



Article

Marching towards Contrast: The Case of *ao passo que* in Portuguese

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Abstract: This paper explores the diachrony of the Portuguese contrastive connective *ao passo que* ('whereas'). First, we describe its syntactic and semantic properties in present-day European Portuguese. With this contemporary analysis in mind, we explore the semantic and syntactic changes from the PP *ao passo que* (lit. 'at the step/pace that') into first a temporal connective of simultaneity ('at the same time as') and, ultimately, a contrastive expression. The evolution of expressions with temporal meanings into contrastive ones has been documented in many languages. In our paper, we show that another related meaning, that of the gradual development of events that are temporally simultaneous, may also evolve into a contrastive meaning. We also examine the role of the syntax and semantics of the noun *passo* in this process. Furthermore, we discuss the internal analyzability of the connective and provide evidence for the retention of some internal syntax, which has implications for current theories on the nature of complex categories.

Keywords: contrast; connective; adversative; noun-based construction; adverbial subordination



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1. Introduction

In contemporary Portuguese, *ao passo que* is a connective that establishes a contrast between two states of affairs, as in (1):

- (1) O Rui gosta do café cheio, *ao passo que* o Zé gosta dele curto. (Lobo 2013, p. 2029)
'Rui likes his coffee full, whereas Zé likes it short.'

The *Dicionário Priberam da Língua Portuguesa* (*Dicionário Priberam 2008–2021*, online)¹ defines *ao passo que* as both a temporal/proportional expression ('at the same time as') and as a contrastive one ('whereas') (see also Duarte 2003, p. 107).

In this paper, we explore the semantic and syntactic changes undergone by the prepositional phrase (PP) *ao passo que* (originally meaning 'at the step, at the pace that') to become a complex contrastive connective (complex complementizer), as in (1). The evolution of temporal connectives into contrastive ones has been documented. For example, the Spanish *mientras (que)* 'while, whereas' and the English *while* originally conveyed temporal simultaneity, then began implying the contrast between two simultaneous events, and finally came to encode the contrast between two eventualities² that are not necessarily simultaneous (Pavón Lucero 2003, pp. 281–282, a.o.). This semantic shift is similar to that of the Portuguese *enquanto (que)* 'while/whereas' (Lopes 2001; Costa 2005). Simultaneity is a temporal relation between events that is cross-linguistically linked to the creation of contrastive connectives (König 1985, pp. 10–11; Traugott and König 1991; Bybee et al. 1994). In this paper, we show that a related meaning, the *gradual development of temporally simultaneous events*, may also evolve to take on a contrastive meaning. In this case, instead of a temporal relation between events, we have a comparison between the development

of two events: their gradual realization is asserted to happen at the same pace. Adopting a Neo-Gricean approach to semantic change (Traugott and Dasher 2002), we propose that an implication of contrast between both events, which could initially arise in some contexts containing *ao passo que*, became conventionalized over time, with the original comparative-proportional meaning being lost (for the most part).

This semantic shift is accompanied by a syntactic change resulting in the creation of a connective that no longer relies on a relative clause structure headed by the noun *passo*. We examine the evolution of the internal structure of the PP, especially the loss of the typical nominal properties of the noun *passo*, and the resulting internal syntax and analyzability. While the original structure grammaticalizes into a connective, we show that we may not overcast the complex relation with the meanings of the noun itself as ‘pace, rhythm, manner.’ Hence, we highlight the crucial role of the noun in the creation of the connective, a methodological approach that was proven to be crucial in earlier work (Amaral and Delicado Cantero 2019, 2022). In doing so, we propose a more nuanced approach to compositionality (or lack thereof) in the resulting grammatical item within accounts of syntactic and semantic change.

The structure of this article is as follows. We first examine the properties of *ao passo que* in contemporary Portuguese, relying mostly on existing work on European Portuguese³. Next, we present the diachronic data and describe the syntactic and semantic changes that we can observe, using some of the tests previously presented (Section 3). In Section 3.2, we zoom in on the meaning of the noun *passo* and examine the structures in which it occurs. Section 4 discusses theoretical questions related to the development of *ao passo que*, specifically with respect to its reanalysis and the analyzability of the expression at its different stages. Section 5 concludes with a summary of our contribution and suggestions for further work.

2. *Ao passo que* in Present-Day Portuguese: Syntactic and Semantic Properties

2.1. Syntactic Properties

In the literature, *ao passo que* is mentioned in sections on Portuguese adverbial subordination, where it is presented as similar to the contrastive uses of *enquanto (que)* ‘while’ (Costa 2005; Lobo 2013) and as expressing antithetic contrast (Duarte 2003). The criterion for adverbial subordination in European Portuguese (EP) is the triggering of proclisis, as can be seen with the direct object clitic *o* in (2), just like *enquanto* (3). In subordinate clauses, proclisis is preferred in EP, a language in which enclisis is found in main clauses and is generally preferred (see Luís and Kaiser 2016 for an overview and the current tendency to increase enclitic placement in EP).

- (2) O João leu parte do livro *ao passo que* a Maria *o* leu todo/**leu-o* todo (Costa 2005, p. 503).
The João read.PST.3SG part of.the book *ao passo que* the Maria CL.ACC.MASC.SG
read.PST.3SG all/read.PST.3SG-CL.ACC.MASC.SG all
‘João read part of the book, while Maria read the whole book.’
- (3) a. O João leu parte do livro *enquanto* a Maria *o* leu todo.
b. *Enquanto* o João leu parte do livro, a Maria *leu-o* todo.
‘João read part of the book, while Maria read the whole book.’

This is in contrast to coordinating conjunctions like *mas*, ‘but,’ which does not trigger proclisis, as shown by the enclitic position of the direct object clitic in (4); in this case, proclisis would be ungrammatical:

- (4) O João leu parte do livro *mas* a Maria *leu-o* todo/**o* leu todo.

Usually, *ao passo que* is described together with *enquanto*, but there are other connectives with similar meanings, which, like *mas*, do not trigger proclisis:

- (5) O João leu parte do livro *só que* a Maria *leu-o* todo.
‘João read part of the book, while Maria read the whole book.’
- (6) O João leu parte do livro. *Já* a Maria *leu-o* todo.
‘João read part of the book, while Maria read the whole book.’

Lobo (2013) points out that *enquanto* may head either the first or the second clause, as in (3) and (7), while *ao passo que* can only head the first clause:⁴

- (7) Enquanto o João leu parte do livro, a Maria leu-o todo.
(7') *Ao passo que o João leu parte do livro, a Maria leu-o todo.

In her description of contrastive connectives in EP, Costa (2005) mentions three types of contrast, based on Duarte (2003): antithetic, substitutive, and concessive (Duarte 2003). Duarte presents *enquanto* and *ao passo que* as heading contrastive subordinated clauses ('frases subordinadas contrastivas': 'exprimem valores semelhantes ao das justapostas ou coordenadas contrastivas antitéticas,' 'they express values similar to those of juxtaposed or coordinated contrastive antithetic [clauses],' p. 107, our translation). However, she does not define the criteria or tests for 'antithetic contrast'.

The literature also notes that *ao passo que* displays a dual nature, at least for some speakers: on the one hand, it is a temporal–proportional connective of simultaneity synonymous to *à medida que*, 'at the same time that, as, [temporal] while' (8) (cf. Cunha and Cintra 2017, pp. 604, 623); on the other hand, it is a contrastive connective interchangeable with *mas* 'but' and *enquanto*, as we have shown.

- (8) Ao passo que vamos a caminho do carro totalmente elétrico ou até com os modelos híbridos, veremos mais oportunidades para controlar cada motor (CdP, Portugal)
'At the same time that/as we are on our way to a completely electrical car or even with the hybrid models, we will see more opportunities to control each engine.'

Interestingly, this value of *ao passo que* is not mentioned in the section on adverbial subordination that mentions proportional clauses (cf. Brito and Matos (2003), p. 765). As the authors point out, such clauses may be introduced by correlative expressions, like *quanto mais... tanto mais* 'the more... the X-er', or by isolated expressions, like *à medida que*, *à proporção que*, *enquanto*. Note that it is possible to replace the proportional expressions that occur in Brito and Matos's examples (2003, p. 765), our (9) and (10), with *ao passo que*, as in (11), and the sentences have a similar meaning:

- (9) Quanto mais se avança na montanha, mais difícil se torna a respiração.
(10) À medida que as pessoas avançam na montanha, a respiração torna-se mais difícil.
(11) Ao passo que se avança na escalada da montanha, a respiração torna-se mais difícil.
'The more one climbs up the mountain, the harder it becomes to breathe.'

As we show below, originally, *ao passo que*, had a proportional comparative meaning, expressing both temporal and manner information (about pace, rate or rhythm).

While the literature adequately classifies *ao passo que* as a contrastive connective in contemporary Portuguese, little is said about the type of contrast expressed, or why it is not always interchangeable with the adversative connective *mas* (in terms of meaning, i.e., independently of the syntactic difference between subordination and coordination). We address such questions by turning now to a more detailed examination of the meaning of *ao passo que*.

2.2. Semantic Properties

In this section, we ask, how do we classify the contrast expressed by *ao passo que*? The literature on types of contrast and their expression across languages is vast (Lakoff 1971; Abraham 1979; Mann and Thompson 1988; Rudolph 1996; Malchukov 2004; Mauri 2008, a.o.). We first review some proposals about the meanings expressed by adversative connectives.

In Lakoff's seminal study on English *but* (1971), a distinction is established between contrastive and concessive meaning, or the difference between 'semantic opposition *but*' and 'denial of expectation *but*.' Corrective meaning, which is also associated with adversative connectives, is not discussed in this work because Lakoff is concerned with clausal contrast, not contrast within smaller units. The contrastive value identified by Lakoff is also known as antithetic (Quirk et al. 1985) or 'semantic opposition' (Malchukov 2004).

While Lakoff focuses on two types of contrastive meaning, Foolen (1991) and Izutsu (2008) propose a three-way classification for contrast. For Foolen, the difference is pragmatic, but Izutsu convincingly argues that it should be understood in semantic terms and that languages lexicalize these different meanings. Here, we adopt Izutsu's proposal and we focus on her notion of 'contrast,' which are expressed in English by *in contrast*, *conversely*, and *by comparison*.

Ao passo que can only express contrast, not concession (denial of expectation) or correction, as shown by the tests in Izutsu's study (2008). Compare the differences of acceptability in the examples below:

- (12) O Lino gosta de massa, ao passo que/mas a Patrícia gosta de arroz (contrast/semantic opposition)
'Lino likes pasta, while/but Patrícia likes rice.'
- (13) O Pietro é italiano, mas/*ao passo que não gosta de massa (concession/denial of expectation).
'Pietro is Italian, but/*while he doesn't like pasta.'
- (14) O Pietro não é italiano, mas (sim)/*ao passo que suíço (correction).
'Pietro is not Italian, but rather/*while Swiss.'

Izutsu presents several tests for contrast: contrast allows the following: (i) the reversal of the order of the clauses without a significant change in the meaning of the sentence, as in (12'); (ii) the replaceability of the contrastive connective by *and* without a significant change in the meaning of the sentence (12''); and (iii) the possibility of omitting the connective (12'''). As the author puts it: 'contrast is a simple opposition between the propositional contents of two symmetrical clauses' (Izutsu 2008, p. 658).

- (12') A Patrícia gosta de arroz, ao passo que o Lino gosta de massa.
- (12'') O Lino gosta de massa e a Patrícia gosta de arroz.
- (12''') O Lino gosta de massa. A Patrícia gosta de arroz.

Izutsu proposes that gapping is possible with contrast. Note, however, that syntactic factors may play a role here: the sentence with *ao passo que* in (15), with the predicate 'be valued' omitted from the second clause, is degraded for some speakers. This may be related to a coordinated structure instead of subordination.

- (15) Os homens são valorizados pelo dinheiro que fazem, ?ao passo que as mulheres pela aparência (acceptability is degraded without repeating the predicate).
'Men are valued by how much money they earn, ?while women by their looks.'

According to Izutsu, the preferred interpretation of pronouns in potentially ambiguous sentences is also a hallmark of contrast. Since the propositional contrast relies on symmetrical sentences, the personal pronoun in the second clause is interpreted as referring to the referent of the second referring expression in the first clause:

- (16) O João gritou com o Pedro, ao passo que o Paulo se emocionou com ele (ele = Pedro) (pronoun disambiguation relies on the parallelism between clauses).
'João screamed at Pedro, while Paulo became emotional with him (him = Pedro).'

Izutsu proposes that contrast can be analyzed along a set of parameters. We show that *ao passo que* meets these criteria by exemplifying each of these parameters. The first one is the mutual exclusiveness of the compared items in a shared domain. To exemplify this parameter, consider (17) (for CETEMPúblico n.d., see Rocha and Santos 2000):

- (17) Quanto ao peso dos encargos financeiros no valor das vendas, 57 por cento das empresas declara que são inferiores a cinco por cento, ao passo que três por cento revela encargos superiores a 20 por cento (Cetempúblico, ext616-eco-95a-1).
'As for the burden of expenses on the amount of sales, 57% of the companies declare that they are less than 5%, while 3% reports expenses above 20%.'

The compared items here are '57% das empresas' and '3% das empresas', which refer to different companies. The same topic is being discussed: how many expenses with sales do companies have? The values provided are mutually exclusive. As noted above for contrast, in (17) we could invert the order of the clauses without a significant change in meaning:

- (17') 3% das empresas revela encargos superiores a 20%, ao passo que 57% declara que são inferiores a 5%.

Importantly, 'compared items' are not equivalent to entities: one may compare the same entity at different points in time, and each would be a compared item. We can see each compared item as a 'contrastive topic' (cf. Umbach 2005):

- (18) O Newton não era conhecido na altura dele, ao passo que hoje em dia é muito conhecido.
'Newton was not known in his time, while nowadays he is very well-known.'

The parameter under consideration involves a shared domain and the mutual exclusiveness of the compared items in that domain (i.e., occupying mutual exclusive regions of one shared property). For example, in (19), the domain could be formulated as 'availability of players,' and two mutually exclusive values are possible: players are either available or not available:

- (19) O Olympiakos tem vantagem teórica, por jogar em casa e por ter todos os jogadores disponíveis, ao passo que o Ajax tem lesionada quase uma equipa inteira: Ronald De Boer, Babagida, Oliseh, Litmanen Hoekstra (*Cetempúblico ext3095-des-98b-1*).
'The Olympiakos has an advantage (in theory), because it plays at home and all its players are available, while almost the entire team of Ajax has lesions. . .'

Crucially, both the existence of compared items and a shared domain are necessary for a similarity relation. However, what distinguishes similarity from contrast is mutual exclusiveness⁵. The close relation between similarity and dissimilarity is also noted by Mann and Thompson (1988, p. 253), as well as by authors working on *sidi* terms like *other* (Charnavel 2015), a point that will be relevant when we discuss the semantic change undergone by *ao passo que*. The identification of contrast often relies on a "'similarity and dissimilarity" interpretation. . . [that] presupposes semantic homogeneity of both objects compared" (Malchukov 2004, p. 183).

Another example that illustrates mutual exclusivity is provided by (20):

- (20) ... as acções de Torres Pereira seriam sempre mais notórias, porque pertencia ao partido do Governo, ao passo que ele pertence à oposição (*Cetempúblico ext1872-soc-92a-2*).
'[T]he actions of Torres Pereira would always be more striking because he belonged to the party in government, while he belonged to the opposition.'

Mutual exclusiveness is clear in this example: one cannot belong to both the government and to the opposition party.

Another relevant parameter in the analysis of adversative connectives is the number and type of compared items. *Ao passo que* is typically associated with two compared items, as shown by (21):

- (21) O Lino gosta de massa, o António gosta de batata, mas/# ao passo que a Patrícia gosta de arroz (comparison is binary).
'Lino likes pasta, António likes potatoes, but/#while Patrícia likes rice.'

In summary, Izutsu defines contrast as requiring the following: '(i) Two or more different compared items [that] occupy mutually exclusive regions in a shared domain. (ii) The compared items (CIs) must be explicitly differentiated' (Izutsu 2008, p. 661).

Izutsu notes that unlike what happens in concession or correction, in a contrastive relation, the propositional contents of all the segments are asserted as valid, i.e., in uttering a sentence that expresses contrast (such as S1 CONNECTIVE S2), 'the speaker simply asserts the validity of both S1 and S2; neither claim is rejected.' (661). This means that contrastive connectives are factive, since the truth of both clauses is presupposed to be true. This is common to temporal connectives that express a proportional comparison: in asserting that an event occurred at the same pace as another event, both events are presupposed to hold.

2.3. Compatibility with Aspectual Classes of Verbs

According to Lobo (2013), the contrastive value of *ao passo que* is found only with stative predicates. It is true that stative predicates provide the best proof of the semantic change

undergone by *ao passo que*, since they are not compatible with a proportional interpretation (an eventuality taking place at the same rate as another). However, as we show below, it is possible to find examples of the contrastive meaning of *ao passo que* with non-stative predicates. In (22), we find the contrastive reading with achievement predicates (a change of state verb: *passar de . . . para* ‘become’) and in (23), below, with accomplishment predicates (*classificar-se em quarto lugar*, ‘to reach the fourth place’) and achievements (*alcançar um lugar cimeiro* ‘to reach a higher place’):

- (22) Na parte ocidental do país, a taxa de desemprego estabeleceu-se nos 8,2 por cento em Dezembro, contra 7,9 por cento no mês anterior, *ao passo que* no Leste ela passou de 13 por cento em Novembro, para 13,5 por cento em Dezembro. (*Cetempúblico ext2769-eco-95a-2*).
 ‘In the western part of the country, the unemployment rate reached 8.2% in December against 7.9% in the previous month, while in the east it became 13.5 in December, a change from 13% in November.’

The components of a temporal reading (simultaneity) are present in (22). The context allows us to retrieve a time interval of which the change in the unemployment rate is predicated:⁶ it is the time interval from November to December. Note that in this example, the change is sudden, as it is expressed by discrete values. However, in the earlier examples of *ao passo que*, we find gradual changes, which are often expressed by incremental change verbs like *arrefecer*, ‘to cool,’ or *crescer*, ‘to grow,’ which are known as degree achievements (Dowty 1979) or gradual completion verbs (Bertinetto and Squartini 1995). In other words, the comparative proportional meaning, which is the source meaning of *ao passo que*, presupposes the existence of a time interval (either provided by a temporal adverbial or contextually retrievable) during which two eventualities hold. The pace of development of these eventualities is compared. Hence, the presence of a time interval in the context is a helpful clue to identify the original temporal meaning of the expression. In Section 3, as we examine the semantic change of *ao passo que*, we will use this test for the (earlier) temporal interpretation. In (22), the time interval in which the changes take place is the same in both clauses (from November to December), but both the starting and the final amounts are different, indicating a contrast between western and eastern regions. The example shows that while a temporal component is present in (22), different amounts and rates of change are predicated of the compared regions. In sum, we have both a temporal and a contrastive interpretation.

While in (22), the contrast relies on the different values of the amounts presented, in many examples, the contrast is expressed by the meanings of the predicates in the two clauses. In (23), there is no explicit time interval, although one may reconstruct a time interval corresponding to the extent of the car competition. Here, although we have eventive predicates, the interpretation of the sentence is not temporal. The comparison being established is between ‘reaching a good classification’ and ‘reaching a poor classification’ as a result of the performance in the races. We have compared items (the two pilots whose performance is compared), a shared domain (their classification in the races), and mutually exclusive values in the property being considered (a good vs. a poor result).

- (23) Brundle, mesmo assim, classificou-se em quarto lugar, à frente de Blundell e Panis, autores de provas de muito bom nível, particularmente o inglês, *ao passo que* o campeão europeu de F3000, sexto na primeira volta, perdeu demasiado tempo nas «box» para poder lutar por um posto mais cimeiro (*Cetempúblico ext18954-des-94b-2*).
 ‘Brundle, despite everything, reached a 4th place classification, ahead of Blundell and Panis, who performed at very high levels, especially the English [competitor], while the European champion of F3000, who was 6th in the first round, wasted too much time in the box to be able to fight for a higher position.’

The relation between the temporal and the contrastive meanings and the role of the predicates in each clause will be discussed in the diachronic analysis, to which we turn now.

3. The Diachrony of *ao passo que*

3.1. *Ao passo que*

The presence of *ao passo que* in the Portuguese language is documented since the 17th century. The number of tokens in the *Corpus do Português* (CdP) (Davies 2006) is limited before the 19th century (with nine examples in the period from the 13th to the 18th century, as opposed to 394 tokens from the 19th c. alone). The earliest examples show a PP with a relative clause modifying the noun *passo*: the event denoted by the verb in the relative clause is realized at the same pace as the event denoted by the verb in the main clause. Semantically, they convey the temporal simultaneity of dynamic eventualities, including gradual change (cf. the degree achievements like *aquecer*, *melhorar* in (24)), and indicate that the eventualities denoted by such predicates occur ‘at the same rate’:

- (24) a. *ao passo que o tempo vai aquecendo vou eu também melhorando do achaque do estômago* (*Cartas*, Vieira, 17th c.).
 ‘as the weather gets warmer I also gradually improve of my stomach ailment.’
 b. “*Ao passo que iam procedendo os tempos-diz São Gregório-ia juntamente crescendo a sabedoria dos antigos Padres, conhecendo sempre mais de Deus os segundos que os primeiros. Moisés soube mais das cousas divinas que Abraão; os Profetas mais que Moisés; os Apóstolos mais que os Profetas*” (*História do futuro*, Vieira, 17th c.).
 ‘As time went by, says S. Gregory, so increased the wisdom of the old fathers, such that the second ones knew more about God than the first ones. Moses knew more about the divine matters than Abraham, the prophets more so that Moses, the apostles more so than the prophets.’

Note that in addition to the temporal and proportional meaning, at least in some of these examples, a causal implication can be inferred: for example, in (24a), the warmer weather can be seen as a cause of the health improvement.

In both examples, there is a *wh*-gap in the embedded relative clause, namely, in (24a), the weather is heating up at a particular rate/pace/rhythm, while in (24b), time is moving forward at a particular rate. In both examples, a time interval is contextually assumed: in (24a), it is a time interval that contains utterance time, and in (24b), it is a time interval in the remote past that is being discussed by the Saint. As we showed above, the existence of a salient time interval is an essential component of the temporal interpretation. Because the eventualities involved are simultaneous, a comparison of pace (‘at the same rate/pace as’) is obtained as well. Further evidence comes from the use of *ao passo que* and *à medida que*⁷ in the same text (25); notice that both combine with the same verb *crescer* (‘to grow’):

- (25) *crescendo sempre nela ao passo que ia crescendo nos anos . . . ; assim a Igreja . . . vai sempre crescendo mais e mais na luz e na sabedoria, à medida que cresce nos anos e na idade* (*História do Futuro*, Vieira, 17th c.).
 ‘growing in it at the same rate as it was getting older [lit. growing in years] . . . thus the church grows more and more in light and wisdom at the same pace as it gets older [lit. it grows in years and age].’

The limited evidence in the 18th c. shows that *ao passo que* was combined with stative verbs, as in (26):

- (26) *Já se ve que—ao passo que os educandos souberem a sua língua, a latina e a francesa, a geografia, a cronologia e os elementos da história—devem passar a outras classes, onde se ensinarão as ciências que dependem destes conhecimentos* (*Cartas sobre a educação da mocidade*, Sanches, 18th c.).
 ‘We can see that, as soon as the students know their language, Latin, French, Geography, the chronology and elements of History, they must go on to other classes, where the sciences that rely on that knowledge will be taught.’

In (26), *ao passo que* combines with *saber* (‘to know’), and we may interpret the subordinate clause as ‘as soon as they come to know those subjects,’ i.e., *à medida que*, rather than as a relative clause.

In (27), we find that a relative analysis is even more questionable; rather, *ao passo que* functions as a temporal-comparative connective, ‘at the same time as’, even with a potential implication of contrast.

- (27) Lamentavão a sua falta com copiosas lagrimas as suas ovelhas quando em de Fevereiro de 1739 dos seus olhos foy tirado para Arcebispo da Bahia; ao passo que nesta cidade era recebido com as demonstraçoens mais fervorosas de contentamento, mas cedo experimentaram as da Bahia o mesmo golpe sendo transferido para Bispo da Guarda no mesmo anno de 1739 (*Desagravos do Brasil e glórias de Pernambuco*, Coutto, 18th c.).
 ‘His sheep (followers) regretted his absence with many tears when in February 1739 he was relocated as archbishop of Bahia, at the same time as he was received with demonstrations of joy in that city; but soon the people of Bahia were to experience the same sorrow because he was transferred to Guarda that same year of 1739’.

Despite the fact that the number of tokens is limited for this period in the corpus we consulted, we must note examples with habitual aspectual values that receive contrastive readings. In these cases, one may still assume that an underlying time interval is being considered, during which two (disparate or otherwise conflicting) eventualities take place:

- (28) a. Castigao com notavel rigor latrocinios, ao passo que outros delictos, ou são canonisados como virtudes, ou não castigados como culpas (*Desagravos do Brasil e glórias de Pernambuco*, Domingo do Loreto Coutto, 18th c.).
 ‘They punish thefts with severe rigor, whereas other crimes are either canonized as virtues or are not punished as crimes.’
 b. a dor se diminuirá ao passo que a resignação crescer (*Eva e Ave ou Maria Triunfante*, de Macedo, 18th c.)
 ‘the pain will decrease as the resignation grows.’

In some of these examples, we find stative verbs, as in (28c):

- c. A Lypsio, que se gloriava, que ao passo que a sua Obra não tinha cousa sua, era cousa sua: Omnia nostra, et nihil (*Escola moral, politica, christãa, juridica*, Aboym, 18th c.)
 ‘To Lypsio, who boasted that his work was his at the same time as it did not have anything of his.’

While the temporal-comparative meaning remains, the fact that the predicates involved denote continuous activities (habits) or are stative renders exact simultaneity irrelevant. Furthermore, the lexical meaning of the predicates themselves contributes to the contrastive implicature. For example, in (28a), *castigar* (‘to punish’) is opposed to *ser canonisado* (‘to be canonized’). The negation of one of the predicates contributes to a contrastive reading in (28c); such predicates may not be ordered in time because states do not happen, they hold. Regarding the syntax, no relative-clause analysis seems plausible.

We have shown that, originally, *ao passo que* could only connect two clauses with eventive predicates and no contrast was expressed. Using the terms introduced in Section 2, in the original examples, there were compared items and a shared domain (the same time interval), but no implication of mutual exclusivity. This semantic implication, which is a hallmark of the meaning of *ao passo que* in the contemporary language, is the conventionalization of an inference that could arise in certain contexts, when there was an unexpected difference between the compared items.

By the 19th century, we find examples of temporal simultaneity (29a,b), examples displaying ambiguity (notice both the contrastive predication ‘writing an order to leave’ and ‘writing a resolution to obey,’ and the presence of *ao mesmo tempo*, ‘at the same time’ in (29c)), and examples expressing contrast (30):

- (29) a. O escravo recebeu a carta e na sala de jantar, entregou-a a Dusá, ao passo que dizia (*Maria Dusá*, Rocha, 19th c.).
 ‘The slave received a letter and gave it to Dusá in the dining room while saying: ...’
 b. Entretanto, ao passo que assim pensava, uma agitação extrema o perturbava, como se tivesse diante de si um tesouro inapreciável a que bastasse estender a mão para o possuir (*O Missionário*, Sousa, 19th c.).

‘Meanwhile, while he was thinking thus, an extreme agitation shook him, as if he had in front of him an invaluable treasure which could be won simply by extending his hand.’

c. Angelina escreve ocultamente, uma ordem de partir, ao passo que Teófilo escreve em outro papel, ao mesmo tempo, a sua resolução de obedecer; os dois bilhetes são lidos na mesma ocasião (*Textos críticos*, Machado de Assis, 19th c.).

‘Angelina writes an order to leave while Teófilo writes, on a different piece of paper, at the same time, his resolution to obey; both notes are read on the same occasion.’

Example (29c) instantiates a stage at which the two implications associated with *ao passo que*, contrast and simultaneity, are conveyed: (i) there is contrast between the two compared items (what is predicated of Angelina and what is predicated of Teófilo) and (ii) these two events occur at the same time. The contrastive meaning was originally an invited inference, i.e., an implication triggered in some contexts only, and the simultaneity meaning was the semantic content of the construction. However, in this example, it is impossible to determine the status of each implication, given the contrast in meaning between the predicates and the explicit temporal information about the events occurring simultaneously.

- (30) a. Mas ao passo que o marchante não poupava finezas nem esforços para prender definitivamente o negociante, lançava-lhe estas outras contas muito diferentes (*O Matuto*, Távora, 19th c.).
 ‘But, whereas the dealer profusely courted the businessman, the businessman told him very different things.’
 b. Ambas avançam para o desconhecido. Mas, ao passo que a ciência caminha, a poesia voa (*Flores da Noite*, Paiva, 19th c.).
 ‘Both advance toward the unknown, but, whereas science walks, poetry flies’.

Syntactically, these examples do not accept a relative analysis. In (29a) and (29b), the subject is not saying something or thinking at a particular rate/pace/rhythm. No comparison of rate or pace is logical in (30a,b) either. Notice that the movement predicates in (30b) do not force a temporal–proportional interpretation. What is contrasted is not the rates at which science moves and poetry flies, but rather the fact that science walks whereas poetry flies (see ex (23) above).

In this period, the contrastive *ao passo que* is attested in two positions, even in the same text, both preposed and after the main clause. In (31a,b), stative predicates are present and the comparative–proportional interpretation is no longer possible:

- (31) a. Vivia muito bem com a mulher e ajudava o pai na lavoura, ao passo que o outro era um vadio, cheio de idéias esquisitas, um poeta, afinal! (*O Missionário*, Sousa, 19th c.).
 ‘He had a very good life with his wife and helped his father at work, whereas the other one was lazy, full of weird ideas, a poet after all!’
 b. ao passo que esta oferecia um perfeito espécime da mais virgem e rude mata do Amazonas ..., o local do sítio do velho tuxaua fora completamente modificado por mãos inteligentes de homem de bom gosto (*O Missionário*, Sousa, 19th c.).
 ‘whereas this one provided a great sample of pure Amazonian forest, the old location of Tuxaua had been completely modified by the intelligent hands of a man with good taste.’

These examples clearly demonstrate that a semantic change has occurred: at this stage, the expression *ao passo que* primarily encodes contrast. We build here on the theory of invited inferencing in semantic change (Traugott and Dasher 2002), which assumes that contextual implications that are sufficiently systematic to be generally associated with the use of a certain expression may become semanticized over time. As Eckardt puts it in her definition of semantic reanalysis: ‘What may have previously been in part assertion, in part implication, turns entirely into a literal assertion after reanalysis. Semantic reanalysis may have repercussions on the meaning of parts of the sentence (constructions, phrases, words, affixes), leading to a changed meaning under the new semantic composition of the sentence’ (Eckardt 2006, p. 236). While, in earlier examples, we identified a contrastive implication that can be inferred from the simultaneous development of two (somehow incompatible) events, in these two examples, there are no longer simultaneously developing events, only contrasting states of affairs.

3.2. The Noun *Passo*

The noun *passo* is historically attested with different senses, namely, ‘step, distance advanced by the act of walking’ and ‘pace, progress.’ Other meanings, such as ‘crossing’, are also documented but are irrelevant for our discussion. *Passo* is also attested as an adverb with the meaning ‘slowly’⁸.

In terms of its morpho-syntactic properties, *passo* as ‘step’ shows the properties of regular countable nouns, namely adjectival and PP modification and pluralization:

- (32) a. Assý começarõ a yr en bõo passo et ajuntados en tropel (*Cronica Troyana*, 14th c.).
 ‘Thus they started to go at a good pace and all together as a mob.’
 b. Et avia em cada quadra em longo sete mill et quinētos passos, segundo amedida da geometria (*General estoria*, 15th c.).
 ‘Each block was 7500 steps long, according to the measurements of geometry.’
 c. quãdo sentio os passos dos escuitas & o rramalhar que faziã pello milho, cuydou que herã os porcos que vinhã comer (*Crónica do Conde D. Pedro de Meneses*, 15th c.)
 ‘when he heard the steps of the explorers and the noise they were making in the cornfield, he thought that it was the pigs coming to eat.’

Note that in (32a), the interpretation of pace/rate/rhythm is arguably already present.

Within the PP *a X passo*, the N may be modified by quantifiers (like the distributive *cada* in (33a)), demonstratives (the deictic form *este* in (33b)), and adjectives, such as *mesmo* or *cheio*, as in (33c–e):

- (33) a. Pelo que em nossas cazas estavamos de noite e de dia esperando quando havião tambem de dar sobre nós, e a cada passo nos vinhão diversas novas (*Historia do Japam* 3, Frois, 16th c.).
 ‘For which reason we stayed home day and night waiting for the moment when they would attack us, and at each step we got different news.’
 b. Bem está tudo isso, mas nos mal, se a este passo havemos de examinar toda esta livraria. Sendo assim que, só para a estante dos poetas portugueses, que agora nos fica a mão, necessitamos de muitos dias de conferencia (*O hospital das letras*, Melo, 17th c.).
 ‘All that is good but it is bad for us if we must examine this whole library at this pace, seeing that, just for this shelf with Portuguese poets, which we now have at hand, we need many days of meeting.’
 c. Depois que entrou Abril se esfriaram notavelmente os dias, e ao mesmo passo se atrasou a saúde (*Cartas*, Vieira, 17th c.).
 ‘After April started, the days became colder and, at the same rate, our health deteriorated.’
 d. Cresce com ellas ao mesmo passo mayor o risco (*Escola moral, política, christã, jurídica*, Aboym, 18th c.).
 ‘With them, the risk grows bigger at the same time.’
 e. marchando a passo cheio ao som dos seus estromentos (*Peregrinação*, Pinto, 17th c.).
 ‘marching at full pace, to the sounds of their instruments.’

In (33) a and b, *passo* has a temporal meaning: it denotes the rate/pace/rhythm in which the action takes place. The same meaning is available in (33e), which includes a reference to the musical tempo, the physical movement of the march (i.e., literally, the steps) combining with its rhythm. The modification with *mesmo* (33c,d) expresses a comparison of equality between the pace of the development of the events in each clause (for example, the days becoming colder, health diminishing in 33c).

We have attested a few examples with *passo* modified by a PP introduced by the P *de* ‘of’:

- (34) a. Ao passo da vontade anda o merecimento (*A vida de Frei Bertolameu dos Mártires*, Luis de Sousa, 17th c.)
 ‘merit walks at the (same) pace of will.’
 b. os membros fraquejaõ, o juízo vacilla, as remissoens crescem ao passo das obrigaçoens a que se deverá acodir? (*Eva, e Ave, ou Maria Triunfante*, António de Sousa Macedo, 18th c.)
 ‘the limbs weaken, the judgement falters, the remissions grow as grow the obligations to which one must attend.’

Furthermore, *passo* is documented in other PPs with similar interpretation as those documented in combination with the P *a*:

- (35) a. para nao andarem em igual passo os pensamentos com as suspeitas (*Casamento perfeito*, Andrada, 17th c.)
 ‘so that thoughts and suspicions would not go at the same pace.’
 b. Mas quanto ao gasalhado, do mesmo passo se foram ao Hospital de Todos os Santos, pretendendo igualmente viver com os pobres em pobreza e exercitar com os enfermos a misericórdia (*História da vida do Padre S. Francisco Xavier*, Lucena, 17th c.)
 ‘But regarding their clothes, at the same time they went to the Hospital of All Saints, aiming to live with the poor in poverty and to apply mercy to the sick people.’

The role of the P *a* is also accountable on independent grounds. As Fábregas (2007) and Romeu Fernández (2014, pp. 109–16) indicate for Spanish, the locative P *a* combines with scalar nouns (e.g., ‘level’), a description we extend to Portuguese. These PPs indicate a point in a stative locative scale; while not literally locative, the semantics of *passo* are similar to such scalar nouns, which justifies its combination with *a*.

The importance of examining the properties of the N *passo* when studying the construction *ao passo que* is further supported by the fact that the same author may use both in the same text. In (36a), Frois uses both *a cada passo*, as in ‘at each step,’ with an interpretation of action progressing at a particular rate, and the temporal–proportional *ao X passo que* in the same book. Similarly, Melo uses the temporal–proportional *ao mesmo passo* and *ao mesmo passo que*, as shown in (37):

- (36) a. Metidos os Padres no fogo de tamanha aflição e renovando-se a cada passo com mais terror as novas que sem faltar corrião pela terra, determinarão os Padres de consultar com os poucas christãos que alli havia o remedio que se poderia achar para se salvarem daquella furia (*Historia do Japam 3*, Frois, 16th c.)
 ‘Once the priests were very sad and, since more terrific news were propagating around the world at each step, the priests decided to consult with the few Christians there on the solution they could find in order to be saved from that horror.’
 b. vinhão todos cheios de gente fugindo do destroço, os quaes a cada passo que encontravão o Padre lhe dizião mil injurias (*Historia do Japam 3*, Frois, 16th c.)
 ‘(all the paths) were full of people feeling destruction, people who, every time they met the priest, insulted him profusely.’
 (37) a. que ao mesmo passo crece a luz e crece a sombra (*Cartas familiares*, Melo, 17th c.).
 ‘that light and shade grow at the same rate.’
 b. tendo por certo, que ao mesmo passo que o Reyno merecesse a Castella hum grãde castigo, ficaria elle absoluto senhor dos Portuguezes (*Epanaphora politica primeira*, Melo, 17th c.).
 ‘being sure that, at the same time that the kingdom would punish Castile, he would become the absolute lord of the Portuguese.’

To finish this section, we want to add that, while rare, we have attested one example of *ao mesmo passo que* that appears to be more readily interpreted as contrastive:

- (38) A paz, a opulência, o luxo . . . eram os tiranos algozes que apertavam o garrote ao comércio de Portugal, ao mesmo passo que sem eles fora impossível beneficiá-lo (*Obras completas*, Correia Garção, 18th c.).
 ‘Peace, opulence, luxury . . . were the cruel tyrants that suffocated Portugal’s commerce, at the same that, without them, it would have been impossible to benefit it.’

We conclude this section by providing evidence of the regular nominal syntax of *passo* as ‘step’ outside of a connective, which is especially common with the dynamic verb *dar*:

- (39) A cada passo que damos no discurso da vida, imos nascendo de novo, porque a cada passo imos deixando o que fomos, e começamos a ser outros (*Reflexão sobre a Vaidade*, Matias Aires, 18th c.)
 ‘Each step we take in life, we are born again because with each step we leave behind who we were and start to be different people.’

Interestingly, the same example contains the gradual temporal meaning of *a cada passo*, ‘at each step’, expressing a comparison of equality between the progression of the events associated with change (leaving behind who we were, starting to become new people).

4. Discussion

The earliest instances of the expression *ao passo que* show a PP with a N modified by a relative clause (‘X takes place at a (particular) pace that...’). A century later, a second form of *ao passo que* as a temporal–proportional–comparative connective (‘X at the same pace/time as Y’) with no relative syntax (there is no wh-gap in the embedded clause) emerged. The final outcome is the contrastive connective. All three are in use today—layering (cf. Hopper 1991)—even though the contrastive connective is more common than the temporal–proportional connective in present-day Portuguese.

An important question has to do with the internal syntactic structure or the analyzability of the entire expression. The examples with a clear relative analysis display free syntax; the temporal–comparative and contrastive connectives, however, are less free. Research on complex constructions—referred to as *locutions* in some works—has long noted their loss of internal syntax, arguing that the final outcome is an unanalyzable unit. At the same time, much of that research highlights that this loss is gradual (e.g., Brems and Davidse 2010, p. 112; Traugott and Trousdale 2013).

Montoro del Arco (2006, pp. 218–20) lists different criteria to test the degree of internal fixation, namely:

- a. Neither *que* nor the N may be substituted. However, the N may sometimes vary with no semantic change (e.g., the Spanish *de manera/modo/forma/suerte que*, ‘in order that’).
- b. The N is invariable (e.g., no pluralization) and may not be modified.
- c. Some degree of semantic specialization, with a more abstract meaning of the N, which is not referential.
- d. It functions as a simple connective.

These criteria are neither absolute, as there may be some degree of variation, nor necessary conditions, as not all tests need to pass for the proposed definition of *locución conjuntiva* (lit. *conjunctive locution*; connective as complex complementizer, in our terms) to stand (see also Tornel Sala 2000, pp. 160–70; Cifuentes Honrubia 2003, pp. 104–10 for further discussion and additional references on fixation; cf. Fagard et al. 2020, p. 9, 13; a.o.).

The connective *ao passo que* passes the previous tests. We have shown in the data that *que* may not be changed, that the N is morphologically invariable, etc. Let us explore some of these points:

1. The N was always invariable in the connective. The use of the N *passo* in plural can be found, but we found no attestations of **aos passos que*, even though the N *passos* in plural is used in other constructions (e.g., *dar passos*). As noted in the literature (cf. Ruiz Gurillo 1997, n/p, who cites Zuluaga (1980, p. 99)), the loss of pluralization is not testable in *ao passo que*, but rather only in comparison to the evidence of *passo* in other contexts.
2. We documented some evidence of the modification of the N in the temporal–comparative interpretation (e.g., *mesmo*), although the majority of the examples we retrieved do not include modification. The contrastive *ao passo que* does not seem to accept any adjectival internal modification of the N (see the exception in (36)).
3. In the connective, we do not have examples of *passo* anaphorically referred to later on in the same textual context, i.e., in a hypothetical (unattested) example like **ao passo que... e a tal passo...*

The nominal properties of *passo* are limited in the data that we identify as displaying the connective. However, the occasional modification with *mesmo*, for instance, poses a theoretical challenge to the idea of unithood.

In fact, in the literature, it is accepted that some variation is possible in fixed constructions. Montoro del Arco (2006, pp. 180–81) states that only a few constructions are

completely fixed from a formal point of view. On the list of accepted variations, the author lists, for Spanish, some modification by *mismo*, *justo* or *exactamente* ('same', 'just', 'exactly') and the possibility of interpolation (Corpas Pastor 1996, pp. 27–30; Cifuentes Honrubia 2003). We note interpolation in contemporary European Portuguese, with *ao passo que* having a clear contrastive meaning:

- (41) a. *Ao passo porém que* Plínio coloca o seu povo na margem esquerda do Minho . . . , Ptolomeu coloca-o na margem direita (1930, https://www.patrimoniocultural.gov.pt/static/data/publicacoes/o_arqueologo_portugues/serie_1/volume_29/157_seurros.pdf), accessed on 16 November 2023.
'However, whereas Pliny situates his town on the left bank of river Minho, Ptolemy places it on the right bank.'
b. *Ao passo, porém, que* os deuses gregos são objectivações formais dos instintos humanos, os deuses nórdicos são objectivações amorfas (Pessoa, <http://arquivopessoa.net/textos/3909>), accessed on 16 November 2023.
'However, whereas the Greek gods are representations of human instincts, the Nordic gods are amorphous representations.'

Interpolation is relevant because it is another key test used in the literature to diagnose the gradual loss of internal analyzability. For example, it is one of the criteria in Torres Cacoullos's study (2006) of the Spanish *a pesar de* ('in spite of'); in this work, a fixed construction disallows interpolation.

Whereas previous studies acknowledged degrees of loss of internal and even degrees of syntactic unithood (Corpas Pastor 1996, p. 106), we consider that such flexibility ultimately means that a reduction in internal analyzability does not equal the presence of an unanalyzable unit. From a theoretical point of view, the question has to do with whether there is any internal syntax and with the theoretical concept of (syntactic) *unit*.

Jiménez Juliá (2017, pp. 100, 104–5) states that a string of words may be a unit or a construction but, crucially, that the former is defined by its being completely unanalyzable (as in univerbation, e.g., Spanish *pero* 'but'), whereas the latter may be part of a productive model and have internally recognizable parts. Jiménez Juliá notes that even free syntax is subject to idiomatic interpretations and to co-collocation restrictions. We note here that *ao passo que* exists alongside other examples, such as *ao tempo que* or *à medida que*.

The evolution of the connective *ao passo que*, with its less free syntax compared to the examples of relative clauses adduced above, is in line with the conclusions for other complex constructions in some recent formal literature. Formal studies have accounted for the lexically reduced nature of the nouns involved, e.g., AxParts in complex locative Ps in Svenonius (2006, 2010) or weak nouns in Matushansky and Zwarts (2019, 2021). This approach argues that some of the constituents in complex constructions have been recategorized as functional categories, the decategorialization typically argued for in usage-based grammaticalization studies, which explains why their syntax is not lexical. The key point is that these formal studies propose some internal structure; there is no univerbation or complete loss of internal analyzability. In our case, we argue that the lexical N *passo* was—and continues to be—a regular lexical N when modified by a relative clause. As part of the connective *ao passo que*, *passo* became recategorized as a functional, weak, lexically reduced N, similar to the concept of AxParts but with the scalar meaning discussed by Fábregas (2007) and Romeu Fernández (2014). This lexically reduced N is part of a complex complementizer that is formally a PP and that also includes a semantically void determiner *o* and the complementizer *que*⁹. The presence of internal syntax is more evident in the temporal–proportional–comparative connective, since it allows some modification by *mesmo*, and much less so in the contrastive connective. In the contrastive connective, the possibility of internal modification is null and the loss of semantic compositionality contributes to its interpretation as a block¹⁰. Nevertheless, the interpolation in (41) suggests that some internal syntax also remains in the contrastive *ao passo que*.

5. Conclusions

In this paper, we examined the syntactic and semantic development of the expression *ao passo que*, which, to the best of our knowledge had not been studied previously. We show that this is a relatively recent change in Portuguese from a relative clause structure, conveying temporal and comparative meaning (e.g., ‘at the rate/pace that X grows’—‘X grows at a particular rate’), to a temporal–proportional–comparative connective (‘at the same pace/rate/time as’) and, finally, to an adversative connective (‘whereas’).

Semantically, *ao passo que* could initially only connect two clauses with eventive predicates, whose pace of development was compared. In the source expression, there was no contrast, as we saw in examples like (23a). In such comparative expressions, there were two compared items and a shared domain (a temporal interval), but no mutual exclusivity. The semantic change into adversative meaning resides in the original temporal meaning, whereby the development of two events in the same time interval and at the same pace invites a comparison. As noted above, a “‘similarity and dissimilarity” interpretation. . . [that] presupposes semantic homogeneity of both objects compared’ (Malchukov 2004, p. 183): while both situations compared gradually develop over the same time interval, their outcomes receive unequal evaluations. We proposed that currently, this semantic implication is the conventionalization of an inference that could arise in certain contexts, when there was an unexpected opposition between the compared eventualities, i.e., by Gricean reasoning, expectations about the pace and the outcome of two events lead to a new meaning of the comparative expression (contrast), which eventually generalizes, now allowing for stative predicates. The proportional implication is no longer present, i.e., the meaning of pace or rhythm has been lost and the asserted meaning in contemporary Portuguese is one of semantic opposition. While temporal simultaneity is a common source of contrastive meanings, semantic shifts from comparative meanings of gradual development over time (‘at the same pace, at the same rhythm’) have been less studied.

Syntactically, we discussed the loss of internal analyzability typically found in the creation of complex constructions. We provided some evidence that questions the total loss of internal syntactic structure in the connective, following theoretical assumptions in recent formal syntactic research. Furthermore, we traced the syntactic and semantic evolution of the noun *passo* itself. This evidence proves that taking the evolution of the noun *passo* is crucial in understanding the overall evolution of the connectives that include it. In doing so, we are able to situate the evolution of the connective *ao passo que* within the diachrony of other noun-based constructions in Portuguese (and in Spanish), in line with the conclusions reached in previous work (Amaral and Delicado Cantero 2022).

This paper contributes to the study of the diachronic development of adversative connectives in Portuguese, a topic that has barely been investigated. The semantic paths that are mentioned in works on Portuguese historical syntax (e.g., from causal to contrastive) still lack support from an empirical perspective. More broadly, this paper contributes to current debates on the semantic and syntactic development of complex constructions, including key concepts such as compositionality and internal analyzability.

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Notes

- ¹ Available online: <https://www.priberam.pt/dlpo/passo> (accessed on 18 December 2017).
- ² As is normal practice in semantics, we use the term eventuality to encompass both events and states (Bach 1981).
- ³ To the best of our knowledge, the studies that mention *ao passo que* as a contrastive connective present data from European Portuguese. Hence, they focus on the syntactic properties of the connective in this variety. However, the dictionaries we consulted mention the same meanings for both European and Brazilian Portuguese. Therefore, we are not assuming a difference between these varieties in our study. Our diachronic data include examples of both varieties.
- ⁴ This issue and some counterexamples to this claim are discussed below.
- ⁵ Mutual exclusivity explains the diachronic path from exceptive words meaning ‘outside of’ or ‘except’ to contrastive meanings (cf. also the contrastive meaning of EP *longe de, fora*).
- ⁶ We will not pursue this analysis in depth, since our focus is on the contrastive meaning of *ao passo que*. For an analysis of the semantics of temporal correlatives, and the cross-linguistic connections between temporal connectives, relative clauses, and equative constructions, see (Bhatt and Lipták 2009).
- ⁷ Barreto (1999, pp. 406–11) briefly describes the grammaticalization of both expressions as having a similar structure and meaning.
- ⁸ An example of *passo* as an adverb in medieval Portuguese, meaning ‘slowly,’ is given in (i):
 - (i) Entam se chegou a elle mais que ante e pos mão em elle muj passo pollo spertar (*Demanda do Santo Graal*, 113, Toledo Neto 2012–2015). ‘Then [he/she] approached him more than before and touched him very slowly to wake him up.’
 We are grateful to an anonymous reviewer for this example.
- ⁹ We analyze this *que* as a complementizer, part of the complex connective. The key syntactic evidence here is the fact that, in general terms, *que* does not refer back to the N *passo* as there is no wh-gap; for instance, we can see that in (1) *O Rui gosta do café cheio, ao passo que o Zé gosta dele curto*, the syntax is not *Zé gosta dele curto a esse passo*.
- ¹⁰ In any case, we must keep in mind that semantic compositionality and syntactic analyzability are different (Bybee 2010, p. 45).

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