect participle remained the dominant perfect periphrasis for both the resultative and the anterior function, thus blocking the spread of εἰμί (*eimi*) with aorist participle. One context where εἰμί (*eimi*) with aorist participle does seem to have gained some ground in the high register is the active anterior perfect (cf. my earlier observations with regard to voice): out of 28 examples in the high register only 5 are passive (= 18%), while in the middle register 37 out of 135 are passive (= 27%).

As has been observed by a number of scholars (Björck 1940:74; Mihevc 1959:140; Aerts 1965:77-81), the construction of εἰμί (*eimi*) with aorist participle most frequently occurs with εἰμί (*eimi*) in the imperfect tense (159/177 = 90% (!)). In many of these examples, a (explanatory) particle immediately follows the finite verb, giving the following pattern: ἦν/ἦσαν (*ēn/ēsan*) γάρ/οὖν/δέ (*gar/oun/de*) + aorist participle. To take the example of John Malalas, this template accounts for 74% (= 32/43) of the examples (out of 43 main clause anteriors, 27 occur with γάρ (*gar*), 1 with οὖν (*oun*) and 4 with δέ (*de*)). In John Moschus, this percentage is even higher: here, 82% (9/11) follows this pattern (11 examples of main clause anteriors, 4 with γάρ (*gar*) and 5 with δέ (*de*)). An example is given in (32):

⁵² I should stress, however, that the construction of εἰμί (*eimi*) with aorist participle is *predominantly* used as an anterior, not *exclusively*. For some examples where this would not be the case, see e.g. Ath., *V. Ant.* 6.19; Jo. Mal., *Chron.* 410.6-8; Pall., *H. Laus.* 44.4; *V. Pach.* 114.2; *V. Sym. Styl. J.* 166.8; *V. Syncl.* 90, 147, 1146.

- (32) ὁ δὲ αὐτὸς βασιλεὺς Μάρκος ἔκτισεν, ἥτοι ἀνενέωσεν, ἐν
ho de autos basileus Markos ektisen, ētoi aneneōsen, en
 the PTC same king Marcus built or reconstructed in
 Ἀντιοχείᾳ τῇ μεγάλῃ τὸ δημόσιον τὸ λεγόμενον Κεντηνάριον·
Antiokeiai tēi megalēi to dēmosion to legomenon Kentēnaron·
 Antioch the great the public.bath the called Centenarium
 ἦν γὰρ ἐν τῷ χρόνῳ Τραϊανοῦ πεσὼν ἐν τῇ θεομηνίᾳ
ēn gar en tōi khronōi Traianou peson en tēi theomēniā
 it.was for in the time of.Trajan fallen in the wrath.of.God
 “the emperor Marcus built, or reconstructed, in Antioch the Great the public bath
 known as the Centenarium. For it had collapsed in the time of Trajan during the
 wrath of God” (tr. Jeffreys et al.) (Jo. Mal., *Chron.* 282.9-10)

Björck (1940), Mihevc (1959) and Aerts (1965) explain the predominance of the imperfect tense on paradigmatic grounds: they characterise εἰμί (*eimi*) with aorist participle as a ‘pluperfect periphrasis’ replacing the synthetic pluperfect (Jannaris 1897:441 indicates that the loss of the synthetic tense was by and large effected in the low/middle register in LPG). While the loss of the synthetic pluperfect must indeed be considered an important ecological factor, this suggestion leaves a number of questions unanswered: (a) why would the loss of the synthetic pluperfect affect specifically εἰμί (*eimi*) with aorist participle (see Aerts 1965:81) and not, for example, εἰμί (*eimi*) or ἔχω (*ekhō*) with perfect participle? (b) if we take it that εἰμί (*eimi*) with aorist participle did indeed function as a substitute for the synthetic pluperfect, why then does it almost exclusively have an anterior function (see above), whereas the synthetic pluperfect could function both as a resultative and an anterior? Moreover, it should be noted that examples of εἰμί (*eimi*) with aorist participle with the auxiliary in the present tense are not entirely absent,⁵³ contrary to what some would have us believe.

⁵³ For some examples from LPG, see e.g. οὐκ ἀγαθὸν τι εἰσὶν ἐργασάμενοι (*ouk agathon ti eisin ergasamēnoi*) (Jo. Mal., *Chron.* 131.14) “they have not done anything good”; εἰσὶν Ἕλληνες πλείονα τούτου σοφίαν κτησάμενοι καὶ πλείονας αὐτοῦ βίβλους συγγραψάμενοι (*eisin Hellēnes pleiona toutou sophian ktēsamenoi kai pleionas autou biblous sungrapsamenoi*) (Leont. N., *V. Sym. Sal.* 86.15-6) “the Greeks have gathered more wisdom than he and have written more books than he”.

In my view, too little attention has been paid to the (diachronic) interrelationship of εἰμί (*eimi*) with perfect and aorist participle. As I have outlined above, the competition between these two constructions resulted in a functional division: εἰμί (*eimi*) with perfect participle became the dominant periphrasis for the resultative aspectual function and εἰμί (*eimi*) with aorist participle for the anterior function. As such, both constructions ‘substitute’ for the old synthetic pluperfect, and will have benefitted more or less equally from the demise of the synthetic pluperfect (which could be used with both functions). As for εἰμί (*eimi*) with aorist participle, 90% imperfect indicatives is a remarkably high number, but we should not forget that in Post-classical (especially Late Post-classical) Greek, the indicative had become the dominant mood (Mirambel 1966:176). Moreover, if we look at the use of εἰμί (*eimi*) with perfect participle as an anterior perfect (from Archaic/Classical to Middle Post-classical Greek), as shown in Table 11 (based on literary texts; the data for Archaic/Classical Greek are taken from Bentein 2012b), we find that this periphrasis too was predominantly used with εἰμί (*eimi*) in the imperfect tense. However, as εἰμί (*eimi*) with aorist participle is almost exclusively used as an anterior perfect (see above), the occurrence of imperfects is much more noticeable.

Table 11. Distribution of anterior εἰμί with perfect participle from A/CG to MPG (indicative mood and imperfect tense)

	A/CG	EPG	MPG
Indicative forms	282	74	68
Imperfect forms	147/282 (52%)	60/74 (81%)	56/68 (82%)

The prevalence of the imperfect tense with both εἰμί (*eimi*) with perfect participle and εἰμί (*eimi*) with aorist participle (when used with an anterior aspectual function) can be explained as follows: since the anterior perfect typically has an explanatory or relational function, providing background information to the main events, and since most of the corpus consists of narrative texts (which are mostly about past events), it seems natural that the additional

information provided by the periphrastic anterior also lies in the past (to be more specific, one step further in the past). This also explains why the number of imperfects is less pronounced in Archaic and Classical Greek: for these periods, the study of Bentein (2012) has also taken into account non-narrative texts.

4.3.1.3. *ἔχω with passive perfect participle*

The third construction which must be mentioned here is *ἔχω* (*ekhō*) with passive perfect participle. Similarly to what was noted for *εἰμί* (*eimi*) with aorist participle, the rate of occurrence vis-à-vis the dominant perfect periphrasis, *εἰμί* (*eimi*) with perfect participle has changed: from 1:7 in MPG (*εἰμί* (*eimi*) with perfect participle: 453; *ἔχω* (*ekhō*) with perfect participle: 65) to 1:3,7 in LPG (*εἰμί* (*eimi*) with perfect participle: 252; *ἔχω* (*ekhō*) with perfect participle: 69). However, this shift is primarily due to the decline of *εἰμί* (*eimi*) with perfect participle: in terms of absolute frequency, the construction of *ἔχω* (*ekhō*) with passive perfect participle remains more or less stable compared to the previous period (with a small decrease from NRO 0,7 per 10000 words in MPG to 0,6 per 10000 words in LPG (excluding the papyri)).

Past scholarship has not been very clear about the status of this construction. As we have already seen (cf. §4.2.4), Horrocks (2010:131-2) writes about *ἔχω* (*ekhō*) with passive perfect participle ('in an active, transitive sense') that 'with the advent of a more stringent Atticist approach in the 2nd century AD, it quickly disappeared even from stylistically middle-brow compositions', only to reappear in Late Byzantine Greek. Aerts (1965:161-4) similarly does not cite any examples from LPG. According to Jannaris (1897:498), on the other hand, by Byzantine times (i.e. from the seventh century onwards) and possibly even earlier (i.e. in LPG), the perfect, pluperfect and future perfect were formed (to a large extent) by means of

εἰμί (εἶμαι) and ἔχω (*ekhō*), both accompanied by a passive perfect participle (the former being used as a resultative perfect and the latter as an anterior).

In LPG, the division of perfect functions between the constructions of εἰμί (*eimi*) with perfect participle (resultative function) and εἰμί (*eimi*) with aorist participle (anterior function) does not leave much room for the development of ἔχω (*ekhō*) with passive perfect participle. This is not to deny, however, that the construction was used in this period of the language (contrast with Horrocks). As in the previous periods, it could be used with both a resultative and an anterior function, though the latter only by pragmatic inference (the perfect participle still being in concord with the accusative object). In my corpus the construction is most often used to indicate the (generally very bad) physical condition of the subject, as in (33) (note the co-ordination of the perfect participle and the adjective δυσωδέστατον):⁵⁴

- (33) ἄλλος τις τεσσαράκοντα ἔτη ἔχων τὸν πόδα σεσηπομένον
allos tis tessarakonta etē ekhōn ton poda sesēpomenon
 other someone forty years having the foot rotten
 καὶ λίαν δυσωδέστατον
kai lian dusōdestaton,
 and very ill-smelling
 “another person had his foot rotten for forty years and very ill-smelling” (my own translation) (*V. Sym. Styl. Jun.* 153.1-2)

As discussed above, in LPG the resultative function is the core domain of εἰμί (*eimi*) with perfect participle. As such, both constructions are used in very similar contexts: compare (33) to (34), from the same *vita*:

- (34) ἦν γὰρ ὁ πούς αὐτοῦ σεσηπὼς ἀπὸ τοῦ γόνατος μέχρι
ēn gar ho pous autou sesēpōs apo tou gonatos mekhri
 it.was for the foot of.him rotten from the knee as.far.as
 τοῦ ἀστράγαλου

⁵⁴ It will come as no surprise that this type of construction is particularly often found in the lives of the saints, where the condition of the saint is at stake, or the condition of the person who is in need of healing.

tou astragalou

the heel

“for his leg was rotten from the knee to the heel” (my own translation) (*V. Sym. Styl. Jun.* 152.2-3)

The semantic difference between these two cases would be that in (33) focus lies on the condition of the sick person, while in (34) the bad foot is specifically focused upon.

In a minority of the examples, ἔχω (*ekhō*) with perfect participle (possibly) has an anterior function (by pragmatic inference) (19/69 = 28%). In (35), for example, it may be possible to interpret the form εἶχον ... καθειργμένους (*eikhon ... katheirgmenous*) as an anterior (“those whom they had imprisoned on account of ...”):

- (35) ὅσους εἶχον δεσμοτηρίοις καθειργμένους διὰ τὴν εἰς
hosous eikhon desmōtēriois katheirgmenous dia tēn eis
as.many.as.ACC they.had in.prisons shut.in because.of the to
τὸ θεῖον ὁμολογίαν ... ἤλευθέρουν
to theion homologian ... ēleutheroun
the Divinity admission they.set.at.liberty
“those whom they had imprisoned on account of their confession of the Deity, they set at liberty” (tr. McGiffert) (*Eus., H.E.* 9.1.7)

However, the placement of the locative adjunct δεσμοτηρίοις (*desmōtēriois*) in between the finite verb and the perfect participle may indicate that a resultative interpretation is more plausible (“those whom they had in the prisons, confined on account of ...”). In any case, we are still far away from ἔχω (*ekhō*) with perfect passive ‘taking over’ the anterior perfect function.

That ἔχω (*ekhō*) with passive perfect participle tends towards the resultative function is also clear in the papyri. I have found six examples of the construction, almost all of which of

the type ἔρρωμένην ἔχων τὴν διάνοιαν (*errōmenēn ekhōn tēn dianoian*) (or alternatively τὰς φρένας/τὰς διανοίας (*tas phrenas/tas dianoias*)) “having a sane mind (lit. the mind sane)”.⁵⁵

4.3.2. *Catching on: ἔχω with active/middle aorist/present participle (perfect of persistence)*

One HAVE-construction which does seem to be catching on is that of ἔχω (*ekhō*) with present/aorist participle accompanied by a temporal adjunct (cf. §4.2.5.3 for the origins of the construction). This construction is always used with one specific anterior function, which is rather infrequently expressed by the other periphrases mentioned under §4.3.1 (so that we can hardly speak of any competition).⁵⁶ In the literature, this subfunction is called that of the ‘perfect of persistence’ (Bentein 2012b:10), indicating that an event has begun in the past and is still ongoing at the time of reference, as in “John has been coughing since Wednesday”. In illustration, consider example (36), where the ego summarises the tasks he has been fulfilling for the last sixty years:

- (36) ἐγὼ ἑξήκοστὸν ἔτος ἔχω τεταγμένας ἑκατὸν εὐχὰς ποιῶν καὶ
egō heksēkoston etos ekhō tetagmenas hekaton eukhas poiōn kai
 I sixtieth year have fixed hundred prayers doing and
 τὰ πρὸς τροφήν ἐργαζόμενος καὶ τοῖς ἀδελφοῖς τὴν ὀφειλὴν
ta pros trophēn ergazomenos kai tois adelphois tēn opheilēn
 the for food doing and for.the brothers the need
 τῆς συντυχίας ἀποδιδούς
tēs suntukhias apodidous
 of.the meeting conceding
 “for sixty years I have been reciting (every day) one hundred prayers, I have been taking care of the food, and I have satisfied the need to concede the (other) brothers private talks” (my own translation) (Pall., *H. Laus.* 20.3)

⁵⁵ See Stud.Pal.1.1, l. 2-4 (480 AD); P.Muench.1.16, l. 8 (V AD); P.Muench.1.8, l. 8 (540 AD); P.Cair.Masp.3.67312, l. 12-3 (567 AD); P.Lond.5.1727, l. 18 (583-4 AD); P.Oxy.20.2283, l. 8 (586 AD).

⁵⁶ As noted by Smyth (1984[1920]:422-4), Ancient Greek could also use the synthetic present/imperfect to express this subfunction (though not exclusively, *contra* Haverling 2009:355), as in *πάλαι θαυμάζω* (*palai thaumazō*) “I have been wondering since long”.

In this example, we see that ἔχω (*ekhō*) is used three times with the present participle. However, as we have already observed for MPG, the aorist participle could also be used (this concerns a minority of the examples (9/28 = 32%)). Interesting in this context is (37), where we find the two types of participle co-ordinated:

- (37) ἰδοὺ γὰρ τρεῖς ἡμέρας ἔχω ὀνείρους βλέπων παραδόξους, καὶ
idou gar treis hēmeras ekhō oneirous blepōn paradoksous, kai
 behold for three days I.have dreams seeing incredible and
 τεσσαράκοντα ἔτη μὴ θεασάμενος τὸ φῶς τοῦ ἡλίου
tessarakonta etē mē theasamenos to phōs tou hēliou
 forty years not having.seen the light of.the sun
 “behold for I have been seeing incredible dreams for three days, and for forty years
 I have not seen the light of the sun” (my own translation) (*A. Phil.* (Xen. 32) 12.2)

The most noteworthy difference between the use of the present and aorist participle in this example seems to be that only the latter is accompanied by the negation μή (*mē*). Further analysis shows that the negation in fact occurs in almost half of the examples (4/9) with the aorist participle (also note that the negation already occurs in the example cited from MPG (= (26)). I would argue that there is a semantic difference between examples with versus examples without the negation, favoring the use of the present versus the aorist participle: when the negation is used, we are dealing with a non-prototypical use of the perfect of persistence, as the event denoted by the participle in fact has not occurred during a certain time period including the present (or to be more precise the reference point). When the negation is not used, the continuation of the event denoted by the participle is stressed. The latter context seems to be much better suited to the present rather than the aorist participle.⁵⁷

To close this section, it should be noted that the use of this construction is not only semantically but also morphologically and pragmatically (i.e. registerially) restricted. The

⁵⁷ It is hard to make any generalizations, though: the present participle can also be accompanied by the negation (though only exceptionally) (see e.g. Pall., *H. Laus.* 38.13), and the aorist participle without it (see e.g. *Hist. Mon. Aeg.* 14.29), expressing an ongoing event.

construction is mainly used with ἔχω (*ekhō*) in the first/third person of the present indicative (ἔχω/ἔχει (*ekhō/ekhei*)) (22/28 = 79%). As far as register is concerned, the construction is almost exclusively used in the middle register. While I have found no instances in texts from the high register, I have come across one instance in the papyri, example (38):

- (38) καὶ παρεγενάμην καὶ εἰς Πινῦριν ἵνα πάθωμεν ἐκεῖ
kai paregenamēn kai eis Pinurin hina pathōmen ekei
 and I.went.to also to Pinuris so.that we.would.receive there
 ἀπόκρισιν καὶ σφραγίσωμεν, καὶ αὐτὸς κατέμενον παρὰ
apokrisin kai sphragisōmen, kai autos katemenon para
 response and we.would.close.with.a.seal and self I.remained with
 τῷ μείζονι καὶ ἔχω δύο ἡμέρας ἀνερχόμενος πρὸς αὐτούς,
tōi meizoni kai ekhō duo hēmeras anerkhō[m]enos pros autous,
 the headman and I.have two days going.up to them
 καὶ οὐκ ἔπαθον παρ’ αὐτῶν ἀπόκρισιν
kai ouk epathon par’ autōn apokrisin
 and not I.received from them response
 “I went also to Pinuris in order that I might get a response there and might affix the seal, and I remained myself with the headman and have been two days travelling up to them, and got no response from them” (tr. Grenfell et al.) (P.Oxy.16.1855, l. 8-10 (VI/VII AD))

4.3.3. First order variation: Alternative periphrastic perfect constructions

For LPG I can again mention a number of constructions which fall under the heading of ‘first-order variation’. This concerns the following constructions with εἰμί (*eimi*) and especially ἔχω (*ekhō*):

4.3.3.1. εἰμί with (passive) present participle (resultative/anterior)

We have encountered the construction of εἰμί (*eimi*) with (passive) present participle sporadically in EPG and MPG, mostly with a resultative function. An example from LPG is given in (39):

- (39) πολλοὶ συνέτρεχον πρὸς αὐτόν, καὶ ἦσαν ἐξ αὐτῆς τῆς
polloi sunetrekhon pros auton, kai ēsan eks autēs tēs
 many ran.together to him and they.were from this the
 ὥρας θεραπευόμενοι ἀπὸ τῶν νοσημάτων αὐτῶν
hōras therapeuomenoi apo tōn nosēmatōn autōn
 hour (being).healed from the illnesses of.them
 “many people ran to meet him, and from that hour they were healed of their
 illnesses” (my own translation) (*A. Phil.* (Xen. 32) 4.1)

While the resultative character of the present participle *θεραπευόμενοι* may be quite clear (ἐξ αὐτῆς τῆς ὥρας (*eks autēs tēs hōras*) “from that hour” indicating that a state obtains starting from a certain point in time), in other examples this is much less the case. Consider example (40): does the present participle *κοσμούμενον* (*kosmoumenon*) equal the perfect participle *κεκοσμημένον* (*kekosmēmenon*), or does the choice for the present participle indicate some kind of special emphasis? In any case, it cannot be denied that there is an approximation of the two types of participle in examples such as these.⁵⁸

- (40) ταῦτα τοῦ βασιλέως εἰρηκότος, αὐτὸν ἡ σύνοδος
tauta tou basileōs eirēkotos, auton hē sunodos
 these.things the.GEN king having.spoken.GEN him the council
 ἡξίου ψηφίσασθαι σοφόν τε ὄντα καὶ εὐσεβεῖα κοσμούμενον
ēksiou psēphisasthai sophon te ōnta kai eusebeiai kosmoumenon
 begged to.decide wise PTC being and with.dignity (being).adorned
 “thus spoke the emperor, and then the council begged him, being wise and adorned
 with dignity, to make the choice” (tr. Jackson) (*Theod., H.E.* 218.12)

As in MPG, we also find the construction with an anterior function. An example from the papyri is given in (41):

- (41) τοῦτο δὲ εἰ ποιήσεις, ἔσει μοι τὰ μέγιστα [[μοι]]
touto de ei poiēseias, esei moi ta megista [[moi]]
 this PTC if you.will.do you.will for.me the greatest.things for.me

⁵⁸ Cf. similarly Jo. Mal., *Chron.* 257.23; *V. Sym. Styl. J.* 193.3-4, 234.11-2; *V. Syncl.* 174-5.

χαριζόμενος

kharizomenos

doing.a.favour/having.done.a.favour

“if you do this, you will have done me a great favour” (my own translation)
(P.Herm.9, l. 10-3 (IV AD))

Formulaic expressions of this type (which abound in MPG and especially EPG) have become very rare in LPG, even with the perfect and aorist participle.

4.3.3.2. ἔχω with active/middle aorist (perfect) participle (anterior)

We have already come across this construction in both of the above discussed stages of the Greek language. As in these periods, the construction is mainly limited to the high register (i.c. historiographical works). As an illustration, consider example (42), from Sozomenus’ *Ecclesiastical History*:

- (42) μή τῷ δὲ χαλεπὸν εἶναι δόξει, ὅτι τινὰς τῶν
mē tōi de khalepon einai doksēi, hoti tinas tōn
not to.someone PTC difficult to.be let.it.seem that some of.the
εἰρημένων αἱρέσεων ἢ ἀρχηγούς ἢ σπουδαστὰς
eirēmenōn haireseōn ē arkhēgous ē spoudastas
having.been.mentioned heresies either leaders or enthusiasts
γενομένου ἐπαινέσας ἔχω
genomenous epainesas ekhō
having.become having.praised I.have
“let it not be accounted strange, if I have bestowed commendations upon the leaders
or enthusiasts of the above-mentioned heresies” (tr. Hartranft) (Soz., *H.E.* 3.15.10)

As in MPG, an example of the construction can also be found in the papyri (ἔχω πέμψας (*ekhō pempsas*) (P.Stras.1.35, l. 5-6 (IV/V AD)) “I have sent”). In Zosimus’ *New History* there is one instance of ἔχω (*ekhō*) with the active perfect participle (εἶχον ἀπολωλεκότες (*eikhon apolōlekotes*) (*H. Nov.* 1.7.1) “they had wasted”).

4.3.3.3. ἔχω with passive aorist participle (resultative)

It is important to distinguish ἔχω (*ekhō*) with passive aorist participle from the construction with active/middle aorist/perfect participle mentioned under §4.3.3.2. Rather than being a conscious imitation, we are dealing here with an innovation which has come about through *intraference*, i.e. the extension of the passive perfect participle to the passive aorist participle. In illustration, consider example (43), with the verb σήπω (*sēpō*) “I make rotten” (compare with (33)).⁵⁹

- (43) ἐγένετό τινα κατασαπεῖσαν ἔχοντα τὴν δεξιὰν χεῖρα ἀνελθεῖν
egeneto tina katasapeisan ekhonta tēn deksian kheira anelthein
 it.happened someone rotten having the right hand to.go.up
 πρὸς τὸν ἅγιον τοῦ Θεοῦ δούλον
pros ton hagion tou Theou doulon
 to the holy of.the Lord servant
 “it happened that some who had a rotten right hand (lit. who had his right hand rotten) went to the holy servant of God” (my own translation) (*V. Sym. Styl. Jun.* 234.1-2)

4.3.3.4. ἔχω with passive present participle (resultative)

One innovative construction which we have not encountered in any of the previous periods is that of ἔχω (*ekhō*) with passive present participle (with a resultative function). This innovation is hardly unexpected: following the extension of εἰμί (*eimi*) with passive perfect participle to the aorist and present participle, the construction of ἔχω (*ekhō*) with passive perfect participle is extended to the passive aorist and finally present participle as well. In his discussion of periphrasis in John Malalas, Wolf (1912:56) mentions our example (44), interpreting the form εἶχε φυλαττόμενον (*eikhe phulattomenon*) as “er hielt verwahrt, *habebat (tenebat) asservatum*”:

⁵⁹ For two additional examples, see Ath., *V. Ant.* 48.13; *V. Syncl.* 1038.

- (44) καὶ θαυμάσας ἐπὶ τῷ γεγονότι ὁ Περσεὺς ἐξ ἐκείνου τοῦ
kai thaumasas epi tōi gegonoti ho Perseus eks ekeinou tou
 and amazed by the event the Perseus from this of.the
 πυρὸς εὐθέως ἀνῆψε πῦρ, καὶ εἶχε φυλαττόμενον μεθ’
puros eutheōs anēpse pur, kai eikhe phulattomenon meth’
 fire immediately he.lit fire and he.had (being).guarded with
 ἑαυτοῦ
heautou
 himself
 “amazed by this event, Perseus immediately lit a fire from that fire and he kept it
 with him under protection” (Jo. Mal., *Chron.* 38.8) (tr. Jeffreys et al.)

4.4. Early Byzantine Greek (VII – VIII AD)

The last period which I consider in the context of this article is that of Early Byzantine Greek. Before starting my discussion, it is worth recalling an important language-internal ecological factor, that is, the decline of the participle. This gradual process⁶⁰ particularly affected the active present/perfect/aorist participle, next to the passive aorist participle, which were being reduced to indeclinable forms, functioning adverbially (Mirambel 1961:50 cites some examples from the second century AD; see also Jannaris 1897:207 and Dieterich 1898:207-8).⁶¹ The passive participles in -όμενος (-omenos) and -μένος (menos), on the other hand, remained in use throughout. Unsurprisingly, several scholars have mentioned the profound effect of this development on the use of periphrastic constructions. Horrocks (2010:131), for example, writes that “but as the use of the inflected participles of the 3rd declension ... began to whither away ... the periphrasis with the perfect passive participle ... emerged as the major

⁶⁰ According to the standard account these changes in the participial system are to be attributed to the morphological complexity of the endings of the active (and passive aorist) participle, or more generally of the third declension paradigm, next to functional motivations such as the avoidance of ambiguity and the preference for analytic expression (either by parataxis or subordination) (Jannaris 1897:504-6; Dieterich 1898:206; Horrocks 2010:131-2). For an alternative view, see Manolissou (2005).

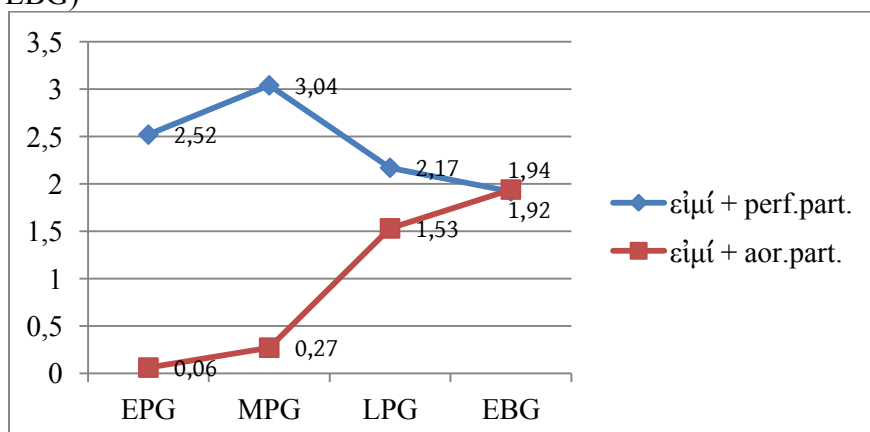
⁶¹ Eventually (i.e. between the tenth and the thirteenth centuries, see Mirambel 1966:186), this led to the formation of a gerund in -οντα(ς) (-onta(s)), with syncretization of the present and aorist participle, and the elimination of the passive aorist and active perfect participle (which were replaced by novel expressions, see Mirambel 1961:68).

survivor in popular Greek of the medieval period” (cf. also Mirambel 1966:180-3; Browning 1969:69).

4.4.1. Continuing the LPG trend: dominance of εἰμί with aorist participle

In the previous parts of this article, I have discussed the gradual rise of εἰμί (*eimi*) with aorist participle, which, having started out as an innovation in EPG, gained firm ground in MPG and LPG, where it mainly functioned with the value of an anterior perfect. In EBG we witness a shift in dominance: for the first time in the history of the language, the construction of εἰμί (*eimi*) with aorist participle is more often attested than that of εἰμί (*eimi*) with perfect participle (141 examples with aorist participle versus 133 examples with perfect participle (including the papyri)). The overall development of the two constructions is shown in Figure 2: here we see that both constructions have reached an NRO of about 2 per 10000 words, which in the case of εἰμί (*eimi*) with perfect participle is the outcome of a gradual decrease, while for εἰμί (*eimi*) with aorist participle it is the result of a gradual increase in frequency. In both cases, the most crucial period is the transition from MPG to LPG.

Figure 2. Frequency of occurrence of εἰμί with perfect and aorist participle (from EPG to EBG)



To a very large extent, the situation in EBG constitutes a continuation of the tendencies observed in the previous periods. Semantically, for example, εἰμί (*eimi*) with perfect participle

is predominantly used as a resultative perfect (100/133 = 75%), while εἰμί (*eimi*) with aorist participle almost always functions as an anterior perfect (123/141 = 87%).⁶² An example of each construction is given in (45) and (46) (note the occurrence of the ἦν γάρ (*ēn gar*)-pattern in (46) (cf. §4.3.1.2)):

- (45) γυνή τις ἔσχεν υἱὸν νήπιον. οὗτος ἡσθένησεν τὸν δίδυμον
gunē tis eskhen huion nēpion. houtos ēsthenēsen ton didumon
 woman some had son infant he became.sick in.the testicle
 αὐτοῦ τὸν ἀριστερόν, ὃς ἦν καὶ ἐξωγκωμένος
hautou ton aristeron, hos ēn kai eksōnkōmenos
 of.himself the left which was also swollen
 “a certain woman had an infant son. This son became diseased in his left testicle,
 which was also swollen” (tr. Crisafulli) (*xliv mir. Artem. 71.9*)
- (46) καὶ ἰδοὺ ὥς ταῦτα ἔλεγον θεωροῦσιν αὐτὸν νεύοντα
kai idou hōs tauta elegon theōrousin auton neuonta
 and behold when these.things they.were.saying they.see him nodding
 αὐτοῖς ἀπελθεῖν πρὸς αὐτόν. ἦν γάρ, ὥς προεῖρηται,
autois apelthein pros auton. ēn gar, hōs proeirētai,
 to.them to.come to him he.was for as it.has.been.said.before
 εὐξάμενος καὶ ἐκ θεοῦ ἔτοιμάσας αὐτοῖς πάντα
euksamenos kai ek theou hetoimasas autois panta
 having.prayed and from God having.prepared for.them all.things
 “and behold, when they said this, they saw him motioning them to come toward
 him. For he had prayed, as I said, and with God’s help he had prepared everything”
 (tr. Krueger) (*Leont. N., V. Sym. 98.1-2*)

Morphologically, the construction with perfect participle is mainly used in the indicative mood (99/133 = 74%) (with no examples in the subjunctive mood and only few in the optative), in the passive voice (91/133 = 68%), and in the present or imperfect tense of the indicative mood (86/99 indicatives = 87%). The construction with aorist participle, on the

⁶² As in the previous periods, however, there are a number of examples where the construction has a resultative or even progressive value. See e.g. Georg. S., *V. Theod. S.* 72.32-3, 81.2-3, 106.14-5; Leont. N., *V. Jo. Eleem.* 343.10-1; Thphn., *Chron.* 334.6, 481.30-1.

other hand, is again mainly limited to the indicative imperfect (130/141 = 92%) and is by and large formed with the active or middle participle (106/141 = 75%).

The most noticeable findings are perhaps situated in the pragmatic (registerial) domain. Consider Table 12, where I have represented the use of both constructions in the middle and high register:

Table 12. Distribution of εἰμί with perfect and aorist participle in EBG (register and aspectual function)

Construction	Register	Total	NRO (/10000)	Resultative	Anterior
εἰμί + perf. part.	Middle	119/133 (= 89%)	2,3	90/119 (76%)	29/119 (24%)
εἰμί + perf. part.	High	14/133 (= 11%)	0,8	10/14 (= 71%)	4/14 (= 29%)
εἰμί + aor. part.	Middle	123/135 (91%)	2,4	17/123 (= 14%)	106/123 (= 86%)
εἰμί + aor. part.	High	12/135 (9%)	0,7	1/12 (= 8%)	11/12 (= 92%)

Two observations can be made on the basis of this table: (a) *with regard to εἰμί (eimi) with perfect participle*: contrary to what we have seen in the previous periods, the difference between the middle and the high register does not lie in a more frequent use of the anterior function in the high register. Quite surprisingly, texts of the high register contain very few examples of the construction, both with a resultative and an anterior function. (b) *with regard to εἰμί (eimi) with aorist participle*: again contrary to what we would expect, the rise of the construction (which was mainly limited to the middle register in LPG) has not resulted in a greater register spread: again, the high register contains almost no examples. In other words, the increase in frequency observed in Figure 2 must be almost entirely ascribed to the middle register.⁶³

While it cannot be doubted that the gradual breakdown of the participial system had a profound effect on the use of periphrastic constructions, particularly those with the active

⁶³ At present, it is unclear to me what may have caused the avoidance of both periphrastic constructions in the high register.

participle (i.e. εἰμί (*eimi*) with aorist participle), the data presented here do not attest to any radical change in EBG, not in use or in frequency. The vitality of εἰμί (*eimi*) with aorist participle has also been noted by Horrocks (2010:131), who observes that, despite the ‘withering away’ of the inflected participles of the 3rd declension, “the use of the past tense of ‘be’ with an aorist active participle ... is also well attested as a pluperfect substitute” (Mihevc 1959:141 writes that the construction only disappeared in the thirteenth century, when it was replaced by a periphrastic construction with ἔχω (*ekhō*)). According to Giannaris (2011a:11), the fact that we do not see any traces of rigidification of the participle can be attributed to the fact that “the majority of the Early Medieval texts represent a middle register Greek rather than the spoken language of the period”.

Turning to the papyri, we find that both εἰμί (*eimi*) with perfect participle and εἰμί (*eimi*) with aorist participle are infrequently attested: the former construction has completely disappeared, while for the latter there are only a few attestations. One example is given here in (47):⁶⁴

- (47) καὶ οὐχ εὐρίσκει ἀποπληρῶσαι ἀλλ’ ἀφορμάζεται λέγων ὥς οὐπω
kai oukh heuriskei apoplērōsai all’ aphormazetai legōn hōs oupō
 and not he.is.able to.pay but he.is.stalling saying that not.yet
 ἀπέστειλας πρὸς αὐτὸν τὸ πόσον τῆς προτελείας ἥσπερ
apesteilas pros auton to poson tēs proteleias hēesper
 you.have.sent to him the amount of.the advance.payment of.which
 ἤμεν γράψαντες πρὸς σὲ προτελέσαι α[ὐ]τ[ῷ]
ēmen grapsantes pros se protelesai a[u]t[ōi]
 we.were having.written to you to.pay.beforehand to.him
 “and he is not able to pay but he is stalling, saying that you have not yet sent him
 the amount of the of the advance payment of which we had written to you to pay it
 beforehand to him” (my own translation) (P.Lond.4.1360, l. 7-9 (710 AD))

4.4.2. Constructions with ἔχω: apparent stability

⁶⁴ For some additional examples, see e.g. P.Lond.4.1346, l. 4-5 (710 AD); P.Ross.Georg.4.1, l. 32 (710 AD); P.Lond.4.1419, l. 827, 1364 (716-717 AD).

The constructions of ἔχῳ (*ekhō*) with passive perfect participle (catching on in MPG) and ἔχῳ (*ekhō*) with present/aorist participle and a temporal adjunct (catching on in LPG) remain more or less stable in EBG, still occurring rather infrequently. In the former case, this may be connected to the competition of functionally similar variant constructions (εἰμί (*eimi*) with perfect and aorist participle), while in the latter case we must also take into account the fact that the construction was limited to a subfunction of the anterior perfect, the perfect of persistence (cf. §4.3.2), which is contextually less often required.

4.4.2.1. ἔχῳ with passive perfect participle

The construction of ἔχῳ (*ekhō*) with passive perfect participle does not increase in frequency during the EBG period, contrary to Jannaris' (1897:498) statement referred to in §4.3.1.3 (occurring with a frequency of 0,6 per 10000 words, as in LPG). It is interesting to note that the construction can be found in all registers. Contrary to what we have seen for εἰμί (*eimi*) with aorist and perfect participle, high-register texts supply about half of the examples (being attested in writers such as John of Damascus, Sophronius, Theophylact Simocotta, Ignatius the Deacon, Michael Syncellus and Stephan the Deacon). Example (48) comes from the historiographer Theophylact Simocotta:

- (48) ἐν ταύτῃ τῇ πόλει τὰ τοῦ βασιλεύοντος γυναῖα ἐκ χρυσοῦ
en tautēi tēi polei ta tou basileuontos gunaia ek khrousou
 in this the city the of.the ruling women from gold
πεποιημένας ἔχουσι τὰς ἄρμαμάξας
pepoiēmenas ekhousi *tas harmamaksas*
 made they.have the carriages
 “in this city the women of the king have their carriages made out of gold” (my own translation) (Thphl., *Hist.* 7.9.7)

In this case, we are quite clearly dealing with a resultative perfect: in all likelihood, the wives of the king did not make their own carriages. Only in a small minority of the cases can we speak of an anterior inference, as in (49):

- (49) εἰ καὶ μηδὲν ὧν ἤλπισεν ἔδρασεν, ἐπὶ πέτραν τοῦ
ei kai mēden hōn ēlpisen edrasen, epi petran tou
 if even nothing of which he.hoped.for he.did on rock of.the
 δικαίου καὶ οὐ ψάμμον ἐρηρεισμένον ἔχοντος τὸν θεμέλιον
dikaiou kai ou psammon erēreismenon ekhontos.GEN ton themelion
 justice and not sand founded having the foundation
 “... even if he (the devil) succeeded in nothing of the things he had hoped for, as he
 (Job) had fixed his foundations on the rock of justice and not on sand” (tr. Gascou
 (originally in French), slightly modified) (Sophr. H., *Mir. Cyr. et Jo.* 15.33-5)

Even here, though, I would argue that there is still a strong resultative sense (“he had his foundation fixed”, rather than “he had fixed his foundation”).

In the papyri the use of the construction is restricted: I have found two instances of a by now familiar construction (cf. §4.3.1.3), i.e. the participle ἐρρωμένος (*errōmenos*) (“strong”) (in the accusative case) accompanied by τὰς φρένας/τὴν διάνοιαν (*tas phrenas/tēn dianoian*) (“the mind”) and a form of the verb ἔχω (*ekhō*) (P.Lond.1.77, l. 11 (ca. 610 AD); P.Lond.4.1338, l. 16 (709 AD)).

4.4.2.2. ἔχω with present/aorist participle

Similarly to ἔχω (*ekhō*) with passive perfect participle, this construction, catching on in LPG, remains stable (with an NRO of 0,2 per 10000 words in both LPG and EBG). As in LPG, the construction is confined to the middle register. There is more or less a balance between the use of the present and aorist participle, with nine versus six attestations respectively. Again, the aorist participle is almost exclusively used with the negation.⁶⁵ An example with the present participle is given in (50):

⁶⁵ One exception would be *xlv mir. Artem.* 56.19.

- (50) πίστευσον, ἀδελφέ, τριάκοντα τρεῖς χρόνους ἔχω ἰατρὸς ὄν καὶ
pisteuson, adelphe, triakonta treis khronous ekhō iatros ōn kai
 believe brother thirty three years I.have doctor being and
 οὐκ εἶδόν τι τοιοῦτο
ouk eidon ti toiouto
 not I.saw something such
 “believe me brother, I have been a doctor for thirty-three years and have not seen
 such a thing” (tr. Crisafulli) (*xlv mir. Artem.* 31.14-5)

4.4.3. First order variation: Alternative periphrastic perfect constructions

In EBG, we find a number of constructions, both with εἰμί (*eimi*) and ἔχω (*ekhō*), which can be discussed under the heading of ‘first order variation’. These are similar to what we have encountered in LPG.

4.4.3.1. εἰμί with (passive) present participle (resultative/anterior)

As in all of the previous periods, εἰμί (*eimi*) with passive present participle is used for the resultative function. In illustration, consider (51):⁶⁶

- (51) οὐ γὰρ ἐγίνωσκον ἀκριβῶς, ὅτι ἦν ἐκ τοῦ μαγειρείου
ou gar eginōskon akribōs, hoti ēn ek tou mageireiou
 not for they.recognized completely because it.was from the kitchen
 καὶ τῆς νηστείας ἣ ὄψις αὐτοῦ ἁλλοιουμένη
kai tēs nēsteias hē opsis autou alloioumenē
 and the fasting the appearance of.him altered
 “for they did not recognize him completely, for his appearance was altered because
 of his job as a cook and the fasting” (tr. Festugière, originally in French) (Leont. N.,
V. Jo. Eleem. 371.10-1)

⁶⁶ For similar examples, see e.g. *Chron. Pasch.* 237.6; *Georg. S., V. Theod. S.* 167.77; *Steph. Diac., V. Steph.* 20.8.

In some eighth-century papyri from Aphroditopolis, Mandilaras (1973:240) has observed the presence of constructions with the verb εἰμί (*eimi*) (in the future tense) accompanied by the present participle of ἐπίσταμαι (*epistamai*) “I know”, as in (52):

- (52) ἔσῃ γὰρ ἐπιστάμενος ὥς ἐὰν εὔρωμέν τινα ἀγοράσαντα
esēi gar epistamenos hōs ean heurōmen tina agorasanta
 you.will.be for knowing that if we.will.find someone having.bought
 ἄνωθεν τῆς λεχθείσης κοπῆς ... ἀποδίδουμέν σοι ἀνταπόδοσιν
anōthen tēs lektheisēs kopēs ... apodidoumen soi antapodosin
 over the stated tarif we.give.back to.you reprisal
 βλάπτουσάν σε
blaptousan se
 harming you
 “you should be aware that (you will have learnt that?) if we discover anyone who has bought things for more than the tarif stated ... we are going to give you a harmful reprisal in return” (tr. papyri.info) (P.Ross.Georg.4.8, l. 8-10 (710 AD))

Mandilaras believes ἔσομαι ἐπιστάμενος (*esomai epistamenos*) should be considered an innovative construction, with the semantic value of a future anterior perfect, i.e. “I will have heard/learnt”.⁶⁷ I find this suggestion rather far-fetched: future-referring ἔσει (*esei*) may be taken with the value of an imperative, and the participle as a regular stative present participle, with the value of English “aware”. This is not to say, of course, that there are no examples of the innovative use of εἰμί (*eimi*) with present participle with an anterior function. Consider example (53), from Theophanes’ *Chronography*:

- (53) ἀναβαλλόμενος γὰρ ἦν, φασίν, τὸ βάπτισμα, ἐλπίζων ἐν
anaballomenos gar ēn, phasin, to baptisma, elpizōn en
 deferring/having.deferred for he.was they.say the baptism hoping in
 τῷ Ἰορδάνῃ βαπτισθῆναι ποταμῷ
tōi Iordanēi baptisthēnai potamōi
 the Jordan to.be.baptized river

⁶⁷ Mandilaras does not seem to have noticed a similar construction with the active participle γιγνώσκων (*gignōskōn*) in P.Lond.4.1394, l. 23 (708-709 AD) and SB.10.10453, l. 20 (709 AD), also from Aphroditopolis.

“they claim that he had deferred baptism in the hope of being baptized in the river Jordan” (tr. Mango & Scott) (Thphn., *Chron.* 17.30-1)

Mango & Scott suggest that ἀναβαλλόμενος ἦν (*anaballomenos ēn*) should be taken as an anterior perfect (“he had deferred”), which indeed seems to be indicated by the context (though perhaps a progressive interpretation must not be entirely excluded): in his discussion of the year 321/2 AD, Theophanes mentions that up until his time a dispute exists between the inhabitants of Old Rome and the easterners whether Constantine the Great was baptized in Rome (in this year) or rather in Nicomedia (at a later time, on his death-bed). Our example contains the easterner’s (the subject of φασίν) argument why Constantine would not have taken baptism in Rome at this time.

4.4.3.2. ἔχω with passive aorist participle (resultative)

EBG is the first period for which I have not encountered any instances of ἔχω (*ekhō*) with active aorist participle with an anterior function (in imitation of the classical authors). What we do find is the construction of ἔχω (*ekhō*) with passive aorist participle, as in (54):⁶⁸

- (54) καὶ ἄλλως ὅτιπερ ἄσγε πρότερον εὐπαθούσας ἑώρα σάρκας,
kai allōs hotiper hasge proteron eupathousas heōra sarkas,
 and otherwise that which before well-fed he.saw body
 ταύτας ἐπὶ τέλει τοῦ βίου, ἐκ μακρᾶς ἀσθενείας, οὕτως
tautas epi telei tou biou, ek makras astheneias, houtōs
 this at end of.the life because.of long sickness so
 εἶχε δαπανηθείσας, ὥς τῆς τῶν ὀστέων συνθέσεως σχεδὸν
eikhe dapanētheisas, hōs tēs tōn osteōn suntheseōs skhedon
 he.had consumed that of.the of.the bones composition almost
 εἰπεῖν κάτοπτρα ὑπάρχειν
eipein katoptra huparkhein
 to.say mirror to.be
 “moreover, his body, which before he saw well-fed, towards the end of his life, due to a long sickness, he had so consumed, that one would almost have said that it

⁶⁸ Cf. similarly Jo. D., *Artem.* 61.15-6.

constituted but the mirror (reflection?) of his skeleton” (tr. Efthymiadis (originally in French), slightly modified)

4.4.3.3. ἔχω with passive present participle (resultative)

As in LPG, the construction of ἔχω (*ekhō*) with passive perfect participle is also extended to the passive present participle. In (55), for example, the co-ordination with the perfect participle μεμυκῶτα (*memukōta*) strongly suggests the resultative value of ἀνοιγόμενα (*anoigomena*):⁶⁹

- (55) μεμυκῶτα γὰρ ἔσχε τὰ ὄμματα, καὶ μηδαμῶς ἀνοιγόμενα
memukōta gar eskhe ta ommata, kai mēdamōs anoigomena
shut for he.had the eyes and not.at.all (being).opened
“he had his eyes closed and not at all opened” (my own translation) (Sophr. H., *Mir. Cyr. et Jo.* 46.14)

5. Conclusion

I have given an in-depth treatment of perfect periphrases with εἰμί (*eimi*) and ἔχω (*ekhō*) on the basis of a large, register-balanced corpus of texts (including the papyri), going from the third century BC to the eighth century AD. For my description and analysis of these periphrastic constructions I have adopted an ‘ecological-evolutionary’ perspective. This framework allows us to take into account linguistic variation at two levels (*innovation* and *propagation*), and offers insight into the linguistic and social mechanisms of change.

I have argued that the diachrony of the three major periphrastic perfect constructions, εἰμί (*eimi*) with perfect participle, εἰμί (*eimi*) with aorist participle, and ἔχω (*ekhō*) with passive perfect participle, is more complex than has been traditionally assumed. I have shown that, while εἰμί with perfect participle was the dominant periphrasis in all registers in EPG, starting from MPG the construction became functionally specialised in the middle register for the

⁶⁹ Cf. similarly Sophr. H., *Mir. Cyr. et Jo.* 30.135-6, 66.48, 66.49.

resultative function. This must have stimulated the rise of εἰμί (*eimi*) with aorist participle as an anterior perfect periphrasis in the same register. In the high register, on the other hand, the construction of εἰμί (*eimi*) with aorist participle never gained firm ground, which can be related to the fact that (at least until LPG) εἰμί (*eimi*) with perfect participle remained the dominant perfect periphrasis for both aspectual functions. The construction of ἔχω (*ekhō*) with passive participle emerged in the same period as that of εἰμί (*eimi*) with aorist participle, but the functional division between the two εἰμί-periphrases seems to have blocked its further development.

Next to these major constructions, I have drawn attention to the existence of numerous innovative periphrastic perfect constructions occurring (much) less frequently, such as εἰμί (*eimi*) with present participle (resultative and anterior), ἔχω (*ekhō*) with active/middle aorist participle (anterior), ἔχω with active/middle aorist/present participle and a temporal adjunct (anterior (perfect of persistence)), ἔχω with passive aorist participle (resultative) and ἔχω (*ekhō*) with passive present participle (resultative). Most of these innovations can be related to the mechanism of *intraference*, and must have been stimulated by developments in the participial system. ἔχω (*ekhō*) with active/middle aorist/present participle and a temporal adjunct, on the other hand, is a case of form-function reanalysis, while ἔχω (*ekhō*) with active/middle aorist participle seems to have been reintroduced in imitation of the classical authors.

As Garner (2004:62-3) notes, the choice for a holistic, ecological approach does not entail examining *everything*: “holistic does not mean exhaustive: it is not a matter of quantity, but of quality of vision. We have to limit our focus, to give attention to some things and not others; our descriptions and analyses will always be partial”. Much remains to be done in the field of perfect periphrases: the corpus needs to be expanded, the development of the synthetic tenses must be charted much more accurately, and other periphrastic constructions (especially those

with τυγχάνω *tunkhanō* “I happen to be, am” and ὑπάρχω *huparkhō* “I am”) need to be involved.

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APPENDIX: Primary (literary) sources

Early Post-classical Greek (III - I BC)

<i>Septuagint</i>		III/II BC	A. Rahlfs. 1935. <i>Septuaginta</i> , 9th edn. Stuttgart: Württemberg Bible Society.
<i>Histories</i>	Polybius	III/II BC	T. Büttner-Wobst. 1882-1904. <i>Polybii historiae</i> . Leipzig: Teubner.
<i>Apocalypse of Enoch</i>		II/I BC	M. Black. 1970. <i>Apocalypsis Henochi Graece</i> . Leiden: Brill.
<i>Roman Antiquities</i>	Dionysius of Halicarnassus	I BC	K. Jacoby. 1885-1905. <i>Dionysii Halicarnasei antiquitatum Romanarum quae supersunt</i> . Leipzig: Teubner.
<i>Life of Adam and Eve</i>		I BC/I AD	C. Tischendorf. 1866. <i>Apocalypses apocryphae</i> . Leipzig: Mendelssohn.

Middle Post-classical Greek (I - III AD)

<i>Apocalypse of Baruch</i>		I AD	J.C. Picard. 1967. <i>Apocalypsis Baruchi Graece</i> . Leiden: Brill.
<i>New Testament</i>		I AD	K. Aland, M. Black, C.M. Martini, B.M. Metzger & A. Wikgren. 1968. <i>The Greek New Testament</i> , 2nd edn. Stuttgart: Württemberg Bible Society.
<i>Testament of Abraham</i>		I AD	M.R. James. 1892. <i>The testament of Abraham</i> . Cambridge: Cambridge University Press.
<i>Parallel lives</i> ⁷⁰	Plutarch	I/II AD	K. Ziegler. 1964-71. <i>Plutarchi vitae parallelae</i> , 2nd edn. Leipzig: Teubner. / B. Perrin. 1914-26. <i>Plutarch's lives</i> . Cambridge (Mass.): Harvard University Press.
<i>Acts of Andrew</i>		II AD	J.-M. Prieur. 1989. <i>Acta Andreae</i> . Turnhout: Brepols.
<i>Acts of John</i>		II AD	M. Bonnet. 1898. <i>Acta apostolorum apocrypha</i> . Leipzig: Mendelssohn.
<i>Acts of Paul</i>		II AD	C. Schmidt & W. Schubart. 1936. <i>Acta Pauli</i> . Glückstadt: Augustin.
<i>Acts of Paul and Thecla</i>		II AD	R.A. Lipsius. 1891. <i>Acta apostolorum apocrypha</i> . Leipzig: Mendelssohn.
<i>Apocalypse of John</i>		II AD	C. Tischendorf. 1866. <i>Apocalypses apocryphae</i> . Leipzig: Mendelssohn.
<i>Acts of the Scillitan martyrs</i>		II AD	J.A. Robinson. 1891. <i>The passion of S. Perpetua</i> . Cambridge: Cambridge University Press.
<i>Confession and prayer of Aseneth</i>		II AD	M. Philonenko. 1968. <i>Joseph et Aséneth</i> . Leiden: Brill.
<i>Gospel of Peter</i>		II AD	M.G. Mara. 1973. <i>Évangile de Pierre</i> . Paris: Éditions du Cerf.
<i>Gospel of Thomas</i>		II AD	E. Klostermann. 1910. <i>Apocrypha II. Evangelien</i> , 2nd edn. Bonn: Marcus & Weber.
<i>Martyrdom of Paul</i>		II AD	R.A. Lipsius. 1891. <i>Acta apostolorum apocrypha</i> . Leipzig: Mendelssohn.
<i>Martyrdom of Peter</i>		II AD	L. Vouaux. 1922. <i>Les actes de Pierre</i> . Paris: Letouzey & Ané.

⁷⁰ For Plutarch, I have concentrated on the lives of *Agis and Cleomenes, Alexander, Antony, Caesar, Camillus, Cato the younger, Dion, Lucullus, Marius and Pompey*.

<i>Proto-evangelium of James</i>		II AD	É. de Strycker. 1961. <i>La forme la plus ancienne du protévangile de Jacque</i> . Brussels: Société des Bollandistes.
<i>Testament of Job</i>		II AD	S.P. Brock. 1967. <i>Testamentum Jobi</i> . Leiden: Brill.
<i>Acts of Justin</i>		II/III AD	H. Musurillo. 1972. <i>The acts of the Christian martyrs</i> . Oxford: Clarendon Press.
<i>Acts of the Alexandrines</i>		II/III AD	H. Musurillo. 1961. <i>Acta Alexandrinorum</i> . Leipzig: Teubner.
<i>Roman Histories</i>	Cassius Dio	II/III AD	U.P. Boissvain. 1895-1901. <i>Cassii Dionis Cocceiani historiarum Romanarum quae supersunt</i> . Berlin: Weidmann.

Late Post-classical Greek (IV - VI AD)

<i>Acts of Philip</i> ⁷¹		IV AD	M. Bonnet. 1903. <i>Acta apostolorum apocrypha</i> , vol. 2.2. Leipzig: Mendelssohn. / F. Amsler, B. Bouvier & F. Bovon. 1999. <i>Acta Philippi</i> . Turnhout: Brepols.
<i>Collection of ancient martyrdoms</i>	Eusebius	IV AD	J.-P. Migne. 1857-1866. <i>Patrologiae cursus completus (series Graeca) (MPG)</i> 20. Paris: Migne.
<i>Ecclesiastical history</i>	Eusebius	IV AD	G. Bardy. 1952-8. <i>Eusèbe de Césarée. Histoire ecclésiastique</i> . Paris: Éditions du Cerf.
<i>Encomium on the holy forty martyrs</i>	Ephraem the Syrian	IV AD	K.G. Phrantzoles. 1998. <i>Ὁσίου Ἐφραίμ τοῦ Σύρου ἔργα</i> , vol. 7. Thessalonica: To Perivoli tis Panagias.
<i>Lausiaca history</i>	Palladius	IV AD	G.J.M. Bartelink. 1974. <i>Palladio. La storia Lausiaca</i> . Verona: Fondazione Lorenzo Valla.
<i>Life of Antony</i>	Athanasius	IV AD	G.J.M. Bartelink. 2004. <i>Athanase d'Alexandrie, Vie d'Antoine</i> . Paris: Éditions du Cerf.
<i>Life of Constantine</i>	Eusebius	IV AD	F. Winkelmann. 1975. <i>Eusebius Werke, Band 1.1: Über das Leben des Kaisers Konstantin</i> . Berlin: Akademie Verlag.
<i>Life of St. Macrina</i>	Gregory of Nyssa	IV AD	P. Maraval. 1971. <i>Grégoire de Nysse. Vie de sainte Macrine</i> . Paris: Éditions du Cerf.
<i>Martyrium of Pionius the presbyter and his comrades</i>		IV AD	H. Musurillo. 1972. <i>The acts of the Christian martyrs</i> . Oxford: Clarendon Press.
<i>On Gordius the Martyr</i>	Basil of Caesarea	IV AD	J.-P. Migne. 1857-1866. <i>Patrologiae cursus completus (series Graeca) (MPG)</i> 31. Paris: Migne.
<i>On the life of blessed Abraham and his granddaughter Maria</i>	Ephraem the Syrian	IV AD	K.G. Phrantzoles. 1998. <i>Ὁσίου Ἐφραίμ τοῦ Σύρου ἔργα</i> , vol. 7. Thessalonica: To Perivoli tis Panagias.
<i>On the life of Gregory the Wonderworker</i>	Gregory of Nyssa	IV AD	J.-P. Migne. 1857-1866. <i>Patrologiae cursus completus (series Graeca) (MPG)</i> 46. Paris: Migne.
<i>On the life of Moses</i>	Gregory of Nyssa	IV AD	J. Danielou. 1968. <i>Grégoire de Nysse. La vie de Moïse</i> , 3rd edn. Paris: Éditions du Cerf.
<i>On the martyrs of Palestine</i>	Eusebius	IV AD	G. Bardy. 1958. <i>Eusèbe de Césarée. Histoire ecclésiastique</i> , vol. 3. Paris: Éditions du Cerf.

⁷¹ I have taken into account the version based on the *Xenophont*. 32 and that based on the *Vatic. gr.* 824.

<i>Historical fragments</i>	Eunapius	IV/V AD	L. Dindorf. 1870. <i>Historici Graeci minores</i> , vol. 1. Leipzig: Teubner.
<i>Ecclesiastical history</i>	Theodoretus of Cyrrhus	IV/V AD	L. Parmentier & F. Scheidweiler. 1954. <i>Theodoret. Kirchengeschichte</i> , 2nd edn. Berlin: Akademie Verlag.
<i>On those who in Euphratesia and the Osrhoene region, Syria, Phoenicia and Cilicia live the monastic life</i>	Theodoretus of Cyrrhus	IV/V AD	J.-P. Migne. 1857-1866. <i>Patrologiae cursus completus (series Graeca) (MPG)</i> 83. Paris: Migne.
<i>Acts of Barnabas</i>		V AD	M. Bonnet. 1903. <i>Acta apostolorum apocrypha</i> , vol. 2.2. Leipzig: Mendelssohn.
<i>Ecclesiastical history</i>	Sozomenus	V AD	J. Bidez & G.C. Hansen. 1960. <i>Sozomenus. Kirchengeschichte</i> . Berlin: Akademie Verlag.
<i>Encomium on John the Baptist</i>	Chrysippus of Jerusalem	V AD	A. Sigalas. 1937. <i>Des Chrysippos von Jerusalem Enkomion auf den hl. Johannes den Täufer</i> . Athens: Verlag der Byzantinisch-neugriechischen Jahrbücher.
<i>Encomium on St. Theodorus</i>	Chrysippus of Jerusalem	V AD	A. Sigalas. 1921. <i>Des Chrysippos von Jerusalem Enkomion auf den heiligen Theodoros Teron</i> . Leipzig: Teubner.
<i>History of the monks in Egypt</i>		V AD	A.-J. Festugière. 1971. <i>Historia monachorum in Aegypto</i> . Brussels: Société des Bollandistes.
<i>Laudation on mother Mary</i>	Proclus	V AD	F.J. Leroy. 1967. <i>L'homilétique de Proclus de Constantinople</i> . Vatican City: Biblioteca Apostolica Vaticana.
<i>Life of Alexander</i>		V AD	E. de Stoop. 1911. <i>Vie d' Alexandre l' Acémète</i> . Turnhout: Brepols.
<i>Life of Pachomius</i>		V AD	F. Halkin. 1982. <i>Le corpus athénien de saint Pachome</i> . Genève: Cramer.
<i>Life of Porphyry bishop of Gaza</i>	Mark the Deacon	V AD	H. Gregoire & M.-A. Kugener. 1930. <i>Marc le Diacre. Vie de Porphyre, évêque de Gaza</i> . Paris: Les Belles Lettres.
<i>Life of St. Hypatius</i>	Callinicus	V AD	G.J.M. Bartelink. 1971. <i>Callinicos. Vie d'Hypatios</i> . Paris: Éditions du Cerf.
<i>Life of St. Syncletica</i>	Pseudo-Athanasius	V AD	L. Abelarga. 2002. <i>The Life of Saint Syncletica. Introduction - Critical Text - Commentary</i> . Thessalonica: Centre for Byzantine Research.
<i>Life of Symeon Stylites the Elder</i>	Antony the Hagiographer	V AD	H. Lietzmann. 1908. <i>Das Leben des heiligen Symeon Stylites</i> . Leipzig: Hinrichs.
<i>New History</i>	Zosimus	V AD	F. Paschoud. 1971-89. <i>Zosime. Histoire nouvelle</i> , vols. 1-3.2. Paris: Les Belles Lettres.
<i>Passion of Gregory the Illuminator</i>	Agathangelus	V AD	G. Garitte. 1946. <i>Documents pour l' étude du livre d' Agathange</i> . Rome: Bibliotheca Apostolica Vaticana.
<i>Life of Isidorus</i>	Damascius	V/VI AD	C. Zintzen. 1967. <i>Damascii vitae Isidori reliquiae</i> . Hildesheim: Olms.
<i>Chronography</i>	John Malalas	VI AD	L. Dindorf. 1831. <i>Ioannis Malalae chronographia</i> . Bonn: Weber.
<i>Laudation of Theodorus Graptus</i>	Theophanes of Caesarea	VI AD	J. Featherstone. 1980. The praise of Theodore Graptos by Theophanes of Caesarea. <i>Analecta Bollandiana</i> 98, 104-50.
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<i>Life of Euthymius</i>	Cyril of Scythopolis	VI AD	E. Schwartz. 1939. <i>Kyrillos von Skythopolis</i> . Leipzig: Hinrichs.
<i>Life of John the Silentiary</i>	Cyril of Scythopolis	VI AD	E. Schwartz. 1939. <i>Kyrillos von Skythopolis</i> . Leipzig: Hinrichs.
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<i>Laudation of St. martyr Anastasia</i>	John of Damascus	VII AD	P.B. Kotter. 1988. <i>Die Schriften des Johannes von Damaskos</i> , vol. 5. Berlin & New York: De Gruyter.
<i>Laudation of St. martyr Barabara</i>	John of Damascus	VII AD	P.B. Kotter. 1988. <i>Die Schriften des Johannes von Damaskos</i> , vol. 5. Berlin & New York: De Gruyter.
<i>Life of John the Merciful</i>	Leontius of Naples	VII AD	A.-J. Festugière & L. Rydén. 1974. <i>Léontios de Néapolis, Vie de Syméon le Fou et Vie de Jean de Chypre</i> . Paris: Geuthner.
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<i>Passion of St. Parasceva</i>	John of Euboea	VII/VIII AD	F. Halkin. 1966. <i>La Passion de Sainte Parascève par Jean d'Eubée</i> . Heidelberg: Winter.
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<i>Laudation of John Chrysostomus</i>	Cosmas Vestitor	VIII/IX AD	C.I. Dyobouniotes. 1940. Κοσμά Βεστίτωρος ἀνεκδοτὸν ἐγκώμιον εἰς Ἰωάννην τὸν Χρυσόστομον, <i>Ἐπετηρὶς Ἑταιρείας Βυζαντινῶν Σπουδῶν</i> 16, 151-5.
<i>Laudation of St. Mocius</i>	Michael Syncellus	VIII/IX AD	H. Delehay. 1912. Saints de Thrace et de Mésie. <i>Analecta Bollandiana</i> 31, 176-87.
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