

## What infinitives have in common and what they don't: a syntactic approach to verbal and nominal data from Brazilian Portuguese

Maurício Resende  
(Universidade Estadual de Campinas)

Many linguists, but also many grammarians, have already attested the hybrid nature of infinitives in (Brazilian) Portuguese. Known as one of the nominal forms of the verb, infinitives display both verbal and nominal properties, what makes of them interesting for both morphological and syntactic domains. Along these lines, assuming a syntactic approach to word formation, as the Distributed Morphology framework (Halle & Marantz, 1993), the present study investigates the properties of the “infinitive class” (whose orthography assumes always the presence of an “-r”) in order to capture their hybrid behavior and the kinds of reading they can trigger.

Since Chomsky (1970), linguists have been showing that some nominals exhibit a mixed behavior between verbs and nouns (Chomsky's *mixed nominalizations*), mostly regarding English gerunds. As regards the infinitive class, Alexiadou, Schäfer & Iordăchioaia (2011) and related work, proposed a scale for measuring “the verbal/nominal degree” of infinitives across languages. Along these lines, this work argues that (Brazilian) Portuguese infinitives split off in three major subgroups according to their phonological, morphological, syntactic and semantic properties. Specifically, the present analysis proposes that infinitives can be split off as follows:

(1) **Nominals with imperfective reading** (such as *o narrar dos fatos* (‘the narrating of the facts’)): this kind of infinitive is the one that better mirrors the behavior of (English) mixed nominalizations (gerunds in that language), because they are nouns in that they (i) accept modification by adjectives (but not by adverbs), (ii) co-occur with determiners (but not with auxiliaries), (iii) require a preposition (*de* (‘of’) in this case) for introducing the internal argument. However, they display verbal properties since they (i) denote events, (ii) license argument structure, (iii) display the theme vowel appearing in the cognate verb. Moreover, the event reading triggered by this kind of construction is an imperfective one (in the sense of Dowty (1979), Smith (1991), Verkuyl (1993) and related work), what has already shown by Zucchi (1993) for Italian; Varela (1997) for Spanish; Alexiadou, Schäfer & Iordăchioaia (2011) for German, among others.

(2) **Defective nominalizations** (as in *viajar de avião diverte a Maria* (‘traveling by plan amuses Mary’)): this kind of infinitive (whose label comes from Iordăchioaia (2013)) is the opposite to (1). If members of group (1) are infinitives which are nouns but display verbal properties, in group (2), infinitives are verbs, but display nominal properties. However, this nominal behavior is not due to a “(more) internal” functional projection (such as nP), but to the presence of a D (instead to a C) head c-commanding a TP containing the infinitive. According to Iordăchioaia (2013), the character “defective” is due to the fact this kind of infinitive display prototypic verbal properties, such as (i) modification by adverbs, (ii) assignment

of Case to the internal argument, (iii) co-occurrence with auxiliaries, but the c-commanding D head makes this construction (i) appear as argument of verbs, (ii) accept pronominalization, (iii) be introduced by prepositions in some cases (Raposo, 1987). Semantically, infinitives (2) do not denote events, but propositions (what is syntactically captured by the TP projection). Additionally, following Peres (2006) and Wurmbrand (2014), the propositional reading is only compatible with an imperfective reading (since it is their aspect which blocks the episodic reading) as in *Ana acredita ser mais alta que Pedro* ('Anne believes to be taller than Peter') but not \**Ana acredita sonhar hoje* ('Anne believes to dream today'). This kind of infinitive also appears with imperfective aspectual auxiliaries, such as *continuar a, passar a, voltar a, começar a*, but not with perfective aspectual auxiliaries, such as *terminar de* and *acabar de*.

(3) **Irrealis constructions:** this is the only kind of infinitives with no nominal properties, only verbal ones. Infinitives (3) can co-occur in three environments: (i) imperatives (Han, 1998) (*favor não alimentar os animais* ('please do not feed the animals')), (ii) complement of auxiliary/modal verbs (Lunguinho, 2006; Resende & Araújo-Adriano (2018)) (*o João deve/pode/vai sair amanhã* ('John must/can/is going to leave tomorrow')), complement of verbs indicating a future event (cf. Wurmbrand, 2014) (*a Maria decidiu/prometeu/planejou/desejava/esperava/queria sair amanhã* ('Mary decided/promised/planned/wished/expected/wanted to leave tomorrow')). The idea behind group (3) is that all uses involve an irrealis reading, that is, a potential event, which has not occurred yet, but has the means to occur anytime soon later than the time expressed by the matrix verb (except in the case of imperatives, although the imperative reading only makes sense with an event that has not taken place yet).

In short, this work proposes that there are three different internal structures for infinitives, namely, (1) nominal infinitives (DP > nP > vP), (2) mixed infinitives (DP > TP > vP), (3) verbal infinitives (CP > TP > vP). Further evidence for this classification comes from phonology: Resende (2016) argues that the elision of /r/ in syllabic code of infinitives is only allowed when it is a verbal (that is, non-nP) infinitive, which is borne out by the behavior of classes (2) and (3). Another piece of evidence is provided by Agr: whereas infinitives (1) display prototypical nominal agreement, infinitives (2) and (3) license only verbal agreement (in this case, inflected infinitive). In the present analysis, the systematicity of this behavior is due to the presence/lack of nP, since all infinitives contain a vP layer, attested by the event reading and the occurrence of the verbal theme vowel. Finally, this work argues that what is shared by all infinitives (in addition to the vP layer) is the Asp(ect) projection, which is specified as [IMPERFECTIVE]. This feature, spelled out as ("infinitive") /r/, appears in the imperfective reading (1), propositional reading (2) and irrealis reading (3).

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