Regular and athematic participles in Brazilian Portuguese

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1 Introduction

A. Description of the regular participle in Brazilian Portuguese (BP)

- It is realized by two forms -a-d-o or -i-d-o, where a and i are theme vowels (TH), -d is the participle itself,\(^1\) and -o/a(s) is agreement morphology (number and gender inflection; coarsely glossed here as ‘AGR’).

- Theme vowels: in BP: -a (1st conjugation, (1a)), -e (2nd conjugation, (1b)), -i (3rd conjugation, (1c)). In the PTC, the theme vowel of 2nd (1b) and 3rd conjugation (1c) verbs neutralize to i.

(1) a. 1st conjugation
   - passado/a(s)
   - iron-TH-PTC-AGR
   - ‘ironed’

   b. 2nd conjugation
   - comido/a(s)
   - eat-TH-PTC-AGR
   - ‘eaten’

   c. 3rd conjugation
   - partido/a(s)
   - leave-TH-PTC-AGR
   - ‘left’

B. Athematic participles

- In addition to the regular form above, some verbs allow for an additional shorter participle (rightmost column in (2)) that lacks the participle affix (-d) and a theme vowel.

→ Only agreement morphology occurs in athematic participles.

(2)  Regular participle                      Athematic participle
   a. ganh-a-d-o  ‘win-TH-PTC-AGR’      ganh-o  ‘win-AGR’
   b. limp-a-d-o  ‘clean-TH-PTC-AGR’    limp-o  ‘clean-AGR’
   c. prend-i-d-o  ‘arrest-TH-PTC-AGR’  pres-o  ‘arrest-AGR’

- Due to the lack of a theme vowel, these participles are called ‘athematic’ (Lobato 1999; Souza 2011; Scher et al. 2013; 2014; Nevins & Rodrigues 2014).

ο But bear in mind that, as mentioned, most athematic PTCs lack both a theme vowel and the PTC morpheme -d itself. This observation has already been made by Calabrese (2015) regarding participles in Italian.

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\(^1\) -t is an allomorph of PTC which occurs after a consonant or glide. -d occurs in intervocalic contexts, the first vowel being the theme vowel. Thank you to A. Albright for pointing that out to me.

*Many thanks to Adam Albright, Laura Kalin, David Pesetsky, and Donca Steriade for patient and generous criticism! Needless to say, all errors and inconsistencies are my own.
• There may be suppletion in the root too, as in √prend-i-d-o √pres-o. This is going to be relevant later.

C. Syntactic distribution of the participles

• Either participial form in (2) can be used in the perfect and the verbal passives.

(3) **Participle alternation in the perfect**

O João tem limp-a-d-o / limp-o as gavetas com freqüência.
the João has clean-TH-PTC-AGR / clean-AGR the drawers with frequency.
‘João has been frequently cleaning the drawers.’

(4) **Participle alternation in the verbal passive**

As gavetas foram limp-a-d-as / limp-as pelo João.
the drawers AUX1.PST clean-TH-PTC-AGR / clean-AGR by.the João
‘The drawers were cleaned by João.’

○ This would lead us to think that there is free variation between regular and athematic participles.

○ But: once we consider other structures where the participial form of the verb is used, we see that there are restrictions in the occurrence of regular and athematic participles.

• Participles can form at least three types of constructions in BP, verbal passives (5a), adjectival passives (5b), and absolute participles (5c).

(5) a. **Verbal passive**

Essa camisa foi pass-a-d-a pelo João.
this shirt AUX1.PST iron-TH-PTC-AGR by.the João
‘This shirt was ironed by João.’

b. **Adjectival passive**

Essa camisa está/permanece pass-a-d-a.
this shirt AUX2.PRES/remains iron-TH-PTC-AGR
‘This shirt is/remains ironed.’

c. **Absolute participle**

[ Pass-a-d-a a última camisa ], o João pôde descansar.
[ iron-TH-PTC-AGR the last shirt ] the João could rest. INF
Lit.: ‘Ironed the last shirt, João could rest’.

• In (5), the verb is passar ‘iron’, which accepts only the regular participial. In other words:

(6) **Regular participle**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>pass-a-d-o ‘iron-TH-PTC-AGR’</td>
</tr>
<tr>
<td>b</td>
<td>com-i-d-o ‘eat-TH-PTC-AGR’</td>
</tr>
<tr>
<td>c</td>
<td>part-i-d-o ‘leave-TH-PTC-AGR’</td>
</tr>
</tbody>
</table>

**Athematic participle**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a</td>
<td>*pass-o ‘iron-AGR’</td>
</tr>
<tr>
<td>b</td>
<td>*com-o ‘eat-AGR’</td>
</tr>
<tr>
<td>c</td>
<td>*part-o ‘leave-AGR’</td>
</tr>
</tbody>
</table>

²Glossing -o as AGR here is probably misleading, but I do so for uniformity’s sake.
D. Restrictions in the form of the participle

- Given that there are also verbs that accept a second, athematic participial form (2), we may ask what happens when a verb of this class is used to build the participial constructions in (5).

- Generalizations:
  - Verbal passive (7a): either form, regular or athematic
  - Adjectival passive (7b): athematic only
  - Absolute participle (7c): regular only

(7)  

a. Verbal passive

As gavetas foram limp-a-d-as / limp-as pelo João.
The drawers AUX1.PST clean-TH-PTC-AGR / clean-AGR by.the João
‘The drawers were cleaned by João.’ [= (4)]

b. Adjectival passive

As gavetas estão/permanecem *limp-a-d-as / limp-as.
The drawers AUX2.PRES/remain *clean-TH-PTC-AGR / clean-AGR
‘The drawers are/remain clean.’

c. Absolute participle

[ Limp-a-d-as / *Limp-as as gavetas ], o João foi descansar.
[ clean-TH-PTC-AGR / *clean-AGR the drawers ] the João went rest.INF
‘The drawers having been cleaned, João went and rested.’

- One could object that adjectival passives are formed with true adjectives and that limpas in (7b) is the adjectival form of √LIMP.
  - But: this wouldn’t account for why this potentially adjectival form is also acceptable in the verbal passive (7a).
  - Instead, it may be desirable to provide a uniform analysis that accounts for the occurrence of athematic forms in both verbal and adjectival passives.

E. Questions

(8)  

i. What is it about verbal passives that renders this type of construction compatible with either participial morphology?

ii. Why is there a restriction in the participial form that can occur in adjectival passives and absolute participles?

iii. What could explain the directionality of this restriction?

- I will try to provide an answer to these questions that is based on current assumptions in minimalist syntax (Chomsky 1995: et seq.) and on distributed morphology (Halle & Marantz 1993; 1994: et seq.).

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3 This restriction imposed on absolute participles was first brought to my attention by Jairo Nunes (Introduction to Syntax/FLL0215, USP, 2015).

4 See Bruening (2014) for an argument that adjectival passives in English are formed in the syntax, though I haven’t done the work of checking whether the same carries over to BP.
F. Preview of the analysis

- Structures proposed for the PTC constructions:

\[(9) \quad \text{a. Verbal passive} \quad \text{b. Adjectival passive} \quad \text{c. Absolute participle} \]

\[
\text{SOD1: } v \text{ and } \sqrt{v} \text{ are part of different SOD's } \rightarrow \text{regular PTC.} \\
\text{SOD2: } v \text{ and } \sqrt{v} \text{ are part of the same SOD } \rightarrow \text{athematic PTC.}
\]

- Main tool: the concomitant absence of a theme vowel and an overt morpheme in athematic participles is a consequence of fusion between \(v\) and \(\sqrt{v}\).

- Fusion will be constrained by locality, which is in turn constrained by how much structure is Spelled-Out.

\[
\begin{align*}
\text{Absolute participle (9c): } v \text{ and } \sqrt{v} \text{ are part of different SOD's, so there cannot be any fusion between them } \rightarrow \text{regular PTC.} \\
\text{Adjectival passive (9b): } v \text{ and } \sqrt{v} \text{ are part of the same SOD, so there can be fusion between them } \rightarrow \text{athematic PTC.} \\
\text{Verbal passive (9a): variable SOD's. } \\
\text{SOD1: } v \text{ and } \sqrt{v} \text{ are part of different SOD's } \rightarrow \text{regular PTC.} \\
\text{SOD2: } v \text{ and } \sqrt{v} \text{ are part of the same SOD } \rightarrow \text{athematic PTC.}
\end{align*}
\]

2 The minimal structure of participial constructions

- In this section: motivation of the structures in (9), starting with the minimal structure that is supposed to be shared among all participial forms.

- In §3, we will move on to how these participial constructions are different from each other, paving the way to an analysis of the realization of PTC in each of them.

2.1 The position of PTC wrt the root

A. Root allomorphy conditioned by the PTC

- A handful of roots have a form that is used exclusively in the PTC (and nowhere else in the verbal paradigm).

\[
\begin{array}{ccc}
\text{Infinitive} & \text{Participle} \\
\text{a. } \text{abr-i-r} & \text{aber-t-as} & \text{‘open’} \\
\text{b. } \text{diz-e-r} & \text{dit-as} & \text{‘say’} \\
\text{c. } \text{faz-e-r} & \text{fei-t-as} & \text{‘do’}
\end{array}
\]
• Some verbs that allow for more than one PTC form may display allomorphy in one of these forms.\(^5\)

\[(11)\]  

<table>
<thead>
<tr>
<th>Regular PTC</th>
<th>Root allomorphy in athematic PTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. mat-a-d-o</td>
<td>mor-t-as</td>
</tr>
<tr>
<td>b. morr-i-d-o</td>
<td>mor-t-as</td>
</tr>
<tr>
<td>c. ə eleg-i-d-as</td>
<td>elei-t-as</td>
</tr>
<tr>
<td>d. restring-i-d-as</td>
<td>restri-t-as</td>
</tr>
<tr>
<td>e. suspend-i-d-as</td>
<td>suspen-s-as</td>
</tr>
<tr>
<td>f. emerg-i-d-as</td>
<td>əemer-s-as</td>
</tr>
<tr>
<td>g. exprim-i-d-as</td>
<td>express-s-as</td>
</tr>
<tr>
<td>h. acend-i-d-as</td>
<td>ace-s-as</td>
</tr>
<tr>
<td>i. inclu-i-d-as</td>
<td>inclu-s-as</td>
</tr>
<tr>
<td>j. prend-i-d-as</td>
<td>pre-s-as</td>
</tr>
</tbody>
</table>

B. A way to account for these facts: locality in allomorphy

• Common (though not uncontroversial) assumption: allomorphy requires locality (cf. Embick 2010 for a very strict notion of locality).\(^2\)

• As such, we could hypothesize that PTC is adjacent to the root, as in (12).

\[(12)\]  

C. But: a problem for (12)

• When present, the theme vowel occurs in between the root and the participle.

\[(1)\]  

a. passado/a(s) b. comido/a(s) c. partido/a(s)  
pass-a-d-o com-i-d-o/a(s) part-i-d-o/a(s)  
iron-TH-PTC-AGR eat-TH-PTC-AGR leave-TH-PTC-AGR  
‘ironed’ ‘eaten’ ‘left’

• The problem is that there is no room for a theme vowel in (12).

D. Proposed solution: **impoverishment** (more precisely: deletion) [refs to be added]

• Step I: following Oltra Massuet (1999), I assume that theme vowels are inserted post-syntactically, adjacent to functional heads.\(^6\)

\[(13)\]  

\(\text{Theme Vowel insertion (Oltra Massuet 1999)}\)

a. At M[orphological] S[tructure], all syntactic functional heads require a theme position.

---

\(^5\)There is a lot of chance I am misparsing the athematic PTC forms in (11).

\(^6\)D. Steriade: why isn’t the theme vowel adjoined directly with the root, which it is sensitive to? This is an entirely reasonable concern, but I have nothing to add to it.
• For concreteness, I assume that the root in participial forms merges with the categorizer \( v \), a functional head. PTC merges on top of this structure, (14i). (13) applies to \( v \), (14ii).

\[
\begin{align*}
(14) & \quad \text{i. Syntax output} & \text{ii. Theme vowel insertion} \\
& \begin{array}{c}
\text{Ptc} \\
\downarrow \\
\text{Ptc} \\
\downarrow \\
\sqrt{v} \\
\end{array} & \begin{array}{c}
\text{Ptc} \\
\downarrow \\
\text{Ptc} \\
\downarrow \\
\sqrt{v} \\
\text{TH}
\end{array}
\end{align*}
\]

• Step II, proposal: \( v \) is deleted in the presence of the roots in (10)).

\[
(15) \quad \text{Deletion: } v \rightarrow \emptyset / \sqrt{R} \ldots, \text{where } R \in \{\text{prend, imprim, abr, diz, …}\}
\]

○ Because \( v \) has been fused together with the root (given the relevant roots), the theme vowel insertion rule (13) cannot be applied.\(^7\)

E. Takeaway: minimal PTC structure, regular or athematic

• Based on the allomorphy patterns discussed above, the PTC structure we arrived is (16), adding the phrase level structure and head movement.

• This is very similar to the structure that Oltra-Massuet & Arregi (2005) have already proposed for nonfinite forms of the verb in Spanish.

\[
(16) \quad \text{Minimal PTC structure}
\]

• I take (16) to be the smallest structure of a PTC construction, shared by all three participial constructions discussed here, to wit verbal passive, adjectival passive, and absolute participle.

• Next section: how these PTC constructions are different from each other.

3 Syntactic differences among participial constructions

A. Be auxiliaries\(^8\)

• Verbal passive: auxiliary necessary; only \textit{ser} (AUX1) auxiliary

• Adjectival passive: auxiliary alternates with predicates that take adjectival complements, like \textit{permanecer} ‘remain’; only \textit{estar} (AUX2) auxiliary

\(^7\)The way this is stated, the root allomorphy discussed here implies that deletion applies before theme vowel insertion. L. Kalin (p.c.) points out that a rule ordering-free alternative would implying deleting \( v \) along with the theme vowel.

\(^8\)The main focus of the research is to explain the realization of PTC in the constructions under discussion. It is beyond the scope of this research to provide an analysis of the choice of the form of be auxiliaries; the point here is to help illustrate the fact that For an overview and a recent proposal, see Myler (2018).
• Absolute participle: no auxiliary possible

(17) **Verbal passive**

a. **A vela foi apag-a-d-a pelo vento.**
   the candle AUX1.PST blow.out-TH-PTC-AGR by the wind
   ‘The candle was blown out by the wind.’

b. Todas as peças de doação **foram junt(-a-d)-as e guard-a-d-as**
   all the pieces of donation AUX1.PST gather(-TH-PTC)-AGR and store-TH-PTC-AGR
   pelo Pedro.
   by the Pedro
   ‘All the donated items were gathered together and stored away by Pedro.’

(18) **Adjectival passive**

a. **A vela está / permanece apag-a-d-a.**
   the candle AUX2.PRES / remains blow.out-TH-PTC-AGR
   ‘The candle remains blown out.’

b. **A Maria e a Rosa estão / permanecem junt(*-a-d)-as.**
   the Maria and the Rosa AUX2.PRES / remain gather(-TH-PTC)-AGR
   (*carefully/*quickly)
   Int.: ‘The wardrobe is carefully/quickly opened.’

(19) **Absolute participle**

a. [ (*Si-d-a) apagada a vela ], ...
   [ (*AUX1-PTC-AGR) blown.out the candle ] ...

b. [ (*Est-a-d-a) apagada a vela ], ...
   [ (*AUX2-TH-PTC-AGR) blown.out the candle ] ...

B. Manner adverbs and instrumental phrases

• There is a distinction among the participial constructions examined here with respect to the licensing of manner adverbs like **cuidadosamente** ‘carefully’ (cf. Embick 2004 for English participles).

(20)  

a. **Verbal passive**
   
   O armário foi limp(-a-d)-o **cuidadosamente/rapidamente.**
   the wardrobe AUX1.PST clean-PTC-AGR carefully/quickly
   ‘The wardrobe was carefully/quickly cleaned.’

b. **Adjectival passive**
   
   O armário permanece/está aber-t-o
   the wardrobe remains/AUX2.PRES open-PTC-AGR
   (*cuidadosamente/*rapidamente).
   (*carefully/*quickly)
   Int.: ‘The wardrobe is carefully/quickly opened.’

c. **Absolute participle**
   
   [ Aber-t-o o armário **cuidadosamente/rapidamente** ], ...
   [ open-PTC-AGR the wardrobe carefully/quickly ] ...
   ‘The wardrobe having been carefully/quickly opened, …’
a. **Verbal passive**

O bolo foi **ass-a-d-o** com um forno industrial.

the cake AUX1.PST bake-TH-PTC-AGR with a oven industrial

‘The cake was baked with an industrial oven.’

b. **Adjectival passive**

O bolo está **ass-a-d-o** (*com um forno industrial*).

the cake AUX2.PRES bake-TH-PTC-AGR (*with a oven industrial)

‘The cake is (in the state of being) baked (*with an industrial oven).’

c. **Absolute participle**

[ Ass-a-d-o o bolo com um forno industrial ], os preparativos para a festa puderam começar.

[ bake-TH-PTC-AGR the cake with a oven industrial ] the preparations for the party could start.INF

‘The cake havin been baked with an industrial oven.’

- A way to capture these data:
  - I will try to capture the similarity between verbal passives and absolute participles regarding manner adverbs and instrumental phrases by saying that they both contain a *v* categorizer.
  - Adjectival passives have an additional *a* categorizer.
    - Due to analysis-internal reasons, I assume that a *v* is still present.
    - The need is justified by the assumption that the theme vowel is adjoined post-syntactically to *v* (see (14ii) above).

C. Adjectival passives are adjectival not only by name.

- The PTC that occurs in this type of construction is also licensed in environments where clear-cut adjectives can occur.
- We saw in (20) that adjectival passives cannot be modified by manner adverbs, unlike verbal passives and absolute participles.
- Independently, manner adverbs cannot modify adjectives: ⁹

(22) A Maria é (*cuidadosamente*) inteligente / contente / forte / persistente.

the Maria is (*carefully*) intelligent / happy / strong / persistent

‘Maria is intelligent/happy/strong/persistent.’

- A way to account for this similarity: again, by saying that adjectival passives contain a *a*, which adjectives presumably do too.

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⁹At least not the individual level or stative predicates considered here. Thank you to D. Steriade for pointing out this caveat.
D. Interim summary (from manner adverb and instrumental phrase data)

(23) Structure of PTC constructions (version 1/2)

a. Verbal passive

```
PtcP
  Ptc
    v
    √P
    √
    DP
```

b. Adjectival passive

```
αP
  a
  PtcP
    v
    √P
    √
    DP
```

c. Absolute participle

```
PtcP
  Ptc
    v
    √P
    √
    DP
```

So far, verbal passives and absolute participles just have the the minimal PTC structure argued for in §2, which already contains $v$.

Adjectival passives in turn have an additional $αP$ layer in order to capture the adjectival properties discussed above.

E. Presence of an agent

Assumption: the presence of an agent can be diagnosed by the occurrence of a by-phrase (24).

This property distinguishes between verbal passives, which allow for both, from all the other participial constructions, which allow for neither.

(24) a. Verbal passive

```
As gavetas foram organiz-a-d-as / limp(-a-d)-as pelo Otávio. the drawers AUX1.PST organized-TH-PTC-AGR / clean(-TH-PTC)-AGR by.the Otávio
'The drawers were organized/cleaned by Otávio.'
```

b. Adjectival passive

```
As gavetas permanecem/estão organiz-a-d-as / limp(*-a-d)-as
the drawers remain/AUX2.PRES organized-TH-PTC-AGR / clean(*-TH-PTC)-AGR
(*pelo Otávio).
(*by.the Otávio)
'The drawers remain/are clean (*by Otávio).'
```

c. Absolute participle

```
[ Organiz-a-d-as / Limp*(-a-d)-as as gavetas (*pelo Otávio) ], ele
[ organize-TH-PTC-AGR / clean*(-TH-PTC)-AGR the drawers (*by.the Otávio) ] he
pôde se mudar para o novo escritório.
could SELF change.INF for the new office
'The drawers having been organized/cleaned (*by Otávio), he could move in into his new office.'
```

Assumption: the presence the participle being a control verb whose subject is an agent (Pesetsky 1991). This property also distinguishes between verbal passives, which allow for both, from all the other participial constructions, which allow for neither.
(25) a. **Verbal passive**

   \[ \text{PRO} \text{correr uma maratona} \text{ já foi tent-a-d-o por incontáveis atletas de fim-de-semana.} \]

   ‘Running a marathon (is something that) has been tried by countless occasional athletes.’

   b. **Adjectival passive**

   \[ \text{PRO} \text{correr uma maratona} \text{ está try-TH-PTC-AGR.} \]

   c. **Absolute participle**

   \[ \text{Pelo menos tent-a-d-o vários atletas de fim-de-semana já se sentem realizados.} \]

   Int.: ‘Several occasional athletes feel accomplished by just trying to run a marathon.’

F. Unaccusative predicates

- Perhaps relatedly, verbal passives are different from both adjectival passives and absolute participles in not allowing an unaccusative verb.

(26) a. **Verbal passive**

   \[ \text{Os manifestantes foram desaparec-i-d-os pela polícia militar.} \]

   Lit.: ‘The demonstrators were disappeared by the military police.’

   b. **Adjectival passive**

   Os manifestantes estão/permanecem desaparec-i-d-os (*pela polícia militar).

   ‘The demonstrators remain disappeared.’

   c. **Absolute participle**

   \[ \text{Desaparec-i-d-os vários manifestantes se aliaram.} \]

   ‘Several demonstrators having disappeared, some social organizations decided to become allies.’

(27) a. **Verbal passive**

   \[ \text{Os manifestantes foram mort-os pela polícia militar.} \]

   Lit.: ‘The demonstrators were died by the military police.’

---

10 It does not seem possible to claim that (25c) is ungrammatical because there is a requirement for the subject of absolute participle and the subject of the main clause to be identical. There can in fact be sentences where the main subject is not referential: This is particularly clear when the verb in the absolute participle is an unaccusative, as we are going to see below.

11 There is a confound factor here in that *morto* can also be the participial form of the verb *matar* ‘kill’.
b. **Adjectival passive**

Os manifestantes estão/permanecem **mor-t-os** (*pela policia militar*). the demonstrators are/remain **die-PTC-AGR** (*by.the police military*)

‘The demonstrators remain dead.’

c. **Absolute participle**

[**Mor-t-os** vários manifestantes ], os movimentos sociais decidiram se aliar.
[ **die-PTC-AGR several demonstrators** ] the movements social decided **SE ally**

‘Several demonstrators having died, some social organizations decided to become allies.’

⇒ Takeaway: the data surveyed suggest that verbal passives, adjectival passives, and absolute participles are different constructions. I hypothesize that this difference can be captured with the following structures:12,13

<table>
<thead>
<tr>
<th>(28) <strong>Structure of PTC constructions (version 2/2)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. <strong>Verbal passive</strong></td>
</tr>
<tr>
<td>VoiceP</td>
</tr>
<tr>
<td>Voice PtcP</td>
</tr>
<tr>
<td>Ptc vP</td>
</tr>
<tr>
<td>v DP</td>
</tr>
<tr>
<td>b. <strong>Adjectival passive</strong></td>
</tr>
<tr>
<td>aP PtcP vP</td>
</tr>
<tr>
<td>v DP</td>
</tr>
<tr>
<td>c. <strong>Absolute participle</strong></td>
</tr>
<tr>
<td>PtcP Ptc vP vP</td>
</tr>
<tr>
<td>v DP</td>
</tr>
</tbody>
</table>

4 **Alternations and restrictions in the form of the participle**

A. Recall: morphological make-up of the BP participles

- Canonically, a verb in the participle contains a root, a theme vowel (a or i), the participle -d, and some agreement morphology.

12In the trees in (28) – throughout this handout, in fact –, I omit agreement morphology that I coarsely gloss as ‘AGR’. For concreteness, we could assume perhaps that there is an AgrP projection above the topmost projection of each PTC construction surveyed here. In future iterations of this handout, I hope to have a more concrete analysis. Thank you to A. Albright for the warning.

13L. Kalin (p.c.; D. Steriade also pointed out a similar problem in a previous version of the analysis) notes that the adjectival passive includes the structure for the absolute participle (the PtcP and everything it dominates), so that the analysis should include some mechanism to exclude manner adverbs and instrumental phrases, which I assume here to be licensed by v and which do not occur in adjectival passives. I acknowledge the problem, but I have no way to solve it at this point.
a. cant-a-d-o ‘sing-TH-PTC-AGR’
b. fal-a-d-o ‘speak-TH-PTC-AGR’
c. caminh-a-d-o ‘walk-TH-PTC-AGR’
d. com-i-d-o ‘eat-TH-PTC-AGR’
e. morr-i-d-o ‘die-TH-PTC-AGR’
f. com-i-d-o ‘eat-TH-PTC-AGR’
g. part-i-d-o ‘leave-TH-PTC-AGR’
h. sorr-i-d-o ‘smile-TH-PTC-AGR’

• However, some verbs allow not only for the regular participle, but also for an athematic form (i.e. a participle that lacks a theme vowel).\(^{14}\)

<table>
<thead>
<tr>
<th>Regular participle</th>
<th>Athematic participle</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ganh-a-d-o ‘win-TH-PTC-AGR’</td>
<td>ganh-o ‘win-AGR’</td>
</tr>
<tr>
<td>b. limp-a-d-o ‘clean-TH-PTC-AGR’</td>
<td>limp-o ‘clean-AGR’</td>
</tr>
<tr>
<td>c. salv-a-d-o ‘save-TH-PTC-AGR’</td>
<td>salv-o ‘save-AGR’</td>
</tr>
</tbody>
</table>

B. For the verbs that have two participial forms (30), there is a difference in which form is acceptable in the constructions examined here.

(31) **Verbal passive: either participle accepted**

a. As gavetas foram limp-a-d-as / limp-as pelo João.
   ‘The drawers were clean-TH-PTC-AGR / clean-AGR by the João’

b. A partida foi ganh-a-d-a / ganh-a pela Seleção.
   ‘The match AUX1.PST win-TH-PTC-AGR / win-AGR by the Brazilian NT.’

c. O criminoso foi prend-i-d-o / pres-o pela polícia.
   ‘The criminal AUX1.PST arrest-TH-PTC-AGR / arrest-AGR by the police’

d. A conta foi pag-a-d-a / pag-a pela Maria.
   ‘The bill AUX1.PST pay-TH-PTC-AGR / pay-AGR by the Maria’

(32) **Adjectival passive: athematic participle only**

a. O armário permanece / está *limp-a-d-o / limp-o apesar de fazer
   the wardrobe remains / AUX2.PRES *clean-TH-PTC-AGR / clean-AGR despite of do.INF
   muito tempo que eu limpei ele.
   much time that I cleaned 3SG
   ‘The wardrobe remains/is clean despite the fact the fact that I haven’t cleaned it in a long time.’

b. Essa proposta permanece / está bem *aceit-a-d-a / aceit-a.
   this proposal remains / AUX2.PRES well *accept-TH-PTC-AGR / accept-AGR
   ‘This proposal remains/is well accepted.’

c. O manifestante permanece / está *prend-i-d-o / pres-o apesar do baixo-assinado.
   the demonstrator remains / AUX2.PRES *arrest-TH-PTC-AGR / arrest-AGR despite
   of. the petition
   ‘The demonstrator remains in jail in spite of the petition.’

\(^{14}\)There is also a class of verbs that allow for an “innovative” participle, that is to say, verbs that up until recently in the history of the language, were only compatible with a regular participle, but which now also allow for an athematic participle. For the most part, I will not discuss these verbs here, but see Souza (2011); Scher et al. (2013; 2014); Nevins & Rodrigues (2014).
(33) Absolute participle: regular participle only
a. [Limp-a-d-as *Limp-as as gavetas], o João pôde se mudar para o
[clean-TH-PTC-AGR *clean-AGR the drawers] the João could SE change.INF for the
new office
‘The drawers having been cleaned, João could move into his new office.’

b. [Finalmente ganh-a-d-a *ganh-a a partida], os lanterninhas do grupo
[finally win-TH-PTC-AGR *win-AGR the match] the last.place of.the group
puderam respirar com alívio.
could breath.INF with relief
‘A match finally having been won, the team at the bottom at the league could finally calm
down.’

c. [P prend-i-d-os ??Pres-os os suspeitos], os investigadores decidiram fazer
[arrest-TH-PTC-AGR ??arrest-AGR the suspects] the investigators decided do.INF
uma coletiva de imprensa.
a press.conference
‘The suspects having been arrested, the investigators decided to host a press conference.’

d. [Cheg-a-dos *Cheg-os os trens na estação], começou um corre-corre de
[arrive-TH-PTC-AGR *arrive-AGR the trains in.the station] started a turmoil of
passageiros.
passengers
‘The trains having arrived at the station, passengers started rushing all over the place.’

C. Questions

(34) i. What is it about verbal passives that renders this type of construction compatible with either
participial morphology?
ii. Why is there a restriction in the participial form that can occur in adjectival passives, and
absolute participles (i.e. why is only one participle allowed in these constructions)?
iii. What could explain the directionality of this restriction (i.e. why is, for instance, the athe-
matic participle form singled out in adjectival participles and not the regular participle)?

5 Towards an analysis

A. Correlations between structure and the form of the participle.

(35) a. Verbal passive
b. Adjectival passive
c. Absolute participle

```
VoiceP
  Voice
    PtcP
      Ptc
        vP
          v
            DP

aP
  a
    PtcP
      Ptc
        vP
          v
            DP

PtcP
  Ptc
    vP
      v
        DP
```
• The absolute participle has the smallest structure – the minimal structure arrived at in (16). This is also the PTC construction where only a regular form is acceptable when there is more than one participial forma available.

• The verbal passive and adjectival passive contain an additional layer on top of the minimal structure, VoiceP and αP, respectively. These are also the PTC constructions where an athematic participle is possible.
  ○ But: it is necessary to distinguish between verbal and adjectival passives, as only the former allows for the athematic participle to alternate with the regular one.

5.1 Verbal passives and perfect: the potential role of Voice

A. Commonalities between verbal passives and the perfect

• As mentioned above, the structure proposed for the verbal passive is singled out in having a VoiceP layer.

• If we want to pursue an analysis where the choice of PTC morpheme is correlated with the structure of a PTC construction, then we could hypothesize that VoiceP plays a role in the alternation between the regular and athematic PTC morpheme in verbal passives.

• With this hypothesis in mind, the next question to ask is whether there is independent evidence for the role played by VoiceP.

• As mentioned in (3), another construction where there is alternation between regular and athematic participles is the past or present perfect in BP.

B. The potential relevance of VoiceP

• Recall from §3: what singles out verbal passives from all other PTC constructions surveyed here is the presence of an agent.

• This was argued on the basis of the licensing of an agentive controller.

• As we would expect anyway, an agentive controller can be used in a sentence in the perfect.

(25a)  [PRO correr uma maratona] já foi tent-a-d-o por incontáveis atletas de fim-de-semana.
‘Running a marathon (is something that) has been tried by countless occasional athletes.’

(36)  A Maria tem tent-a-d-o [PRO correr], mas sem sucesso.
‘Maria has been trying to run, but without success.’

• The attempted insight: tie the alternation between regular and athematic PTCs in verbal passives and the perfect to a shared projection, VoiceP, and motivated it with data like (25a) and (36).

C. But: unlike verbal passives, verbs in the perfect form can, as one will expect, be unaccusative (cf. (26) and (27)).

(37)  a. Leite de aveia tem desaparec-i-d-o das prateleiras.
‘Oatmilk has been disappearing from the supermarkets.’
b. Diversos pacientes têm **morr-i-d-o** por falta de atendimento
   several patients have die-TH-PTC-AGR for lack of care
   ‘Several patients have been dying because of the lack of medical care.’

- Analysis-internal problem: I took the possibility of licensing an unaccusative verb to indicate the absence of a VoiceP, a property shared by adjectival passives and the absolute participle, to the exclusion of verbal passives.
- A hack: in order to sidestep this problem, I assume that the difference between adjectival passives and absolute participles, on the one hand, and the perfect, on the other, is that the former do not have enough structural space to house a VoiceP, while verbal passives and the perfect do, but they differ in the “flavor” of VoiceP that they allow.¹⁵

D. Takeaway:

- The presence of VoiceP was correlated with the alternation between the regular and athematic participles.
- But what exactly is the role played by this projection? See next section, especially (41).

### 5.2 Assumptions and stipulations

(38) **Phases**

i. Assumption: categorizers (a, v, etc) are phase heads (Marantz 2007; Embick 2010).

ii. Assumption: in the absence of a higher phase head, a non-categorizing functional head (e.g. Ptc or Voice) is defined as a phase head (cf. dynamic phases in Bobaljik & Wurmbrand 2005; Bošković 2014).¹⁶

iii. Underived stipulation, strong vs. weak phases

   - **Weak phase**: unless XP is the highest layer in a given structure (38ii), it is a weak phase, that is, it determines what a phasal complement domain is, but does not itself trigger the Spell-Out of a lower phasal complement.
   
   - **Strong phase**: both defines a Spell-Out domain and triggers Spell-Out.

\[
\begin{align*}
&\text{XP strong phase} \rightarrow \text{triggers S-O} \\
&X \quad yP \\
&y \quad \cdots \\
\end{align*} \quad 
\begin{align*}
&\text{WP/zP} \\
&W/z \quad \text{XP weak phase} \rightarrow \text{does not trigger S-O} \\
&X \quad yP \\
&y \quad \cdots \\
\end{align*}
\]

- The same functional projection XP can be a strong or a weak phase, depending on the surrounding structure.

---

¹⁵A. Albright observes that an alternative would be to replace Voice with v and draw a distinction between the categorizer v and a “phrasal” v that can encode, among other things, agentivity.

¹⁶By assumption, the derivation can determine that an XP is going to be the highest functional layer in a given derivation by verifying that the numeration does not contain any other functional heads, cyclic or otherwise.
(39) **Weak Phase Impenetrability Condition (PIC)** (adapted from Chomsky 2001)

The Spell-Out of the complement domain of a phase is delayed until the merge of the next higher phase.

\[
\begin{array}{c}
\beta P \text{ phase} \\
\beta \\
WP \\
W \alpha P \text{ phase} \\
\alpha \\
YP \\
\text{Spelled-Out upon merge of } \beta
\end{array}
\]

- Two parameters to distinguish between different definitions of the PIC:
  1. How much structure is Spelled-Out: the complement of a phase, weak or strong.
  2. When Spell-Out happens: upon the merge of next strong phase head
- The effect of the weak PIC is that the Spell-Out of a given phase is delayed until the next higher phase.
  - This is going to be relevant in whether or not the fusion rule below applies in a given PTC construction.
  - This will in turn determine which type of morpheme (regular or athematic) can occur in a given PTC construction.
- Another consequence: upon the completion of a phase \( \alpha P \), if there is no lower phase within \( \beta P \), then no Spell-Out occurs at this point of the derivation.

(40) **Fusion:** \([v, \sqrt{R}] [v] \rightarrow [v, \sqrt{v} v ] / \_\_ \_ PTC, \text{ where } R \in \{\text{ganh, limp, salv, \ldots}\}\]

- Absolute participle: \( v \) and \( \sqrt{R} \) belong to different SODs, so that the fusion rule (40) cannot apply.
- Adjectival passive: \( v \) and \( \sqrt{R} \) belong to the same SOD, so that the fusion rule (40) can apply.
- Verbal passive: two different SODs, one where \( v \) and \( \sqrt{R} \) are in different SODs (\( \rightarrow (40) \) applies), and one where they are in the same SOD (\( \rightarrow (40) \) does not apply).\(^{17}\)

(41) **Variable numerations with Voice**

- **Chomsky’s (1995) definition of Numeration:** “a set of pairs \((LI, i)\), where \(LI\) is an item of the lexicon and \(i\) is its index, understood to be the number of times that \(LI\) is selected.”
- Underived stipulation: Voice may be part of the same numeration as the rest of the pieces of the PTC in a verbal passive and perfect constructions (inspired by the Merge-over-Move discussion, Chomsky 2000)
- Recall from §5.1 that VoiceP, a projection assumed here to be projected by both the verbal passive \((A \text{ louça foi limpada/limpa pelo João} ‘The dishes were cleaned by João’)\) and the perfect \((O \text{ João tem limpado/limpo a louça frequentemente} ‘João has been frequently cleaning the dishes’), the two constructions where there is alternation between athematic and regular participles.
- Proposal: the similarity between the verbal passive and the perfect is formalized in terms of the presence or absence of Voice in the numeration where the rest of the pieces of the verb in participial form occur.

\(^{17}\) L. Kalin remarks that fusion usually has overt morphological effects, which are not visible in the BP data examined here. Maybe this is suggesting to us that fusion is not the right approach.
5.3 Absolute participles

(42) a. [Pass-a-d-a a última camisa], o João pôde descansar.
   [iron-TH-PTC-AGR the last shirt] the João could rest-INF
   Lit.: ‘Ironed the last shirt, João could rest’. \(\sqrt{\text{pass}}: \text{only regular PTC}\)

b. [Limp-a-d-as / *Limp-as as gavetas], o João foi descansar.
   [clean-TH-PTC-AGR / *clean-AGR the drawers] the João went rest-INF
   ‘The drawers having been cleaned, João went and rested.’ \(\sqrt{\text{limp}}: \text{regular and athematic PTCs}\)

c.  Ptc
     \(\text{SOD}\)
     \(\sqrt{\text{v}}\)
     Ptc

- Recall: absolute participles have the smallest structure, projecting only the minimal PTC structure (16).
- By the stipulation (38ii), Ptc in (42c) counts as a strong phase head because there is no higher phase head above it. As such, there are two phase heads in (42c), \(v\) (a categorizer, (38i)) and Ptc.
- By the Weak PIC (39), the complement domain of the lower phase head \(v\) is Spelled-Out once the next higher phase head Ptc enters the derivation.
- This SOD includes the root \(\sqrt{\text{v}}\), but not \(v\).
  - The context for the application of the Fusion rule (40) is bled, since \(\sqrt{\text{v}}\) and \(v\) are not part of the SOD.
  - As such, only the regular PTC can surface, regardless of whether the root is compatible with just the regular form (e.g. \(\sqrt{\text{pass}}\) ‘iron’) or if it belongs to the set of roots that allow for an athematic form (30) (e.g. \(\sqrt{\text{limp}}\) ‘clean’).
- A problem noted by A. Albright: if the root is Spelled-Out first and the theme vowel is adjoined to \(v\), how can it be sensitive to the root, as desired?

5.4 Adjectival passive

(43) a. Essa camisa está/permanece pass-a-d-a.
   this shirt AUX2.PRES/remains iron-TH-PTC-AGR
   ‘This shirt is/remains ironed.’ \(\sqrt{\text{pass}}: \text{only regular PTC}\)

b. As gavetas estão/permanecem *limp-a-d-as / limp-as.
   the drawers AUX2.PRES/remain *clean-TH-PTC-AGR / clean-AGR
   ‘The drawers are/remain clean.’ \(\sqrt{\text{limp}}: \text{regular and athematic PTCs}\)

c.  a
     \(\text{Ptc}\)
     \(\text{SOD}\)
     \(\sqrt{\text{v}}\)
     \(\text{Ptc}\)
     \(v\)

- Adjectival passives contain an \(aP\) layer above the minimal PTC structure, \(a\) being a strong phase head, since it is a categorizer (38i).
Because it is not the highest head in this structure, Ptc is a weak phase (38iii).

By the Weak PIC (39), when a enters the derivation, it triggers the Spell-Out of the complement domain of the lower phase, Ptc (to reiterate, a weak phase here).

This SOD includes both √ and v.

- The context of application of the fusion rule (40) rule is met, so that, if the root is in the set (30) (e.g. √LIMP), it will fuse with v.
- However, a byproduct of the application of the fusion rule is that the context for the application of the theme vowel insertion rule (13) is now bled. To recall, I follow Oltra Massuet (1999) and assume that theme vowels are dissoaciative morphemes introduced post syntactically, adjoined to v.
- If the root is compatible only with a regular form (e.g. √PASS), the fusion rule cannot apply anyway.

5.5 Verbal passive

(44)  a. Essa camisa foi pass-a-d-a pelo João.
   this shirt AUX1.PST iron-TH-PTC-AGR by.the João
   ‘This shirt was ironed by João.’  \(\sqrt{\text{PASS}}\): only regular PTC

b. As gavetas foram limp-a-d-as / limp-as pelo João.
   the drawers AUX1.PST clean-TH-PTC-AGR / clean-AGR by.the João
   ‘The drawers were cleaned by João.’  \(\sqrt{\text{LIMP}}\): regular and athematic PTCs

c. 

\[ \text{Voice} \]
\[ \text{Ptc} \]
\[ \sqrt{\text{v}} \]
\[ \text{SOD1} \]
\[ \text{Ptc} \]
\[ \sqrt{\text{v}} \]
\[ \text{SOD2} \]

- Because of the possibility of Voice being part or not of the same numeration as the rest of the pieces to build a verbal passive, there are two possible derivations:

(45)  i. Numeration 1/2: \{√R, v, Ptc, …\}
      ii. Numeration 1/1: \{√R, v, Ptc, Voice, …\}
      iii. Numeration 2/2: \{Voice, …\}

- The first step of the derivation is, consequently, different in each case.

(46)  i. No Voice in Numeration \(\rightarrow\) derivation similar to that of absolute participle (42c)
      ii. Yes Voice in Numeration \(\rightarrow\) derivation similar to that of adjectival participle (43c)

- The Spell-Out domains of each derivation comes out different as well, as we can see in (46).
i. No Voice in Numeration
   ◦ In the absence of Voice in the numeration, Ptc is the highest projection at the point of the derivation in (46i). It is therefore a strong phase, according to stipulation (38iii).
   ◦ As such, the root √ and v are Spelled-Out at different points in the derivation, preventing the fusion rule (40) from applying.
   ◦ Even if the root does allow for more than one participial form, only the regular participle can be exponed in this derivation of the verbal passive, just as in absolute participles.

ii. Yes Voice in Numeration
   ◦ Voice is now the highest projection. It triggers the Spell-Out of v, Ptc being a weak phase, according to stipulation (38iii).
   ◦ As such, the root √ and v are Spelled-Out together, allowing the fusion rule (40) to apply. This bleeds the application of the theme vowel insertion rule (13).
   ◦ If the root is one that allows for more than one PTC form, the athematic participle can be realized, just as in adjectival passives.

6 Concluding remarks

A. Answering the questions:

(34) i. What is it about verbal passives that renders this type of construction compatible with either participial morphology?
   → It is the combination between (i) the presence of a projection above the minimal PTC structure (Voice), (ii) the postulations about the timing of Spell-Out, and, crucially, (iii) the postulation that Voice can optionally be part of different numerations.

ii. Why is there a restriction in the participial form that can occur in adjectival passives, and absolute participles (i.e. why is only one participle allowed in these constructions)?
   → Because they lack Voice. Absolute participles only have the minimal PTC structure. Adjectival passives do have an additional layer, but it is an aP, which, by stipulation, does not have the same effects as the projection of a VoiceP.

iii. What could explain the directionality of this restriction (i.e. why is, for instance, the athematic participle form singled out in adjectival participles and not the regular participle)?
   → Again, it is (i) the structure proposed for each of these PTC constructions, in combination with the (ii) the postulations about the timing of Spell-Out and how much structure is Spelled-Out.
   → In absolute participles, Ptc is the highest projection. Given the assumption that the highest projection is a strong phase (38iii), it triggers the Spell-Out of the complement of the lower phase, v. Consequently, the root and v are Spelled-Out separately, giving no chance for Fusion (40) to apply.
   → Adjectival passives have an additional layer, which acts as a Spell-Out trigger (given the Weak PIC (39)). What is Spelled-Out is the combination between v and the root, giving the stipulated distinction between weak and strong phases (38iii). This allows Fusion (40) to apply, if the root is the appropriate one.

B. Theoretical shortcomings
• Underived stipulations: distinction between weak and strong phases (38iii) and the possibility of Voice (and nothing else in this system) to occur in different lexical arrays. These are just hacks to capture the data.
  ○ In fact, this can be said of much of the assumptions and stipulations in §5.2.
• D. Pesetsky and L. Kalin: the deletion rule (15) and the fusion rule (40) are very similar to each other. It is worth trying to reducing them to one single operation.

References


Bošković, Željko. 2014. Now I’m a phase, now I’m not a phase: On the variability of phases with extraction and ellipsis. Linguistic inquiry, 45(1), 27–89. DOI: https://doi.org/10.1162/LING_a_00148.


