Article

Preposition stranding in Brazilian Portuguese
Preposições órfãs no português brasileiro

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ABSTRACT: In this work, we present evidence that BP is a language that licenses preposition stranding, contrary to what had been previously argued in the literature. We also demonstrate why this phenomenon is not generalized, with some prepositional items allowing P-stranding, while others completely rule out this possibility. We argue that, at its core, the difference between these two groups lies in the possibility of a syntactic contraction operation being applied, which would be dependent on the lexical/functional value of each preposition. The notion of contraction is not a new theoretical tool to explain the possibility or impossibility of the preposition stranding phenomenon. The distinctive aspect of our analysis is to make it explicit that the contraction preventing the licensing of P-stranding is a purely syntactic process, which would affect only prepositions with a more functional content. Essentially, such prepositions undergo a fusion operation with their complement, which makes the extraction of this element unfeasible. Regarding prepositions with a more lexical nature, our proposal is that they select a null prepositional category that would be responsible for assigning case to the complement DP. This intermediate null item would prevent the syntactic contraction between the complement DP and the phonetically visible preposition. Since there is no contraction, the extraction of the complement DP is licensed, thus explaining the phenomenon of P-stranding.

KEYWORDS: Preposition stranding. Brazilian Portuguese. Contraction. Case. Null prepositional category.

RESUMO: Neste trabalho, apresentamos evidências de que o PB é uma língua que licencia preposições órfãs, ao contrário do que já havia sido defendido na literatura. Também mostramos por que esse fenômeno não é generalizado, com alguns itens preposicionais admitindo *P-stranding*, ao passo que outros descartam completamente essa possibilidade. Defendemos que, na base, a diferença entre esses dois grupos está na possibilidade de se aplicar ou não uma operação de contração sintática, possibilidade esta que dependeria do valor lexical/funcional de cada preposição. A ideia de contração não é uma ferramenta teórica nova para explicar o fenômeno de *preposition stranding*. O diferencial de nossa análise é explicitar que a contração impedindo o licenciamento de *P-stranding* é um processo puramente sintático, que afetaria apenas preposições de conteúdo mais funcional. Basicamente, tais preposições sofrem um processo de fusão com seu complemento, o que inviabiliza a extração de tal elemento. Em relação a preposições de natureza mais lexical, nossa proposta é que elas selecionam uma categoria preposicional nula que seria responsável por atribuir caso ao DP

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complemento. Esse item nulo intermediário impediria a operação sintática de contração entre o DP complemento e a preposição foneticamente visível. Por não haver contração, licencia-se a extração do DP complemento, o que explicaria o fenômeno de *P-stranding*.

PALAVRAS-CHAVE: Preposição órfã. Português brasileiro. Contração. Caso. Categoria preposicional nula.

1 Introduction[1]

In English, it is possible for the complement of a preposition to be syntactically moved to the left without the governing prepositional element (Riemsdijk, 1978; Hornstein; Weinberg, 1981; Ross, 1986; Law, 2006, among others). This phenomenon, known as preposition stranding, or simply P-stranding, is illustrated in (1).

(1) a.   Which book$_i$ have they talked about t$_i$?
    b.   That book$_i$ has been talked about t$_i$?

The same pattern is also attested in Swedish (see, for instance, Takami, 1992; Law, 2006), as we can see in (2).

(2) a.   Vadi talade du om t$_i$? (Swedish)
           what talked you about
           "What did you talk about?"
    b.   Denna book$_i$ blev talad om t$_i$.
           this book become talked about.
           "This book has been talked about."

This type of syntactic behavior, in which the preposition remains "frozen" in its base position along with the trace of the moved element, contrasts with what is

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[1] This article benefited greatly from the comments of two anonymous reviewers. Of course, any remaining errors are entirely our responsibility.

observed in Romance languages such as French[2] and Italian, which do not allow this phenomenon[3].

(3)a.   *Qi'as-tu parlé de t_i? (French)
          what have-you talked about
     b.   *Chei hai parlato di t_i? (Italian)
          what have-you talked about
          "What did you talk about?"

(4)a.   *Ce livrei a été parlé de t_i. (French)
          this book has been talked about
     b.   *Questo libroi è stato parlato di t_i. (Italian)
          this book has been talked about
          "This book has been talked about."

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[2] Research conducted in multilingual contexts, in which there is contact between French and another language that allows P-stranding, points to the possibility of this phenomenon, as is the case with Quebec French. Poplack, Zentz and Dion (2012) show that, in this linguistic variety, P-stranding is a natural result of language contact with English, favored by code-switching. In other French dialects where there is no such contact between languages, P-stranding is not productive and is prescriptively unacceptable (Poplack; Zent; Dion, 2012).

[3] The typology of the preposition stranding phenomenon is a bit more complex. In fact, languages like Dutch and German are in an intermediate position, since they allow for P-stranding only with R-pronouns (Dutch *er* "there/it", *daar* "there", *waar* "where/what", *ergens* "something", *nergens* "nothing", and *overal* "all"; German *wo* "where/what" and *da* "it").

(i)   a.   Waar$_i$/*Wat$_i$ heb je op t_i gerekend? (Dutch)
               what have you on counted
               "What have you counted on?
        b.   Wo$_i$/*Was$_i$ redest du von t_i? (German)
               what talk you from
               "What are you talking about?"

(ii)   a.   Daar/*deze man$_i$ is op t_i gerekend. (Dutch)
               it/this man is on counted.
               "It/this man has been counted on."
        b.   Da/*Dieses Buch$_i$ wurde von t_i geredet. (German)
               it/this book became about talked
               "It/this book has been talked about."

For a detailed description of the particularities involving P-stranding in these two languages, see Law (2006).

Regarding Brazilian Portuguese (BP), it is usually assumed that it would be more aligned with languages like French and Italian (Salles, 2001, 2003; Kato, 2010). Data such as those presented in (5) would be evidence in favor of this view.

(5)a.   *Que livro que você gosta de?
         which book that you like of
         "Which book do you like?"
   b.   *Onde que você foi para?
         where that you went to
         "Where did you go?"

In BP, however, structures like those exemplified in (6) are also possible. In the three following examples, the *wh-* phrase appears to move to the left periphery without the preposition (see also Kleppa, 2005).

(6)a.   Que remédio que você não pode ficar sem?
         what medicine that you not can stay without
         "What medicine can you not go without?"
   b.   Que livro que vamos falar hoje sobre?
         which book that we-go talk today about
         "Which book are we going to talk about today?"
   c.   O que que você é completamente contra?
         the what that you are completely against
         "What are you completely against?"

The above data evidently pose a challenge for all those proposals which deny the occurrence of stranded preposition in BP. So, to clarify this topic, the goal of the present work is to analyze whether constructions like those presented in (6) indeed constitute P-stranding structures. If they are syntactic configurations where the preposition is truly stranded, it is also necessary to discuss why certain lexical items, such as *de* "of" and *para* "to", do not allow the extraction of their complement, while prepositions like *sobre* "about", *sem* "without" and *contra* "against" license the preposition stranding phenomenon.

Our work is organized as follows. In Section 2, we provide a review of previous studies, presenting different proposals that argue against the possibility of licensing stranded prepositions in BP. These analyses, as we intend to demonstrate, are unable to explain a series of facts supporting the existence of this phenomenon in Portuguese. In Section 3, we present our alternative analysis, arguing that there is indeed P-stranding in BP. Finally, in Section 4, we offer some concluding remarks.

2 Previous studies

As mentioned in the introduction, there are previous studies that categorically reject the possibility of preposition stranding in BP. One of them is Salles (2001)[4]. Discussing, for instance, *wh-* interrogative structures, the author assumes that, in both BP and English, the C head would be specified with an EPP feature, which would create a structural configuration licensing the movement of the interrogative operator to the left periphery, as illustrated in examples (7) and (8).

(7) Com quem Maria falou?
    with who Mary talked
    "Who did Mary talk to?"

(8) Who did Mary talk to?

The obligatory movement of the preposition along with its complement in (7) would result from a morphophonological property of BP, which would license the contraction between the preposition and the determiner. This view is because some prepositions contract with a definite article, as can be seen in (9) with the prepositions *de* and *em*.

(9) a.   a necessidade da (* de a) criança.
          "the child's needs."

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[4] A similar analysis is developed in Salles (2003).

b.   o interesse no (*em o) assunto.
         "the interest in the subject."

Syntactically, the contraction between the preposition and the determiner, as illustrated in (9), would be the realization of an Agree operation. Following Chomsky (1998), Salles understands this syntactic mechanism as a feature-checking relationship, in which a functional head (preposition) has its uninterpretable *phi*-features valued by interpretable *phi*-features of the noun (complement of the preposition). The author justifies the Agree operation with prepositions based on evidence found in Welsh. In this language, a prepositional item receives both person and number suffix whenever it has a free pronominal element as its complement. For example, in each of the data in (10) below, the preposition *gan* "with" carries suffix marking for person and number and is followed by a free pronominal form.

(10)a.   gennyf fi (1ps)
           "with me"
    b.   gennyt ti (2ps)
           "with you"
    c.   ganddo fo (3ps)
           "with him"
    d.   ganddyn nhw (3ppl)
           "with them"

In concrete terms, the contraction [P+D] would indeed be the manifestation of the checking operation of *phi*-features in P. Consequently, whenever there is extraction of its determiner complement to the left periphery in BP, the preposition must be raised together due to the cliticization process resulting from the valuation of *phi*-features of P. In English, the checking operation between P and D does not occur because, in this language, determiners lack *phi*-features. As a result, [P+D] contraction does not occur, and the outcome is that, as there is no cliticization, D complements can move without the need to be accompanied by the prepositional lexical item.

The first problem of this proposal is that it simply disregards the apparent data of preposition stranding in BP, if the phenomenon does not take place and only proposing an analysis that explains this supposed nonoccurrence. However, the concrete fact is that such data, whether they are evidence of P-stranding or not, do exist, which demonstrates the fragile empirical basis upon which Salles' analysis builds its discussion. Indeed, the author only uses the prepositions *com* "with" and *de* "of" to discuss the impossibility of P-stranding. In fact, these prepositions do not appear *in situ* in BP without their complement. Others, however, are grammatical and very productive, as is the case with *contra* "against", *sem* "without", and *sobre* "about". Ultimately, this selection made by Salles has an impact on the proposal, as the analysis does not account for why some prepositions enter a *phi*-feature checking relationship while others do not license this operation. In this sense, the theory becomes deficient, as it does not explain the potential difference in behavior among prepositional elements.

Setting aside this empirical issue, a second problem is related to the imprecise concept of contraction developed in the analysis. Although Salles mentions that the cliticization process of the determiner with the preposition is of a syntactic nature, the author does not explore how her theory of contraction allows for examples like those presented in (11). These data challenge Salles' analysis because, from a strictly phonetic point of view (but not represented in writing), prepositions like *contra* and *sobre* can evidently undergo contraction with determiners, as evidenced by the phonetic transcriptions in (12). It appears that the concept of contraction developed by the author is based on the rules of writing/orthography in Portuguese, without a proper formulation that distinguishes the contraction occurring with prepositions like *de*, on one hand, and with prepositions like *sobre*, on the other hand.

(11)a.   Que proposta que você votou contra?
          which proposal that you voted against
          "Which proposal did you vote against?"

b.   Que livro que você falou sobre?
         which book that you talked about
         "Which book did you talk about?"

(12)a.   Contra os meninos ['cõ.trus mi.'ni.nus][5]
            against the boys

b.   Sobre o livro ['so.bru'li.vru]
         about the book

Another work challenging the occurrence of preposition stranding in BP is Kato (2010). Essentially, the author proposes that in data like those presented in (6) and repeated in (13), there would be a null pronominal form (*pro*) in the complement position of the preposition. In this case, the prepositional item would not be governing a copy of the displaced element, which is what happens in cases of P-stranding, but rather an element in a coreference configuration with the *wh*-phrase.

(13)a.   Que remédio$_i$ que você não pode ficar sem *pro$_i$*?
            what medicine that you not can stay without
            "What medicine can you not go without?"
   b.   Que livro$_i$ que vamos falar hoje sobre *pro$_i$*?
            which book that we-go talk today about
            "Which book are we going to talk about today?"
   c.   O que$_i$ que você é completamente contra *pro$_i$*?
            the what that you is completely against
            "What are you completely against?"

This proposal would find support in data like those presented in (14), where a topicalized phrase is co-referent with a visible resumptive pronoun.

(14)a.   Esse remédio$_i$, você não pode ficar sem ele$_i$.
            this medicine, you not can stay without it
            "You can't do without this medicine."

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[5] In favor of Salles' analysis, it could be said that, in (12), there is no syntactic contraction, but only a phonological fusion, known in the literature as sandhi.

b.   O livro da Maria$_i$, hoje vamos falar sobre ele$_i$.
the book of-the Mary, today we-go talk about it
"Today we are going to talk about Mary's book."

c.   Essa proposta$_i$, todos votaram contra ela$_i$.
this proposal everyone voted against it
"Everyone voted against this proposal."

The presence of the resumptive pronoun in the examples in (14) could be interpreted as a phonetically visible equivalent of a null pronominal element, which would be present in data like what we have in (15). Thus, for the examples in (13), what we would have in BP is only an apparent case of P-stranding, since the preposition would not actually be stranded.

(15)a.   Esse remédio$_i$, você não pode ficar sem *pro$_i$*.
this medicine, you not can stay without
"You can't go without this medicine."

b.   O livro da Maria$_i$, hoje vamos falar sobre *pro$_i$*.
the book of-the Mary, today we-go talk about
"Today we are going to talk about Mary's book."

c.   Essa proposta$_i$, todos votaram contra *pro$_i$*.
this proposal everyone voted against
"Everyone voted against this proposal."

While this analysis can explain topicalization structures like those previously presented, it cannot be extended to syntactic structures in which the complement of the preposition is a fronted *wh*-element. Here, visible resumptive pronouns are completely unacceptable, as indicated by the contrasts in (16) and (17).

(16)a.   O que que você não pode ficar sem durante as férias?
the what that you not can stay without during the vacation
"What can't you do without during your vacation?"

b.   *O que$_i$ que você não pode ficar sem ele/ela$_i$ durante as férias?
the what that you not can stay without it during the vacation

(17)a.   O que que o João votou contra?
the what that the John voted against

> “What did John vote against?”
>
> b.   *O que$_i$ que o João votou contra ele/ela$_i$?
>   the what that the John voted against it

Another argument against Kato's proposal is related to Subjacency effects. According to Ross (1967), movement operation is impossible over certain constituents, known as extraction islands. This would explain why (18) is ungrammatical, as there is movement of the *wh*-phrase over an island. In contrast, (19) is a perfectly acceptable sentence because the topicalized element is generated directly in the sentence periphery, as evidenced by the presence of the resumptive pronoun. In this case, since there was no movement, there is no violation of the Subjacency condition.

(18)   *O que$_i$ que o João perguntou se você sabia [CP por que a Maria comprou t$_i$?
          the what that the John asked if you knew for that the Mary bought

(19)   Esse livro$_i$ o João perguntou se você sabia [CP por que a Maria comprou ele$_i$.
          this book the Jonh asked if you knew for that the Mary bought it
          “John asked if you knew why Mary bought this book.”

As expected, in syntactic structures where the fronted complement of prepositions like *sem* and *contra* is not a *wh*-phrase, there is no violation of the Subjacency condition. Having been generated directly in the left periphery, as evidenced by the possibility of the visible resumptive pronoun in (20b) and (21b), the topicalized phrase did not undergo movement, so no violation related to the Subjacency condition takes place.

(20)a. Esse remédio$_i$ o João perguntou se você sabia [CP por que a Maria não
          this medicine the John asked if you knew for that the Mary not
          pode ficar sem *pro$_i$*.
          can stay without
          “John asked if you knew why Mary can't go without this medicine.”

b.   Esse remédio$_i$ o João perguntou se você sabia [$_{CP}$ por que a Maria não
        this medicine the John asked if you knew for that the Mary not
        pode ficar sem ele$_i$.
        can stay without it

(21)a. Essa proposta$_i$ todos já tinham afirmado que você sabia [$_{CP}$ quando o
        this proposal everyone already had said that you knew when the
        Pedro votou contra pro$_i$.
        Pedro voted against
        "Everyone had already said that you knew when Peter voted against this
proposal"
b.   Essa proposta$_i$ todos já tinham afirmado que você sabia [$_{CP}$ quando o
        this proposal everyone already had said that you knew when the
        Pedro votou contra ela$_i$.
        Pedro voted against it

In syntactic structures where the fronted complement of *sem* and *contra* is a *wh*-phrase, there is a violation of the Subjacency condition, as evidenced by the data in (22). Therefore, we have evidence here that the data in (23) are indeed structures in which the *wh*-element has moved, leaving the preposition syntactically stranded.

(22)a. *O que$_i$ que o João perguntou se você sabia [$_{CP}$ por que a Maria não pode
        the what that the John asked if you knew for that the Mary not can
        ficar sem t_i?
        stay without
b.   *Que proposta$_i$ que todos já tinham afirmado que você sabia [CP quando
        which proposal that everyone already had said that you knew when
        o Pedro votou contra t_i?
        the Pedro voted against

(23)   a.   Que remédio$_i$ que você não pode ficar sem t_i?
        what medicine that you not can stay without
        "What medicine can you not go without?"
        b.   Que livro$_i$ que vamos falar hoje sobre t_i?
        which book that we-go talk today about
        "Which book are we going to talk about today?"
        c.   O que$_i$ que você é completamente contra t_i?
        the what that you is completely against
        "What are you completely against?"

In summary, we can say that the analyses conducted up to this point do not capture, both empirically and theoretically, the occurrence of stranded prepositions in Portuguese. In the following section, we will present an analysis that formalizes the dynamics of this phenomenon.

3 A new analysis

As we mentioned in the previous section, Salles (2001) accounts for the licensing of P-stranding in connection with the absence of contraction between the preposition and the determiner. Languages that do not allow contraction would manifest stranded prepositions, while languages that do show contraction would not permit preposition stranding. Here, we will take this point as a valid assumption, but, contrary to what Salles assumes, we will propose that BP does allow P-stranding in some circumstances and that the attested variation is due to the lexical/functional nature of the involved prepositions. Basically, our proposal considers two groups of prepositions: simple and complex ones[6]. The first group, consisting of functional elements, includes prepositions that undergo contraction. The second group, comprising lexical items, includes prepositions that behave like stranded elements. As we will show, the internal syntactic structure of these two groups differs, which is the main reason for the attested variation in the licensing of the P-stranding phenomenon.

As said above, we assume that, in BP, prepositions allowing for contraction with a determiner are simple prepositions. Following Law (2006), we understand that contraction between P and D is a morphosyntactic process consisting of the formation of an X^o unit (head). In the case of simple prepositions in Portuguese, there would be an incorporation of the determiner into P, as schematized in (24).

(24) $[_{PP} [P^o + D^o{}_i [_{DP} [t_i [_{NP} [N^o]]]]]]$

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[6] For an introductory view on simple and complex preposition, see Cinque (2010).

Accepting that the phenomenon of P-stranding is operationalized in the syntactic component, the resulting unit between the determiner and the simple preposition allows for no extraction of the DP complement[7]. So, movement is possible only when the preposition goes together with its complement, on the contrary the mechanism of incorporation is violated.

To illustrate this point, let's consider the case of the preposition *de*. We propose that *de* is a simple preposition that undergoes contraction, meaning that it forms a syntactic unit with its determiner complement. As a result, the DP cannot be extracted, thus accounting for why *de* does not license P-stranding. Evidence that supports this proposal is the fact that no constituent can be inserted between *de* and a determiner complement, as evidenced in (25).

(25)   *O João não gosta <u>de</u>, **infelizmente**, <u>as</u> explicações do professor.
the John not likes of unfortunately the explanations of-the teacher
"Unfortunately, John doesn't like the teacher's explanations."

The insertion of the adverb in (25) is ungrammatical because *de* undergoes mandatory morphosyntactic contraction with the D-head complement. This means that it is ruled out any type of constituent between P and D, such as an adverb, for example.

In the case of prepositions that do not undergo contraction in BP, we propose that they are complex prepositions. Essentially, we argue that complex prepositions,

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[7] Here, we assume the view that, at least in Romance languages, *wh-* items are determiners. This assumption is supported, among other things, by the fact that, similar to a true determiner, a *wh-* operator like *qual* "which" inflects for number, thus suggesting that it is a D element as well.

(iii)   a.   Qual/*quais criança você viu na festa?
which-SG/which-PL child you saw in-the party
"Which child did you see in the party?"
          b.   Quais/*qual crianças você viu na festa?
which-PL/which-SG children you saw in-the party
"Which children did you see in the party?"

instead of directly selecting a complement DP, select a functional null simple prepositional head that stands between the complex preposition and the DP. We propose that this occurs because complex prepositions, unlike simple prepositions, are not case assigners. This means that the DP receives its case not from the complex preposition, but from the simple one. This proposal is schematized in (26), where P1 represents the complex preposition and P2 the simple preposition.

(26) $[_{PP1}$ P1° $[_{PP2}$ P2° $[_{DP}$ D° $]]]$

A consequence of a structure like 26 is that the complex preposition cannot undergo syntactic contraction with the DP, since there is an intervening head (P2). In other words, the complex preposition and the determiner remain distinct heads in the syntactic component Therefore, there is nothing preventing the extraction of the complement DP, as there is no incorporation of D into P1, which would explain why complex prepositions are stranded elements.

To illustrate this last point, let's consider what happens with the preposition *contra*. As a complex preposition, it is not a case marker. This means that between *contra* and a DP there is a null simple prepositional head, which is the true case assigner for the complement DP. As a result, there is no incorporation of the determiner into *contra*, thus accounting for why this complex preposition licenses P-stranding. Here, it is interesting to note that this preposition allows for the syntactic intercalation of certain elements between it and its determiner complement, as exemplified in (27). The grammaticality of the example below is expected because, since there is no contraction between *contra* and D due to the presence of an intervening case-head (P2), nothing prevents the intercalation of some other element in syntax itself, as is the situation with the adverb *infelizmente*.

(27)   O João votou <u>contra</u>, **infelizmente**, <u>as</u> propostas todas.
        the John voted against unfortunately the proposals all
        "Unfortunately, John voted against all the proposals."

One question that our proposal raises is how children distinguish between simple and complex prepositions during language acquisition. This distinction can be related to the lexical-grammatical status of prepositions in BP, particularly to the kind of meaning they convey. In other words, more meaningful prepositions tend to license stranding, as they are more independent semantic constituents. On the other hand, grammatical prepositions, being bound forms, tend not to license stranding, as they are dependent constituents. From this perspective, it seems reasonable to assume that as soon as the child identifies which items are functional and which are lexical, they automatically begin to differentiate simple prepositions from complex ones.

Another question that could be raised is why simple prepositions are able to assign case, while complex prepositions would lack this feature. Even though we cannot bring direct evidence from Portuguese itself, a lot of other languages give support to such a distinction. One example is found in Gbe languages. Aboh (2010) shows that prepositions like *xlán* "to" occur with weak accusative pronouns, as we see in (28a). On the other hand, adpositions like *jí* "on" cannot occur with weak accusative pronouns, as shown in (28b)[8]. A natural way of accounting for these facts is to say that *xlán* assigns accusative case, while *ji* lacks this property.

(28)   a.   Kòfí zé kwέ xlán mì. (Gbe languages)
              Kofi take money to 1sg-Acc
              "Kofi sent me some money."
        b.   *Àgán jέ mì jí.
              stone fall 1sg-Acc on
              "A stone fell on me."

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[8] A similar pattern is attested in Kîîtharaka, a Bantu language spoken in Kenya (Muriungi, 2006).

Based on this distinction in Gbe languages, we can infer that the ability to assign case is not inherent to all prepositions but may instead be linked to their syntactic and semantic roles. Therefore, the distinction between simple and complex prepositions in Portuguese could reflect a broader cross-linguistic pattern where only certain types of prepositions possess the necessary features to function as case assigners. This cross-linguistic evidence supports our proposal that complex prepositions in Portuguese, lacking this feature, are unable to assign case, reinforcing the distinction between simple and complex prepositions in the syntax of BP.

4 Final considerations

In this article, we presented evidence that BP indeed licenses preposition stranding, contrary to what had been argued in the literature. We also explained why this phenomenon is not generalized, with some prepositional items allowing for P-stranding while others completely rule out this possibility. We argue that, at its core, the difference between these two groups lies in the possibility of being applied a syntactic contraction operation, which would be dependent on the lexical/functional value of each preposition. The notion of contraction is not a new theoretical tool to explain the possibility or impossibility of the preposition stranding phenomenon. The distinctive aspect of our analysis is to make it explicit that the contraction preventing the licensing of P-stranding is a purely syntactic process, which would affect only prepositions with a more functional content. Essentially, such prepositions undergo a fusion operation with their complement, which makes the extraction of this element unfeasible. Regarding prepositions with a more lexical nature, our proposal is that they select a null prepositional category that would be responsible for assigning case to the complement DP. This intermediate null item would prevent the syntactic contraction between the complement DP and the phonetically visible preposition. Since there is no contraction, the extraction of the complement DP is licensed, thus explaining the phenomenon of P-stranding.

For future research, it would be interesting to explore the implications of our analysis in diachronic terms. For example, certain prepositions that currently undergo syntactic contraction (and, consequently, do not behave like stranded prepositions) were not necessarily amalgamated with their complements in earlier stages of Portuguese, as evidenced by the following example from the 14th century (Bíblia, 1992).

(29)   E levantou Lot os olhos, e viu a terra da cerca do rrio Jordam, que
         and raised Lot the eyes and saw the land of-the near of-the river Jordan
which
         era boa e covinhavil pera si, e escolheu de morar **en ela**, e morou **enos**
         was good and desirable for himself and chose of live in it and lived in-
the
         castelos de Sodoma.
         castles of Sodom
         "And Lot raised his eyes, and he saw a land near the Jordan river; the
land was good and desirable, and he chose to live in Sodom."

Unlike what currently happens in BP, in (29) we have the preposition *em* "in" apparently not undergoing syntactic contraction with its determiner complement. Could this preposition license P-stranding in earlier stages, having lost such a property in the diachrony of Portuguese?

Another interesting point relates to prepositions that, in contemporary BP, are similar in semantic terms, but with different properties concerning the P-stranding phenomenon. This seems to be the case with *por* "by" and *per* "by". For instance, *por* is never syntactically contracted with a determiner, as seen in (30). Besides that, the example (31), rated as grammatical by some speakers, shows that *por* behaves as a stranded preposition. On the other hand, *per* is always contracted with a determiner, as exemplified in (32). But, contrary to *por*, the preposition *per* is never stranded, as we see in (33).

(30)*Eu fui convidado para a festa por o amigo meu.
     I was invited to the party by the friend my
     "I was invited to the party by my friend

(31)   O que eles lutavam e esperavam por?
        the what they fought and hoped for
        "What did they fight and hope for

(32)a.   *Eu fui convidado para a festa per o meu amigo.
          I was invited to the party by the my friend
          "I was invited to the party by my friend."
   b.   Eu fui convidado para a festa pelo meu amigo

(33)a.   *O que eles lutavam e esperavam per?
          the what they fought and hoped for
          What did they fight and hoped for?"
   b.   Pelo que eles lutavam e esperavam?

As pointed out by Trujillo (2012), in Old Portuguese these two prepositions already shared semantic properties, in a way like what happens in BP. So, the question that immediately arises is: why has only *por* developed the ability to behave like a stranded preposition?

A last point is why some preposition seem to be obligatorily stranded in some circumstances, but not in others. For instance, in (34) P-stranding is mandatory with the preposition *contra*. However, with the same preposition in (35), P-stranding is optional.

(34)a.   O que que você é completamente contra?
          the what that you are completely against?
          "What are you completely against?"
   b.   *Contra o que que você é completamente?

(35)a.   O que que o João votou contra?
          the what that the John voted against
          "What did John vote against?"
   b.   Contra o que que o João votou?

In conclusion, our analysis opens several avenues for further investigation. Exploring the diachronic evolution of prepositional behavior in Portuguese could shed

light on changes in P-stranding properties over time. Additionally, comparing semantically similar prepositions like *por* and *per* raises important questions about why only certain prepositions develop the ability to license P-stranding. Lastly, understanding the variability in mandatory versus optional P-stranding with prepositions like *contra* suggests that further research is needed to clarify the syntactic conditions under which P-stranding is either required or permitted. Here, we leave all these topics as a starting point for future investigations.

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