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Acquisition of inalienable possessive structures: the case of body-part names in American English and Brazilian Portuguese

Aquisição de estruturas possessivas inalienáveis: o caso dos nomes de parte do corpo em inglês americano e português brasileiro

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Resumo: Este estudo testa a aquisição de estruturas de posse inalienável em português brasileiro e inglês americano, assumindo que crianças falantes nativas de inglês americano teriam disponível, num primeiro momento, a mesma gramática disponível para crianças falantes nativas de português brasileiro, em que a leitura inalienável poderia ser vinculada tanto na presença de pronomes possessivos quanto na presença de determinantes definidos com nomes de parte do corpo. Aplicando a Tarefa de Julgamento de Valor de Verdade observou-se que a distinção entre as gramáticas das duas línguas apareceu por volta dos seis anos de idade, quando crianças falantes de inglês americano restringiram o uso do determinante definido de acordo com a gramática alvo, não permitindo o seu uso nas estruturas contendo nomes de partes do corpo, quando foi veiculada a interpretação inalienável. Neste caso, o determinante definido foi substituído pelo pronome possessivo.

Palavras-chave: posse; inalienável; aquisição.

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Abstract: The current study tests the acquisition of inalienable possessive structures in Brazilian Portuguese and American English, assuming that American English-speaking children start with the same grammar as Brazilian Portuguese-speaking children do. This first grammar would allow inalienable interpretation to be carried by possessive pronouns as well as definite determiners introducing body-part names. Using the Truth Value Judgement Task method, it is noticed that the difference between Brazilian Portuguese grammar and American English grammar appeared around the age of six, when American English-speaking children approach the target grammar, in which the presence of the possessive pronoun is what allows the inalienable interpretation and the use of definite determiners is restricted to alienable possession constructions with body-part names.

Keywords: possession; inalienable; acquisition.

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1 Introduction

In general, inalienable possessive constructions are defined as special possessive structures in which the possessed and the possessor establish a possessive relationship that cannot be transferred to any other possessor. These structures commonly contain body-part names, like *legs* or *nose*, or relatives, like *father* or *brothers*,[1] and implement a possessive relationship, regardless of the presence of a pronoun that expresses this, such as in *O Pedro lavou a mão (dele)* ou *O Pedro abraçou a mãe (dele) (Peter washed (his) the hand* or *Peter hugged (his) the mother)*.[2]

[1] However, only the body-part names will be examined in this article.

[2] It is important to observe that these sentences, in BP, can also communicate the alienable interpretation. That is, it is possible to do a reading in which the possessed object *(his) the hand* or *(his) the mother* does not belong to the possessor available in the sentence, Pedro. Nevertheless, this interpretation is not required in the present discussion on inalienability.

In an attempt to investigate how this type of possessive construction behaves in adult Brazilian Portuguese (BP) and developes in children's grammar, this study bases itself on previously conducted studies that examine how this same type of structure works in other languages – not necessarily pertaining to the same family – such as French, Spanish, and English.

Therefore, throughout this article, studies will be presented which synchronically treat inalienable possession and its acquisition, in addition to studies that examine phenomena related to it, such as the acquisition of determiners and Principles A and B from the Theory of Government and Binding (CHOMSKY, 1981).

According to these works, the hypotheses and predictions raised in this study will be presented in order to be assessed by applied experiments in American English (AE) and BP, as exhibited below.

Section 2 below presents the theoretical foundations of this article, including what the literature of the field affirms regarding the inalienable possession in both adult and children's grammar, as well as the hypotheses and predictions of this article. Section 3 includes the experimental approach, as well as its adopted methodology, the involved factors, and the specific tests (generated through the combination of these factors), the participating subjects, the results, and the discussion. Finally, section 4 traces the conclusion of this study.

2 Inalienable possessive structures: theoretical foundation

2.1 Adult BP: synchronic strategies to mark inalienable possession

According to diachronic research on inalienable possession,[3] the possessive dative clitic pronoun is no longer constituted as a syntactic structure possible to communicate the inalienable interpretation of the BP structure. Currently, other strategies are employed, such as the use of the possessive pronoun and of the definite determiner, which will be analyzed in this section, with special focus on the latter, given that this strategy is that which appears to differentiate BP from other Romance languages, such as French and Spanish, in addition to distinguishing it from AE.

[3] See MENDES, 2012.

According to Guéron (1985), the inalienable interpretation is communicated when the noun phrase that denotes the possessed thing is an intrinsic part of the noun phrase, which can be the subject, as in (1),[4] or the dative possessor, as in (2).[5]

(1) a. *Jean* lève *la main*.
b. *O João* levanta *a mão*.

(2) a. Je *lui* ai coupé *les cheveux*.
b. Eu *lhe* cortei *os cabelos*.

On the other hand, the alienable interpretation is communicated when the noun phrase that denotes the possessed thing is "disconnected" from the subject or dative possessor, as demonstrated in the AE examples in (3).[6]

(3) a. #*John* raises *the hand*.
b. #I cut *the hair for her.*

According to the classification proposed by the author, constructions in which the noun phrase contains a body-part name and is introduced by a definite article, it is in the position of the object of the verb, as in (1)-(3), present ambiguity between the alienable and the inalienable reading in languages like French, while in languages like AE, only the alienable reading is available. According to the examples (1b) and (2b), one can observe that the data from BP behave much like those from French as regards this classification.

In the case of AE, for the inalienable reading to be available, it is necessary that a possessive pronoun take the place of the definite article,[7] as illustrated in (4a).

(4) a. *John* raises *his* hand.
b. *Jean* lève *sa* main.
c. *João* levanta a mão *dele*.

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[4] Example taken from GUÉRON, 1985, p. 43.
[5] Example taken from GUÉRON, 1985, p. 43.
[6] Examples taken from GUÉRON, 1985, p. 43-44.
[7] For a transformational analysis of this structure, see CHOMSKY, 1970, p.200.

The examples 4b-c show that this possibility is also possible in French in BP. Therefore, when the structure involves a possessive pronoun, both the alienable and the inalienable readings are available, given that, in (4), *his hand*, *sa main*, and *a mão dele* can belong both to the subject of the sentence – *John*/*Jean*/*João* – and to any other possessor that may have been mentioned in the discourse.

Hence, Table 1 presents the readings communicated by each type of determiner that introduces the noun phrase containing the possessed noun in each observed language:

TABLE 1 – Reading allowed with the determiner: AE and French/BP

	Definite article	Possessive Pronoun
Inalienable reading	BP/ French	BP/ French and AE
Alienable reading	BP/ French and AE	BP/ French and AE

According to this author's hypothesis, the difference presented, contrasting the data from AE to those from French and BP, in relation to the availability of the inalienable and alienable readings in the examples introduced by definite articles, would be the consequence of the value attributed to a morphophonological parameter, denominated by the author as an "inclusion parameter of PRO", according to which the definite article that constitutes the inalienable phrase can be a pronominal anaphora or an iota operator.

As a pronominal anaphora, that is, a pronoun without an independent reference, the definite article would be responsible for the communicated inalienable reading, as occurs in languages like French or BP.

As an iota operator, in other words, a semantic operator that represents the part that denotes the unicity of a defined description – that is, its *definitude* – the definite article would be responsible for the communicated inalienable reading, such as that which occurs in languages like French, BP, and AE.

What serves as evidence for this hypothesis, in acquisition, would be the agreement features (gender, number, and person[8]) of the

[8] According to Guéron (1985), the definite article, in Romance languages, has a third-person trait.

determiner. In other words, if the language has morphologically marked determiners, as in (5), the definite article can function, in addition to the iota operator, as a pronominal anaphora.

(5) a. *o(s)* garoto(s)
[3Sg. M.Sg.(Pl.)] [M.Sg.(Pl.)]
b. *a(s)* garota(s)
[3Sg. F.Sg.(Pl.)] [F.Sg.(Pl.)]

(6) a. *the* boy(s)
[∅] [M.Sg.(Pl.)]
b. *the* girl(s)
[∅] [F.Sg.(Pl.)]

By contrast, if the language has no morphologically marked determiners, as in (6), the definite determiner cannot act as a pronominal anaphora, but rather only as an iota operator.

Given that the anaphora is a definite determiner, Guéron (1985) proposes, as one of the basic syntactic conditions, that it is subject to an anaphoric connection. That is, for the inalienable interpretation to occur, these constructions need to be submitted to Principle A of the Theory of Government and Binding, presented in (7), according to example (12A) in Chomsky (1981, p.188).

(7) Principle A:
"[...] "An anaphor is bound in its governing category"

According to this principle, the anaphora needs to have an antecedent that c-commands it, and both need to be contained in the first domain of binding, defined as set forth in (8), according to Roberts (1997, p.142, example 21).

(8) The binding domain of α is the smallest XP containing α and
a. A subject (distinct from α and which does not contain α); or
b. The I that assigns Nominative Case to α.

Thus, the example in (1) above, *la main/a mão/the hand*, is an anaphora and its antecedent, the possessor noun phrase, *Jean*/O *João/ John*, in addition to c-commanding the anaphora, functions as a distinct subject of it that does not contain it. In this sense, what is explained is the impossibility of the connection of the inalienable reading in examples such as (9) below, since Principle A would not be respected.

(9) *O dente* caiu. (*The tooth* fell.)

In addition, it is necessary for there to be a lexical chain, which Guéron (1985), in accordance with Chomsky (1981), defines as:

(10) "[...] a set of two or more nominals related by anaphoric binding and interpreted as a single argument in LF" (GUÉRON, 1985, p. 44).

According to the author, all types of chains are affected by the "Nondistincness Constraint" illustrated in (11) below, which makes it a condition that should also be respected in order to establish the inalienable interpretation.

(11) "If A and B are links of a chain, then the referent of A is non-distinct from the referent of B" (GUÉRON, 1985, p.44).

The connection of the notion of the lexical chain presented in (10) with the non-distinctive restriction illustrated in (11) results, according to the author, in a simplification of the grammar when faced with the previously proposed models, making it so that nothing else is grammatically necessary to establish an inalienable interpretation.

Vergnaud and Zubizarreta (1992), however, disagree with this hypothesis, since an analysis based on the control theory would not capture certain restrictions that apply to these structures. Therefore, they propose that the difference presented between the availability of the alienable and inalienable readings in AE and French are a consequence of the double interpretation that the definite noun phrase, containing body-part names, for example, can communicate. According to these authors, definite and referential noun phrases can express *token* interpretation and *type* interpretation according to the "Correspondence Law", presented in (12) below.

(12) Correspondence Law

"When a DP or an NP denotes, the DP denotes a token and the NP denotes a type".

The *token* interpretation that licenses the alienable interpretation corresponds to a DP that has the nucleus of an *essential determiner*, according to Longobardi (1994), resulting in a "complete" DP. By contrast, the *type* interpretation, which licenses the inalienable interpretation, corresponds both to a bare NP and a DP, which has as its nucleus an *expletive determiner*.

The authors define the expletive determiner as "a category that has no representation in Domain D" (VERGNAUD; ZUBIZARRETA, 1992, p. 595), according to the definition of "Domain D" according to Chomsky (1981, p.324).

Longobardi (1994), proposing a principle to govern the carrying out of the determiner's projection nucleus, presented in (13) below, affirms that definite determiners can be divided between substantive determiners and expletive determiners, in which the latter category can be further divided into those that introduce plural massive generic names and those that introduce proper names.

(13) "The phonetic realization of the D position is licensed only if it expresses semantic content or grammatical features, or as a last resort" (p. 654, example 89).

According to Castro (2006, 2007), it can be observed that, in BP, in addition to the occurrence of the expletive determiner, whether null or lexicalized,[9] introducing noun phrases with proper names and generic names, these determiners can also introduce possessive noun phrases[10] (in this case, noun phrases introduced by prenominal simple possessives), as shown in the examples in (14) below.

[9] According to Castro (2006, 2007), in BP, the expletive determiner can occur both as null or lexicalized, while in EP, it occurs only as lexicalized.

[10] For further analysis of this co-occurrence, see also studies from Vianna (2004), Floripi (2008), and Rinke (2010).

(14) a. (*O*) *João* comprou um livro. (*John* bought a book.)
b. (*As*) *crianças* gostam de gibis. ((*The*) *children* like comic books.)
c. (*O*) *meu* livro foi publicado. (*My* book was published.)

Thus, the *type* interpretation would be available for languages such as BP, which present expletive determiners, and not for AE, in which this type of determiner is not present,[11] as illustrated in the examples in (15)[12] below.

(15) a. *I love *the France*.
b. **The beavers* are mammals.
c. **The wine* is made out of grapes.
d. **The my* book was published.

The *token* interpretation, on the other hand, would be available for both types of languages, given that BP and AE would present equally substantive determiners.

In this manner, the adult grammar of AE and BP would present opposite patterns in relation to the reading allowed when the definite determiner is present: while, in the first, definite determiners, as they are substantive, these would be used solely to denote the alienable reading, in the second, these same determiners would be used to denote both readings, being inalienable when the definite determiner is expletive and alienable when the definite determiner is substantive, as illustrated in Table 2 below.

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[11] According to Longobardi (1994), there are cases in AE in which the expletive definite determiner can occur: introducing noun phrases with non-massive and singular generic names, such as in (i) below (LONGOBARDI, 1994, p. 650, example 80a-b); or introducing noun phrases with generic essential adjectives, such as in (ii) below (LONGOBARDI, 1994, p.644, example 44a-b).

(i) a. *The* lion has four legs.
b. *Lion has four legs.
(ii) a. *The* rich are becoming even richer.
b. *Rich are becoming even richer.

[12] Examples taken from Longobardi (1994, p. 631, example 43), except example 39d.

TABLE 2 – Reading allowed with the definite determiner: AE and BP

Language	Essential Determiner	Expletive Determiner
BP	Alienable reading	Inalienable reading
AE	Alienable reading	*Not applicable*

By contrast, the use of possessive pronouns would, in both languages, trigger alienable and inalienable readings, it being the only option in AE in the latter case.

Vergnaud & Zubizarreta (1992) still base their argument on semantic dependence. According to this notion, the inalienable object is a dependent entity, given that it is inherently defined in terms of another object of which it is part. On the contrary, the alienable object is an independent entity, that is, it has its own definition.

In this light, the authors assume that an inalienable name, different from an alienable name, takes on a possessor argument, which can be lexicalized inside or outside of the noun phrase. Therefore, body part names, for example, would have two lexical entrances:

(16) a. mão (x) (hand (x))
b. mão (hand)

This implies one in which it takes on a possessor argument and communicates the inalienable reading, as in (16a), and another in which it does not take on a possessor argument and communicates the alienable reading, as in (16b) (Cf. AUTHIER, 1988;[13] TELLIER,[14] 1988 *apud* VERGNAUD; ZUBIZARRETA, 1992).

2.2 Children's BP: inalienable possession and defined determiners

Based on the analyses exhibited in the previous section for adult BP grammar, in this section, some studies will be presented in this same language, or examined in other languages, such as Dutch, Spanish, and AE,

[13] AUTHIER, J.-M. *The syntax of unselective binding*. Dissertation (Doctoral) – University of Southern California, Los Angeles, 1988.

[14] TELLIER, C. *Universal licensing*: implications for parasitic gap constructions. Dissertation (Doctoral) – McGill University, Montreal, Quebec, 1988.

which treat children's grammar, focusing on the acquisition of inalienable possession together with other types of structures related directly to it, such as definite determiners Ramos (1999[15] *apud* PÉREZ-LEROUX *et al*., 2002a, b), examining the interpretation of definite determiners in contexts of inalienable possession in children's grammar with DEL,[16] observes, according to the results from children who are typical speakers of AE, a declining rate in the communication of inalienable reading in structure in which the definite determiner is present. Whereas a rate of 30% is found in the results of the younger group (3;8 to 4;5 years of age), in the older group (4;7 to 5;7 years of age), a rate of 23% is found.

Similar results can be found in Baauw (2000[17]), reported in Schaeffer (2002), who examines the behavior of the definite determiner during the acquisition of structure of inalienable possession in two parametrically distinct languages: Dutch and Spanish. Although in the target grammar of these languages the definite determiner only exhibits the possibility of carrying the inalienable reading in Spanish, in children's grammar, this connection is possible in both languages.

According to the experiment of *Truth Value Judgment Task* carried out by the author, involving 47 children, native speakers of Dutch, from 4;0 to 7;0 years of age, and 22 adults, also Dutch speakers, observed that adults and children from the older group, from 6;0 to 7;0 years of age, presented a 70% rejection regarding the presence of the definite determiner in inalienable constructions, while children from the younger group, of 4;0 to 5;0 years of age, though they show a similar tendency, make this rejection in lesser proportions, presenting a 30% rejection regarding the same structure. Among the results with Spanish speakers, the inalienable reading is accepted in the presence of the definite determiner both by children as well as by adults.

According to the author, the interpretation of definite determiners is affected by two factors, one of pragmatic order, in which children would present difficulties to restrict the use of the determiner to the contexts in which these are allowed in the target language, and another of

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[15] RAMOS, E. *The syntax of NPs in SLI*. Dissertation (Ph. D) – University of Massachussetts, 1999.

[16] Specific Language Deficit.

[17] BAAUW, S. *Grammatical features and the acquisition of reference*. Dissertation (Doctoral) – University of Utrecht, 2000.

morphosyntactic order, according to which the incomplete acquisition of the morphosyntactic traits of the D would render them able to be treated as expletive determiners in Dutch.

Pérex-Leroux *et al.* (2002a, b), based on the aforementioned studies, conducted a comparative study between the grammars of AE and Spanish, observing the interpretation of definite determiners in the same possessive context. It was observed that, much like the adult grammar of Dutch, that of AE did not present the possibility of the existence of the inalienable reading with structures in which the definite determiner occurs, as previously discussed in this section, whereas in the children's grammar,this reading can be carried.

Nevertheless, different from Baauw (2000), these authors adopt the distributional hypothesis, according to which "forms with comparable morphosyntactic distribution lexically compete for a given semantic space" (PÉREZ-LEROUX *et al*., 2002b, p. 199).

Thus, the authors assume that, both in AE and Spanish, children would include the inalienable construction between the semantic representations of the definite determiner, since there would be an overgeneralization of the use of definite determiners in the initial grammar,[18] but not due to pragmatic difficulties, given that this would be observed even in carefully controlled discursive and pragmatic contexts, or by morphosyntactic factors, given that this would also be noted in controlled contexts, but due to the fact that "they haven't yet learned all the restrictions imposed by the competing forms in particular contexts" (PÉREZ-LEROUX *et al*., 2002a, p. 246).

According to Pérez-Leroux *et al*. (2002a), children who speak a language such as AE would have to learn that definite determiners can occur when the referent of the noun phrase that it introduces can be identified in the discourse, it is unique and maximum, such as in (17)[19] below.

(17) *The students* entered the room.

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[18] See Villiers & Roeper, 1995, Mathewson *et al*., 2001, Pérez-Leroux *et al*., 2004, Schaeffer & Mathewson, 2005, Munn *et al*., 2006, among others, for more profound studies about the acquisition of defined determiners in AE – compared to other languages.

[19] Pérez-Leroux *et al*., 2002a, p. 246, example 1.

As they violate the condition of identification in the discourse, and the maximality, in the case of (18b), the examples in (18),[20] containing abstract names, as in (18a), constructions of inalienable possession, as in (18b), and generic plurals, as in (18c), would not be allowed in this language.

(18) a. **The freedom* depends on the development of civil society.
b. #The teachers shook *the head*.
c. #*The pandas* are not related to bears

Nonetheless, particular contexts, exemplified in (19),[21] as generic constructions in the singular form, as in (19a), and constructions of inalienable possession of prepositional phrases, as in (19b), though they violate the same conditions violated by the above examples, are allowed in AE.

(19) a. *The lion* lives in Africa.
b. They were hit in *the arm*.

Hence, AE-speaking children at some point during the linguistic development, would have to restrict this option according to the input data, that is, allow only the alienable construction in the presence of this determiner. According to Pérez-Leroux *et al.* (2002b), the evidence for this would be related to the properties of the system of possessives in AE – which oppose those presented by the Spanish system – given that these would produce more robust data in comparison to those concerning the properties of definite determiners.

To test this distributional hypothesis, Pérez-Leroux *et al*. (2002a, b) applied a compression experiment (act-out), involving, on one hand, 17 children, native speakers of AE, from 3;11 to 6;6 years of age, and 18 adults, as the control group, and on the other hand, 20 children native speakers of Spanish, from 3;2 to 6;8 years of age, and 8 adults, as the control group.

According to the obtained results, AE-speaking children from the younger group (9 children of 3;11 to 5;2 years of age) allow the

[20] Pérez-Leroux *et al*., 2002a, p. 246, examples 2-4.
[21] Pérez-Leroux *et al*., 2002a, p. 247, example 5.

inalienable reading to be linked to a structure containing the definite determiner more often than children from the older group (8 children from 5;5 to 6;6 years of age), whereas the adults do not allow this link, empirically confirming the evidence found in the study. By contrast, when compared to the results from Spanish, as in those observed by Baauw (2000), inalienable reading is accepted with the defined determiner, both in the children's and the adult grammars.

Finally, in relation to BP, Mendes (2010) conducted a longitudinal study, examining different age ranges of three children – AC, G, and R – passing through the phase of acquisition of this structure of possession.

According to the general results of this study, it can be observed that, in 82% of the data, the possessor can be found in the discourse and not in the sentence, differently from that proposed in the previously presented studies, especially in relation to those that treat body-part names.

However, the author observes that, in the younger age ranges, these children produce many free DPs, which could explain this non-submission to referential dependence.

On the other hand, a growing pattern can be observed in relation to the presence of the possessor in the sentence as the child becomes older. In addition, in the presence of the possessor, the demands of referential dependence become respected, indicating that, as the grammar begins to converge, it is submitted to the rules present in the adult grammar.

2.3 Hypotheses and prediction for the acquisition of inalienable possession

According to experimental studies regarding the acquisition of the inalienable possession structures presented above, the present study assumes the distributional hypothesis of Pérez-Leroux *et al*. (2002a, b, 2004), according to which the overextension of the use of the definite determiner in languages such as AE would be explained by the late restriction of the particular contexts in which this specific determiner can occur within this language, which would be a sub-group of the contexts allowed in languages like BP, which would not have to perform this type of restriction.

Factors that would contribute to this later restriction in AE constitute the properties on which the inalienable possessive constructions depend and continue to be ranked in (I)-(II) as follows.

(I) Type of empty category of the possessor: anaphoric vs pronominal

(II) Type of determiner: possessive vs definite (substantive vs expletive)

As regards the property in (I), the empty category of the possessor of the possessed nominal phrase containing the inalienable name – according to its trait [±lexical] (BARKER, 1995) – or the name that allows one to establish an inalienable relationship – according to its trait [±relacional] (LICHTENBERK *et al*., 2011) – can be of two natures – anaphoric or pronominal – depending on the type of name involved and the relationship that it establishes.

As it is a body part name (which establishes a part-whole relationship), this category is anaphoric, obeying Principle A of the Binding Theory, since it would treat a trait stemming from the movement, as in (20) below.

(20) a. O Pedro$_j$ disse que o João$_i$ lavou a mão t_i. (Peter$_j$ said that John$_i$ washed the handt_i.)

b. O Pedro$_j$ disse que os cabelos$_k$ incomodaram o João$_i$. (Peter$_j$ said that the hairs$_k$ bothered John$_i$.)

Similar to that which occurred in the case of the empty category being pronominal,[22] treating the property in (II), when the noun phrase containing the body-part name, as in examples in (21), is followed by a possessive pronoun, it would be subject to Principle B.

(21) a. O Pedro$_j$ disse que o João$_i$ lavou a mão *dele*$_{i/j/k}$. (Peter$_j$ said that John$_i$ washed *his* hand$_{i/j/k}$.)

b. O Pedro$_j$ disse que os cabelos *dele*$_{j/?i/k}$ incomodaram o João$_i$. (Peter$_j$ said that *his* hairs$_{j/?i/k}$ bothered John$_i$.

[22] When treating the relational names.

Regarding the examples of (21b), it can be observed that the link between the possessed nominal phrase, *his hairs* and *John* would not be established because the c-command would not exist.[23]

As regards the property found in (II), there are the possessive pronouns, which would present no distinction in the readings that can be linked in BP or in AE, though they present different syntactic structures.

In addition to these, there are also the definite determiners, which present opposite patterns in relation to those allowed in these two languages when it introduces the possessed nominal phrase containing potentially inalienable names, while in AE they would be used only to denote the alienable reading, in BP they would be used for both types of reading.

According to Vergnaud & Zubizarreta (1992), this ambiguity in BP would be explained by the fact that the definite determiners in this language were divided between substantive definite determiners and expletive definite determiners. While the first make the alienable reading possible, the latter make the inalienable reading possible. Moreover, due to the fact that AE does not present expletive determiners – except for two specific cases already clarified above and resumed later – it would also not allow the inalienable reading to be linked by nominal phrases introduced by definite determiners, such as that summarized in Table 3 below.

TABLE 3 – Reading allowed according to the types of determiners: AE and BP

Language	Defined Determiner		Possessive pronoun
	Substantive	Expletive	
BP	Alienable Reading	Inalienable Reading	(In)alienable Reading
AE	Alienable Reading	*Not applicable*	(In)alienable Reading

According to Vergnaud & Zubizarreta (1992), assuming that substantive definite determiners allow the *token* interpretation of the noun phrase and, therefore, the alienable reading, and that expletive definite determiners allow the *type* interpretation of the noun phrase and,

[23] Fact pointed out by Grolla (p. c.).

therefore, the inalienable reading, one can presume that the acquisition of the inalienable possession is dependent on the acquisition of substantive and expletive determiners.

Hence, while the children's grammar from AE is not restricted to the particular contexts in which the expletive definite determiners can appear – primarily in singular generics, as in (22) below, called by Vergnaud & Zubizarreta as *prototypes*, that is, *tokens* that communicate the trait [±type], and within locative prepositional phrases, as in (23) below – these would be admitted as substantive and expletive, presenting a behavior similar to that of BP.

(22) *The* Bengal tiger is becoming extinct.

(23) John hit him on *the* face.

However, the relevant evidence in favor of the lack of expletive determiners in this language would be related to the possessive paradigm – in which the possessives work as determiners – as can be seen in (24) below, and to the impossibility of having definite determiners that introduce proper names, as in (25).

(24) (**The*) My book is blue.

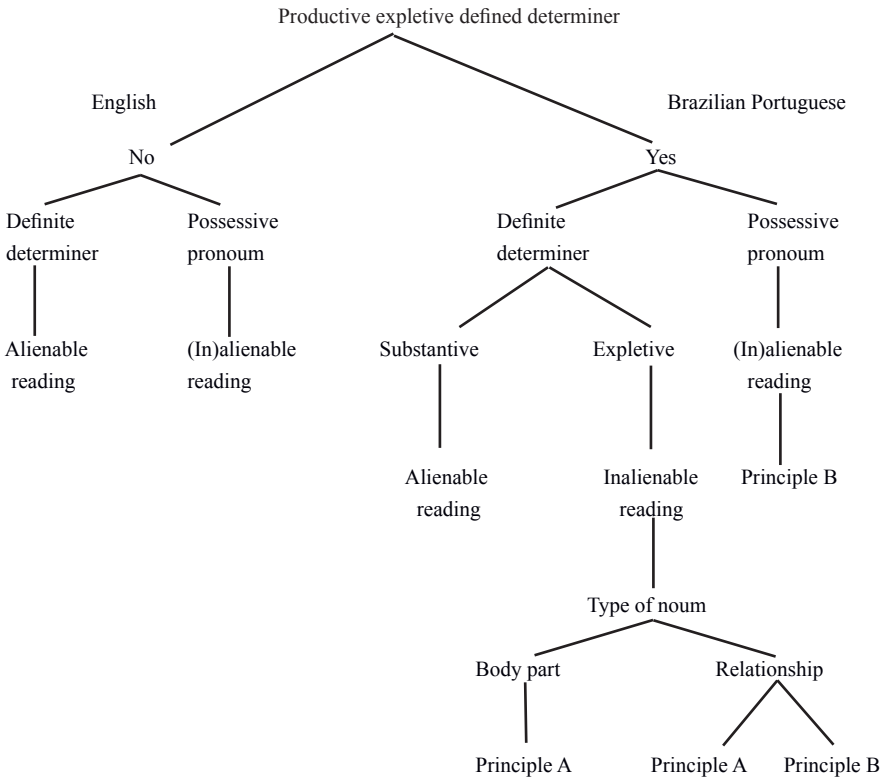
(25) (**The*) John is reading.

It is predicted, therefore, that younger AE-speaking children present the same pattern as BP-speaking children and adults that is, that there is a greater tendency toward the acceptance of definite determiners co-occurring with inalienable reading and a greater tendency toward the acceptance of possessive pronouns co-occurring with alienable reading.

On the other hand, older AE-speaking children would be closer to the pattern presented by AE-speaking adults in which definite determiners co-occur with alienable reading, while possessive pronouns co-occur with inalienable reading.

According to that discussed in this section, Figure 1 below presents a scheme that summarizes the relationships established between the communicated reading and the type of determiner, in addition to the Binding Principles involved in the constructions of possession in AE and BP.

FIGURE 1 – Summary of the systems: BP and AE



Thus, while AE-speaking children do not restrict the expletive definite determiners to the particular contexts in which they are allowed, their grammar will be submitted to the conditions of the grammar of languages like BP.

3 Inalienable possessive structures: experimental bias

3.1 Methodology

To investigate constructions of inalienable possession in an experimental form, in order to examine how this type of structure develops in children's grammar, in comparison to its behavior presented in adult grammar, a cross-sectional collection of children's data, characterized by

Scarpa (2001, p. 204) as a data collection technique stemming from a high number of informants in which the age ranges observed were previously confirmed according to findings from prior studies, thus allowing one to test certain aspects of the objective in question in greater depth, given that the studied structures contain a greater complexity for its production.

Adopting the technique of *Truth Value Judgment Task (TVJT)*, defined by Gordon (1996) as a method that "requires the child simply to make a bipolar judgment about whether a statement accurately describes a particular situation alluded to in some context or preamble" (p. 211), tests the comprehension of AE and BP speakers as regards the occurrence of definite determiners and possessive pronouns in possession structures in which both the alienable and inalienable readings would be available, as will be explained in the next section, given that one expects there to be a late restriction in AE of the private contexts in which the use of the definite determiner is allowed, making the children's grammar from AE resemble the children's grammar of BP and not that of adult AE.

For the set-up of the general experiment, four factors were selected, as presented in (26) below, given that (26a-b) referent to the sentence-test, (26c) related to the image that accompanies the test sentence and (26d) compatible with the interaction between the sentence-test and the image that accompanies it.

(26) a. Type of determiner: definite article or possessive pronoun
b. Syntactic function: direct object, passive subject, complement of the prepositional phrase.
c. Type of image: favorable to the alienable reading or favorable to the inalienable reading
d. Possessive interpretation: alienable or inalienable

Four small tests resulted from the interaction between the factors (26a) and (26d), which make up the general experiment, exhibited in (27) below, which were used here to present the didactic form of the results of this research, with each containing from one to three test sentences (which co-occur with the images described above), and each of the tests interacts independently with the factor presented in (26b), since the expectation is to see if there exists some effect stemming from the syntactic function in which the inalienable structure is found, given that questions regarding the c-command can influence the results.

(27) a. Defined & Inalienable
b. Defined & Alienable
c. Possessive & Inalienable
d. Possessive & Alienable

Hence, two studies were conducted, one in English and another in Portuguese, with the same material. These studies included four small independent tests, two with definite articles (one with images favorable to an inalienable reading, another with images favorable to an alienable reading) and two with possessives (also with images favorable to both types of reading).

3.2 Method

As regards the children's data collected from AE,[24] 45 AE-speaking children, all of whom were students from elementary schools[25] from the cities Amherst, Sunderland, and Northampton, cities in the state of Massachusetts, USA, participated in the tests presented above. The younger group of children was comprised of 30 children from 3;03 to 5;11 years of age – average age of 4;07 – and a group of older children consisting of 15 children from 6;01 to 8;04 years of age – average age of 7;02.

In addition, as an adult control group, the same tests were applied to 13 AE-speaking adults, all of whom were undergraduate students from the University of Massachusetts at Amherst.

As regards the collected children's data from BP,[26] the same series of tests were applied to 79 BP-speaking children, all of whom were

[24] The application of tests was allowed by means of authorization granted by the Ethics Commission of the Department of Linguistics, University of Massachusetts at Amherst. In addition, each of the schools also authorized the study and, finally, the parents of each of the children signed an Informed Consent Form authorizing the participation of them in the experiments, as well as the use of these data in the present study.

[25] Center for Early Education and Care, in Amherst; Sunderland Elementary School, in Sunderland; and Bridge Street School, in Northampton.

[26] The application of the tests was allowed by means of authorization granted by the Research Ethics Committee (REC) – see Certificate of Presentation for Ethical Consideration (CAAE), protocol number 13530014.4.0000.5404, identifying the present research, available online in the site *Plataforma Brasil*. In addition, each of the schools

students of elementary schools[27] from Campinas, SP, Brazil. The younger group of children consisted of 33 children from 3;11 to 5;10 years of age – average age of 4;11. The older group of children consisted of 46 children from 6;00 to 9;00 years of age – average age of 7;06.

In addition, as an adult control group, the same tests were applied to 15 BP-speaking adults, all of whom were university students at the Federal University of Santa Catarina and the State University of Campinas.

Regarding the material, a laptop, containing the presentations in power point pertaining to the applied tests, was used and forms to record their answers were given to the interviewed individuals.

Thus, three stories were told by one boy – in the two first stories – and one girl – in the last story – who were playing with Mr./Mrs. Potato Head while they performed their activities, such as wash, dry, and eat, which also implied the participation of the toy (and of its parts).

In the test phase, each story told was illustrated by a series of photographs presented in the slides, which varied with respect to the reading that it carried, much in the same way that the test sentences varied in relation to the type of determiner used.

Thus, for each of the test sentences containing a definite article, as in (28), (29), and (30) below, a photograph for example, was presented, carrying the inalienable interpretation – that is, a photograph in which the character was executing an action on a part of his own body and not on a loose part of the body of Mr./Mrs. Potato Head, who was also present in the scene – as illustrated in Figures 2, 3, and 4 below.

(28) a. Is Bill cleaning *the* hands?
b. O Pedrinho está limpando *as* mãos?

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also authorized the application of tests and, finally, the parents of each child signed an Informed Consent Form, authorizing the participation of the children in the experiments, as well as the use of their data in this study. In the case of adults, an Informed Consent Form was also signed by the participants themselves, authorizing the application of the tests and the use of their data in this work.

[27] Escola Municipal de Educação Infantil Agostinho Páttaro, in Campinas; Escola Estadual Maria Alice Colevati Rodrigues, in Campinas.

(29) a. Were *the* eyes being dried?
b. *Os* olhos estão sendo secos?

(30) a. Did the fly land on *the* nose?
b. A mosca pousou n*o* nariz?

FIGURE 2 – Direct object

FIGURE 3 – Passive subject

FIGURE 4 – Complement of PP

By contrast, tests sentences containing a definite determiner also co-occurred with the photograph carrying the alienable interpretation – that is, a photograph in which the character was executing an action on a loose body part of Mr./Mrs. Potato head, present in the scene, and not on a part of his own body, as illustrated in examples (31), (32), and (33) below, illustrated in Figures 5, 6, and 7 below.

(31) a. Is Bill cleaning *the* nose?
b. O Pedrinho está limpando *o* nariz?

(32) a. Was *the* tongue being dried?
b. *A* língua está sendo seca?

(33) a. Did the fly land on *the* hat?
b. A mosca pousou n*o* chapéu?

FIGURE 5 – Direct object

FIGURE 6 – Passive subject

FIGURE 7 – Complement of PP

Similar to the test sentences containing definite determiners, the test sentences containing possessive pronouns[28] would co-occur with, for example, a photograph carrying the inalienable interpretation – in which the character was executing an action on a part of his own body and not on a loose part of the body of Mr./Mrs. Potato Head, as in examples (34), (35), and (36) below, illustrated by Figures 8, 9, and 10 below.

(34) a. Is Bill cleaning *his* hand?
b. O Pedrinho está limpando a mão *dele*?

(35) a. Was *his* nose being dried?
b. O nariz *dele* está sendo seco?

(36) a. Did she drop ketchup on *her* glasses?
b. Ela derramou catchup nos óculos *dela*?

[28] The form of *dele/dela*, in the test containing the possessive in BP, was used in the place of *seu/sua*, because that is the preferred form in the adult grammar spoken in this language when referential antecedents are present, as is the case in the test sentences. *Seu/sua* would be the favored form in the case of generic antecedents.

FIGURE 8 – Direct object

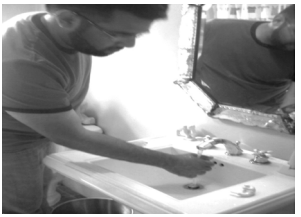


FIGURE 9 – Passive subject

FIGURE 10 – Complement of PP

Or even, the test sentences containing possessive pronouns can co-occur with a photograph carrying the alienable interpretation, in which the character is performing an action on a loose part of the body of Mr./ Mrs. Potato Head and not on a part of his own body, as shown in examples (37), (38), and (39) below, illustrated by figures 11, 12, and 13 below.

(37) a. Is Bill cleaning *his* eyes?
b. O Pedrinho está limpando os olhos *dele*?

(38) a. Was *his* ear being dried?
b. A orelha *dele* está sendo seca?

(39) a. Did the fly land on *her* hair?
b. A mosca pousou no cabelo *dela*?

FIGURE 11 – Direct object

FIGURE 12 – Passive subject

FIGURE 13 – Complement of PP

Applying this series of experiments, according to the TVJT, it was possible to verify the participant's judgement regarding the adaptation of the interpretation favored by the photograph to that carried by the test sentence, which, in this case, appeared in the form of a *yes-no* question.

3.3 Results and discussion

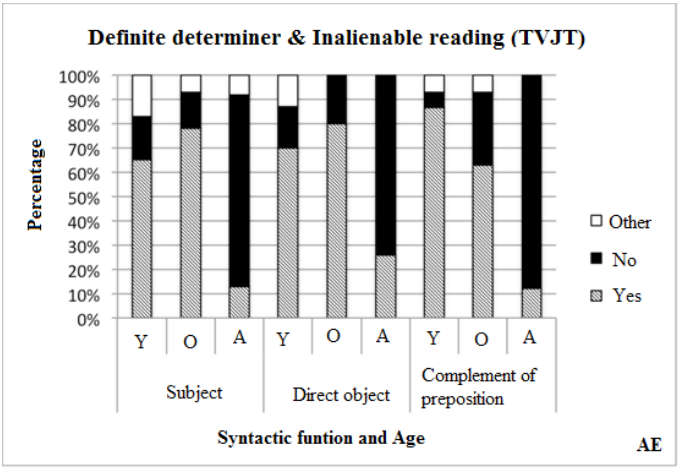
The general results run in line with the four tests resulting from the combination of factors used in the set-up of the general experiment, exhibited in subsection 3.1 above, and their interaction with the age factor, which is young children, older children, and adults, and is based on the examination of expected answers in each test.

In *Test 1*, the use of the definite determiner co-occurring with this type of possessive interpretation would not be allowed in AE, regardless of the syntactic function in which the possessed nominal phrase appears.

By contrast, in BP, this co-occurrence is allowed, so long as the empty category of the possessor of the possessed nominal phrase is linked to its antecedent, respecting the demands from Principle A. Hence, what is expected is a differential result in relation to the data, with the possessed nominal phrase performing the function of the passive subject.

According to the data presented in Graph 1 below, regarding the results from AE, a quite low expected rate of response – in this case, *no* – was observed in the children's results, as compared to the adult's results, which presented a higher rate.

GRAPH 1 – Test 1: AE



Abbreviations: Y younger children
O older children
A adults
AE American English

According to the graph above, the younger children's and the older children's grammars present a rate of response that was quite close to the expected rate – with 18% and 15% in the function of the passive subject, and 17% and 20% in the function of the direct object – except when the possessed nominal phrase figures in the function of the complement of the preposition, in which these rates are 6.5% in the younger children's grammar and 30% in the older children's grammar.

These percentage differences are confirmed as statistically significant, according to the results from the Fischer Exact Test, exhibited in Table 3 below.

TABLE 3 – Test 1: *p*-value, AE[29]

Passive subject	*Younger*	*Older*	*Adults*
Younger	-	0.63240000	0.00000000
Older		-	0.00000000
Adults			-
Direct Object	*Younger*	*Older*	*Adultos*
Younger	-	1.00000000	0.00000001
Older		-	0.00000075
Adults			-
Complement of the Preposition	*Younger*	*Older*	*Adultos*
Younger	-	0.00771100	0.00000000
Older		-	0.00002722
Adults			-

In this manner, when body-part names co-occur with definite determiners in this type of possessive structure, one can observe that, while the adult grammar from AE allows only the alienable reading, indicating the use of the substantive definite determiner, the children's grammar allows both readings – alienable and inalienable – indicating the use of both types of definite determiners – substantive and expletive.

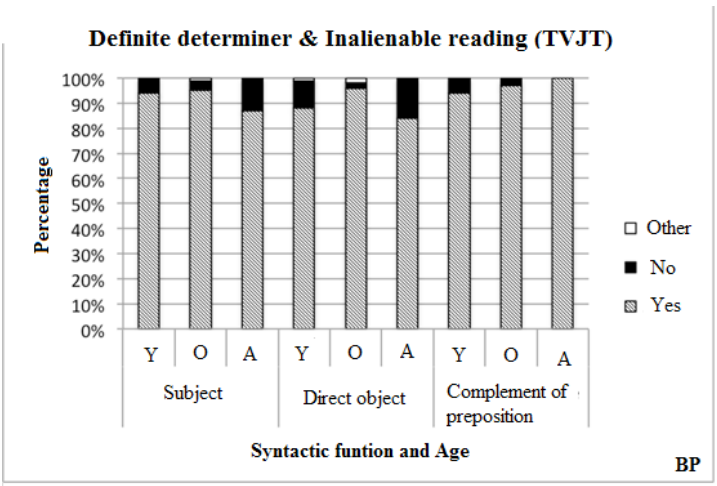
As the child grows older, what can be noted is a restriction with regard to the use of one of the types of co-occurring determiners

[29] The shaded cells of the tables containing the *p*-value indicate the statistically significant differences, according to the Fischer Exact Test.

with the alienable reading, pointing out a change in the direction of the target grammar, according to what the results show in the function of the complement of the prepositional phrase.

Regarding the results from adult and children's BP, one can observe, according to Graph 2 below, a quite high rate of expected responses – in this case, *yes* – when the possessed nominal phrase takes on the role of the complement. However, when the possessed nominal phrase takes on the role of the passive subject, one can note a low rate of expected responses – in this case, *no* – in the grammar of all of the analyzed groups.

GRAPH 2 – Test 1, BP



Abbreviations: Y younger children
O older children
A adults
BP Brazilian Portuguese

According to the graph above, in the role of the complement, the rate of expected responses varied from 84% to 96% regarding the role of the direct object, and of 94% to 100% regarding the results in the role of the complement of the preposition. However, when the possessed nominal phrase takes on the role of the passive subject, the

rate of expected responses, analyzing the three groups of participants, varies from 6% to 13%.

It can be observed, according to Table 4 below, that there exists a statistically significant difference only in the roles of the passive subject and of the direct object, with this disparity occurring between the older children's grammar as compared to the adult grammar in the first and last, and between the two children's grammars concerning the final syntactic role.

TABLE 4 – Test 1: *p*-valor, BP

Passive subject	Younger	*Older*	*Adults*
Younger	-	0.53390000	0.19240000
Velhas		-	0.02906000
Adults			-
Direct Object	*Younger*	*Older*	*Adults*
Younger	-	0.00229900	0.58780000
Older		-	0.00098730
Adults			-
Complement of the preposition	*Younger*	*Older*	*Adults*
Younger	-	0.45250000	0.30590000
Older		-	1.00000000
Adults			-

These results, on the one hand, show that the co-occurrence between this type of determiner and the inalienable reading is in fact allowed in all of the examined grammars, exhibiting an even greater preference in the adult grammar when the possessed name takes on the role of the complement, proving the hypothesis formulated in this study.

On the other hand, the results concerning the role of the passive subject appear to contradict the hypothesis adopted in the present study, which predicts that such a relationship of possession would be impossible,

given that, performing the role of the passive subject, the possessed name would be linked to its possessor, following the demands set forth by Principle A.

It can therefore be assumed that this case deals with a pragmatic problem stemming from the experimental technique, in which the participants tried to be collaborative, interpreting the sentences as "good enough".[30]

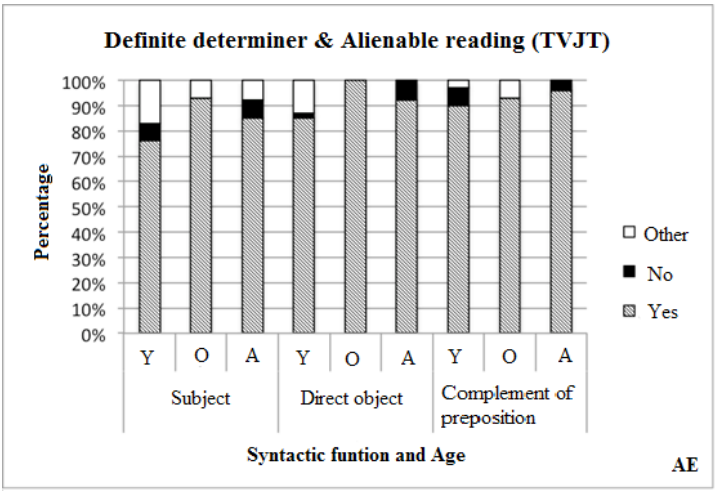
According to Test 2, this would be the reading with which the definite determiner could co-occur in AE, regardless of the syntactic role under which the possessed nominal phrase appears.

In BP, though the occurrence of determiners is allowed within any of the available interpretations – the substantive or expletive definite determiner – there would be a tendency not to accept the data collected in *Test 2*, when they take on the role of the complement – in which the inalienable reading would be preferred, as discussed in *Test 1* above. By contrast, when they performed the role of the passive subject, due to the non-compliance with the binding demands set forth by Principle A, the opposite would occur.

As regards the results from AE obtained in this test, one can observe that, when the definite determiner occurs in an alienable context, the rate of expected responses – in this case, *yes* – is quite high when comparing the children's and adult's results, within any of the syntactic functions, according to that shown in Graph 3 below.

[30] *Good enough interpretation*, according to Hemforth (c.p.). This case does not deal with a *good enough* from processing studies, in the sense assumed by Collin Phillips.

GRAPH 3 – Test 2: AE



According to the results from the graph above, the data from younger children presented a rate of expected responses that varies from 76% to 90% in the present test, the data from older children presented a variation from 93% to 100% of positive responses, and the data from adults varied, in this case, from 85% to 96% of *yes* responses.

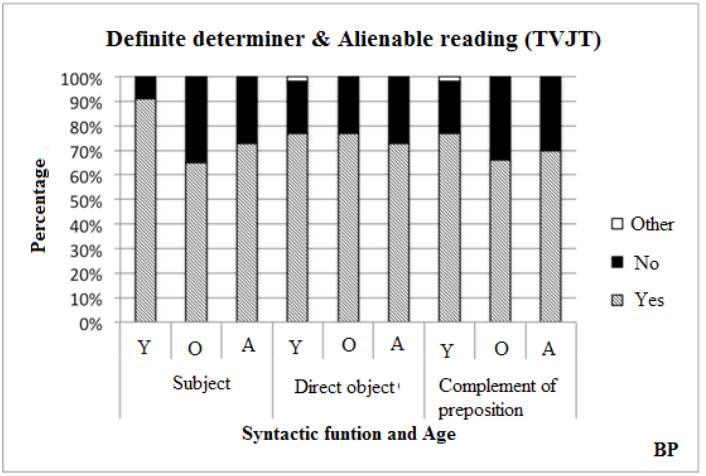
The statistical analysis performed in this study proves that, in fact, there is no statistically significant difference among the three analyzed grammars, as the *p*-values show in Table 5 below, proving the hypothesis set forth in this study.

TABLE 5 – Test 2: *p*-value, AE

Passive subject	*Younger*	*Older*	*Adults*
Younger	-	0.52770000	1.00000000
Older		-	0.46150000
Adults			-
Direct object	*Younger*	*Older*	*Adults*
Younger	-	1.00000000	0.25630000
Older		-	0.21100000
Adults			-
Complement of the preposition	*Younger*	*Older*	*Adults*
Younger	-	0.29890000	1.00000000
Older		-	0.48150000
Adults			-

Concerning the results referent to BP in this test, it could be seen that, one the one hand, there was a high rate of expected responses – in this case, *yes* – in relation to the data that take on the role of the passive subject. On the other hand, one can observe a low rate of expected responses – in this case, *no* – in relation to the data that take on the role of the complement, as shown in Graph 4 below.

GRAPH 4 – Test 2: BP



When taking on the role of the passive subject, the rate of expected responses varied from 65% to 91% among the three examined groups, the rates of expected responses, in the roles of complement, direct object, and complement of the prepositional phrase, vary from 21% to 27% and from 21% to 30%, respectively, among these same three groups.

It was observed that, according to the applied quantitative analysis, in general, there was no statistically significant difference among the three examined grammars, except in relation to the children's grammar when the possessed nominal phrase takes on the role of the passive subject, as shown in Table 6 below.

TABLE 6 – Test 2: *p*-valor, BP

Passive Subject	Younger	Older	Adults
Younger	-	0,01483000	0,18300000
Older		-	0,75360000
Adults			-
Direct Object	*Younger*	*Older*	*Adults*
Younger	-	1,00000000	0,60750000
Older		-	0,80520000
Adults			-
Complement of the preposition	*Younger*	*Older*	*Adults*
Younger	-	0,10940000	0,44190000
Older		-	0,82420000
Adults			-

In the present test, one can note that the children and adults accept the use of the definite determiner within the alienable reading, as predicted for data that take on the role of the passive subject, for which high rates of expected responses were recorded.

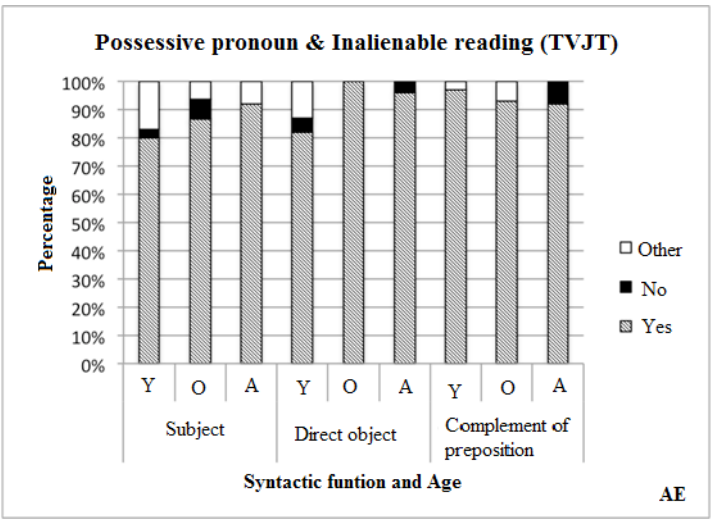
However, not meeting the stipulated predictions for this language – since a preference for inalienable reading was expected even in a context that was not favorable for such a reading – the adult and children's grammars also exhibit a high rate of acceptance for this same use when dealing with data that take on the syntactic function of the complement, which does not consist of a problem, since substantive definite determiners are also available in BP, thus making such an interpretation available, as can be seen in AE.

According to *Test 3*, one can affirm that, although the possessive pronoun is allowed in both readings – alienable and inalienable – there would be a greater preference for the first in both languages, regardless of the executed syntactic function, given that, among the possible

possessors, only one would be salient in the test sentence – while the other would only be present in the context.

According to the results from Graph 5 below, one can see that, when the possessive pronoun co-occurs with the inalienable reading in AE, the rate of expected responses – in this case, *yes* – is high in both the children's and adults' results, regardless of the syntactic function in which the possessed nominal phrase is executed.

GRAPH 5 – Test 3: AE



According to the graph above, the younger children's grammar presented a rate of expected responses that varies from 80% to 97%, the older children's grammar presented a variation from 86% to 100% of *yes* responses, and the adult grammar varied from 92% to 96% of positive responses.

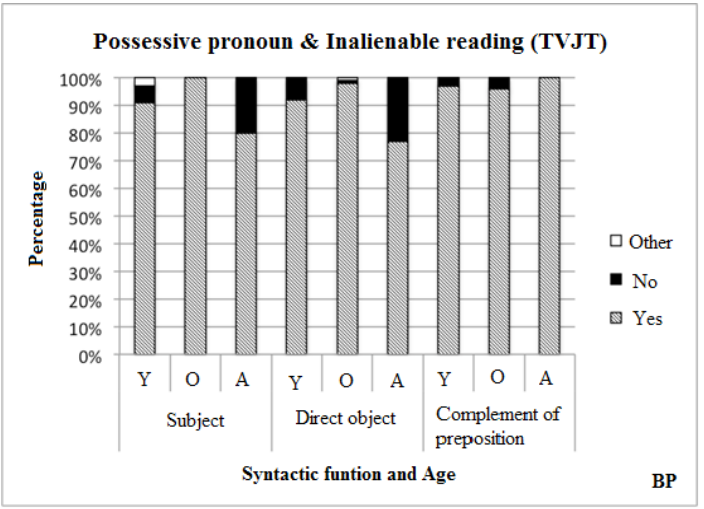
According to Table 7 below, one can observe that there is a statistically significant difference among the three analyzed grammars, confirming the hypotheses of the present study.

TABLE 7 – Test 3: *p*-valor, AE

Passive subject	*Younger*	*Older*	*Adults*
Younger	-	1.00000000	1.00000000
Older		-	1.00000000
Adults			-
Direct object	*Younger*	*Older*	*Adults*
Younger	-	0.29540000	1.00000000
Older		-	0.46430000
Adults			-
Complement of the preposição	Younger	Older	Adults
Younger	-	1.00000000	0.30950000
Older		-	0.48150000
Adults			-

As regards the data from BP, it is possible to observe that, though there was a greater oscillation between the readings with regard to AE, as illustrated in Graph 6, the rate of expected responses – in this case, *yes* – obtained in this test is still quite high with respect to the children's and adults' results, regardless of the syntactic function performed by the possessed nominal phrase.

GRAPH 6 – Test 3: BP



According to the results from the graph above, the rate of expected answers stemming from the younger children's grammar varied from 91% to 97%, the older children's grammar from 96% to 100%, and the adult's grammar from 77% to 100%.

According to the statistical analysis applied to the data of this test, one can note that there was a significant discrepancy between the children's grammar and the adults' grammar, in the roles of passive subject and direct object, with the first between the adults' grammar and that of the older children, and the second between both children's grammars, as shown in Table 8 below.

TABLE 8 – Test 3: *p*-valor, BP

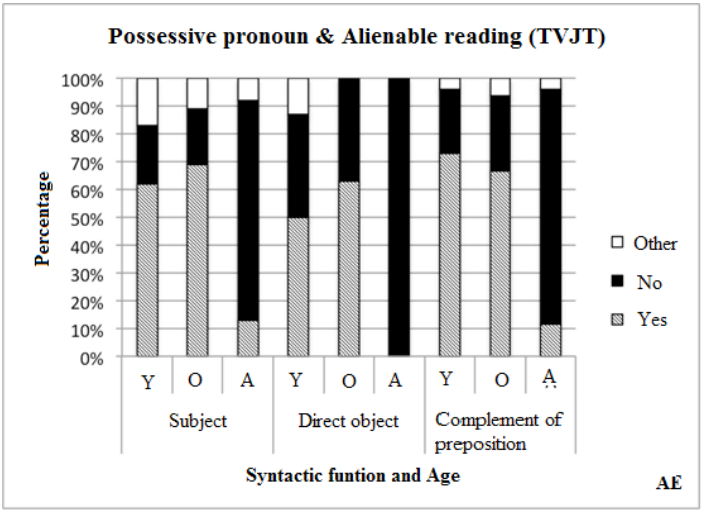
Passive subject	*Younger*	*Older*	*Adults*
Younger	-	0.16520000	0.30880000
Older		-	0.01264000
Adults			-
Direct object	***Younger***	***Older***	***Adults***
Younger	-	0.08318000	0.04492000
Older		-	0.00021240
Adults			-
Complement of the preposition	***Younger***	***Older***	***Adults***
Younger	-	1.00000000	1.00000000
Older		-	1.00000000
Adults			-

This statistical difference shows that, between the two available readings, children presented a greater preference for the inalienable reading when in the presence of the possessive pronoun than did adults, who, though they also show this preference, according to the percentage data presented in the table above, are also open to the alienable reading, not favored by the context.

According to *Test 4*, as discussed in *Test 3* above, though the use of possessive pronouns is allowed in both interpretations, according to the hypothesis set forth in this study, one can affirm that there is a greater preference for the inalienable reading in both languages, regardless of the performed syntactic function.

As regards the occurrence of the possessive pronouns within the alienable reading in AE, one can observe that the rate of expected responses – in this case, *no* – continues to be high in the adults' grammar, while it is quite a bit lower in the children's data, as shown in Graph 7 below.

GRAPH 7 – Test 4: AE



According to the results from the graph above, while the adults' grammar presents a rate of expected responses from 79% to 100%, the children's grammar, of both the younger and older children, presented a rate that varied from 20% to 37% of negative responses in this context.

This discrepancy between the adult grammar and the children's grammar can be confirmed in Table 9 below, in which the *p*-values attributed to each of these presented a statistically significant difference.

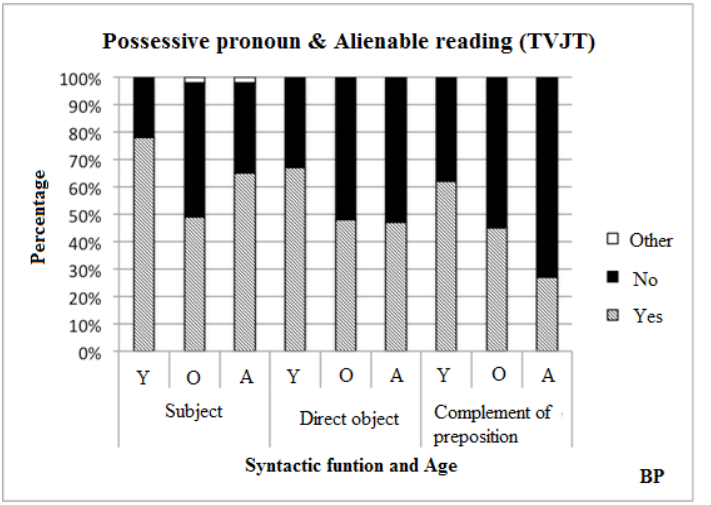
TABLE 9 – Test 4: *p*-valor, AE

Passive Subject	*Younger*	*Older*	*Adults*
Younger	-	0.82190000	0.00000000
Older		-	0.00000002
Adults			-
Direct object	Younger	Older	Adults
Younger	-	0.64780000	0.00000015
Older		-	0.00000024
Adults			-
Complement of the preposition	*Younger*	*Older*	*Adults*
Younger	-	0.79260000	0.00000007
Older		-	0.00001816
Adults			-

Thus, in AE, when the body-part names co-occur with possessive pronouns in this type of construction, one can observe that, while the adult grammar gives priority to the inalienable reading – even if it is not the interpretation favored by the context – the children's grammar presents a variation between the two possible readings, with younger children giving preference to the alienable reading, and gradually to the inalienable reading as they grow older, moving in the direction of the target grammar.

As regards the data from BP, it is possible to observe the same standard of percentage growth in the rates of expected responses – in this case, *no* – except in relation to the data concerning the role of the passive subject, as shown in Graph 8 below.

GRAPH 8 – Test 4: BP



According to the graph above, the younger children's grammar presented a rate of expected responses that varied from 22% to 38%, the older children's grammar exhibits a rated that varied from 49% to 55% of negative responses, and the target grammar exhibited a rate of 33% to 73% of *no* responses.

The statistical analysis proves that there is a significant difference only in the role of the complement of the preposition; however, the *p*-value of the role of the direct object is also close to that expected in this type of test. In the case of other functions, there is a statistically significant difference between the children's grammars, as shown in Table 10 below.

TABLE 10 – Test 4: *p*-valor, BP

Passive subject	*Younger*	*Older*	*Adults*
Younger	-	0.00002135	0.15100000
Older		-	0.08299000
Adults			-
Direct object	*Younger*	*Older*	*Adults*
Younger	-	0.02313000	0.07478000
Older		-	1.00000000
Adults			-
Complement of the preposition	*Younger*	*Older*	*Adults*
Younger	-	0.03610000	0.00186200
Older		-	0.09113000
Adults			-

Thus, while younger children exhibit a preference for the alienable reading when in the presence of possessive pronouns, varying according to a context in which the sentence is presented, older children and adults exhibit a tendency toward the preference for the inalienable reading, even when the context does not favor this.

4 Conclusion

As regards the results obtained by means of the TVJT, one can observe that, with respect to Test 1, there is a low rate of expected responses within the children's data from AE, though this is an a-grammatical construction in adult AE. Nevertheless, one can note a clear growth in this construction throughout the age ranges, demonstrating that the occurrence of the definite determiner is restricted to the alienable reading as the children grow older. The data collected from the adult subjects, by contrast, exhibited a high rate of expected responses, as was predicted.

As regards the data from BP, both adults and children allowed the inalienable reading, which occurred with the defined determiner in

any of the examined syntactic functions, contradicting the hypothesis assumed in this study, which affirmed, in this context, that this preferred co-occurrence would not exist when the possessed nominal phrase took on the role of the passive subject, since the demands from Principle A would be broken. It is therefore presumed that this has to do with a pragmatic problem in which the participants would be collaborative with the experiment, interpreting the sentence as "good enough".

Regarding *Test 2*, one can observe a relatively high rate of expected responses in AE, pointing toward a preference for alienable reading in this context, in both the children's data as well as in the adults' data, as was predicted.

As regards the results from BP, one can perceive that, regardless of the syntactic function performed by the possessed nominal phrase, the children's and adults' results also tended toward an alienable reading, showing that, in this reading, the preferential reading – given that both are available – varies according to the presented context.

Regarding *Test 3*, one can perceive that the rate of expected answers is high in both languages, demonstrating that, in this context, there is, in fact, a preference for the inalienable reading in both AE and BP.

As regards *Test 4*, one can note, in general, a high rate of expected responses on the part of the adults and a low rate of expected responses on the part of children in both languages. However, it is also possible to observe a growth pattern in the rate of expected responses throughout the age ranges, which shows a tendency toward the target grammar.

According to the results exhibited above, while in the adult BP there would be a preference for the inalienable reading being carried by structures containing definite determiners or possessive pronouns, in adult AE, structures containing possessive pronouns favor the communication of the inalienable reading, while the structures containing definite determiners communicate only the alienable reading, when body-part names are present.

Also according to the results obtained in the present study, one can observe that, in the beginning of language acquisition, children, native speakers of both languages, seem to accept both interpretations being carried by both types of determiners, placing their preference in the presented context, with this initial preference restricted to those available in the target grammar as they grow older.

These results, therefore, corroborate the predictions set forth in the present study due to the fact that the structures, on the one hand, can

be superficially similar, while one the other hand, they can present more complex relationships, involving distinct empty categories, in addition to the syntactic-semantic role of the determiner and its consequent structural position.

Consequently, it is believed that the hypothesis presumed that AE-speaking children began with a grammar that is similar to that of BP, to then converge into the AE grammar, restricting the use of definite determiners in relation to this type of possessive construction. This finding is sustained by the results of the present study.

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