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8 The accusative absolute and gerundial constructions in Late Latin

Abstract: This paper explores the relationship between the absolute accusative and various gerundial constructions in Late Latin. While absolute constructions probably belong to the stock of inherited morphosyntactic features in Latin, the absolute accusative is comparably recent and first attested in post-Classical Latin. The gerund, on the other hand, seems to be an Italic or Latin innovation. We argue that these two categories are in complementary distribution in Late Latin and that their distribution is determined by different values of three parameters, transitivity/intransitivity of the predicate, subject co-reference with the matrix predicate and telicity/atelicity.

1 Introduction

This paper explores the relationship between the absolute accusative and various gerundial constructions in Late Latin. As will be shown in more detail below, these two types of construction show a behaviour resembling converbs in Late Latin, here limited to the period from the 4th to the 6th century AD, a fact foreshadowing their development in Romance languages (cf., e.g., Carnesale this volume with references, Vangaever this volume with references). We demonstrate that the absolute accusative gained in productivity during this period and that the two constructions are in complementary distribution, with clearly defined ranges of functions. Our

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contribution aims to determine the various stages in the development of non-finite subordination patterns in Late Latin, which arguably represents an important testimony of the development of converb systems. Accordingly, a related aim is to gain new insights into the mechanisms of change leading from so-called absolute constructions of the type found in archaic Indo-European languages, here mainly illustrated by Early and Classical Latin, to the more constrained system of converbs characteristic of Late Latin and Romance languages. A third aim is to establish the basis for a chronological order that enables an assessment of the various stages in the development of various constructions in this field, including the absolute nominative, mixed constructions etc.

2 Theoretical and methodological preliminaries

In this section, we outline some theoretical assumptions and methodological principles that will serve as framework for the following discussion (cf. also Pompei this volume). An important preliminary task is to clarify what types of constructions may qualify as converbs. The term "converb" was first employed to describe constructions found in Altaic languages (Ramstedt 1903), and a general definition was provided by Haspelmath (1995: 3), according to whom a converb is "a nonfinite verb form whose main function is to mark adverbial subordination". Accordingly, converbs may be analysed as deverbal adverbs that serve to modify another clause (cf. Haspelmath 1995: 4). In his model, converbs are distinguished from constructions such as copredicative participles, medial verbs, absolute constructions, and infinitival constructions, all of which have analogous properties and functions as converbs do. Haspelmath (1995: 4–16) discusses various morphosyntactic properties of converbs. Under his analysis, converbs are verb forms that belong to the paradigm of verbs and, consequently, do not constitute a distinct word class. Moreover, he regards non-finiteness as an essential criterion, unlike, for instance, Nedjalkov (1990, 1995), who includes finite verb forms exclusively appearing in adverbial subordinate clauses in his classification of converbs. An immediate problem with the inclusion of non-finiteness in the definition of converbs is that the distinction between finiteness and non-finiteness is not cross-linguistically clear-cut but rather represents a scalar notion involving desentic tialisation (cf. e.g., Lehmann 1988). In other words, one may expect considerable variation across languages regarding what qualifies as non-finiteness. For example, features such as tense/aspect/mood marking (TAM) and subject agreement are characteristic of finite verb forms in many languages, so that non-finiteness can be defined in terms of absence of one or several such features. Verb forms lacking one or more of the TAM features found

with fully finite verb forms rather commonly show subject agreement. In some languages, converbs show possessor agreement marking with the matrix subject, thus essentially showing subject agreement. As regards the criterion of adverbial subordination, it is included to provide a clear means for distinguishing between converbs, on one hand, and *masdars*/verbal nouns, defined as "'nonfinite verb forms specialized for argument subordination or complementation", and participles, defined as "'nonfinite verb forms specialized for adnominal subordination", on the other (Haspelmath 1995: 7). Furthermore, he argues that a definition in terms of adverbial function provides a more restrictive notion of converbs than other, competing ones, for example in terms of non-argumental and non-adnominal function, as suggested by V. Nedjalkov (1995). An essential feature of converbs is that they are used in subordination, that is, they are embedded or incorporated in the matrix or superordinate clause, thus differing from coordinate clauses and constructions (Haspelmath 1995: 8). A final set of distinctions that are important for present purposes concerns whether the subject argument of the converb is explicit, implicit, or optional, and whether it is co-referential with the subject of the matrix clause, has a different subject, or allows both scenarios, so-called "varying subject converbs" (cf. Haspelmath 1995: 9–11). Table 1 gives a survey of what types of feature combinations are typical in this domain (cf. Haspelmath 1995: 10).

Table 1: Subject reference in converbs (after Haspelmath 1995: 10).

	Same subject	Different subject	Varying subject
Implicit-subject converb	*typical*	unusual	unusual
Explicit-subject converb	unusual	*typical*	unusual
Free-subject converb	unusual	unusual	*typical*

However, Haspelmath (1995: 29) also notes that converbal constructions universally tend to show a preference for the implicit, same subject constellation, having a subject that is controlled by the subject of the matrix clause, a feature sometimes referred to as the *Subject Identity Constraint* (SIG) (cf., e.g., Stroński and Kulikov 2021). As is clear from the above table, this is not to say that converbal constructions universally adhere to this constraint but rather that it is the default situation. For present purposes, this question is of some importance since one of the Latin constructions we shall examine strongly tends to select the so-called passive perfect participle, which in many respects may be regarded as a p-oriented verbal adjective or participle. In such cases, it is the (unexpressed) agent of the participle rather than its subject that is coreferential with the matrix subject, a point we shall revisit later.

A central claim of this paper is that the Late Latin absolute accusative and gerund represent converbal constructions that are in complementary distribution. The above outline of Haspelmath's (1995) analytical model provides a set of criteria that enable a principled assessment of this claim. While the assumption that the Latin gerund is a converb should be uncontroversial, the classification of the absolute accusative as a converbal construction may appear somewhat less so. According to Haspelmath's (1995: 27) definition, absolute constructions "generally involve a participle" and "function as semantically indeterminate adverbial modifiers." Thus, this construction type resembles so-called co-predicative participial constructions but differ from them in that absolute constructions have their own subject. Consider the contrast between the Latin examples in (1a) and (1b).

(1) a. *postridie   in   castra   ex   urbe   ad   nos*
        day.after PRP   camp: ACC.PL PRP   city: ABL.SG PRP   1PL.ACC
        veniunt   flentes   principes
        come: PRF.3PL   cry: PRES.PTC.NOM.PL   chief:NOM.PL
        'The next day the chiefs came crying from the city to us in the camp.'
        (Pl. *Amph.* 256)
     b. *vortentibus   Telobois   telis   complebantur*
        turn:PRES.PTC.ABL.PL   Teloboian:ABL.PL   dart:ABL.PL   fill:IMPF.PASS.3PL
        corpora
        body:NOM.PL
        'The Teloboians turning back, (their) bodies were filled with darts.'
        (Pl. *Amph.* 251)

In example (1a), the nominative-marked participial form *flentes* 'crying' modifies the matrix subject *principes* 'the chiefs', representing a co-predicative participle construction. In contrast, the ablative-marked participial form *vortentibus* 'turning back' does not modify the matrix subject corpora 'bodies' but has its own subject, *Telobois*, thus representing an absolute construction, according to Haspelmath's (1995) definition. This is the so-called absolute ablative construction, which is very common throughout Early, Classical and Late Latin. According to Pinkster (2021: 394–397), there is a strong tendency in Classical Latin that the core argument of the absolute ablative does not show co-reference with any of the constituents in the matrix clause, although some counterexamples exist. In contrast, the agent argument of gerundial clauses is usually co-referent with the matrix subject (cf. Pinkster 2021: 406–413). These considerations suggest that the absolute ablative shows a behaviour typical of absolute constructions rather than converbal constructions, which the gerund seemingly represents a typical converbal construction.

One corollary of the above outline is that we define converbal constructions in terms of adverbial or converbal function, so that, for instance, a given morphosyntactic form or collocation can have a converbal function beside other functions. This is in line with Carnesale (this volume), who argues that the Italian past participle sometimes appears in converbal function, although it has several other functions as well. From this perspective, one would expect that at least some of the related constructions mentioned above might grammaticalize into converbs under favorable circumstances. As will be explored in more detail in Section 3 below, this seems to be the case with the Latin gerund, which probably originates as a substantivized form of the adjectival gerundive (see also Viti this volume).

These assumptions favor a quantitatively oriented corpus-linguistic methodological approach. Data have been collected via automatic or manual search of the various texts constituting our corpus, which will be presented in Section 4 below. Each data point has been classified according to a set of parameters that enables a systematic comparison of the distributional properties of the two constructions under examination. These, in turn, have been explored quantitatively by means of the chi-squared test and the Fisher exact test, drawing, amongst other things, on the methodology proposed by Janda et al. (2013). The results are presented and discussed in Section 4.

3 Absolute and gerundial constructions in Latin

Absolute constructions, including absolute accusative and absolute gerund (acc. and abl.), have received considerable attention in the research literature (cf., e.g., Bonnet 1890, Horn 1918, Biese 1928, Schrijnen 1939, Väänänen 1963, Helttula 1987, Müller Lancé 1994, Tarriño Ruiz 2000, Rovai 2014, Galdi 2017, Bertoldi 2021, Vangaever 2021, and Galdi and De Decker 2022).

Cotticelli-Kurras, Dahl and Živojinović (forthcoming) provide a careful examination of the ablative and accusative absolute constructions, which appear to exhibit a somewhat complementary distribution. Indeed, the accusative absolute constructions is marked by telic semantics and attested with a past passive participle, whereas the ablative absolute constructions display a tendency for present participles and atelic semantics. Data supporting these observations are given later in this section. Their study observes that the diachronic evolution of absolute constructions in Late Latin unveil intriguing syntactic shifts prompted by a reinterpretation of semantic roles and major explicitness. A development that is central in this process concerns the so-called passive perfect participle, which shows a gradually increasing tendency to be used as a subordinate transitive predicate from

Classical via Post-Classical to Late Latin (cf., e.g., Horn 1918, Helttula 1987: 10 with references). According to Horn (1918), this is one of the factors that facilitated the rise of the absolute accusative in the first place, the case marking reflecting that the noun phrase in the absolute construction was conceived of as the object argument of the participle. Consequently, a correlation between the matrix and the absolute clause emerges, eroding the absolute nature of the latter. These insights are rooted in an array of methodological approaches, namely the examination of the diathesis of the participle within the absolute clause, the assessment of absolute constructions in relation to their syntactic interplay with the matrix clause, and an examination of event structure with specific reference to telicity.

Vangaever (this volume) focuses on the development of gerundial constructions from Latin to Old French, claiming that there is a general tendency for the 'converbalization' of the gerund, which gradually crystalizes in its adverbial function and is maintained across Romance (cf. Živojinović 2021), unlike the present participle, which gradually adjectivizes. The study, however, does not specifically consider the absolute constructions.

As a first approximation, we note that absolute constructions constitute a characteristic syntactic feature found in several archaic Indo-European languages. Here, absolute constructions are defined as subordinating constructions comprising a nominal or pronominal element and a verbal participle form agreeing in number and case marking that serve to modify a matrix clause. As noted by Holland (1986), absolute constructions are found in Latin, Greek, Sanskrit, Old Church Slavonic, and Gothic. Interestingly, however, the various constructions show different patterns of case marking across these languages (cf., e.g., Holland 1986, Bauer 2000, Ruppel 2013). To some extent, this reflects the fact that some of these languages have undergone considerable simplification in their case systems compared to others, resulting in syncretic case categories.[1] The examples in (2) and (3) illustrate the Sanskrit absolute locative construction and the Latin absolute ablative construction, respectively.

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[1] Specifically, the case system found in Indo-Iranian as reflected in Vedic and Classical Sanskrit is generally considered more archaic than the case system found in most other branches of Indo-European and can plausibly serve as evidence for the situation in their common ancestral language. From this perspective, the Latin ablative case comprises forms and functions corresponding to the Sanskrit ablative, instrumental, and locative, whereas the Ancient Greek genitive and dative correspond to the Sanskrit genitive and ablative, and the dative, instrumental, and locative, respectively (cf., e.g., Meiser 2006, Rix 1992; De Decker this volume and Viti this volume)

(2) a. *yán   marutaḥ   **súrya   údite***
       while   Marut:VOC.PL   sun:LOC.SG   rise:PPP.LOC.SG
       mádita
       be.exhilarated:PRES.IMPV.2PL
       'While, o Maruts, you become exhilarated when the sun has risen'
       (Rigveda V 54.10 [Vedic Sanskrit])

   b. *índraṃ   prātár   havāmaha   índraṃ*
       Indra:ACC   early.morning   invoke:PRES.1PL   Indra:ACC
       prayatí   adhvaré
       proceed:PRES.PTC.LOC.SG   sacrifice:LOC.SG
       'Indra we invoke in the early morning, Indra when the sacrifice proceeds.'
       (Rigveda I 16.3 [Vedic Sanskrit])

(3) a. *victores   **victis   hostibus**   legiones*
       conqueror:NOM.PL   defeat:PPP.ABL.PL   enemy:ABL.PL   troop:NOM.PL
       reveniunt   domum
       return:PRES.3PL   home:ACC.SG
       'The enemy defeated, the conquering troops returned home.' (Pl. *Amph.*
       188)

   b. ***toto**   iam   **indicio**   **exposito**   atque*
       all:ABL.SG   already   charge:ABL.SG   expose:PPP.ABL.SG   and
       ***edito**,   surrexit*
       put.forth:PPP.ABL.SG   rise:PST.3SG
       'When the charge (against him) had been exposed and put forth, he rose.'
       (Cic. *Cat.* 3.11)

These examples illustrate that the Latin absolute ablative is paralleled by analogous absolute constructions in other, related languages. Although it is controversial whether the various absolute constructions found across the Indo-European languages can be derived from a single original source construction, it is reasonable to conclude that they represent a construction type that is characteristic of the Indo-European languages and that they reflect an ultimately common, inherited pattern.

In contrast, the so-called gerund does not seem to have any cognates outside of Italic (cf., e.g., Weiss 2020). There exist analogous categories in other archaic Indo-European languages, notably Vedic and Classical Sanskrit, but they are etymologically not related to the Latin category. An important early function of the gerund is to furnish the various infinitives with oblique case forms, since the infinitive is subject to strict distributional restrictions in Latin, only occurring in core argument functions of one and two argument verbs. The gerund is closely related

to the so-called gerundive, a passive verbal adjective usually expressing a deontic modal meaning. Since related gerundive forms are found in other Italic languages, notably Oscan and Umbrian (cf., e.g., Weiss 2020), it seems likely that this construction is older, and that the gerund originally arose as a substantivized form of the adjectival gerundive. The examples in (4) illustrate some of the characteristic patterns of use shown by the gerund, while those in (5) show the use of the gerundive.

(4)   a.   *ad   **loquendum**   atque   ad   **tacendum**   tute*
           PRP   talk:GER.ACC   CONJ   PRP   be.silent:GER.ACC   2SG.NOM
           habeas   portisculum
           have:PRES.SUBJ.2SG   timing.hammer:ACC.SG
           'You should have a timing hammer for talking and for being silent.'
           (Pl. *As.* 518)

      b.   *et   legiones   Teloboarum   vi   **pugnando***
           CONJ   troop:ACC.PL   Teloboian:GEN.PL   force:ABL.SG   fight:GER.ABL
           cepimus
           take:PST.1PL
           'And we took the troops of the Teloboians fighting with force.' (Pl. *Amph.* 414)

      c.   *semel **fugiendi**   si   data   est*
           once   flee:GRDV.GEN   if   give:PPP.NOM.SG   be:PRES.3SG
           occasio
           opportunity:NOM.SG
           'If the opportunity to flee is given once.' (Pl. *Capt.* 117)

(5)   a.   *attatae, **caedundus**   tú   homo   es*
           EXCL   beat:GRDV.NOM.SG   2SG.NOM   man:NOM.SG   be:PRES.2SG
           'Oh, you are indeed a man that ought to be beaten' (Pl. *Cas.* 528)

      b.   ***indigna**   digna   habenda***
           unbecoming:NOM.PL   becoming:NOM.PL   have:GRDV.NOM.PL
           ***sunt**,   erus   quae   facit*
           be:PRES.3PL   lord:NOM.SG   REL.ACC.PL   do:PRES.3SG
           'Unbecoming things that the lord does are to be considered becoming'
           (Pl. *Capt.* 200)

These examples illustrate that the gerund and the gerundive have different semantic and morphosyntactic properties. An important difference between the gerund and the gerundive is that the gerund behaves as a neuter gender verbal noun with singular number marking only, whereas the gerundive is a verbal adjective, which agrees with the noun it modifies. The examples in (4) illustrate the most salient

uses of the gerund. For present purposes, the first two patterns are most relevant, representing rather typical instances of converbal functions.

Although we have seen that absolute constructions probably belong to the stock of inherited syntactic patterns, the absolute accusative first appears in post-classical Latin and shows a gradually growing productivity throughout the Late Latin period. Some examples are given in (6).

(6) a. *nam Arbaces   praefectus   Medorum   **Sardanafalum***
ADV   Arbaces:NOM prefect:NOM.SG Mede:GEN.PL Sardanafalus:ACC.SG
   occisum   regnum   eius   invasit
   kill:PPP.ACC.SG kingdom:ACC.SG 3SG.GEN invade:PST.3SG
   'For when he had killed Sardanafalus, Arbaces, the prefect of the Medes
   invaded his kingdom' (Iord. *Rom.* 49)

   b. *regina (. . .)   ad   Acacium   **neminem   scientem***
   queen:NOM.SG PRP Acacius:ACC nobody:ACC know:PRES.PTC.ACC.SG
   subterfugit
   escape:PST.3SG
   'The queen (. . .) escaped, nobody knowing.' (Iord. *Rom.* 350)

These examples suffice to illustrate that the absolute accusative is compatible with both perfect and present participles, as shown by *Sardanafalum occisum* in (6a) and *neminem scientem* in (6b). As we shall see below, however, the type with perfect participle is predominant and almost exclusively shows agent-subject co-reference with the matrix clause. Interestingly, this construction tendentially prefers transitive and telic predicates, a fact we shall also return to below.

Before entering a more detailed discussion of the properties of the absolute accusative construction, we would like to address some questions about its origin and the development of the system of absolute constructions in Postclassical Latin. While the absolute ablative is productive throughout most of the history of Latin, there emerge some hybrid or mixed constructions in the later stages of the language. Consider, by way of illustration, the examples in (7).

(7) a. *itaque ergo   iuxta consuetudinem **factis   orationibus***
   CONJ CONJ PRP   custom:ACC.SG make:PPP.ABL.PL prayer:ABL.PL
   ***et   cetera**, (. . .) legimus*
   CONJ other:ACC.PL read:PST.1PL
   'And then according to custom having made prayers and other things (. . .)
   we did readings.' (*Peregr. Aeth.* 19.2)

b. *Vidimer* **acceptis** **muneribus** *simulque*
Vidimer:NOM accept:PPP.ABL.PL gift:ABL.PL at.the.same.time-CONJ
mandata *a* *Glycerio* *imperatore* *Gallias* *tendit*
order:ACC.PL PRP Glycerius:ABL Emperor:ABL.SG Gaul:ACC go:PST.3SG
'Having accepted the gifts and at the same time the orders from the emperor Glycerius, Vidimer went to Gaul' (Iord. *Get.* 56, 284:131, 18)

c. *Guntchramnus* **invocato** **nomen** *Domini* *et*
Guntchramnus:NOM call:PPP.ABL.SG name:ACC.SG Lord: GEN CONJ
virtutem **magnam** *beati* *Martini*
Virtue:ACC.SG great:ACC.SG saint:GEN.SG Martin:GEN.SG
elevatoque **contu** *Dracolenum* *artat*
raise:PPP.ABL.SG-CONJ pike:ABL.SG Dracolenus:ACC press:PRES.3SG
in *faucibus*
PRP throat:ABL.PL
'After having invoked the Lord's name and the great virtue of Saint Martin, and raised the pike, Guntchramnus strangled Dracolenus' (Greg. Tur. *Franc.* 5.25: 221, 3).

Examples like these illustrate that ablative-marked and accusative-marked case forms are used side by side in absolute constructions in Late Latin. It is tempting to analyze hybrid constructions of this type as an early stage in what seems to have been the substitution of the absolute ablative by the absolute accusative. However, a hypothesis along such lines runs into the difficulty that the absolute ablative is very common in Gregory of Tours, who is among the latest sources of our corpus. Interestingly, Helttula (1987) found 616 examples of the absolute ablative in his work, against 88 examples of the absolute accusative and 29 examples of mixed absolute constructions.[2] Analogous numbers are found in Jordanes slightly earlier work Getica, which have 404 absolute ablatives, 69 absolute accusatives and 34 examples of mixed absolute constructions (cf. Helttula 1987). From this perspective, the absolute accusative appears to be a rather marginal construction in Late Latin, at least when compared with the absolute ablative. However, as pointed out in Cotticelli-Kurras, Dahl and Živojinović (submitted) and previously in Helttula (1987: 112), all types of absolute constructions show a preference for the perfect so-called passive participle in Jordanes and Gregory of Tours' works. On the contrary, the absolute ablative and the mixed absolute constructions are far more permissive as regards the selection of the present active participle than the absolute accusative. This is shown in Table 2.

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2 Her counts are based on books 5–7 of the *Historia Francorum*.

Table 2: The form of the verb phrase in the absolute constructions (adapted from Helttula 1987: 57).

	Absolute ablative		Mixed absolute		Absolute accusative	
	Iord.	**Greg.**	**Iord.**	**Greg.**	**Iord.**	**Greg.**
perfect participles	245 (62,2%)	361 (59,6%)	26 (76,5,%)	19 (66,5%)	65 (95,6%)	84 (95,4%)
present participles	149 (37,8%)	254 (40,4%)	8 (23,5%)	10 (33,5%)	3 (4,4%)	4 (4,6%)

These data give a prima facie impression that the absolute ablative and mixed constructions show a stronger propensity to select the present participle than the absolute accusative in these authors. This impression is corroborated by the fact that a chi-squared test yielded a p-value of 2.137e-15 and a chi-squared value of 78.059 with five degrees of freedom (p-value = 2.137e- 15, $\chi2(5)$ = 78.059).[3] These findings suggest that it is highly unlikely that the observed values given in Table 2 are due to chance. We also obtained a Cramér's V value of 0.252, being indicative of a low effect size, suggesting a weak relationship between author and construction form.[4] Figure 1 gives a graphical representation of the relative frequency of the distribution of the two participle types across the three types of absolute constructions in Jordanes' and Gregory of Tour's work.[5]

These findings clearly suggest that the distributional differences between the two participles across the various absolute constructions are statistically significant. Drawing on the method outlined in Janda et al. (2013), we shall explore this question in somewhat further detail. First, we need to compare the observed frequencies to the expected frequencies, which are given in Table 3.

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3 This value was obtained by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).
4 This value was obtained by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).
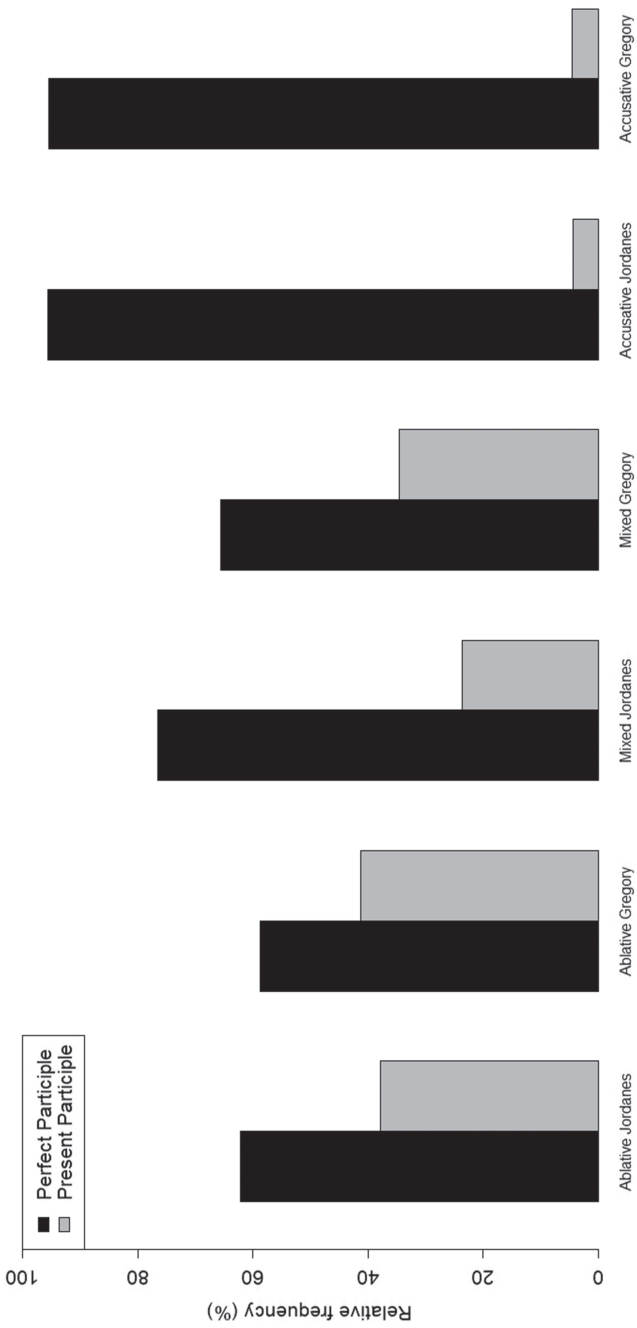**5** Figure 1 was created by using the barplot() function in the standard package of RStudio (R Core Team 2024). R scripts employed in this article are available at https://github.com/eystdahl/CotticelliDahlZivojinovicDIACON.

Figure 1: Absolute Constructions in Late Latin.

Table 3: The expected frequencies of the two participle types.

	Absolute ablative		Mixed absolute		Absolute accusative	
	Iord.	**Greg.**	**Iord.**	**Greg.**	**Iord.**	**Greg.**
perfect participles	256,7 [–]	400,6 [–]	22,1 [+]	18,9 [+]	44,3 [+]	57,3 [+]
present participles	137,3 [+]	214,3 [+]	11,9 [–]	10,1 [–]	23,7 [–]	30,7 [–]

Note that the cases where the observed frequencies are higher than the expected frequencies are marked by [+] and the cases where the observed frequencies are lower than the expected frequencies are marked by [-]. In the first instance, we are dealing with attraction, that is, a preference towards a given value, while the second instance involves repulsion, that is, dispreference towards a given value. At this juncture, the question arises to what extent these differences are significant or not.

One way to approach this problem, is to perform a Fisher exact test upon each of the observed values (cf. Janda et al. 2013).[6] The results of this procedure are given in Table 4, the statistically significant results based on the conventional threshold of $p < 0.05$ are marked in boldface.[7]

Table 4: Patterns of attraction and repulsion.

	Absolute ablative		Mixed absolute		Absolute accusative	
	Iord.	**Greg.**	**Iord.**	**Greg.**	**Iord.**	**Greg.**
perfect participles	[–] 0.07611	**[–] 1.983e-06**	[+] 0.1086	[+] 0.5687	**[+] 8.338e-10**	**[+] 2.279e-12**
present participles	**[+] 0.0009485**	**[+] 1.307e-06**	[–] 0.1086	[–] 0.5687	**[–] 8.338e-10**	**[–] 2.279e-12**

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6 This procedure involves several steps. First, one creates a 2x2 contingency table, where the upper left cell comprises the observed cell frequency (e.g., 245, as in the upper left cell in Table 2), the upper right cell comprises the row total minus the observed cell frequency (i.e., 800 – 245 = 555), the bottom left cell comprises the column total minus the observed cell frequency (i.e., 384 – 149 = 245), and the bottom right cell comprises the table total minus the values in the three other cells (i.e., 1228 – 245 – 555 – 149 = 279). When applying the Fisher test, it is necessary to specify whether the observed value (in Table 1) is greater or less than the expected value given (in Table 2).
7 These values were obtained by means of the fisher.test() function in the standard package of R, specifying whether the observed value is higher than or less than the expected value (R Core Team 2024)

For present purposes, the most important observation here is that the absolute accusative shows a significant attraction towards the perfect participle and a significant repulsion towards the present participle. It is also interesting to note that the absolute ablative, in spite of its relatively high proportion of perfect participles, shows significant repulsion towards this construction type. Moreover, the mixed absolute construction, which shows statistically insignificant patterns of attraction and repulsion. One way of interpreting these facts is that the absolute accusative had a rather different synchronic status than the other absolute constructions in Late Latin, being almost fully restricted to perfective aspectual functions.

Our observations so far may be summarized as follows. The gerund is firmly established at the beginning of the attested tradition of Latin and remains productive throughout the history of Latin and into Romance. In contrast, the absolute accusative first appears in post-classical Latin, its productivity steadily rising throughout Late Latin before being lost in Romance. The absolute accusative seems to have a rather different synchronic status than other absolute constructions in Late Latin, and mainly shows perfective functions. As we shall see below, a case can be made for the claim that the gerund and the absolute accusative have rather similar syntactic and pragmatic functions but differ in their distribution patterns.

4 The absolute accusative and the gerund in Late Latin

In this section, we explore the relationship between the absolute accusative and the gerund in Late Latin. The present study is based on a scrutiny of data from a corpus comprising the following authors/works:[8]

Work	Date
Mulomedicina Chironis (*Mul Chir.*)	4th Century CE
Peregrinatio Aetheriae (*Peregr. Aeth.*)	Second half of the 4th Century CE
Cassiodorus: *Variae*, (Cass.)	5th to 6th Century CE
Iordanes: *Romana et Getica* (Iord. *Rom.*, Iord. *Get.*)	6th Century CE
Gregorius Turonensis: *Historia Francorum* (Greg. Tur. *Franc.*)	6th Century CE

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8 It is noteworthy that the works under study belong to vastly different genres, including technical treatises, diaries of pilgrimages, compilations of letters and other documents, and historical texts. This diversity likely influenced the selection and distribution of converbs within the corpus.

As noted in the previous section, the gerund is attested at all stages of Latin, whereas the absolute accusative first appears in Late Latin. A central assertion of this contribution is that these two constructions serve analogous functions, exhibiting complementary distribution based on the fact that the predicate is transitive or intransitive, and/or telic or atelic. Before exploring this claim in more detail, we need to establish the functional ranges of the two constructions. The gerund has three main functions in our dataset. First, it appears in prepositional phrases in the accusative or ablative, as illustrated in (8).

(8) a. *Amalaricus   vero   haec   audiens   naves*
         Amalaricus:NOM   ADV   DEM.ACC.PL hear:PRES.PTC.NOM.SG   ship:ACC.PL
         *ad   **fugiendum** parat*
         PRP   flee:GER.ACC   prepare:PRES.3SG
         'When Amalaricus heard this, he prepared ships for fleeing' (Greg. Tur.
         Franc. 3.10)

     b. *erat   enim   summae   bonitatis (. . .),   in*
         be:IPF.3SG   ADV   high:GEN.SG good.nature:GEN.SG   PRP
         iudicando   *cautissimus*
         make.judgement:GER.ACC   cautious:SUP.NOM.SG
         'For he was of the highest good nature and very cautious in making judgements' (Greg. Tur. *Franc.* 6.30)

Second, it appears in the ablative as a complement of the matrix clause, as illustrated in (9).

(9) a. *cum   duobus   pueris   saxonibus   viam   **equitando***
         PRP   two:ABL boy:ABL.PL Saxon:ABL.PL way:ACC.SG ride:GER.ABL
         terebat
         frequent:IPF.3SG
         'Together with two Saxon boys he frequented the road riding' (Greg. Tur.
         Franc. 7.41)

     b. *alii   **natando**   evaserunt*
         some:NOM.PL   swim:GER.ABL   escape:PST.3PL
         'Some escaped swimming' (Greg. Tur. *Franc.* 6.26)

Third, it appears in the genitive, qualifying a noun phrase, as illustrated in (10).

(10) a. *clerici   ordinati,   ritum   **psallendi***
     priest:NOM.PL ordain:PPP.NOM.PL rite:ACC.SG sing.psalms:GER.GEN
     suscipiunt
     begin:PRES.3PL
     '(They were) ordained priests and began the rite of singing psalms' (Greg.
     Tur. *Franc.* 1.31)

   b. *Deo   autem patri   haec   necessitas*
     God:DAT   CONJ   father:DAT DEM.NOM.SG necessity:NOM.SG
     *fuit   filium   **mittendi**   ad   terras*
     be:PST.3SG son:ACC.SG send:GER.GEN   PRP   earth:ACC.PL
     'It was necessary for God, (our) father to send (his) son to earth' (Greg.
     Tur. *Franc.* 6.40)

In the following, we explore the properties of the first two construction types, leaving out the third one.[9] At this point, we would like to point out that the gerund in the majority of cases shows agent-subject co-reference, a feature typically shown by converbal constructions, as previously observed. Moreover, attention should be drawn to the fact that the gerund in most cases denotes an unbounded situation and is mostly associated with intransitive and/or atelic predicates, as will be explored in more detail below.

As mentioned in the previous section, the absolute accusative generally shows agent- subject coreference, usually selects the perfect participle and is exclusively found with transitive and/or telic predicates. At least the two first properties clearly distinguish the absolute accusative from other, analogous constructions in Late Latin such as the absolute ablative and the mixed absolute construction. Furthermore, we have seen that the so-called perfect participle, albeit being generally classified as a passive construction, is more accurately defined as a p-oriented resultative construction, and that some scholars assume that it serves as a subordinate active construction (cf. e.g., Horn 1918, Helttula 1987: 10). These observations form the basis for our claim that the Late Latin absolute accusative represents a converbal construction in complementary distribution with the gerund. The gerund is typically used with a purposive function, referring to a situation that is anticipated to take place after the situation denoted by the matrix predicate e.g., (8a), or a more general adverbial function, e.g., (9a) and (9b), referring to a situation that is temporally overlapping with the situation denoted by the matrix predicate. The absolute accusative, on the other hand, is characteristically used to refer to a situation that has been completed prior to the situation denoted by the matrix verb. Compare, for instance, example (6a) above and the examples in (11).

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9 We refer to Valente (2017) for a discussion of the three constructions in Medieval Latin.

(11) a. ***omnesque*** ***inimicos***   *Theodosius*   ***superatos***   *in*
       all:ACC.PL   enemy:ACC.PL   Theodosius:NOM   overcome:PPP.ACC.PL   PRP
       pace   *rebus*   *humanis*   *apud*   *Mediolanum*
       peace:ABL.SG   thing:ABL.PL   human:ABL.PL   PRP   Mediolanum:ACC
       excessit
       depart:PST.3SG
       'Having overcome all enemies, Theodosius departed in peace from human affairs in Mediolanum.' (Iord. *Rom.* 318)

     b. ***collectam****,*   *ut*   *dixemus*   *Alamannorum*   ***gentem****,*
       gather:PPP.ACC.SG   CONJ   say:PRF.1PL   Alemanni:GEN.PL   tribe:ACC.SG
       universas   *Gallias*   *pervagatur*
       complete:ACC.PL   Gaul:ACC.PL   overrun:PRES.3SG
       'Having gathered, as we said, the tribe of the Alemanni, he overran the whole of Gaul' (Greg. Tur. *Franc.* I 32)

The distribution of the two construction types across the works in our corpus is given in Table 5.

Table 5: Distribution of the absolute accusative and the gerund in Late Latin.

	Mulomedicina Chironis	*Peregrinatio Aetheriae*	Cassiodorus	Iordanes	Gregorius Turonensis
AccAbs	3	2	5	55	42
Gerund	29	13	120	16	115

These numbers indicate that the absolute accusative had a rather marginal status *vis-à-vis* the gerund in the first stages of our chronological framework and that it gained in productivity in the later stages The differences in absolute numbers reflect that the works included in the corpus are of different size, and the question arises to what extent the differences are significant. A first approach to this question is to determine the relative frequency of the two constructions in each of the authors. A graphic representation of the proportional distribution of the absolute accusative and the gerund is given in Figures 2 and 3. They show that the absolute accusative is much more frequent in Iordanes' works than in the other works. They also indicate that the gerund is considerably more frequent than the absolute accusative in all the authors considered here, except for Iordanes. At this point, we need to establish whether these differences are due to chance. To establish whether this is the case, we performed a chi-squared test on the data in Table 5. This resulted in a p-value below 2.2e-16 and a chi-squared value of 128.97 with
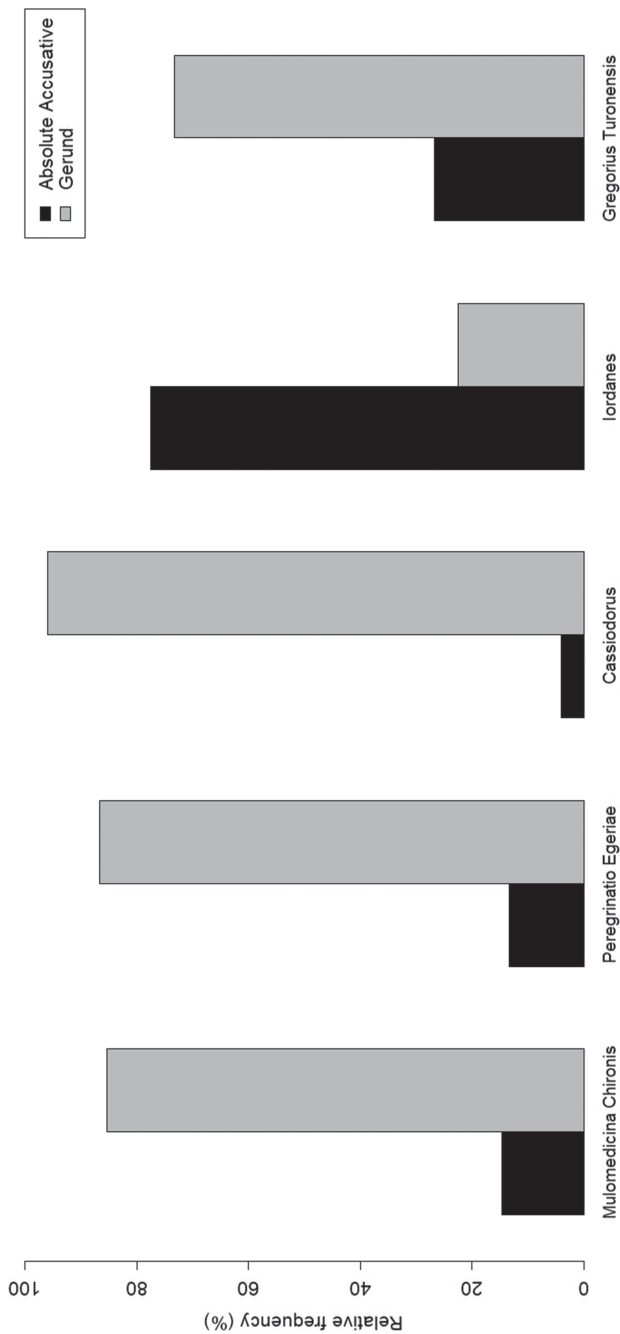
Figure 2: Absolute Accusative and Gerund in Late Latin.

four degrees of freedom (p-value = < 2.2e-16, χ^2 (4) = 128.97).[10] We assume the conventional significance level of 0.05 and observe that the p-value is well below this value and therefore statistically significant. We also obtained a Cramér's V value of 0.566, indicating a moderate effect size. In other words, the association between individual authors and construction types is moderate.[11] These results indicate that it is highly unlikely that the distribution of the two constructions shown in Figure 1 above is due to chance.
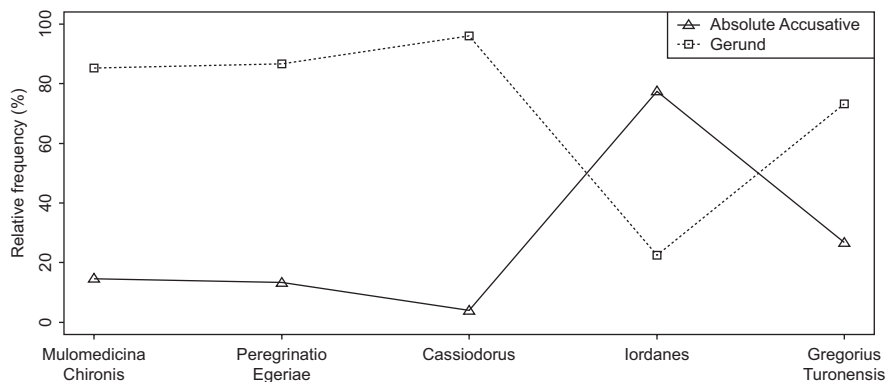

Figure 3: Absolute Accusative and Gerund in Late Latin.

Although these findings clearly indicate that the differences between the distribution patterns in Figure 3 are statistically significant, we still would like to establish whether any of the authors show a particularly strong predilection towards one of the two constructions. The method outlined in Janda et al. (2013) allows for exploring this question in more detail. The first step is to check whether the observed distribution of data given in Table 1 deviates from their expected distribution, that is, the distribution that would obtain if all data were equally distributed. The expected distribution of the two constructions is given in Table 6.[12]

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10 These values were obtained by means of the chisq.test() function in the standard package of R (R Core Team 2024).

11 This value was obtained by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).

12 These values were obtained by means of the chisq.test()\$expected function in the standard package of R (R Core Team 2024).

Table 6: The expected distribution of the absolute accusative and the gerund.

	Mulomedicina Chironis	*Peregrinatio Aetheriae*	Cassiodorus	Iordanes	Gregorius Turonensis
AccAbs	9.218905 (–) [3]	4.067164 (–) [2]	33.89303 (–) [5]	19.25124 (+) [55]	42.56965 (+) [42]
Gerund	24.781095 (+) [29]	10.932836 (+) [13]	91.10697 (+) [120]	51.74876 (–) [16]	114.43035 (–) [115]

Here, cells where the observed frequency is higher than the expected frequency are marked with (+), while cells where the observed frequency is lower than the expected frequency are marked with (-). In line with Janda et al. (2013), we shall refer to the first situation as 'attraction' and the second situation as 'repulsion'. Moreover, the observed frequencies are given in square brackets for convenience. As is clear from Table 6, there are considerable differences between the authors as to how much the observed frequency of a given construction deviates from its expected frequency. Again, we would like to establish to what extent these differences are significant or not by apply the Fisher exact test upon each of the observed values (cf. Janda et al. 2013). The results are given in Table 7, here too, statistically significant patterns of attraction and repulsion are marked in bold types.[13]

Table 7: Relative attraction and repulsion towards the two constructions.

	Mulomedicina Chironis	*Peregrinatio Aetheriae*	Cassiodorus	Iordanes	Gregorius Turonensis
AccAbs N = 107	**(–) 0.01224**	(–) 0.1869	**(–) 2.06e-14**	**(+) 2.06e-14**	(+) 0.5443
Gerund N = 293	**(+) 0.01224**	(+) 0.1869	**(+) 2.06e-14**	**(–) 2.06e-14**	(–) 0.5443

These data allow for making some further observations. Above all, there is significant attraction towards the gerund in Mulomedicina Chironis and Cassiodorus and towards the absolute accusative in Iordanes. This partially corroborates what was noted above, that the absolute accusative is marginal in the early stages of Late Latin but becomes more productive towards the later stages of the period under

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13 These values were obtained by means of the fisher.test() function in the standard package of R, specifying whether the observed value is greater or less than the expected value (R Core Team 2024).

consideration. Although the patterns of attraction and repulsion in Gregor of Tours are not statistically significant, the fact that this text has an absolute accusative construction in ca. 27% of the attestations of the two constructions under consideration against ca. 15 % in the *Mulomedicina Chironis*, ca. 13 % in the *Peregrinatio Aetheriae* and 4 % in Cassiodorus supports the observation that the relative productivity of the absolute accusative increases over time.

An important question arising from these observations is what, if any, other factors determine the distribution of the absolute accusative and the gerund in the different stages of Late Latin. We have examined the two construction types according to three parameters with two variables each, namely whether the predicate is transitive or intransitive, whether the agent is co-referent with the matrix subject or not, and whether the predicate is telic or atelic. Additionally, we have distinguished between absolute accusatives with present participle and perfect participle. Table 8 gives a survey of the correlation patterns between the absolute accusative and the various parameter values.

Table 8: Distribution of the absolute accusative according to the parameter values.

	Participle	Transitive	Intransitive	Subject Coreference	No Subject Coreference	Telic	Atelic
Mulomedicina	Present	0	1	0	1	0	1
Chironis N = 5	Perfect	3	1	3	1	3	1
Peregrinatio	Present	0	1	0	0	1	0
Aetheriae N = 2	Perfect	1	0	1	1	1	0
Cassiodorus	Present	0	0	0	0	0	0
N = 3	Perfect	3	0	3	0	3	0
Iordanes	Present	0	2	2	0	1	1
N = 55	Perfect	48	5	47	6	53	0
Gregorius	Present	0	0	0	0	0	0
Turonensis N = 42	Perfect	34	8	36	6	41	1
Total		89	18	92	15	103	4
N = 107							

These data show that the absolute accusative shows a strong preference for the perfect participle, the present participle being marginal or virtually unattested in most authors. Moreover, the absolute accusative tendentially selects transitive and telic predicates and shows agent-subject coreference with the matrix verb.

Turning now to the gerund, we find an intriguingly different picture, as shown in Table 9.

Table 9: Distribution of the gerundial constructions according to the parameter values.

	Transitive	Intransitive	Subject Coreference	No Subject Coreference	Telic	Atelic
Mulomedicina Chironis N = 29	11	18	24	5	7	22
Peregrinatio Aetheriae N = 13	3	10	11	2	3	10
Cassiodorus N = 120	66	54	111	9	57	63
Iordanes N = 16	9	7	10	6	6	10
Gregorius Turonensis N = 115	50	65	104	11	47	68
Total N = 293	139	154	260	33	120	173

We may first note that the gerund shares a strong preference for agent-subject agreement with the matrix verb, a fact indicating that the two construction types have analogous or overlapping syntactic-semantic functions. This impression is corroborated by statistical data. A chi-squared test of the global relative association of the absolute accusative and gerund with the two values of the agent-subject parameter yielded a p-value of 0.5639 and a chi-squared value of 0.33294 with one degree of freedom (p-value = 0.5639, χ^2 (1) = 0.33294).[14] The p-value is well above the significance level 0.05 and the different distribution of the two values is therefore likely due to chance. The Cramér's V value is 0.038, indicating a weak effect size, so that the association between the two constructions and the two parameter values regarding agent-subject co-reference is not at all strong.[15]

The data in Tables 8 and 9 suggest that the absolute accusative and the gerund are in complementary distribution with respect to the transitivity and the telicity parameters. Moreover, unlike the absolute accusative, the gerund shows a global

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14 These values were obtained by means of the chisq.test() function in the standard package of R (R Core Team 2024).

15 This value was obtained by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).

predilection towards intransitive predicates, although, somewhat surprisingly, Cassiodorus and Iordanes have more gerunds from transitive predicates than from intransitive predicates. Finally, there seems to be a strong correlation between the gerund and atelic predicates across the board, although this preference appears to be somewhat weaker in Cassiodorus. Again, we recur to the chi-squared test in order to establish whether the distributional differences between the absolute accusative and the gerund regarding transitivity and telicity are statistically significant. As regards telicity, this yielded a p-value below 2.2e-16 and a chi-squared value of 94.951 with one degree of freedom (p-value = < 2.2e-16, χ^2 (1) = 94.951).[16] We also obtained a Cramér's V value of 0.493, indicating a moderate effect size, so that the association between the telicity parameter values and the two constructions is moderate.[17]

This strongly suggests that the preference of the absolute accusative for telic predicates and that of the gerund for atelic predicates are not due to chance, a conclusion corroborated by the Fisher exact test.[18] Similar observations apply to the transitivity parameter values, where the chi-squared test yielded a p-value of 3.461e-10, a chi-squared value of 39.395 with one degree of freedom and a Cramér's V value of 0.32 (p-value = < 2.2e-16, χ^2(1) = 94.951).[19] The Fisher exact test also suggested that the strong relations between the absolute accusative and transitive predicates, on one hand, and the gerund and atelic predicates, on the other, are statistically significant.[20]

We may now summarize the findings of this section. Although the corpus admittedly is limited, we believe there is some evidence that the absolute accusative gained in productivity through the stages of Late Latin under scrutiny here. Like the gerund, the absolute accusative strongly tends to show agent-subject coreference, and the two constructions are in complementary distribution. The absolute

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16 These values were obtained by means of the chisq.test() function in the standard package of R (R Core Team 2024).

17 This value was obtained by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).

18 When applied to each combination of the two constructions with the telicity parameter values, the Fisher exact test yielded statistically significant patterns of attraction and repulsion, all of which were below 2.2e-16 (p-value = < 2.2e-16).

19 These values were obtained by means of the chisq.test() function in the standard package of R (R Core Team 2024) and by means of the assocstats() function in the additional vcd package of R (Meyer et al. 2023).

20 When applied to each combination of the two constructions with the telicity parameter values, the Fisher exact test yielded statistically significant patterns of attraction and repulsion, all of which were at 3.497e-11 (p-value = 3.497e-11).

accusative is strongly preferred with transitive and telic predicates, whereas the gerund is selected when the predicate is intransitive and atelic.

5 Conclusion

In this paper, we have examined the relationship between the gerund and the absolute accusative in Late Latin. While the gerund was fully established as a converb construction at the beginning of the attested tradition of Latin, the absolute accusative first appears in Post-Classical Latin. We have argued that the absolute accusative represents a perfective converb in Late Latin, a synchronic status that was facilitated by the gradually increasing use of the so-called passive perfect participle as a subordinate active verb form, also in the absolute ablative. This, in turn, triggered the accusative case-marking of the noun phrase, which partly seems to have been motivated by the strong preference shown by the absolute accusative construction for agent-subject coreference. This involved a syntactic rearrangement due to a reinterpretation of syntactic functions with the perfect participle, resulting in a construction that cannot be considered fully absolute but rather seems to be classifiable as converb-like. This variation suggests that the prevalence of the absolute accusative might be more pronounced in the writing styles of Jordanes and Gregory of Tours. Further research could explore the factors contributing to this variation and its implications for our understanding of Late Latin syntax. Although it is tempting to link the rise of the absolute accusative to the mixed absolute constructions found in Post-Classical Latin, the mixed construction has rather different properties than the absolute accusative, rather resembling the absolute ablative, both being much more permissive than the absolute accusative with regard to the use of present participle forms. It was argued that the absolute accusative is in complementary distribution with the gerund of purpose and of adverbial subordination, neither of which can express that a situation has been completed prior to the situation denoted by the matrix predicate. Albeit being somewhat marginal at in the early stages of its development, the absolute accusative gradually becomes the preferred converbal construction with transitive and/or telic predicates, the gerund appearing with intransitive and/or atelic predicates. Moreover, there is a significant fluctuation in the relative distribution of the two constructions in the Late Latin authors taken into consideration here, a fact probably reflecting ongoing grammatical change. However, more research is necessary in order to establish whether other factors, most notably diastratic and/or diatopic factors are involved in the development of the Late Latin converb system.

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