

# VOICE MARKERS IN SEPTUAGINT GREEK IN THE LIGHT OF HEBREW INTERFERENCE: A CORPUS-BASED STUDY ON THE AORIST SYSTEM OF THE BOOK OF GENESIS\*

By EYSTEIN DAHL  AND LIANA TRONCI  
*UiT – The Arctic University of Norway and Università per Stranieri di Siena*

(Submitted: 26 June, 2022; Accepted: 25 May, 2023)

## ABSTRACT

In this paper, we examine the behaviour of so-called passive and middle aorist forms in the Greek reflected in the Genesis of the Septuagint. The Septuagint, and Biblical Greek more generally, displays a considerable aberration with respect to other varieties of Ancient Greek regarding the relative frequency of passive *vis-à-vis* middle aorist forms. Here, we explore this feature of Septuagint Greek in some detail, showing that there is a more or less consistent, binary system at this stage, where the passive aorist is the preferred expression of monoargumental detransitive clauses, while the middle primarily appears in biargumental detransitive clauses. A comparison with the original text in Biblical Hebrew suggests that its *binyanim* system, with systematic distinction between transitive and detransitivising stems, may have played a key role in accelerating this process, which was already present in earlier stages of Greek. This process resulted in a general ousting of the aorist middle, which essentially became a lexically restricted variant of the active voice.

## RIASSUNTO

L'articolo esamina il comportamento degli aoristi passivi e medi nella lingua della traduzione greca della Bibbia ebraica nota come Settanta. La Settanta – ma anche, più in generale, il greco biblico – presenta una situazione molto diversa rispetto alle altre varietà di greco antico per quanto riguarda la frequenza relativa degli aoristi passivi rispetto ai medi. Questo aspetto della lingua della Settanta verrà indagato qui attraverso uno studio sui dati offerti dal libro della Genesi. L'analisi mostra l'esistenza di un sistema binario, più o meno coerente, in cui l'aoristo passivo è la forma privilegiata in frasi monoargomentali detransitivizzate, mentre l'aoristo medio ricorre principalmente in frasi biargomentali detransitivizzate. Il confronto con il testo ebraico originale mostra che il sistema *binyanim*, con la sua sistematica distinzione tra temi verbali transitivi e detransitivizzati, può aver svolto un ruolo chiave nell'accelerare una tendenza, già presente in fasi precedenti della lingua greca, verso un sistema di voce binario. Questo

\*This article is the result of joint work by the two authors. However, for academic purposes, Eystein Dahl is responsible for Sections 1.2 and 3, and Liana Tronci for Sections 1.1 and 2. Section 4 is co-written. Liana Tronci's research was carried out as part of the project PRIN 'Ancient languages and writing systems in contact: a touchstone for language change', funded by the Italian Ministry of education, university and research. We are grateful for the constructive remarks given by two anonymous reviewers and to Cathinka Dahl Hambro for stylistic advice. We also assume full responsibility for all remaining shortcomings.

processo portò ad una sostanziale eliminazione dell'aoristo medio, le cui forme residuali divennero una variante lessicalmente determinata dell'aoristo attivo.

[Italian]

## 1. INTRODUCTION: TOPIC AND AIMS OF THIS STUDY

### 1.1. *The research question*

This paper deals with the detransitivising voice markers in the aorist system of Hellenistic Greek, as reflected in the language of the Septuagint. The Septuagint is the translation of the Hebrew Bible into Greek, made in Greek-speaking Egypt from the third-century BCE onwards. The first five books of the Bible, the so-called Pentateuch (Genesis, Exodus, Numbers, Leviticus and Deuteronomy), were translated first, presumably around the year 250 BCE (Jobes & Silva 2000: 29), by different translators (Tov 2015: 448). This includes the book of Genesis, which constitutes the corpus of this research.

For our purposes, the language of the Septuagint is important for the following reasons. First, it reflects a variety of the Hellenistic Koiné of the third-century BCE, thus representing an important source for understanding the development from Classical Greek to later Koiné, as reflected, for instance, in New Testament Greek. Second, as regards the use of detransitivising morphology and, more specifically, the relative frequency of the middle and passive aorist, the Greek of the Septuagint shows considerable aberration from both Classical sources and contemporary Hellenistic sources. Third, given that the Septuagint is a translated text, the question arises whether odd and unexpected phenomena may be due to interference from the source languages.

Before proceeding to the analysis, let us summarize a few characteristics of the Ancient Greek voice system. First, the two aspect stems, the present (= imperfective) and the aorist (= perfective) have somewhat different voice systems. In the present, there is a binary opposition between the active and the middle voice, marked by verbal inflection. Verbal forms inflected in the active voice occur in active constructions (both transitive and intransitive), while verbal forms inflected in the middle voice occur with a broader range of valency changing functions, for example, passive, anticausative, reflexive or (auto-)benefactive as well as transitive structures in which the subject and the direct object are linked by relationships such as possessor/possessee, whole/body part. In contrast, the aorist stem exhibits a ternary system, where verbal forms have active, middle or passive diathesis. The voice markers include (a) inflection, namely active and middle endings, as in the present; (b) the stem-final suffixes *-thē-/ē-*, which are lexically distributed (some verbs take *-thē-* and some others take *-ē-*). The labels 'active', 'middle' and 'passive' are commonly used in Ancient Greek linguistics to characterize the three sets of voice forms (cf. Rijksbaron 2002) and we follow this conventional terminology. However, we hasten to add that they are mere labels and, specifically, that the so-called passive does not represent a passive category, strictly speaking. As is well known, passive aorists occur in both passive and unaccusative<sup>1</sup> structures (Benedetti 2005; Tronci 2005) and overlap with middle aorists in the latter function. That is to say that there is no one-to-one relationship between forms and functions, especially for the 'passive' aorists. An outline of the aorist system of voice, compared to that of the present, is given in Table 1, employing forms of the verb *lúein* 'to unbind, to weaken' (all forms are quoted in the 1st person singular in line with the lexicographic practices for Ancient Greek):

<sup>1</sup> For our purposes, unaccusative and anticausative are interchangeable terms.

TABLE 1. A sample of present and aorist systems of voice

	Present stem	Aorist stem
Active	<i>lú-ō</i> 'I unbind, I weaken'	<i>élu-sa</i> 'I unbound, I weakened (trans.)'
Middle	<i>lú-omai</i> 'I unbind myself / for myself', 'I am unbound', 'I weaken (intrans.)'	<i>élu-sámēn</i> 'I unbound, I weakened myself / for myself'
Passive		<i>elú-thēn</i> 'I was unbound', 'I weakened (intrans.)'

The shaded regions highlight the distinction between middle and passive voice marking in the aorist stem, as opposed to the present stem, where middle voice covers both areas.

The boundaries between the functional values of active and middle forms, on the one hand, and of middle and passive forms, on the other hand, are not clear-cut. One crucial factor is the morphological class of the verb's aspect stem. In Table 1, the verb is inflected in the sigmatic aorist, which is the most productive class of aorists, together with the passive aorists with the suffix *-thē-*. The other morphological classes of aorist stems, that is, the root and the thematic stems, are not productive, so the lexical items inflected as thematic and root aorists constitute a closed class. They are interesting for our research, however, as they represent residual forms of an older stage of the language in which the voice system of the aorist was presumably similar to the binary system of the present (cf. Benedetti 2017; Tronci 2018 for further details). This unproductive binary system of voice coexisted together with the productive ternary system, although exhibited by a restricted number of lexical items. Some cases of overlapping can be noticed (cf. Tronci 2011).

In the attested history of the Ancient Greek language, from Archaic via Classical to Hellenistic Greek, there is an increase in passive aorists both in types and tokens at the expense of the middle aorists. Besides their quantitative increase, the passive aorists also expanded their functional range. As a result, they replaced some middle aorists, which gradually disappeared. This substitution especially concerned the middle aorists that occurred in monoargumental clauses, namely unaccusatives and direct reflexives. The expansion into the functional area of middle aorists did not concern the middle aorists that occurred in biargumental structures (cf. Tronci 2018; Bruno & Tronci 2019).

This picture is further complicated by the so-called *media tantum* or deponent verbs, namely verbs that were exclusively inflected as middles but occurred in the same syntactic structures as the actives (cf. Lavidas & Papangeli 2007 for further details). As Tronci (2017, 2018, 2020) has previously noted, deponent verbs played a role in the restructuring processes of detransitivising voices in Hellenistic Greek. We will come back to this issue in Section 2.3.

In this paper, we explore the role of language contact and interference on the aorist voice system. Our interest in this topic arose from our observations that grammars tend to note that passive aorists show a surprising increase in Biblical texts, most notably the Septuagint (cf. Helbing 1907: 97; Thackeray 1909: 193) and the New Testament (cf. Blass et al. 1961: 161). Quantitative data have been collected and discussed in Tronci (2018) concerning the New Testament and in Bruno & Tronci (2019) concerning the Septuagint. As a further piece of evidence, we calculated the relative frequency of passive and middle aorists in a diachronic corpus comprising representative texts from Homeric Greek (eighth-century BCE) to Hellenistic Greek (second-century CE).<sup>2</sup> Figures 1 and 2 represent the relative frequency when Biblical texts are taken into account and when they are not respectively.<sup>3</sup> The difference is remarkable and calls for some explanation.

<sup>2</sup> Note that only indicative forms of the passive and middle aorist are included in the following statistics.

<sup>3</sup> Figures 1 and 2 were created by using the `plot()` function in the standard package of RStudio (R Core Team 2022). R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

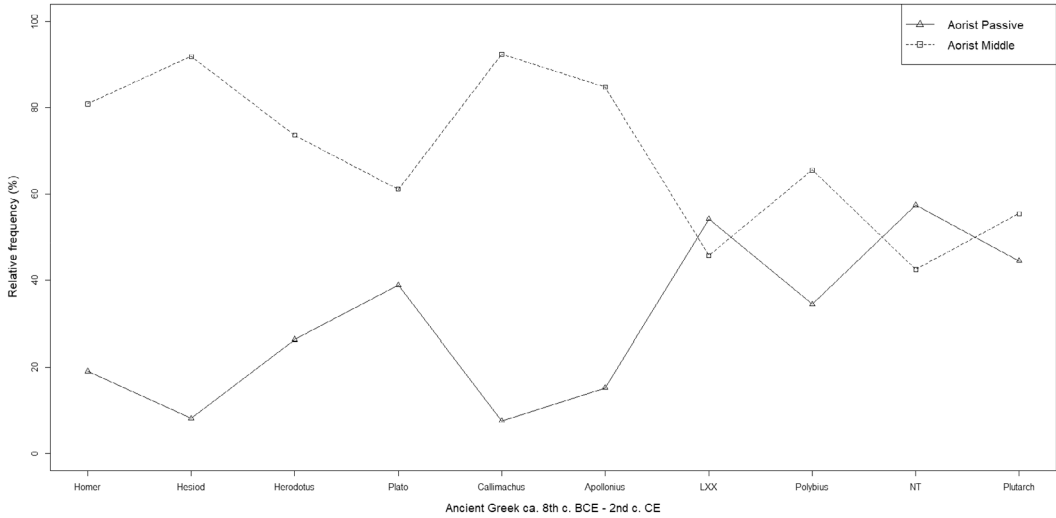


FIGURE 1. Aorist passive and middle in Greek.

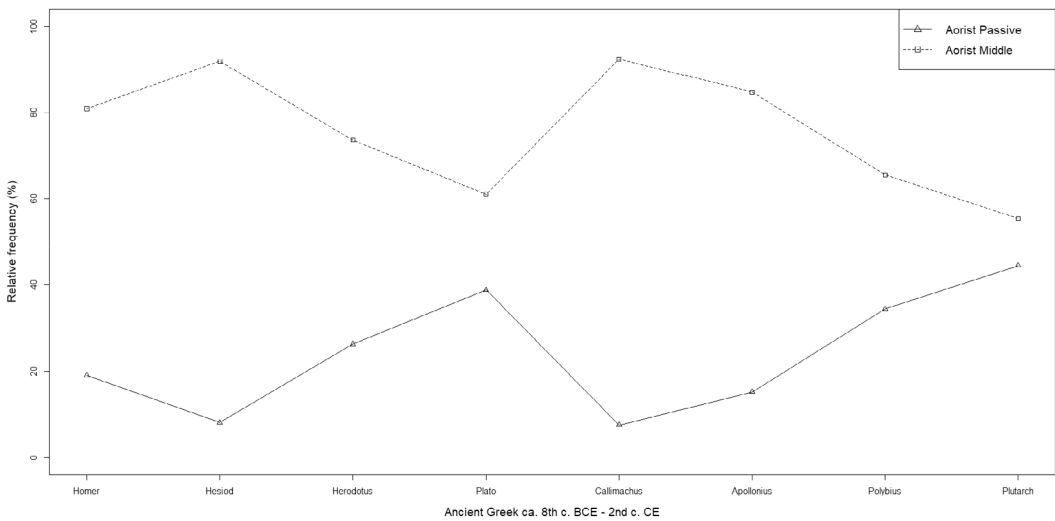


FIGURE 2. Aorist passive and middle in non-Biblical Greek.

### 1.2. Preliminary statistics

Figures 1 and 2 illustrate how the relative proportion of aorist middle and passive forms fluctuates over time.<sup>4</sup> However, we need to establish whether the differences between the text corpora reflecting each of the periods are statistically significant. Table 2 presents the observed values of the two voice categories from each of the authors/periods.<sup>5</sup>

<sup>4</sup> In these tables as well as in the following, Homer is taken to represent the eight century BCE, Hesiod the eight to seventh century BCE, Herodotus the fifth century BCE, Plato the fifth to fourth century BCE, Callimachus, Apollonius and the Septuagint (LXX) the third century BCE, Polybius the second century BCE, the New Testament (NT) the first century CE and Plutarch the first to second century CE.

<sup>5</sup> The data given in Table 2 were collected by targeted search in the Perseus under PhiloLogic database (<https://perseus.uchicago.edu/>) except for the Septuagint and New Testament data, which were collected via targeted search in the database available through the Accordance Bible software system (<https://www.accordancebible.com/>). The data and R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

TABLE 2. Observed values for each author/period

	Homer	Hesiod	Herodot	Plato	Callimachus	Apollonius	Septuagint	Polybius	NT	Plutarch
Passive aorist	433	14	405	567	12	79	3915	619	866	199
Middle aorist	1839	159	1135	892	147	441	3302	1179	641	248

The first question we need to address is whether the distribution of the values shown in Table 2 may be explained as being due to chance. To clarify this, we employed statistical significance tests, notably the chi-squared test and the Fisher Exact test. Both tests evaluate hypotheses of association between variables, calculating the probability of obtaining the observed distribution under the null hypothesis that there is no association between the variables involved, in our case text and construction type. The chi-squared test compares the observed and expected frequencies, the observed frequencies representing the actual numbers, as given in Table 2, and the expected frequencies representing the frequencies that would be obtained if the variables were independent. Table 3 gives the expected frequencies for our data.<sup>6</sup>

Here and in the following, we employ the notation [+] to indicate that the observed value is greater than the expected value and [–] to indicate that the observed value is smaller than the expected value.

When applied to our material, the chi-squared test yields a *p*-value of less than 2.2e-16, that is, 0.00000000000000022, with a chi-squared value of 1604.2 and 9 degrees of freedom ( $\chi^2(9) = 1604.2$ ).<sup>7</sup> This *p*-value is well below the conventional significance level of 0.05. Thus, we may discard the null hypothesis of no association between the variables. However, the chi-squared test does not provide any information about the strength of association between text and construction type. To clarify this, it is necessary to measure the effect size, for instance, by calculating the Cramér's *V* value.<sup>8</sup> The Cramér's *V* value ranges from 0 to 1; values below 0.1 conventionally not being reported because they are too small. Reportable values range from small (0.1–0.29) via moderate (0.3–0.49) to large ( $\geq 0.5$ ). The present data set yields a Cramér's *V* value of 0.306, implying a moderate effect size, which, however, is robust given the number

TABLE 3. Expected values

	Homer	Hesiod	Herodot	Plato	Callimachus	Apollonius	Septuagint	Polybius	NT	Plutarch
Passive aorist	945	72	641	607	66	216	3001	748	627	186
Middle aorist	[–]	[–]	[–]	[–]	[–]	[–]	[+]	[–]	[+]	[+]
Passive aorist	1327	101	899	852	93	304	4215	1050	880	261
Middle aorist	[+]	[+]	[+]	[+]	[+]	[+]	[–]	[+]	[–]	[–]

<sup>6</sup> The expected value of a given cell is obtained by multiplying the row sum with the column sum and dividing the product with the total sum. Here and below, we used the `chisqu.test()``$expected` function in the standard package of RStudio (R Core Team 2022) to obtain the expected values. R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>. It should be noted that the numbers have been rounded to the closest positive integer.

<sup>7</sup> These results were obtained by using the `chisqu.test()` function in the standard package of RStudio (R Core Team 2022). R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

<sup>8</sup> The Cramér's *V* value was obtained by using the `assocstats()` function in the additional R package `vcd` (Meyer et al. 2017). R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

of data points. This allows us to conclude that the association between the variables is statistically significant and has a moderate effect size. This fact makes it possible to go a step further and explore the patterns of attractions and repulsions between texts and constructions, attraction being understood in terms of higher observed value than expected value ([+]) and repulsion being understood as lower observed value than expected value ([−]). To this end, we draw on the Fisher Exact test, which, when applied to each cell, calculates the probability of obtaining an even greater deviation from the expected value (cf., e.g. Janda et al. 2013: 90–91). Specifically, the first step is to make a two-by-two contingency table for each of the cells in Table 2. Here, one cell has the observed value of the cell, another cell has the row sum minus the observed value, a third cell has the column sum minus the observed value and a fourth cell has the total table sum minus the sums in each of the three other cells. For passive aorist forms in Homer, for instance, we have 433 in the first cell, 6676 in the second cell, 1839 in the third cell and 8144 in the fourth cell. These numbers then furnish the input for the Fisher Exact test, which is applied to each of the cells. The results are given in Table 4.<sup>9</sup>

Table 4 further corroborates the impression that our data are not randomly distributed, even though the distribution of the two categories in Plutarch does not show a significant aberration from what one could expect by chance. Interestingly, we may observe that all the non-Biblical sources except Plutarch show significant attraction towards middle forms of the aorist and significant repulsion from passive forms. On the other hand, the Septuagint and the New Testament show opposite tendencies to the other sources, being significantly attracted towards passive forms of the aorist and markedly rejecting middle forms. This clearly shows that the two Biblical texts display analogous distribution patterns of the passive and middle aorists, which significantly differ from those displayed by the other texts. This is all the more striking because two of the non-Biblical authors, Callimachus and Apollonius of Rhodes, are not only contemporary with the Septuagint but also lived and worked within the same broader geographical and cultural context, that is, third-century BCE Ptolemaic Alexandria. Thus, the distribution of the passive and middle aorist in the Septuagint compared with the two contemporary authors clearly attests to its exceptional character. On the widely accepted assumption that the Septuagint had strong influence on the Greek New Testament, it is hardly surprising that these two texts show parallel tendencies in the specific morphosyntactic domain under discussion. However, the question arises as to why the Septuagint shows significantly different distribution patterns of the middle and passive aorists than other Greek texts from the previous tradition and the same period. It is tempting to suggest that this

TABLE 4. Relative attraction and repulsion

	Homer	Hesiod	Herodot	Plato	Callimachus	Apollonius	Septuagint	Polybius	NT	Plutarch
Passive aorist	[−] < 2.2e-16	[−] < 2.2e-16	[−] < 2.2e-16	[−] 0.01426	[−] < 2.2e-16	[−] < 2.2e-16	[+] < 2.2e-16	[−] 2.895e-11	[+] < 2.2e-16	[+] 0.8104
Middle aorist	[+] < 2.2e-16	[+] < 2.2e-16	[+] < 2.2e-16	[+] 0.01426	[+] < 2.2e-16	[+] < 2.2e-16	[−] < 2.2e-16	[+] 2.895e-11	[−] < 2.2e-16	[−] 0.9064

<sup>9</sup> The results reported in Table 4 were obtained by using the `fisher.test()` function in the standard package of RStudio (R Core Team 2022), specifying ‘alternative’ = ‘greater’ when the observed value is greater than the expected value and ‘alternative’ = ‘less’ when it is smaller than the expected value. R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.



peculiarity of this text may be due to interference from the Semitic source languages of the original text.

The aim of this study is to investigate whether the remarkable increase in passive aorists at the expense of the middle ones in the Septuagint may depend on Hebrew interference. Our question concerns in particular the cases in which middle and passive aorists could overlap, that is, in intransitive structures. Our hypothesis is that Hebrew as a source language played an important role in the process of translation, also concerning the grammatical domain of voice markers.

The paper is structured as follows. In Section 2, we discuss Greek data. Section 3 is devoted to describing Hebrew verbal system and analysing Hebrew data. In Section 4, we draw some conclusions.

## 2. ANALYSIS OF GREEK DATA

### 2.1. First remarks on the corpus: Quantitative distribution of middle and passive voices

As already noted, the corpus for this research comprises all occurrences of middle and passive aorists attested in the book of Genesis. The data have been obtained automatically by searching for all occurrences of middle and passive aorists in the book of Genesis on the electronic resource of *Thesaurus Linguae Graecae* (<http://stephanus.tlg.uci.edu/>). We searched for sequences responding to a query combining three features: (a) tense: aorist; (b) voice: middle and passive; and (c) mood: indicative, subjunctive, optative and imperative (finite moods). We found 153 verbal items inflected in the middle and passive aorist for a total number of 620 occurrences: the list of the verbal items together with the aorist forms attested for each of them is given in the Appendix A. We decided to limit the corpus to the book of Genesis as this is a manageable and sufficient corpus to test our hypothesis. Future studies will show whether other books of the Septuagint show the same tendencies.<sup>10</sup>

The quantitative distribution of middle and passive aorists is as follows: Out of the total number of 153 verbal items, 84 items exhibit the passive aorist, 61 items exhibit the middle aorist and only 8 have both middle and passive aorist. Most verbs in our corpus also exhibit the active aorist; a small part, that is, 30 items, are deponent verbs, namely verbs that are not inflected in the active voice. Deponent verbs preferably hold middle inflection in the aorist stem. In fact, slightly fewer than half of middle aorists (25 items) belong to the class of deponent verbs, while only three deponent verbs hold passive inflection, namely ἐνθυμέομαι [*enthuméomai*] ‘think, notice’, λογίζομαι [*logízomai*] ‘count, reckon’ and ὀσφραίνομαι [*osphraínomai*] ‘smell’.

Table 5 summarizes the quantitative data.

In the following sections, we discuss the three types of aorists: the exclusively passive type (Section 2.2), the exclusively middle type (Section 2.3) and cases where the middle and passive

TABLE 5. Distribution of middle and passive voices in aoristic items in the book of Genesis

Passive	Middle	Middle and Passive	Total
84 [3 dep. verbs]	61 [25 dep. verbs]	8 [2 dep. verbs]	153 [30 dep. verbs]

<sup>10</sup> A preliminary investigation of data from the different parts of the Septuagint suggests that the relative frequency of passive aorists increases in the later parts of the corpus. A more detailed examination of these matters is far beyond the scope of the present work and will have to be undertaken elsewhere.

type appear with the same verb (Section 2.4). First, we set out to analyse the functional values of passive and middle aorists and then the relation between middle aorist and deponent verbs (see column 2 in Table 5 above).

## 2.2. The passive aorists

The passive aorists attested in the book of Genesis occur, as expected, in passive and unaccusative constructions (cf. Benedetti 2005; Tronci 2005 for further details). Accordingly, it can be argued that passive aorists occur in clauses that have a clearly detransitivized character with respect to their active counterparts, which are usually transitive (e.g. among others, Kulikov 2010, 2013; Kulikov & Lavidas 2013).<sup>11</sup> The clause pairs in (1)–(2) provide evidence for the correlation between passive aorists and detransitivization processes. The examples in (a) illustrate the detransitivising function of the passive aorist as compared to the active and transitive aorist forms in (b). Furthermore, it is important to observe that detransitivization through the passive aorist yields both the passive reading, for example, (1a), and the unaccusative reading, for example, (2a).<sup>12</sup>

- (1) a. **ἀνηγγέλη** δὲ Λαβαν τῷ Σύρω τῇ τρίτῃ ἡμέρᾳ ὅτι ἀπέδρα Ἰακώβ (*Ge.* 31.22)  
**anēggēlē** δὲ Laban tōi Sūrōi tēi tritēi hēmērāi hōti apēdra Iakōb  
 tell:IND.AOR.PASS.3SG then Laban to.the Syrus on.the third day that he.fled Jacob  
 ‘Laban was told on the third day that Jacob had fled.’
- b. καὶ εἶπεν αὐτῷ τις **ἀνήγγειλέν** σοι ὅτι γυμνὸς εἶ; (*Ge.* 3.11)  
 kai eipen autōi tis **anēggeilén** soi hōti gymnòs eī  
 and he.said to.him who tell:IND.AOR.ACT.3SG to.you that naked you.are  
 ‘God said: Who told you that you were naked?’
- (2) a. καὶ οἱ καταρράκται τοῦ οὐρανοῦ **ἠνεόχθησαν** (*Ge.* 7.11)  
 kai hoi katarráktai toú ouranoú **ēneōikhthēsan**  
 and the windows of.the sky open:IND.AOR.PASS.3PL  
 ‘And the sky’s windows were opened.’
- b. καὶ ἐγένετο μετὰ τεσσαράκοντα ἡμέρας **ἠνέωξεν** Νωε τὴν θυρίδα τῆς κιβωτοῦ ἣν ἐποίησεν (*Ge.* 8.6)  
 kai egéneto metá tessarákonta hēméras **ēneōixen** Nōe tēn thurída tēs kibōtōú hēn epoiēsen  
 and it.happened after forty days open:IND.AOR.ACT.3SG Noah  
 tēn thurída tēs kibōtōú hēn epoiēsen  
 the door of.the ship that he.made  
 ‘It happened at the end of forty days, that Noah opened the window of the ship which he had made.’

The difference between the two detransitivising processes (passive vs. unaccusative) concerns the status of the external argument in the active and transitive clauses. Even though this argument is removed from its syntactic position of subject in both passive and unaccusative readings, it remains as an overt or implicit adjunct (the agent complement) in the passive, while it disappears both formally and semantically in the unaccusative. In most cases, the distinction between passive and unaccusative is clear-cut. This is the case when either the agent occurs as an overt complement in the passive, which is never the case in our corpus, or the subject of the detransitivized clause is an experiencer. An example of the latter configuration is given by the passive aorist of ὀργίζω [*orgízō*] in the clause ὀργίσθη δὲ Ἰακώβ

<sup>11</sup> A different approach, which investigates the distribution of middle and passive aorist according to the semantic class of the verb is proposed by Allan (2003).

<sup>12</sup> For Greek texts, we provide a version in Greek alphabet, its transliteration, glosses and English translation.



[*ōrgísthē dē Iakōb*] (*Ge.* 31.36) ‘and Jacob became angry’. However, in several instances, it is not possible to distinguish between passive and unaccusative, as demonstrated in (3a)–(3d):

- (3) a. καὶ **κατελείφθη** μόνος Νῶε καὶ οἱ μετ’ αὐτοῦ ἐν τῇ κιβωτῷ (*Ge.* 7.23)  
*kai kateleíphthē mónos Nōe kai hoi met’ autoū en tēi kibōtōi*  
 and leave:IND.AOR.PASS.3SG only Noah and those with.him in the ship  
 ‘Only Noah was left, and those who were with him in the ship.’
- b. εἰ εἰρηνικοί ἐστε, ἀδελφὸς ὑμῶν εἷς **κατασχεθήτω** ἐν τῇ φυλακῇ (*Ge.* 42.19)  
*ei eirēnikoí este adelphòs humôn heís kataskethéthō en tēi phulakēi*  
 if honest you.are brother of.you one detain:IMP.AOR.PASS.3SG in the prison  
 ‘If you are honest men, then let one of your brothers be bound in your prison.’
- c. καὶ **παρεκλήθη** Ἰσαακ περὶ Σαρρας τῆς μητρὸς αὐτοῦ (*Ge.* 24.67)  
*kai pareklēthē Isaak peri Sarras tēs mētròs autoū*  
 and comfort:IND.AOR.PASS.3SG Isaac about Sarah the mother of.him  
 ‘Isaac was comforted after his mother’s death.’
- d. εἶδον γὰρ θεὸν πρόσωπον πρὸς πρόσωπον, καὶ **ἐσώθη** μου ἡ ψυχὴ (*Ge.* 32.30)  
*eidon gár theòn prósōpon pròs prósōpon kai esōthē mou hē psukhē*  
 I.saw indeed God face to face and save:IND.AOR.PASS.3SG  
 of.me the life  
 ‘I have seen God face to face, and my life is preserved.’

Besides passive and unaccusative constructions, passive aorists also occur in reflexive constructions. This is an innovation with respect to Classical Greek, where reflexive structures were usually marked by middle aorists (cf. Tronci 2018 for further details).

- (4) a. καὶ **ἐκρύβησαν** ὁ τε Ἀδὰμ καὶ ἡ γυνὴ αὐτοῦ ἀπὸ προσώπου κυρίου τοῦ θεοῦ (*Ge.* 3.8)  
*kai ekrúbēsan hó te Adam kai hē gunē autoū*  
 and hide:IND.AOR.PASS.3PL Adam and the wife of.him  
*apò prosōpou kuríou toū theoū*  
 from face of.Lord the God  
 ‘And the man and his wife hid themselves from the presence of Yahweh God.’
- b. καὶ **παρελύθησαν** ζητοῦντες τὴν θύραν (*Ge.* 19.11)  
*kai parelúthēsan zētóuntes tēn thýran*  
 and weary:IND.AOR.PASS.3PL trying.to.find the door  
 ‘So they wearied themselves trying to find the doorway.’
- c. καὶ **διεχωρίσθησαν** ἕκαστος ἀπὸ τοῦ ἀδελφοῦ αὐτοῦ (*Ge.* 13.11)  
*kai diekhōrísthēsan hékastos apò toū adelphoū autoū*  
 and separate:IND.AOR.PASS.3PL each from the brother his  
 ‘And they separated themselves the one from the other.’

Another innovation with respect to earlier stages of Greek is the occurrence of passive aorists in intransitive constructions with an agent as a unique argument. This is the case with the verbs ἀποκρίνω [*apokrinō*] ‘answer’, πορεύω [*poréiō*] ‘walk’ and συναναστρέφω [*synanastréphō*] ‘wrestle with’ in the following examples:

- (5) a. **ἀπεκρίθησαν** δὲ οἱ υἱοὶ Χετ πρὸς Ἀβραὰμ λέγοντες (*Ge.* 23.5)  
*apekríthēsan* δὲ *hoi huiοὶ Khet pròs Abraam légontes*  
 answer:IND.AOR.PASS.3PL then the children of.Heth to Abraham saying  
 ‘The children of Heth answered Abraham, saying to him.’
- b. καὶ **ἐπορεύθη** Ἀβραμ, καθάπερ ἐλάλησεν αὐτῷ κύριος (*Ge.* 12.4)  
*kai eporeúthē Abram katháper elálēsen autōi kúrios*  
 and go:IND.AOR.PASS.3SG Abraham since he.spoke to.him Lord  
 ‘So Abram went, as Yahweh had spoken to him.’
- c. καὶ **συναναστράφη**ν τῇ ἀδελφῇ μου καὶ ἠδυνάσθην (*Ge.* 30.8)  
*kai sunanestráphēn tēi adelphēi mou kai ēdunásthēn*  
 and wrestle:IND.AOR.PASS.1SG to.the sister of.me and I.prevailed  
 ‘I have wrestled with my sister, and have prevailed’

These three verbs behave like deponent verbs in the Septuagint, as they never occur in the active form and are attested in the middle form, in addition to the passive one in the aorist stem. The former two verbs also occur in the middle form in the present stem in the Septuagint (see Muraoka 2009 *s.u.* ἀποκρίνομαι [*apokrínomai*] and πορεύομαι [*poreúomai*]). The verb ἀποκρίνομαι is an interesting case since its middle aorist ἀπεκρίνατο occurs in the same type of intransitive construction even though being rarer than the passive aorist of this verb. This is indicative of some degree of functional overlap between these two categories. The hypothesis that the passive aorist gradually replaced the middle is also supported by data from the Gospels discussed in Tronci (2018: 259–260). Comparable remarks apply to the verb πορεύομαι [*poreúomai*], which occurs in the Septuagint as a middle form in the present stem (e.g. *Ge.* 24.42) and a passive form in the aorist stem, while in earlier stages of Greek, for example, in Euripides, active forms were attested in both the present and the aorist stems. Finally, the verb συναναστρέφω [*sunapostréphō*] occurs without exception as a passive aorist and a middle present in the Septuagint, that is, as a deponent verb, even though it is lemmatized under the active form in Muraoka (2009 *s.u.*).

Let us now turn to the verbs μιμνήσκω [*mimnēskō*] ‘remember’, θυμώω [*thumōō*] ‘be angry’ and ἐνθυμέομαι [*enthuméomai*] ‘think, notice’, which occur as passive aorists in biargumental constructions governing a complement in the genitive, see (6a), and a completive clause, see (6b) and (6c):

- (6) a. **ἐμνήσθη** δὲ ὁ θεὸς τῆς Ραχὴλ (*Ge.* 30.22)  
*emnēsthē* δὲ *ho theòs tēs Rakhēl*  
 remember:IND.AOR.PASS.3SG then the God of.the Rachel  
 ‘Then God remembered Rachel.’
- b. **ἐθυμώθη**ν ὅτι ἐποίησα αὐτούς (*Ge.* 6.7)  
*ethumōthēn hōti epoiēsa autoús*  
 to.be.angry-IND.AOR.PASS.1SG that I.made them  
 ‘I am sorry that I have made them.’
- c. καὶ **ἐνεθυμήθη** ὁ θεὸς ὅτι ἐποίησεν τὸν ἄνθρωπον ἐπὶ τῆς γῆς (*Ge.* 6.6)  
*kai enethumēthē ho theòs hōti epoiēsen tòn ánthrōpon epì tēs gēs*  
 and consider:IND.AOR.PASS.3SG the God that he.made the man on the earth  
 ‘Then God considered that he had made humankind on the earth’

The occurrence of passive aorists in biargumental constructions is unexpected, as passive aorists usually combine with only one argument, being detransitivising forms. The three verbs under scrutiny here, however, being psychological verbs, combine with an experiencer as external argument, whatever their inflection for voice.<sup>13</sup> This explains why the first two verbs have active voice, while the latter is a deponent verb. In the aorist stem, the passive form

<sup>13</sup> Be they active or deponent in the reference dictionaries.

correlates with the semantic role of the subject, which is usually an experiencer in unaccusative constructions. The active forms, which are attested for the aorist stem of *thumōō* in the Septuagint (e.g. ἐθύμωσεν [*ethúmōsen*] in *Os.* 12.15) and *mimméskō* in earlier texts (e.g. epic poetry and Pindar), have a causative meaning, that is, ‘make angry’ and ‘recall to memory’ respectively. Unlike the latter two verbs, *enthuméomai* is only attested in the passive form, without any corresponding active form. The passive inflection is peculiar for this verb, however, as we would have expected middle aorist inflection, consistently with the behaviour of most deponent verbs.

Interestingly, the verb *enthuméomai* is inflected as a passive aorist also in earlier stages of Greek. This is a crucial difference from the other two deponent verbs λογίζομαι [*logízomai*] ‘count, reckon’ and ὀσφραίνομαι [*osphraínomai*] ‘smell’, which are inflected as passive aorists in our corpus, while they occurred as middle aorists in Classical Greek (see ἐλογίσατο [*elogísato*] in *Th.* 6.31.5 and ὄσφροντο [*ósphronto*] in *Hdt.* 1.80.24).<sup>14</sup> Despite the difference in inflectional form, there is no distributional difference between the passive and the middle aorist of these verbal stems.

### 2.3. The middle aorists

In the book of Genesis, the verbs exclusively inflected as middle aorists are fewer than the verbs inflected as passive aorists (the rate is 40% vs. 55% of the total number of lexical items). As already mentioned, the middle aorists are often deponent verbs, which occur in both transitive and intransitive constructions, according to the lexical meaning of the verb, see (7a) and (7b).

- (7) a. καὶ **διηγῆσατο** ὁ ἀρχιοινοχόος τὸ ἐνύπνιον αὐτοῦ τῷ Ἰωσηφ (*Ge.* 40.9)  
*kai diēgēsato ho arkhioinokhóos tō enúpnion autoû tōi Iōseph*  
 and tell:IND.AOR.MID.3SG the chief.cupbearer the dream of.him to.the Joseph  
 ‘So the chief cupbearer told his dream to Joseph.’
- b. καὶ οὐκ **ἐμαχέσαντο** περὶ αὐτοῦ (*Ge.* 26.22)  
*kai ouk emakhésanto perì autoû*  
 and not quarrel:IND.AOR.MID.3PL over it  
 ‘And they did not quarrel over it.’

Deponency is an intriguing topic for ancient Greek linguistics. Besides reference grammars, for example, Kühner and Gerth (1892: 324; 1898: 377), there have been several studies devoted to the question of deponency in recent years, for example, Lavidas & Papangeli (2007); Ladewig (2010); Grestenberger (2014); Campbell (2015). Deponent verbs do not fit the system of voice opposition, as they are only inflected in the middle voice. Because of this, they cannot provide evidence for the investigation of the functional values of voice (see Lazzeroni 1990 for a different stance). However, deponent verbs have played an important role in the diachronic processes concerned with the voice system of Hellenistic Greek, particularly concerning the aorist and the future stems (cf. Tronci 2018, 2020, on the New Testament and the Septuagint). In the New Testament, many verbs behave as deponent verbs, although they were not deponent earlier: some of them were only inflected in the middle form in the aorist stem, while others were also found in the present stem.

<sup>14</sup> The middle aorist *elogísato* is also attested in the Septuagint outside the book of Genesis, for example, *1Sam.* 1.13.

A comparable tendency towards deponency is also evident in the data from the Septuagint investigated in this paper. Many middle aorists in our corpus have no corresponding active aorists.<sup>15</sup> However, most verbs display active aorists in earlier stages of Greek. In Classical Greek, for instance, the active aorists contrast with the middle aorist, as the following two pairs of clauses show for the verbs *καταδουλώω* [*katadoulóō*] ‘enslave’ and *παρατάσσω* [*paratássō*] ‘place side by side’. Note that the active aorist is rarer than the middle aorist with both these verbs.

- (8) a. καὶ τὴν νῆσον ὅλην βασιλεῖ τῷ μεγάλῳ **κατεδούλωσεν** (Isoc. 15.20)  
*kaì tēn nēson hólēn basileí tōi megálōi katedoulōsēn*  
 and the island whole to.the king to.the great enslave:IND.AOR.ACT.3SG  
 ‘And he brought the whole island into subservience to the Great King.’
- b. ἄλλ’ ὥσπερ αἰχμαλώτους εἰληφῆται διελόμεναι **κατεδουλώσαντο** πάσας αὐτάς (Isoc. 21.97)  
*all’ hōsper aikhmalōtous eilēphētai dielōmenai katedoulōsanto pásas autás*  
 but as captives having.taken having.divided  
**katedoulōsanto** pásas autás  
 enslave-IND.AOR.MID.3PL all them  
 ‘But, as if they had taken them captive in war, reduced them all to slavery.’
- (9) a. τὴν μὲν πλείστην τῆς στρατιάς **παρέταξε** πρὸς τὰ τεῖχη τῶν Ἀθηναίων (Th. 7.3.4)  
*tēn mēn pleistēn tēs stratíās parétakse*  
 the greater.part of.the army place-IND.AOR.ACT.3SG  
*prōs tà teikhē tōn Athēnaíōn*  
 before the fortification of.the Athenians  
 ‘He stationed the greater part of his army before the fortification of the Athenians.’
- b. καταλαμβάντες χωρίον ἐρμυνὸν καὶ δυσπρόσοδον **παρετάξαντο** ὡς ἐς μάχην (Th. 5.65.1)  
*katalabóntes khōrion erumnōn kai dusprósodon parétáksanto hōs es mákhēn*  
 seized.on region isolated and difficult.of.access  
**parétáksanto** hōs es mákhēn  
 place:IND.AOR.MID.3PL as for battle  
 ‘[The Argives and their confederates] seized on a certain place fortified by nature and of hard access and put themselves into battle array.’

In Classical Greek, the number of occurrences of the middle aorists exceeds that of the active aorists in the verbs under scrutiny here. We searched for the aorist forms (only finite moods) in a small corpus of Classical authors, that is., Herodotus, Thucydides, Xenophon, Plato, Demosthenes, Lysias, Isocrates and Demosthenes, and obtained the following results:

- a. ἐνδείκνυμι [*endeiknumi*]: 7x (middle) vs. 3x (active);  
 b. ἐντέλλω [*entéllō*]: 13x (middle) vs. 0x (active);  
 c. ἐπιλανθάνω [*epilanthánō*]: 27x (middle) vs. 0x (active);  
 d. καταδουλώω [*katadoulóō*]: 6x (middle) vs. 2x (active) and  
 e. παρατάσσω [*paratássō*]: 13x (middle) vs. 8x (active).

<sup>15</sup> No results were obtained from the search for active aorists of the following verbs, which are only attested in the middle form in the aorist stem: ἐκλέγω [*eklégō*] ‘pick’, ἐνδείκνυμι [*endeiknumi*] ‘show’, ἐντέλλω [*entéllō*] ‘enjoin’, ἐπιλανθάνω [*epilanthánō*] ‘forget’, ἐπισπάω [*epispáō*] ‘draw’, καλλοπίζω [*kallōpizō*] ‘adorn’, καταδουλώω [*katadoulóō*] ‘enslave’, νοτίζω [*notízō*] ‘turn one’s back’, παρακρούω [*parakrouō*] ‘strike aside’, παρατάσσω [*paratássō*] ‘place side by side’, παύω [*paúō*] ‘cease’, πονηρέω [*ponēreíō*] ‘be in a bad state’ and ὑδρέω [*hudreíō*] ‘carry water’. Note that the search for active forms was not limited to the book of Genesis but included all books of the Septuagint.

To summarize, the active aorists of the verbs in (a)–(e) are fewer than the middle aorists; therefore, they were marked within the voice system and were prone to disappear from the verbal system. The disappearance of the active aorists, as witnessed in the Septuagint, produced an increase in the deponent forms, be they deponent verbs or deponent aorists.

As a result, the voice system of the aorist gradually developed away from the opposition between transitive and intransitive (cf. Tronci 2018: 275). Middle aorists increasingly occurred in transitive constructions (together with the active aorists), while passive aorists expand in the domain of intransitivity, that is, unaccusative, unergative and reflexive constructions together with the passive ones.

Some rare instances of middle aorists that contrast with the active aorists still exist in our corpus, as seen in the following pairs of clauses:

- (10) a. πάντα τὸν πλοῦτον καὶ τὴν δόξαν, ἣν ἀφείλατο ὁ θεὸς τοῦ πατρὸς ἡμῶν (*Ge.* 31.16)  
*pánta tòn plouíton kai tēn dóksan hēn apheílato*  
 all the richness and the magnificence that take.away-IND.AOR.MID.3SG  
*ho theós tou patròs hēmōn*  
 the God of.the father our  
 ‘Surely all the wealth which God has taken away from our father [belongs to us and our children].’
- b. εἶπεν δὲ Ραχὴλ ἄφειλεν ὁ θεὸς μου τὸ ὄνειδος (*Ge.* 30.23)  
*eípen dē Rakhēl apheílen ho theós mou tò óneidos*  
 she.said then Rachel take.away-IND.AOR.ACT.3SG the God of.me the reproach  
 ‘And said Rachel: God has taken away my reproach.’
- (11) a. καὶ ἐνεδύσατο τὰ ἱμάτια τῆς χηρεύσεως αὐτῆς (*Ge.* 38.19)  
*kai enedúsato tà himátia tēs khēreúseōs autēs*  
 and clothe-IND.AOR.MID.3SG the garments of.widow of.her  
 ‘And she put on her widow’s garments’
- b. καὶ ἐνέδυσεν αὐτούς (*Ge.* 3.21)  
*kai enédusen autoús*  
 and clothe-IND.AOR.ACT.3SG them  
 ‘[The Lord God made garments of skin for Adam and his wife] and clothed them’
- (12) a. καὶ ἐπέθετο σάκκον ἐπὶ τὴν ὀσφῦν αὐτοῦ (*Ge.* 37.34)  
*kai epétheto sákkon epì tēn ospḗn autoú*  
 and put-IND.AOR.MID.3SG sackcloth on the loins his  
 ‘[So Jacob tore his clothes,] and put sackcloth on his loins.’
- b. καὶ ἐπέθηκεν τὰ ξύλα καὶ συμποδίσας Ἰσαακ τὸν υἱὸν αὐτοῦ ἐπέθηκεν αὐτὸν ἐπὶ τὸ  
 θυσιαστήριον ἐπάνω τῶν ξύλων (*Ge.* 22.9)  
*kai epéthēken tà ksúla kai sumpodisas Isaak tòn huiòn autoú*  
 and put:IND.AOR.ACT.3SG the wood and having.bound Isaac the son his  
*epéthēken autòn epì tò thusiastērion epánō tōn ksúlōn (Ge. 22.9)*  
 put:IND.AOR.ACT.3SG him on the altar on.top of.the wood  
 ‘He arranged the wood, and bound his son Isaac and laid him on the altar, on top of the wood.’
- (13) a. καὶ νίψασθε τοὺς πόδας ὑμῶν (*Ge.* 19.2)  
*kai nípsasthe tous pódas humōn*  
 and wash:IMP.AOR.MID.2PL the feet your  
 ‘And wash your feet!’
- b. καὶ ἤνεγκεν ὕδωρ νίψαι τοὺς πόδας αὐτῶν (*Ge.* 43.24)  
*kai ēnegken húdōr nípsai tous pódas autōn*  
 and he.brought water wash:INF.AOR.ACT the feet of.them  
 ‘And he brought water to wash their feet.’

The opposition between middle and active voices in transitive structures has been captured by scholars in terms of subject involvement (see Kemmer 1993 for the general framework; Allan 2003 for an application to Ancient Greek middle). The ‘involvement’ of the subject cannot be excluded from a semantic point of view. However, what remains to be explained is how this meaning effect is produced from a structural point of view. Besides the well-known description by Rijksbaron (2002: 144–155), who classifies the different ‘middle’ constructions according to both semantic and syntactic criteria, middle constructions in Ancient Greek have been discussed both from a typological perspective (cf. Kulikov 2010, 2013) and in language-internal description (cf., among others, Allan 2003; Benedetti 2005, 2017; Tronci 2005, 2011, 2014, 2018). From a syntactic point of view, the different types of middle constructions can be accounted for in terms of grammatical relations. Direct and indirect reflexives, possessive middles, benefactives, etc. are characterized by subjects that are both agent and patient/theme. The way the two semantic roles converge on the subject changes according to the different syntactic configurations (for an account cf. Tronci 2018). In the case of direct reflexive, this convergence is intuitive: for instance, in καθαρίσασθε [*katharisasthe*] ‘purify yourselves’ (*Ge.* 35.2), the subject is at the same time the agent (‘who purifies’) and the patient (‘who is purified’). In other types of middle constructions, the syntactic analysis is more difficult to represent, as more subtle semantic relations are implied, for example possessor/possessee (cf. 14a) or whole/body part (cf. 14b):

- (14) a. περιείλατο τὸ θέριστρον ἄφ’ ἑαυτῆς (*Ge.* 38.19)  
*perieilato* τὸ θέριστρον ἄφ’ ἑαυτῆς  
 remove:IND.AOR.MID.3SG the veil from herself  
 ‘And she removed the veil from herself’
- b. καὶ νίψασθε τοὺς πόδας ὑμῶν (*Ge.* 19.2)  
*kai nipsasthe* τοὺς πόδας ὑμῶν  
 and wash:IMP.AOR.MID.2PL the feet of you  
 ‘And wash your feet’

Both instances indicate that the middle inflection had lost its function as a full middle marker in Septuagint Greek. Middle inflection is not sufficient to express the relation between the possessor and the possessee in (14a) and the whole and the body part in (14b) and the subject-referring pronouns need to be added. This redundancy is evidence of the functional decline of middle inflection, as Caragounis (2004: 152) points out with regards to the language of the Gospels (see also Tronci 2018 for quantitative data, and Kulikov & Lavidas 2017 for an account in the terms of the increasing labile syntax).

#### 2.4. The opposition between middle and passive aorists

As already noted, there are very few verbs inflected as both middle and passive aorists in the book of Genesis, namely ἀποδίδωμι [*apodidōmi*] ‘return’, γίγνομαι [*gignomai*] ‘become, take place, be born’, δύνωμαι [*dinamai*] ‘be able to’, ἐνυπνιάζω [*enupniázō*] ‘dream’, περιτέμνω [*peritémnō*] ‘cut round about’, προστίθημι [*prostithēmi*] ‘hand over, deliver to, add’, ὑπολείπω [*hupoleípō*] ‘leave’ and φυλάσσω [*phulássō*] ‘guard, be careful’. In most verbs, middle and passive aorists expectedly occur in different syntactic environments, as passive aorists typically show passive function and middle aorists occur in biargumental structures, as illustrated in the following pairs of clauses:



- (15) a. καὶ εἶπεν τοῖς ἀδελφοῖς αὐτοῦ **ἀπεδόθη** μοι τὸ ἀργύριον (*Ge.* 42.28)  
*kai eipen tois adelphois autoū apedōthē moi τὸ argúrion*  
 and he.said to.the brothers of him return:IND.AOR.PASS.3SG to.me the money  
 ‘Then he said to his brothers: My money has been returned.’
- b. οἱ δὲ Μαδιηναῖοι **ἀπέδοντο** τὸν Ἰωσήφ εἰς Αἴγυπτον τῷ Πετεφρῇ (*Ge.* 37.36)  
*hoi dè Madiēnaioi apédonto τὸν Iōsēph eis Aígypton τῷ Petēphrē*  
 the then Midianites sell:IND.AOR.MID.3PL the Joseph in Egypt to.the Potiphar  
 ‘Meanwhile, the Midianites sold him in Egypt to Potiphar.’

The two verbs differ slightly in meaning, as the passive aorist in (15a), meaning ‘be returned’, functions as the passive of the active and transitive aorist ‘return’ in (15c), while the middle aorist has a lexicalized meaning (see later for more details).

- c. καὶ **ἀπέδωκεν** αὐτῷ Σαρραν τὴν γυναῖκα αὐτοῦ (*Ge.* 20.14)  
*kai apédōken autoī Sarran τὴν gunaika autoū*  
 and return:IND.AOR.ACT.3SG to.him Sarah the wife of.him  
 ‘[and gave them to Abraham,] and restored his wife Sarah to him.’

In two other verbs in our corpus, that is, ὑπολείπω [*hupoleípō*] ‘leave’ and φυλάσσω [*phulássō*] ‘guard, be careful’, the middle and the passive aorists are in functional opposition. The former verb is attested once as a middle aorist and twice as a passive aorist. The middle aorist occurs in a biargumental clause and governs the accusative, see (16a), while the passive aorist characterizes monoargumental clauses that can be analysed as either passive or unaccusative, for example, (16b):

- (16) a. καὶ τὴν συγγένειαν καὶ τὰ πρόβατα καὶ τοὺς βόας **ὑπελίποντο** ἐν γῆ Γεσεμ (*Ge.* 50.8)  
*kai τὴν suggéneian kai τὰ próbata kai τοὺς boas hupelíponτο en gēi Gesem*  
 and the offspring and the flocks and the herds leave:IND.AOR.MID.3PL in land Goshen  
 ‘They left only their little ones and their flocks and their herds in the land of Goshen.’
- b. **ὑπελείφθη** δὲ Ἰακώβ μόνος (*Ge.* 32.25)  
*hupelíphthē dè Iakōb mónos*  
 leave:IND.AOR.PASS.3SG then Jacob alone  
 ‘Then Jacob was left alone.’

With respect to the active transitive clause in (16c) below, the middle aorist in (16a) can be analysed as a possessive middle, as it expresses the relation between the subject–possessor and the object–possessee. Unlike English, which expresses the possessive relation in the object noun phrase (‘their herds’), Ancient Greek expressed the possessive relation in the verb phrase through middle inflection.

- c. καὶ μὴ **ὑπολίπωμεν** ἐν αὐτοῖς ἄνδρα (1Sam 14.36)  
*kai mē hupolípōμεν en autois ándra*  
 and not leave:SUBJ.AOR.ACT.1PL in them man  
 ‘And let us not leave a man of them.’

The verb φυλάσσω [*phulássō*] ‘guard, be careful’ is exclusively attested in the imperative in the aorist stem; see, for example, the middle aorist in (17a) and the passive aorist in (17b). Notice that the co-occurrence of the middle aorist and the reflexive pronoun again point to the functional bleaching of the middle inflection.

- (17) a. καὶ εἶπεν αὐτῷ **φύλαξαι** σεαυτόν, μήποτε λαλήσης μετὰ Ἰακωβ πονηρά (*Ge.* 31.24)  
*kai eipen autōi phulaksai seautōn mēpote lalēsēis*  
 and he.said.to.him be.careful:IMP.AOR.MID.2SG yourself lest.ever you.speak  
*metà Iakōb ponērā*  
 with Jacob bad.things  
 ‘And he said to him: Be careful that you do not speak to Jacob badly’
- b. καὶ συναχθήτω ὁ σίτος ὑπὸ χεῖρα Φαραῶ, βρώματα ἐν ταῖς πόλεσιν **φυλαχθήτω** (*Ge.* 41.35)  
*kai sunakhthētō ho sītos hypō kheira Pharaō brōmata*  
 and store.up the grain under hand Pharaoh’s food  
*en tais pólesin phulakhthētō*  
 in the cities guard:IMP.AOR.PASS.3SG  
 ‘And store up the grain for food in the cities under Pharaoh’s authority, and let them guard it.’

The verb προστίθημι [*prostithēmi*] ‘hand over, deliver to, add’ is attested four times as a passive aorist and three times as a middle aorist in the book of Genesis. The passive aorist occurs in idiomatic constructions such as (18a), which always come after clauses denoting the event of dying. Conversely, the middle aorist characterizes the same clauses as the active aorist, as illustrated in (18b) and (18c). In both cases, the verb *prostithēmi* governs an infinitive and appears to be an aspectual modifier of the infinitive itself.

- (18) a. καὶ **προσετέθη** πρὸς τὸν λαὸν αὐτοῦ (*Ge.* 25.8)  
*kai prosetēthē prōs tōn laōn autoū*  
 and gather:IND.AOR.PASS.3SG to the people his  
 ‘[Abraham died in a ripe old age] and he was gathered to his people.’
- b. καὶ **προσέθεντο** ἔτι μισεῖν αὐτόν (*Ge.* 37.8)  
*kai prosēthento eti misein autōn*  
 and continue:IND.AOR.MID.3PL again to.hate him  
 ‘So they continue to hate him.’
- c. καὶ **προσέθηκεν** τεκεῖν τὸν ἀδελφὸν αὐτοῦ τὸν Ἀβελ (*Ge.* 4.2)  
*kai prosēthēken tekein tōn adelphōn autoū tōn Abel*  
 and continue:IND.AOR.ACT.3SG to.gave.birth the brother.of.him the Abel  
 ‘Again she gave birth, to Cain’s brother Abel.’

Let us now turn to the verb περιτέμνω [*peritēmnō*] ‘cut round about’, which is the technical term for circumcision in Biblical Greek. The middle and the passive aorists of this verb show the same syntactic distribution: they occur in passive clauses, combined with the accusative of respect, as shown in (19a) and (19b):

- (19) a. ἡνίκα **περιετιμήθη** τὴν σάρκα τῆς ἀκροβυστίας αὐτοῦ (*Ge.* 17.25)  
*hēnika perietimēthē tēn sārka tēs akrobustias autoū*  
 when circumcise:IND.AOR.PASS.3SG the flesh of.the foreskin of.him  
 ‘[And Ishmael his son was thirteen years old] when he was circumcised in the flesh of his foreskin.’
- b. καὶ **περιετέμοντο** τὴν σάρκα τῆς ἀκροβυστίας αὐτῶν, πᾶς ἄρσην (*Ge.* 34.24)  
*kai perietémonto tēn sārka tēs akrobustias autōn pās arsēn*  
 and circumcise:IND.AOR.MID.3PL the flesh of.the foreskin of.them every male  
 ‘And they were circumcised in the flesh of their foreskin, every male.’

The syntactic configuration under scrutiny is common when there are two noun phrases in the clause that express the whole and the body part respectively. The active and transitive clause corresponding to (19a) and (19b), which is not attested in the corpus, should contain two noun phrases inflected in the accusative, namely the whole and the body part (‘double accusative’ construction, see Benedetti 2022 and references therein). In the two clauses

discussed here, the noun phrase denoting the whole occurs as the subject via passive advancement, while the noun phrase denoting the body part maintains the accusative case.

The verb ἐνυπνιάζω [*enupniázō*] ‘dream’ also does not distinguish the middle and the passive aorists semantically. The passive aorist occurs without argument (20a) or combined with the cognate object (20b), while the middle aorist, which is attested once in the book of Genesis, occurs with the cognate object (20c).

- (20) a. καὶ ἐνυπνιάσθη, καὶ ἰδοὺ κλίμαξ ἐστηριγμένη ἐν τῇ γῆ (*Ge.* 28.12)  
*kai enupniásthē, kai idou klímaks estērigménē en tēi gēi*  
 and dream:IND.AOR.PASS.3SG and behold ladder set in the earth  
 ‘He had a dream, and behold, a ladder was set on the earth.’
- b. Τί τὸ ἐνύπνιον τοῦτο, ὃ ἐνυπνιάσθης; (*Ge.* 37.10)  
*tí tō enúpnion toúto hō enupniásthēs*  
 what the dream this that dream:IND.AOR.PASS.2SG  
 ‘What is this dream that you have dreamt?’
- c. Ἰδοὺ ἐνυπνιασάμην ἐνύπνιον ἕτερον (*Ge.* 37.9)  
*idou enupniasámēn enúpnion héteron*  
 behold dream:IND.AOR.MID.1SG dream another  
 ‘I have had still another dream.’

The verbs γίγνομαι [*gígnomai*] ‘become, take place, be born’ and δύναμαι [*dúnamai*] ‘be able to’ are the last two verbs occurring as both middle and passive aorists in the book of Genesis. The verb *dúnamai* ‘be able to’ has only two occurrences in the book of Genesis, one in the passive form and one in the middle form.

- (21) a. (=5c) καὶ συναεστράφην τῇ ἀδελφῇ μου καὶ ἠδυνάσθην (*Ge.* 30.8)  
*kai sunanestráphēn tēi adelphēi mou kai ēdunásthēn*  
 and I.wrestled.with to.the sister of.me and prevail:IND.AOR.PASS.1SG  
 ‘I have wrestled with my sister, and have prevailed.’
- b. εἰ δυνήσῃ ἐξαριθμῆσαι αὐτούς (*Ge.* 15.5)  
*ei dunēsēi eksarithmēsai autoús*  
 if be.able:SUBJ.AOR.MID.2SG to.count them  
 ‘[Look now toward the sky, and count the stars,] if you are able to count them.’

According to the instances in (21), it seems that the passive aorist and the middle aorist have a complementary distribution, as the former is used as a full verb (meaning ‘prevail’), while the latter is a modal verb (meaning ‘be able to’) governing the infinitive. However, this is not the case in the other books of the Septuagint, where the passive aorist occurs as both a modal verb and a full verb, while the middle is only a modal verb. In short, we can say that the middle aorist is marked with respect to the passive aorist in the Greek of the Septuagint, as it only retains some of the syntactic and semantic features of the verbal item.

Finally, yet importantly, the verb γίγνομαι [*gígnomai*] ‘become, take place, be born’ is attested 203 times as a middle aorist and 20 times as a passive aorist in the book of Genesis. As is well known, the passive aorist is an innovation with respect to earlier stages of Greek, when *gígnomai*, as a deponent verb, was inflected in the middle voice in both the present and the aorist stems. In the book of Genesis, the forms of the passive aorist occur only in specific syntactic and semantic settings and are excluded from others. Particularly, they never occur as a translation of the Biblical Hebrew clause-initial *wayyāhī* (i.e., the so-called consecutive imperfect comprising the proclitic conjunction *wā-* and the short imperfective of the verb *h-y-h* ‘be, exist, happen’), which were translated by the middle aorist ἐγένετο [*egéneto*], see (22a). The passive aorist was also very rare in light verb constructions in which the semantic predicate is an eventive noun and the verb only takes a supportive role for the nominal

predication. In this latter case, the middle aorist *egéneto* is preferred, as demonstrated in (22b):

- (22) a. καὶ ἐγένετο ἐν τῷ εἶναι αὐτοὺς ἐν τῷ πεδίῳ καὶ ἀνέστη Καὶν ἐπὶ Ἀβελ (*Ge.* 4.8)  
*kai egéneto* *en tōi eînai autoûs en tōi pedîōi*  
 and happen:IND.AOR.MID.3SG in the being them in the field  
*kai anéstē Kain epì Abel*  
 and he.rose.up Cain against Abel  
 ‘It happened when they were in the field that Cain rose up against Abel.’
- b. καὶ ἐγένετο ἡ κατοίκησις αὐτῶν ἀπὸ Μασση ἕως ἐλθεῖν εἰς Σωφρηα (*Ge.* 10.30)  
*kai egéneto hē katoikēsis autōn apō Massē*  
 and happen:IND.AOR.MID.3SG the dwelling of.them from Mesha  
*hēōs eltheîn eis Sōphēra*  
 until to.go toward Sephar  
 ‘Their dwelling was from Mesha, as you go toward Sephar.’

The passive aorist occurs with verbs meaning ‘be born’ and ‘be made’:

- (23) a. ἐγενήθη δὲ τῷ Ἐνωχ Γαιδαδ, καὶ Γαιδαδ ἐγέννησεν τὸν Μαηλ (*Ge.* 4.18)  
*egenēthē dē tōi Enōkh Gaidad*  
 be.born-IND.AOR.PASS.3SG then to.the Enoch Irad  
*kai Gaidad egénēsen tòn Maiēl*  
 and Irad he.gave.birth.to the Mehujael  
 ‘To Enoch was born Irad and Irad gave birth to Mehujael.’
- b. ἐγενήθη δὲ κατὰ τὸ ῥῆμα Ἰωσηφ, καθὼς εἶπεν (*Ge.* 44.2)  
*egenēthē dē kata tò hrēma Iōsēph kathōs eipen*  
 become:IND.AOR.PASS.3SG then according.to the word of.Joseph like he.spoke  
 ‘He did [lit. It was made] according to the word that Joseph had spoken.’

Both constructions in (23) can be analysed as passives or unaccusatives, as no agent occurs in them, but there is no formal evidence for passive reading. However, when supporting the passive reading, we can also suggest a hypothesis on how the innovation arose: the new forms of the passive aorist could have had the function to express the passive as opposed to the unaccusative, which was expressed by the middle forms. Further investigation is needed to test this hypothesis, which, although supported by instances such as (23), seems to be questioned by other data in the corpus. In the pairs of clauses in (24) and (25), the passive aorist and the middle aorist appear to be in free variation.

- (24) a. καὶ τῷ Σηθ ἐγένετο υἱός (*Ge.* 4.26)  
*kai tōi Sēth egéneto huiós*  
 and to.the Seth be.born:IND.AOR.MID.3SG son  
 ‘To Seth, to him also a son was born.’
- b. καὶ τῷ Ἐβερ ἐγενήθησαν δύο υἱοί (*Ge.* 10.25)  
*kai tōi Eber egenēthēsan dúo huioi*  
 and to.the Eber be.born:IND.AOR.PASS.3PL two sons  
 ‘Two sons were born to Eber.’

- (25) a. εἰς τὴν γῆν μου, οὗ ἐγενόμην, πορεύσῃ καὶ εἰς τὴν φυλὴν μου (*Ge. 24.4*)  
*eis tēn gēn mou hoū egenómēn poreúsēi kai eis tēn phulēn mou*  
 to the land of.me where come:IND.AOR.MID.1SG you.shall.go and to the family of.me  
 ‘[I will make you swear by Yahweh, that] you shall go to my country, where I came  
 from, and to my relatives.’
- b. ὃς ἔλαβέν με ἐκ τοῦ οἴκου τοῦ πατρὸς μου καὶ ἐκ τῆς γῆς, ἧς ἐγενήθην (*Ge. 24.7*)  
*hōs élabén me ek tou oikou tou patrós mou kai ek tēs gēs*  
 who took me from the house of.the father of.me and from the land  
*hēs egenéthēn*  
 where come:IND.AOR.PASS.1SG  
 ‘[Yahweh, the God of heaven,] who took me from my father’s house, and from the  
 land where I came from.’

### 3. BIBLICAL HEBREW

The Hebrew language has a time span of approximately 3200 years, the first attestations being from the twelfth-century BCE. Classical or Biblical Hebrew is the language of the Hebrew Bible as well as some contemporary extra-biblical sources.<sup>16</sup> It is generally believed that the Hebrew Bible comprises texts from approximately 1200 BCE to sometime after 450 BCE, most of which stem from 1000–500 BCE. Three broad diachronic stages of Biblical Hebrew can be distinguished as follows: Archaic Biblical Hebrew (ca. 1200–1000 BCE), Classical or Standard Biblical Hebrew (ca. 1000–450 BCE) and Late Biblical Hebrew (ca. 450 BCE – second-century CE) (cf. Hornkohl 2019: 534 for discussion and references). A characteristic feature of Biblical Hebrew is its complex verb system, to which we now turn.

#### 3.1. *The Biblical Hebrew verb system and the seven binyanim*

Biblical Hebrew (henceforth BH) has inherited a rather complex verb system, which comprises several aspect, mood and voice categories as well as nominal verb forms. As regards aspect, BH has a pervasive opposition between the so-called imperfective or (long) prefix conjugation and perfective or suffix conjugation, illustrated in (26ab). In addition, there is a form traditionally labelled consecutive imperfect or preterite, characterized by the proclitic conjunction *wə-* and typically denoting a completed situation in the past, as shown by example (26c). Finally, the participle is the default expression of present-time reference, as demonstrated in (26d).<sup>17</sup>

<sup>16</sup> It should be noted that some parts of the Hebrew Bible are written in Aramaic, notably parts of the books of Daniel and Ezra.

<sup>17</sup> The abbreviations of the Hebrew passages follow Koehler and Baumgartner (2004: LI).

- (26) a. *wə-lō-* *yihyeh* *šōd* *ham-mayīm* *lə-mabbūl*  
 CONJ-NEG be:Q.IPF.3SGM ADV DEF-water:PL PRP-flood:SG.ABS  
*lə-šahēth* *kol-* *bāšār*  
 PRP-be.ruined:INF.CSTR all:MSG.CSTR-flesh:SG.ABS  
 ‘And the waters will not ever become a flood that ruins all flesh’ (*Gn.* 9:15)
- b. *wə-han-nāhās* *hāyāh* *šārūm*  
 CONJ-DEF-serpent:SG.ABS be:Q.PRF.3SGM shrewd:MSG.ABS  
*mik-kol* *hayyat* *haš-šādeh*  
 PRP-all:MSG.CSTR being:SG.CSTR DEF-field:SG.ABS  
 ‘But the serpent was the shrewd(est) among all the creatures of the field’ (*Gn.* 3.1)
- c. *wayyiqrā* *ʔelōhīm* *lā’raqiʕa* *šāmāyīm*  
 call:Q.CONS.IPF.3SGM lord:PL.ABS PRP-firmament:SG.ABS heaven:PL.ABS  
*wayəhī-* *ʕereb* *wayəhī-*  
 be:Q.CONS.IPF.3SGM evening:SG.ABS be:Q.CONS.IPF.3SGM-  
*bōqer* *yōm* *šenī*  
 morning:SG.CSTR day:SG.CSTR second:SG.ABS  
 ‘And the lord called the firmament heaven. And it became evening, and it became morning the second day’ (*Gn.* 1:8)
- d. *kī* *yōreʕa* *ʔelōhīm* *kī* *bə-yōm*  
 CONJ know:Q.PTCP.MSG lord:SG.ABS CONJ PRP-day:SG.CSTR  
*ʔakāl-kem* *mimm-ennū* *wəniqəhū*  
 eat:INF.CSTR-PRON.2PL PRP-PRON.3SGM open:NIPH.CONS.IPF.3PL  
*ʕene-kem*  
 eye:DU.CSTR-PRON.2PL  
 ‘For god knows that on the day when you eat of it your eyes will be opened’ (*Gn.* 3.5)

Example (26a) illustrates that the imperfective/long prefix conjugation characteristically denotes an ongoing situation that holds at the time of speech and is expected to continue in the future. Example (26b), on the other hand, shows that the perfective/suffix conjugation typically denotes a completed situation located in the past. It should be noted that the temporal readings of these two sets of forms are implicatures rather than entailments and can be overruled by contextual factors. As shown in (26c), the consecutive imperfect is a narrative past tense category, typically denoting a completed situation in the past. Example (26c) illustrates that the participle is regularly used to denote a situation that is ongoing at the time of speech.

In Section 1.1 above, we noted that the Ancient Greek verb system is based on an opposition between tense/aspect stems, which have different inventories of voice categories formed with suffixes. In BH, the structure of the verb system is fundamentally different, being based on an opposition between voice-oriented stems, to which tense/aspect affixes are added. The examples in (26) comprise forms based on the default stem, which is usually labelled *qal* or G-stem. The philological tradition distinguishes six other stems (*binyanim*) in BH, which express different sets of voice or valency-affecting distinctions. Table 6 gives a survey of the various stems with their most characteristic functions.<sup>18</sup>

Although the definitions given in Table 6 present a very simplified picture of the functional range of the *binyanim*, they are suggestive of a distinction between transitivity stems (*piel*, *hiphil*) and detransitivising stems (*niphal*, *pual*, *hophal*, *hitpael*). We now turn to a brief illustration of the most salient functions of the *binyanim*.<sup>19</sup>

<sup>18</sup> We have chosen to maintain the traditional names for the BH *binyanim* instead of adopting the classification commonly found in recent scholarship, for example, G-stem (*qal*), N-stem (*niphal*), D-stem (*piel*), C-stem (*hiphil*) Ct-stem (*hitpael*), D-passive (*pual*) and C-passive (*hophal*).

<sup>19</sup> The following discussion draws heavily on the pertinent chapters in Waltke and O'Connor (1990).





- (30) a. *wəʔiš* *kī-yaqdiš* *ʔēl-bēlōw*  
 CONJ.man:SG.ABS CONJ-be.consecrated:HIPH.IPF.3SG NACC-house.3SGM  
*qōdeš* *laywāh*  
 holy:SG.ABS PRP.Yahweh  
 ‘And when a man consecrates his house as holy for Yahweh.’ (*Lv.* 27.14)
- b. *mī* *yaʔaḳil-ēnū* *bāšār*  
 interr eat:HIPH.IPF.3SGM-SUFF.PRON.1PL meat:SG.ABS  
 ‘Who will feed us meat?’ (*Nu.* 11:4)

The hithpael stem has a reflexive function, including direct, indirect and benefactive reflexive functions. Its direct reflexive reading is illustrated in (31a). Since reflexive semantics is closely related to reciprocal semantics, it is unsurprising that the hithpael stem occasionally displays a reciprocal reading, as shown in (31b).

- (31) a. *hiṭqaddəšū* *lāmāhār*  
 be.consecrated:HITH.PRF.IMP.2PL.M PRP.tomorrow  
 ‘Consecrate yourselves for tomorrow.’ (*Nu.* 11.18)
- b. *lāmā* *tiṭrūʔū*  
 PRP.INTERR see:HITH.IPF.2PL.M  
 ‘Why (lit. for what) are you looking at each other?’ (*Gn.* 42:1)

Finally, the pual (32a) and hophal (32b) stems are the passives of piel and hiphil respectively.

- (32) a. *wə-ha-hōte* *ben-mēʔāh* *šānāh* *yəqullāl*  
 CONJ-DEM-sinner son.of-hundred years be.slight:IPF.PUAL.3SG.M  
 ‘And the sinner who fails to reach a hundred years shall be regarded as cursed.’  
 (*Js.* 65.20)
- b. *wəhūḳan* *baḥesed* *kissē*  
 be.established:PRF.HOPHAL.3SG.M in.unfailing.love throne  
 ‘And a throne will be established in unfailing love.’ (*Js.* 16.5)

In the first example, the pual form *yəqullāl* is derived from the verb *q-l-l* ‘be slight’ and illustrates that the derivational pual stem adds to the meaning of the basic verb root, as reflected in the qal stem. In example (32b), the situation is slightly less straightforward. The hophal form *wəhūḳan* belongs to the verbal root *k-w-n* ‘be firm’, which does not have a qal stem in BH. However, this verbal root appears to select the niphal stem as its basic stem, as it were, a feature that is not uncommon in BH and which resembles the deponent verbs in Ancient Greek, that is, verbs selecting only or primarily middle and/or passive forms. Before concluding this section, brief mention should be made of the so-called qal passive. The existence of special passive forms of the qal stem in BH is controversial, but Waltke and O’Connor (1990: 373–376) make a case for the claim that there was such a category. Two of their examples are given in (33).

- (33) a. *ʔāšer* *luqqaḥ* *miššām*  
 which take:QAL.PASS.3SG PRP.it  
 ‘[The ground] which he had been taken from.’ (*Gn.* 3.23)
- b. *bəšēl-barzel* *wəšōpāreṭ* *lāšad* *baššūr* *yēhāšəbūn*  
 in.with-iron and.lead forever on.the.rock inscribe:QAL.PASS.3PL  
 ‘And let them be inscribed on the rock with iron and lead forever.’ (*Hi.* 19.24)

Waltke and O’Connor present two main arguments in favour of the assumption of a qal passive in Biblical Hebrew (Waltke & O’Connor 1990: 374). Their first argument is based on comparative evidence from Arabic, Ugaritic, the Tell Amarna letters and possibly a few Aramaic dialects, which have such forms. Their second argument is systemic and based on the

observation that qal passives sometimes underlie pual or hophal forms with no parallel piel or hiphil forms attested. On their analysis, such alleged ‘asymmetric’ pual and hophal forms ‘suggest the existence of a Qal passive stem, as do the semantics of the forms’ (Waltke & O’Connor 1990: 374).<sup>20</sup> Fassberg (2001) notes that there is a marked tendency in contemporary extra-biblical texts in Classical Hebrew that the piel stem replaces the qal stem, a tendency that might have facilitated the disappearance of the qal passive. Although the various arguments presented in favour of a qal passive are sufficient to establish that there exist relics of this category in BH, it is dubious whether they are strong enough to demonstrate that it was productive at this stage. We, therefore, remain agnostic as regards its existence as a productive category in BH and have chosen not to include the qal passive among the stems in our analysis.

The above observations suggest that the BH stem system can be analyzed in terms of successive cycles of derivation, the qal stem being basic, the niphil, piel, hiphil and hithpael stems being derived from the qal stem and the pual and hophal stems being derived from the piel and hiphil stems respectively. Table 7 gives the absolute frequencies of the consecutive imperfect, perfect and imperfect forms of each of the stems.<sup>21</sup> The expected frequencies are shown in Table 8.

Assuming that derived categories tend to be less frequent than basic categories and that secondarily derived categories are less frequent than primarily derived categories, the numbers in Table 7 correspond to what one would expect under the proposed analysis. There is, however, one exception, namely hithpael, which shows a frequency resembling that of pual and hophal, suggesting that it too is a secondarily derived category. A chi-squared test of the data in Table 7 yielded a p-value of  $<2.2e-16$ , a chi-squared value of 965.55 and 12 degrees of freedom ( $\chi^2(12) = 965.55$ ). The Cramér’s V value is 0.097, indicating a low effect size.<sup>22</sup> Thus, we may conclude that the distribution of the three main tense/aspect categories over the different stems is not random. The relative distribution of the tense/aspect categories over the *binyanim* is given in Figure 3.

The data in Table 7 and the relative proportions given in Figure 3 suggest that there is a close association between certain tense/aspect categories and the different *binyanim* in BH. Table 9 gives the patterns of relative attraction and repulsion between these two category types which corroborate this impression.<sup>23</sup>

TABLE 7. Absolute frequencies of the BH verbal stems

The BH verbal stems ( <i>binyanim</i> )								
	qal	niphil	piel	pual	hiphil	hophal	hithpael	Total
Consecutive imperfect	11499	446	988	6	1753	113	169	14974
Perfect	13932	1414	2194	218	2671	128	150	20707
Imperfect	10323	1116	1569	80	2264	184	314	15850
Total	35754	2976	4751	304	6688	425	633	51531

<sup>20</sup> Waltke and O’Connor (1990: 276) claim that the qal passive is attested with ca. 160 forms from 42 roots.

<sup>21</sup> The numbers in Table 7 were collected via targeted search in the database available through the Accordance Bible software system (<https://www.accordancebible.com/>).

<sup>22</sup> These results were obtained by using the `chisqu.test()` function in the standard package of RStudio (R Core Team 2022) and the Cramér’s V value was obtained by using the `assocstats()` function in the additional R package `vcd` (Meyer et al. 2017). R scripts are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

<sup>23</sup> The results reported on in Table 4 were obtained by using the `Fisher.test()` function in the standard package of RStudio (R Core Team 2022), specifying ‘alternative’ = “greater” when the observed value is greater than the expected value and ‘alternative’ = “less” when it is smaller than the expected value. R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

TABLE 8. Expected frequencies of the BH verbal stems

	qal	niphal	piel	pual	hiphil	hophal	hitpael
Consecutive imperfect	10289	865	1381	88	1943	124	184
Perfect	14367	1196	1909	122	2682	170	254
Imperfect	10097	915	1461	93	2057	131	195

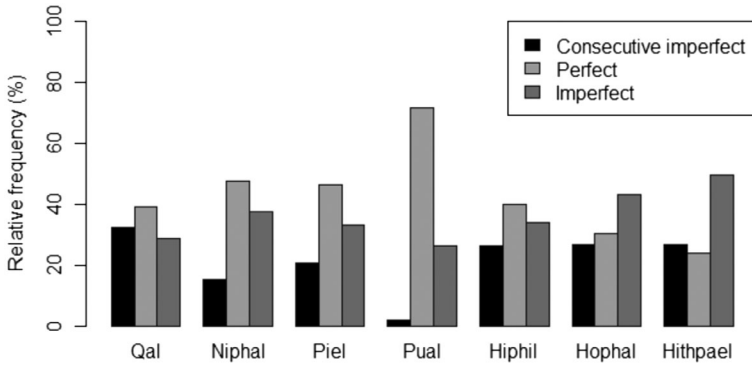


FIGURE 3. Distribution of tense/aspect categories over binyanim in BH.

Although a detailed analysis of these data is beyond the scope of the present work, some observations are in order. The picture emerging from the above patterns is that the associations between the various stems and the tense/aspect category under scrutiny are in most cases significant. For instance, it is striking that the alleged basic stem, qal, is alone in showing preference for the consecutive imperfect, while all the other stems except hitpael show significant repulsion against this category. Furthermore, all the valency decreasing stems except hophal are strongly attracted towards the perfect, thus showing a predilection for the perfective aspect. Both these findings are relevant for present purposes since the forms we are dealing with in the target language denote the perfective aspect. Based on the tendencies shown in Table 9, we would expect that niphal, puel and hitpael would tend to attract the passive aorist, given their detransitivising functions and their predilection for the perfective aspect. We shall return to this question in the next section.

We conclude that the BH system of stem types has several specialized categories that may have a valency changing effect. In the context of the present work, the valency decreasing categories represent the central focus. We have seen that the relative proportion of middle and passive forms in the Septuagint differs from that of other, contemporary texts. In the next

TABLE 9. Relative attraction and repulsion of the BH verbal stems

	Qal	niphal	piel	pual	hiphil	hophal	hitpael
Consecutive imperfect	[+] <2.2e-16	[-] <2.2e-16	[-] <2.2e-16	[-] <b>0.0002179</b>	[-] <b>1.61e-08</b>	[-] <b>1.61e-08</b>	[-] 0.101
Perfect	[-] <2.2e-16	[+] <2.2e-16	[+] <2.2e-16	[+] <2.2e-16	[-] 0.3348	[-] <b>9.742e-06</b>	[+] <2.2e-16
Imperfect	[+] <2.2e-16	[+] <b>3.952e-16</b>	[+] <b>0.0002179</b>	[-] 0.1032	[+] <b>2.94e-09</b>	[+] <b>3.08e-08</b>	[+] <2.2e-16

Bold values highlight statistically significant results.

section, we explore to what extent the distribution of middle and passive morphology correlates with the various BH binyanim.

### 3.2. *The Biblical Hebrew binyanim and the use of the aorist middle and passive in the Septuagint*

Our main goal in this paper is to inquire whether and to what extent the distribution of the Greek middle and passive in the Septuagint, both representing valency-decreasing categories *vis-à-vis* the active voice, is due to interference from the Semitic source languages. An important question concerns whether one can establish any patterns of correlation between the different detransitivising stems in BH and the middle and passive aorist in the Septuagint. Pertinent raw patterns of correlations are given in Table 10.

At first glance, it strikes one as somewhat surprising that middle and passive forms of the aorist are almost equally frequently used when a qal form appears in the Hebrew text. On the other hand, there appears to be a close association between passive aorist forms in the Greek translation and niphal forms in the source text. Moreover, we found no cases in which a middle aorist corresponds to a pual stem and only one example of a middle aorist corresponding to a hophal stem, exactly as one would have expected. Again, the question is whether there are any statistically significant patterns of association in our data. The chi-squared test gives a p-value of 6.381e-06 with a chi-squared value of 34.119 and 6 degrees of freedom ( $\chi^2(6) = 34.119$ )<sup>24</sup> when applied to the data set in Table 10, and since this is well below the conventional significance level of 0.05, we may conclude that the distribution patterns in Table 10 are not random. The Cramér's V value is 0.428, that is, a moderate effect size.<sup>25</sup> The expected frequencies are given in Table 11.<sup>26</sup>

At this point, we would like to clarify where in the distributions the statistically significant patterns of association and dissociation are found. As before, we apply Fisher's exact test to each of the cells in the table, yielding the results reported in Table 12.

TABLE 10. BH verbal classes and Septuagint middle/passive aorists

BH verbal classes	Septuagint aorist stems		Total
	Middle	Passive	
Qal	48	47	95
Niphal	6	34	40
Piel	9	3	12
Pual	0	6	6
Hiphil	11	3	14
Hophal	1	6	7
Hithpael	5	7	12
Total	80	106	186

<sup>24</sup> These results were obtained by using the `chisqu.test()` function in the standard package of RStudio (R Core Team 2022). R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

<sup>25</sup> The Cramér's V value was obtained by using the `assocstats()` function in the additional R package `vcd` (Meyer et al. 2017). R scripts are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>.

<sup>26</sup> The expected value of a given cell is obtained by multiplying the row sum with the column sum and dividing the product by the total sum. Here and above, we used the `chisqu.test()``$expected` function in the standard package of RStudio (R Core Team 2022) to obtain the expected values. R scripts employed in this article are available at <https://github.com/eystdahl/TronciDahlVoiceMarkers>. It should be noted that the numbers have been rounded to the closest positive integer, in the case of combinations of pual with Middle/Passive, the more precise expected values are 2.6 and 3.4, and of combinations of hithpael with Middle/Passive, the more precise expected values are 5.2 and 6.8.

TABLE 11. Expected frequencies

BH verbal classes	Septuagint aorist stems	
	Middle	Passive
Qal	41	54
Niphal	17	22
Piel	5	7
Pual	3	3
Hiphil	6	8
Hophal	3	4
Hithpael	5	7

TABLE 12. Relative attraction and repulsion

BH verbal classes	Septuagint aorist stems	
	Middle	Passive
<b>Qal</b>	<b>[+]0.0244</b>	<b>[-]0.0244</b>
<b>Niphal</b>	<b>[-]2.83e-05</b>	<b>[+]2.83e-05</b>
<b>Piel</b>	<b>[+]0.02211</b>	<b>[-]0.02211</b>
<b>Pual</b>	<b>[-]0.03218</b>	<b>[+]0.03218</b>
<b>Hiphil</b>	<b>[+]0.005804</b>	<b>[-]0.005804</b>
Hophal	[-]0.118	[+]0.118
Hithpael	[-]0.65	[+]0.5851

Bold values highlight statistically significant results.

The tendencies shown in Table 12 reveal a number of interesting and even unexpected properties. As regards the aorist passive, we note a significant attraction towards niphal – a general, anticausative category – and towards pual – a derived passive/anticausative category, and significant repulsion from the qal, piel and hiphil stems. The aorist middle, on the other hand, shows significant attraction towards qal, piel and hiphil, and repulsion from the niphal stem. On the other hand, we see no significant correlation between the aorist passive and the derived passive/anticausative hophal stem. It is interesting to note that the middle aorist is preferred to the passive aorist in translating markedly transitive or causative constructions such as piel and hiphil. Intriguingly, however, the passive aorist corresponds to the two latter categories in a few cases, as illustrated by the examples in (34), where the verb in the Hebrew text has a piel stem, and (35), where it has a hiphil stem.

- (34) a. *wəʕizzekā*                      *lō*                      *šikkēlū*  
 and.female.goats.your not be.bereaved:PIEL.PRF.3PL  
 ‘And your female goats have not miscarried.’ (*Gn.* 31.38)
- b. *wayyārah*                                      *Yahweh*                      *ʔʔet-rēah*                      *hannīhōah*  
 smell:HIPHIL.CONNS.IPF.3SG.M Yahweh NACC-smell soothing  
 ‘And Yahweh smelled the soothing smell.’ (*Gn.* 8.21)
- c. *rāʔōh*                      *pānekā*                      *lō*                      *pillālātī*  
 see:QAL.INF face.your not think:PIEL.PRF.1SG  
 ‘I had not thought I would see your face (again).’ (*Gn.* 48.11)



- (35) a. *ūmah-niṣṭaddāq*  
 CONJ.how-be.just:HIPHIL.IPF.1PL  
 ‘And how are we to justify ourselves?’ (*Gn.* 44.16)
- b. *ləhahāyōl* *ζam-rāb*  
 PRP.live:HIPHIL.INF people-many  
 ‘In order to let many people live.’ (*Gn.* 50.20)

In all the cases under scrutiny, we may observe that the odd cases where an aorist passive renders a piel or hiphil stem mostly turn out to involve BH verbs involving one participant and/or entailing a low degree of semantic transitivity. Among the examples in (31) and (32), only (32b) has something resembling a transitive causative meaning.

On the other hand, we find a small number of cases where the Greek middle aorist corresponds to a niphil stem in BH. These cases are illustrated in (36).

- (36) a. *wəhēʔāhāzū* *bāh*  
 and.take:NIPHAL.IMP.2PL.M in.it  
 ‘And get yourself possessions there.’ (*Gn.* 34.10)
- b. *pen-tissāpēh* *bašāwōn* *hāšīr*  
 lest-consume:NIPHAL.IPF.2SG.M in.punishment the.city  
 ‘Lest you be consumed in the punishment of the city.’ (*Gn.* 19.15)
- c. *wayimmōlū* *kol-zākār kol-yōšāʔē* *šašar šīrōw*  
 circumcise:NIPHAL.CON.S.IPF.3PL.M all-men all-coming.from gate his.city  
 ‘And all the men, all who originated from the gates of his city, were circumcised’  
 (*Gn.* 34.24)

The first example involves a predicate that seemingly entails a covert second argument, the niphil stem being used with a reflexive autobenefactive meaning rather than an anticausative-passive meaning. From this perspective, the corresponding Greek verb (ἐγκτάομαι [*egktáomai*] ‘take’, *medium tantum*) represents a more suitable translation than a passive aorist. The second example is more obviously intransitive, being rendered by a middle form of the Greek verb συναπόλλυμι [*sunapóllumi*] ‘destroy utterly’. This represents a case of lexical retention where the middle voice has maintained its old anticausative function. It should also be noted, however, that this particular verb does not show any aorist passive forms in the Septuagint, and neither does the closely related, essentially synonymous verb ἀπόλλυμι [*apóllumi*] ‘destroy’.<sup>27</sup> The third example is analogous but somewhat less straightforward. Here, the Greek text has a middle aorist form of the verb περιτέμνω [*peritémnō*] ‘circumcise’, which unlike *sunapóllumi* does have a passive aorist form, περιετήθη [*perietēthē*] ‘was circumcised’ attested twice and in both cases corresponding to a niphil form in the BH text (see Section 2.4 above, in particular, the examples in (19)). There appear to be no other cases of this particular kind in our corpus; however, it may be suggestive of an admittedly quite limited functional overlap between the middle and passive forms of the aorist in Hellenistic Greek.

The data surveyed in this section clearly show that there is a significant correlation between aorist passive forms in the Genesis of the Septuagint and niphil and pual forms in the corresponding book of the Hebrew Bible. On the other hand, middle aorist forms strongly tend to be preferred in the rendering of qal, piel and hiphil forms. The few apparent counterexamples of these general tendencies seem to be motivated by lexical semantic factors or lexically determined morphosyntactic restrictions. From the overall perspective of this

<sup>27</sup> It is tempting to speculate that the lack of a passive aorist with this particular verb may be due to a blocking effect caused by the ability of its middle voice forms to express anticausative/passive meaning.

work, the fact that passive forms of the aorist are identified with the niphāl stem by default, as it were, is important. This is because the Septuagint, as well as the New Testament which it has heavily influenced, shows a significant attraction towards the aorist passive, unlike the other Greek texts surveyed in the Introductory section of this paper. Based on the evidence we have presented here, we conclude that the variety of Hellenistic Greek found in the Septuagint reflects influence from the Hebrew source text. The association of the Greek aorist passive with the Hebrew niphāl and pual stems resulted in its use as a more general marker of reduced transitivity in the Biblical variety of Hellenistic Greek, as reflected in the Septuagint and the New Testament. As a side effect, the aorist middle gradually lost ground in the detransitivising domain, in many cases becoming little more than a morphological alternative to the active voice.<sup>28</sup> In future work, we will explore whether and to what extent other, extra-biblical texts show similar tendencies or whether this is restricted to the Jewish–Christian tradition.

#### 4. CONCLUDING REMARKS

The voice system of the aorist in Septuagint Greek exhibits a tendency to differentiate maximally monoargumental detransitivising voices, such as passive and anticausative, and biargumental detransitivising voices, such as benefactive and possessive. The main marker of these functions is the so-called passive voice. In contrast, middle aorists are not productively used in this kind of detransitivising functions at this stage, the majority of middle forms belonging to deponent verbs or deponent paradigm forms, so that the middle essentially represents a lexically restricted allomorph of the active voice.

In Classical Greek, the boundary between these two types of detransitivising voices exhibits some overlapping, particularly concerning anticausatives and reflexives, which could be expressed by both middle and passive aorist forms. The tendency to complementary distribution of passive and middle aorists led to an increase of the passives, which replaced the middles in all types of monoargumental constructions (see Figure 1 in Section 1). Language internal factors, based on the general one form/one meaning principle, can be invoked to account for this tendency. This process may represent an instance of A(gent)-drift, a process where non-A(gent) arguments gradually acquire agentive properties. It is tempting to view cases like ἐφοβήθησαν φόβον μέγαν [*ephobēthēsan phóbōn mégan*] ‘(lit.) they feared a great fear’ (*IMacc.* 10.8) or οὐκ ἐφοβήθησαν τὸν θεόν [*ouk ephobēthēsan tòn theón*] ‘They did not fear God’ (*Ps.* 54.20) in this light, where an originally (unaccusative) intransitive construction selects an object argument.

Our analysis also highlights the role played by BH interference, besides language internal change. As illustrated in Figures 1 and 2, the Septuagint shows significantly different attraction and repulsion patterns regarding middle and passive aorist forms than other older and contemporary works. While there is a considerable diachronic fluctuation in this area of Ancient Greek morphosyntax, it is striking that the Septuagint and the stylistically closely related New Testament are the only texts in our corpus showing significant attraction towards the passive aorist. From this perspective, the fact that the contemporary authors Callimachus and Apollonius of Rhodes show a considerably more conservative distribution in this respect, which resembles the one found in Homer or Hesiod, is striking. We have seen that the BH *binyanim*-based verb system has several expressions for transitivity reduction, and that there is a clear preference for translating detransitivising constructions by the aorist passive, while the middle is preferred in translation of neutral, transitive or causative stems. The fact that the

<sup>28</sup> This point is corroborated by the fact that 23 out of 66 verbs showing forms of the aorist middle in the Genesis of the Septuagint do not show any active forms but only have middle (or passive) forms (*media* or *passiva tantum*).

BH *binyanim* have a more or less clear-cut division between (predominantly) monoargumental, valency reducing stems and (predominantly) biargumental stems is of crucial importance here. Specifically, it would appear that the Greek translators tried to transpose this regularly oppositive system into Greek, so that passive aorists were a good fit for representing the one-argumental detransitive type and middle aorists would be preferred for expressing the second one. Passive aorists covered all types of monoargumental detransitivising voices and middle aorists tended to be associated with both transitive and biargumental detransitivising voices. We thus believe it is reasonable to assume that the model of BH verbal system functioned as an accelerator or catalyst for the change in Greek verbal voice, which, however, was already in progress. In future work, we plan to examine a broader range of contemporary and later sources, including non-literary texts, in order to establish whether and to what extent the distribution of the passive and middle forms of the aorist in the Septuagint is a feature characteristic of the textual tradition of the Jewish community in Ptolemaic Alexandria or whether it represents a significant first step in the restructuring of the voice system observable in later stages of Koine.

### Correspondence

Eustein Dahl

UiT – The Arctic University of Norway, Tromsø,  
Norway

Email: [eystein.dahl@gmail.com](mailto:eystein.dahl@gmail.com)

### REFERENCES

- ALLAN, RUTGER J., 2003. *The Middle Voice in Ancient Greek: A Study in Polysemy*. Amsterdam: Gieben. <https://doi.org/10.1163/9789004409064>
- BENEDETTI, MARINA, 2005. 'Dispersioni formali del medio indoeuropeo', in Lidia Costamagna & Stefania Giannini (eds.), *Acquisizione e mutamento di categorie linguistiche. Atti del Convegno della Società Italiana di Glottologia (Perugia, 23–25 ottobre 2003)*. Roma: Il Calamo. 95–119.
- BENEDETTI, MARINA, 2017. 'Quale medio, quale passivo? Riflessioni sulla diatesi in greco', *Studi e Saggi Linguistici* 55 (1). 47–63.
- BENEDETTI, MARINA, 2022. 'Accusatives as default options: Meronymic unions in ancient Greek', in Kristina Becker, Harald Bichlmeier, Daniel Kölligan, Tiziana Quadrio, & Theresa Roth (eds.), *Συντακτικός. Studien zur historischen Syntax, Pragmatik und Etymologie der indogermanischen Sprachen*. Hamburg: Baar-Verlag. 27–36.
- BLOSS, FRIEDRICH, ALBERT DEBRUNNER & ROBERT W. FUNK, 1961. [1898]. *A Greek Grammar of the New Testament and Other Early Christian Literature* (10th ed.). Chicago: The University of Chicago Press.
- BRUNO, CARLA & LIANA TRONCI, 2019. 'Dinamiche del cambiamento nel sistema di voce dell'aoristo. Note su testi ai margini', *Lingvarvm Varietas* 8. 21–42.
- CAMPBELL, CONSTANTINE R., 2015. *Advances in the Study of Greek. New Insights for Reading the New Testament*. Michigan, Grand Rapids: Zondervan.
- CARAGOUNIS, CHRYS C., 2004. *The Development of Greek and the New Testament: Morphology, Syntax, Phonology, and Textual Transmission*. Tübingen: Mohr Siebeck.
- FASSBERG, STEVEN E., 2001. 'The movement from Qal to Pi<sup>aa</sup>el in Hebrew and the disappearance of the Qal internal passive', *Hebrew Studies* 42(1). 243–255.
- GRESTENBERGER, LAURA, 2014. *Feature Mismatch: Deponency in Indo-European Languages*. Harvard University: PhD Thesis.
- HELBING, ROBERT, 1907. *Grammatik der Septuaginta: Laut- und Wortlehre*. Göttingen: Vandenhoeck & Ruprecht.
- HÖRNKÖHL, AARON D., 2019. 'Pre-Modern Hebrew', in The Semitic (ed.), *John Huehnergard & Na'ama Pat-El. Languages*. Second Edition. Oxford: Routledge. 532–569.
- JANDA, LAURA A., ANNA ENDRESEN, JULIA KUZNETSOVA, OLGA LYASHEVSKAYA, ANASTASIA MAKAROVA, TORE NESSET & SVETLANA SOKOLOVA, 2013. 'Why Russian aspectual prefixes aren't empty', in , *Prefixes as Verb Classifiers*. Bloomington, IN: Slavica Publishers.
- JOBES, KAREN H. & MOISÉS SILVA, 2000. *Invitation to the Septuagint*. Grand Rapids: Baker.
- KEMMER, SUZANNE, 1993. *The Middle Voice*. Amsterdam/Philadelphia: John Benjamins Publishing Company. <https://doi.org/10.1075/tsl.23>
- KOEHLER, LUDWIG & WALTER BAUMGARTNER, 2004. *Hebräisches und Aramäisches Lexikon zum Alten Testament*. Leiden: Brill.

- KÜHNER, RAPHAEL & BERNHARD GERTH, 1892. *Ausführliche Grammatik der griechischen Sprache. Erster Teil: Elementar- und Formenlehre. Zweiter Band.* Hannover: Hahn.
- KÜHNER, RAPHAEL & BERNHARD GERTH, 1898. *Ausführliche Grammatik der griechischen Sprache. Zweiter Teil: Satzlehre.* Erster Band. Hannover: Hahn.
- KULIKOV, LEONID, 2010. 'Voice typology', in Jae Jung Song (ed.), *The Oxford Handbook of Linguistic Typology.* Oxford: Oxford University Press. 368–398.
- KULIKOV, LEONID, 2013. 'Middle and reflexive', in Silvia Luraghi & Claudia Parodi (eds.), *The Bloomsbury Companion to Syntax.* Bloomsbury: London/New Delhi/New York/Sydney. 261–280.
- KULIKOV, LEONID & NIKOLAOS LAVIDAS, 2013. 'Reconstructing passive and voice in proto-indo-European', *Journal of Historical Linguistics* 3(1). 98–121.
- KULIKOV, LEONID & NIKOLAOS LAVIDAS, 2017. 'Between passive and middle', in Lars Hellan, Andrej Malchukov, & Michela Cennamo (eds.), *Evidence from Greek and beyond. Contrastive Studies in Verbal Valency.* Amsterdam/Philadelphia: John Benjamins Publishing Company. 297–325.
- LADEWIG, STRATTON L., 2010. *Defining Deponency: An Investigation into Greek Deponency of the Middle and Passive Voices in the Koine Period.* Dallas Theological Seminary: PhD Thesis.
- LAVIDAS, NIKOLAOS & DIMITRA PAPANGELI, 2007. 'Deponency in the diachrony of Greek', in Matthew Baerman, Greville G. Corbett, Dunstan Brown, & Andrew Hippisley (eds.), *Deponency and Morphological Mismatches.* Oxford: Oxford University Press. 97–126.
- LAZZERONI, ROMANO, 1990. 'La diatesi come categoria linguistica. Studio sul medio indoeuropeo', *Studi e Saggi Linguistici* 30. 1–22.
- MEYER, DAVID, ACHIM ZEILEIS & KURT HORNIK, 2017. *Vcd: Visualising categorical data. R package version 1.4-4.*
- MURAOKA, TAKAMITSU, 2009. *A Greek-English Lexicon of the Septuagint.* Louvain/Paris/Walpole, MA: Peeters.
- R CORE TEAM, 2022. *R: A language and environment for statistical computing.* R Foundation for Statistical Computing, Vienna, Austria <https://www.R-project.org/>
- RIJKSBARON, ALBERT, 2002 [1984]. *Syntax and Semantics of the Verb in Classical Greek: An Introduction* (3rd ed.). Amsterdam: Gieben.
- THACKERAY, HENRY ST JOHN, 1909. *A Grammar of the Old Testament in Greek According to the Septuagint.* Cambridge: Cambridge University Press.
- TOV, EMMANUEL, 2015 [2010]. 'Reflections on the Septuagint with special attention paid to the post-Pentateuchal translations', in Emmanuel Tov (ed.), *Textual Criticism of the Hebrew Bible, Qumran, Septuagint: Collected Essays,* Volume 3. Brill: Boston/Leiden. 429–448.
- TRONCI, LIANA, 2005. *Gli aoristi con -(θ)η-: uno studio sulla morfosintassi verbale del greco antico.* Perugia: Guerra.
- TRONCI, LIANA, 2011. 'Taxonomie der Mediumkonstruktionen und Verbalflexion im Altgriechischen', in Thomas Krisch & Thomas Lindner (eds.), *Indogermanistik und Linguistik im Dialog. Akten der XIII. Fachtagung der Indogermanischen Gesellschaft vom 21. Bis 27. September 2008 in Salzburg.* Wiesbaden: Reichert. 585–594.
- TRONCI, LIANA, 2014. 'Formes moyennes oppositives et non oppositives. Brèves notes sur le grec ancien', *Langages* 194(2). 35–47.
- TRONCI, LIANA, 2017. 'Quelques suggestions pour une nouvelle analyse de la diathèse (et du TAM) dans le système du futur en grec ancien', *Bulletin de la Société de Linguistique de Paris* 112(1). 77–122.
- TRONCI, LIANA, 2018. 'Aorist voice patterns in the diachrony of Greek. The new testament as a sample of koine', *Journal of Greek Linguistics* 18(2). 241–280.
- TRONCI, LIANA, 2020. 'Future forms in postclassical Greek. Some remarks on the Septuagint and the new testament', in Dariya Rafiyenko & Ilja Seržant (eds.), *Contemporary Approaches to Postclassical Greek.* Berlin/New York: De Gruyter. 111–143.
- WALTKE, BRUCE K. & MICHAEL P. O'CONNOR, 1990. *An Introduction to Biblical Hebrew Syntax.* Winona Lake, IN: Eisenbrauns.

APPENDIX A  
List of verb lemmas

VERBAL LEXEMES	MIDDLE AORIST	PASSIVE AORIST
ἀθροίζω [ <i>atroízō</i> ] ‘gather together’		+
ἀμβλύνω [ <i>amblynō</i> ] ‘blunt’		+
ἀναγγέλλω [ <i>anaggellō</i> ] ‘report’		+
ἀνοίγω [ <i>anoígō</i> ] ‘open’		+
ἀντιλαμβάνω [ <i>antilambánō</i> ] ‘receive instead of’	+	
ἀξιόω [ <i>aksióō</i> ] ‘think’		+
ἀπαγγέλλω [ <i>apaggellō</i> ] ‘report’		+
ἀπάγω [ <i>apágō</i> ] ‘lead away’		+
ἀπογαλακτίζω [ <i>apogalaktízō</i> ] ‘wean from the mother's milk’		+
ἀποδίδωμι [ <i>apodídōmi</i> ] ‘give up’	+	+
ἀποκρίνω [ <i>apokrinō</i> ] ‘answer’		+
ἀποστέλλω [ <i>apostellō</i> ] ‘send off’		+
ἀποστρέφω [ <i>apostrephō</i> ] ‘turn back’		+
ἄπτομαι [ <i>hápptomai</i> ] ‘bind to’	+	
ἄρνέομαι [ <i>arnéomai</i> ] ‘deny’	+	
ἄρχω [ <i>árkhō</i> ] ‘begin’	+	
ἄτεκνόω [ <i>atekhnōō</i> ] ‘make childless’		+
ἀτιμάζω [ <i>atimázō</i> ] ‘hold in no honour’		+
αὐξάνω [ <i>auksánō</i> ] ‘increase’		+
ἀφαιρέω [ <i>aphairéō</i> ] ‘take away from’	+	
ἀφικνέομαι [ <i>aphiknéomai</i> ] ‘reach’	+	
βδελύσσομαι [ <i>bdelússoimai</i> ] ‘feel a loathing at’	+	
βιάζω [ <i>biázō</i> ] ‘constrain’	+	
βουλεύω [ <i>bouleúō</i> ] ‘deliberate’	+	
γαμβρεύω [ <i>gambreúō</i> ] ‘marry’	+	
γίγνομαι [ <i>gígnomai</i> ] ‘come into being’	+	+
γυμνῶ [ <i>gumnōō</i> ] ‘strip naked’		+
δέχομαι [ <i>dékhomai</i> ] ‘receive’	+	
διαβοάω [ <i>diaboáō</i> ] ‘proclaim’		+
διακόπτω [ <i>diakóptō</i> ] ‘cut through’		+
διαμερίζω [ <i>diamerízō</i> ] ‘divide’		+
διανοέω [ <i>dianoéō</i> ] ‘intend’		+
διανοίγω [ <i>dianoígō</i> ] ‘lay open’		+
διασπείρω [ <i>diaspeírō</i> ] ‘spread about’		+
διατίθημι [ <i>diatíthēmi</i> ] ‘manage’	+	
διατρέφω [ <i>diatrephō</i> ] ‘breed up’		+
διαχωρίζω [ <i>diakhōrízō</i> ] ‘separate’		+
διηγέομαι [ <i>diāgéomai</i> ] ‘describe’	+	
δικαίω [ <i>dikaióō</i> ] ‘hold right’		+
δύναμαι [ <i>dínamai</i> ] ‘be able’	+	+
ἐγείρω [ <i>egeírō</i> ] ‘rouse’		+
ἐγκρατεύομαι [ <i>egkrateúomai</i> ] ‘exercise self-control’	+	
ἐγκτάομαι [ <i>egktáomai</i> ] ‘acquire possessions’	+	

## Appendix A: (continued)

VERBAL LEXEMES	MIDDLE	PASSIVE
	AORIST	AORIST
εἰσάγω [ <i>eiságō</i> ] ‘lead into’		+
εἰσπάομαι [ <i>eisspáomai</i> ] ‘draw into oneself’	+	
ἐκλέγω [ <i>eklégō</i> ] ‘single out’	+	
ἐκλύω [ <i>eklúō</i> ] ‘set free’		+
ἐλαττονόω [ <i>elattonóō</i> ] ‘diminish’		+
ἐνδείκνυμι [ <i>endeíknumi</i> ] ‘point out’	+	
ἐνδύω [ <i>endúō</i> ] ‘put on’	+	
ἐνθυμέομαι [ <i>enthuméomai</i> ] ‘ponder’		+
ἐντέλλω [ <i>entéllō</i> ] ‘command’	+	
ἐνυπνιάζω [ <i>enupniázō</i> ] ‘dream’	+	+
ἐνωτίζομαι [ <i>anōtízomai</i> ] ‘give ear’	+	
ἐξαιρέω [ <i>eksairéō</i> ] ‘rescue’	+	
ἐξᾄλειψω [ <i>eksaleíphō</i> ] ‘obliterate’		+
ἐξεγείρω [ <i>eksegeírō</i> ] ‘arouse’		+
ἐπιγαμβρεύω [ <i>epigambreúō</i> ] ‘form connections by intermarriage’	+	
ἐπικαλέω [ <i>epikaléō</i> ] ‘nickname’	+	
ἐπιλανθάνω [ <i>epilanthánō</i> ] ‘refuse to retain in memory’	+	
ἐπισκέπτομαι [ <i>episképtomai</i> ] ‘take interest in’	+	
ἐπισπάω [ <i>epispáō</i> ] ‘draw to’	+	
ἐπιτίθημι [ <i>epitíthēmi</i> ] ‘place on’	+	
ἐπιφαίνω [ <i>epipháinō</i> ] ‘make appearance’		+
ἐρημόω [ <i>erēmóō</i> ] ‘lay waste’		+
ἐσθίω [ <i>esthíō</i> ] ‘eat’	+	
εὐρίσκω [ <i>heurískō</i> ] ‘find’		+
εὐχομαι [ <i>eukhomai</i> ] ‘pray’	+	
ἡγέομαι [ <i>hēgéomai</i> ] ‘direct, consider’	+	
θάπτω [ <i>tháptō</i> ] ‘bury’		+
θυμώω [ <i>thumóō</i> ] ‘irritate’		+
ἰάομαι [ <i>íāomai</i> ] ‘restore health’	+	
καθαρίζω [ <i>katharízō</i> ] ‘make clean’	+	
καλέω [ <i>kaléō</i> ] ‘give a name’		+
καλλωπίζω [ <i>kallōpízō</i> ] ‘make look beautiful’	+	
καταγελάω [ <i>katageláō</i> ] ‘deride’		+
κατάγω [ <i>katágō</i> ] ‘bring down’		+
καταδουλόω [ <i>katadoulóō</i> ] ‘enslave’	+	
κατακαίω [ <i>katakaiō</i> ] ‘burn’		+
κατακαλύπτω [ <i>katakalyptō</i> ] ‘place a cover and make invisible’	+	
καταλείπω [ <i>kataleípō</i> ] ‘leave unharmed’		+
κατανύσσω [ <i>katanússō</i> ] ‘affect mentally and profoundly’		+
καταράομαι [ <i>kataráomai</i> ] ‘pronounce curse upon’	+	
καταφαίνω [ <i>katapháinō</i> ] ‘seem’		+
κατέχω [ <i>katekhō</i> ] ‘hold fast’		+
κλέπτω [ <i>kléptō</i> ] ‘steal’		+
κοιμάω [ <i>koimáō</i> ] ‘lie down, sleep’		+



## Appendix A: (continued)

VERBAL LEXEMES	MIDDLE AORIST	PASSIVE AORIST
κόπτω [ <i>kóptō</i> ] ‘cut’	+	
κρύπτω [ <i>krúptō</i> ] ‘hide’		+
κτάομαι [ <i>ktáomai</i> ] ‘acquire’	+	
κυρώω [ <i>kuróō</i> ] ‘confirm as property’		+
λαμβάνω [ <i>lambánō</i> ] ‘take’		+
λέγω [ <i>légō</i> ] ‘say’		+
λογίζομαι [ <i>logízomai</i> ] ‘devise’		+
μάχομαι [ <i>mákhomai</i> ] ‘fight’	+	
μεγαλύνω [ <i>megalúnō</i> ] ‘enlarge’		+
μεθύσκω [ <i>methúskō</i> ] ‘get drunk’		+
μιμνήσκω [ <i>mimméskō</i> ] ‘remind’		+
νίπτω [ <i>níptō</i> ] ‘wash clean’	+	
νωτίζω [ <i>nōtízō</i> ] ‘turn one’s back’	+	
ξηραίνω [ <i>ksērainō</i> ] ‘dry’		+
οιονίζομαι [ <i>oiōnízomai</i> ] ‘practise divination’	+	
ομοιώνω [ <i>homoióō</i> ] ‘make similar’		+
ώραώ [ <i>horáō</i> ] ‘see’		+
ὀργίζω [ <i>orgízō</i> ] ‘get angry’		+
ὀρθόω [ <i>orthóō</i> ] ‘make stand upright’		+
ὀσφραίνομαι [ <i>osphraínomai</i> ] ‘inhale smell of’		+
παραγίγνομαι [ <i>paragígnomai</i> ] ‘come to be’	+	
παρακαλέω [ <i>parakaléō</i> ] ‘encourage’		+
παρακρούω [ <i>parakrouō</i> ] ‘cheat’	+	
παραλύω [ <i>paralúō</i> ] ‘pay’		+
παρατάσσω [ <i>paratássō</i> ] ‘draw up in battle-order’	+	
παύω [ <i>paúō</i> ] ‘stop’	+	
περιαιρέω [ <i>periairéō</i> ] ‘remove’	+	
περιβάλλω [ <i>peribállō</i> ] ‘put round or over’	+	
περιποιέω [ <i>peripoiéō</i> ] ‘preserve’	+	
περιτέμνω [ <i>peritémnō</i> ] ‘make an incision round’	+	+
πίμπλημι [ <i>pímplēmi</i> ] ‘fill’		+
πληθύνω [ <i>plēthúnō</i> ] ‘increase in quantity’		+
πληρόω [ <i>pērōō</i> ] ‘fill’		+
πονηρέομαι [ <i>ponēreúomai</i> ] ‘act wickedly’	+	
πορεύω [ <i>poreúō</i> ] ‘leave a place, go’		+
προαιρέω [ <i>proairéō</i> ] ‘bring forth’	+	
προσεύχομαι [ <i>proseúkhomai</i> ] ‘pray’	+	
προστίθημι [ <i>prostíthēmi</i> ] ‘add’	+	+
ρήγνυμι [ <i>rēgnumi</i> ] ‘split’		+
σκέπτομαι [ <i>sképtomai</i> ] ‘examine’	+	
σκληρύνω [ <i>sklērúnō</i> ] ‘harden’		+
στερέω [ <i>steréō</i> ] ‘withhold’		+
συγγίγνομαι [ <i>suggígnomai</i> ] ‘have sexual intercourse with’	+	
συλλαμβάνω [ <i>sullambánō</i> ] ‘become pregnant, catch’	+	



## Appendix A: (continued)

VERBAL LEXEMES	MIDDLE	PASSIVE
	AORIST	AORIST
συμπαραλαμβάνω [ <i>sumparalambánō</i> ] ‘take along together’		+
συνάγω [ <i>sunágō</i> ] ‘bring together’		+
συναναστρέφω [ <i>sunanastréphō</i> ] ‘live together’		+
συναπόλλυμι [ <i>sunapóllumi</i> ] ‘destroy along’	+	
συνέχω [ <i>sunékhō</i> ] ‘hold back from acting’		+
συντελέω [ <i>sunteléō</i> ] ‘finish’		+
συντριβώ [ <i>suntribō</i> ] ‘shatter’		+
σώζω [ <i>sōzō</i> ] ‘save’		+
ταπεινός [ <i>tapeinós</i> ] ‘bring low’		+
ταράσσω [ <i>tarássō</i> ] ‘stir’		+
τίθημι [ <i>títhēmi</i> ] ‘place’	+	
τίκτω [ <i>tíktō</i> ] ‘give birth to’		+
ὕδρευω [ <i>hudreúō</i> ] ‘fetch water’	+	
ὑπολείπω [ <i>hupoleípō</i> ] ‘leave remaining’	+	+
ὑψόω [ <i>hupsósō</i> ] ‘move to a higher position’		+
φαίνω [ <i>phainō</i> ] ‘shine, appear’		+
φείδομαι [ <i>phéidomai</i> ] ‘spare’	+	
φθείρω [ <i>phtheírō</i> ] ‘damage’		+
φοβέω [ <i>phobéō</i> ] ‘dread’		+
φυλάσσω [ <i>phulássō</i> ] ‘guard, watch’	+	+
χαίρω [ <i>khaírō</i> ] ‘rejoice’		+
χράομαι [ <i>khráomai</i> ] ‘act towards, treat’	+	