1. This study analyses complex prepositions, containing a spatial noun (Chappell & Peyraube 2008) or axial term (Svenonius 2007, 2010) in Catalan and other Romance languages. Although there are many studies on adpositions within the generative grammar tradition (Zwarts 1997; Zwarts & Winter 2000, Asbury et al. 2008; Gehrke 2008; Den Dikken 2010; Svenonius 2010; Franco 2016, Manzini & Franco 2016, Franco & Manzini 2017, Romeu 2014, Ursini 2013a, 2013b, 2015 2017), these approaches fail to capture basic semantic and morphosyntactic properties of prepositions containing axial terms. The present investigation contributes to this gap by setting eyes on two types of complex PPs in Catalan, which show the structure \([P+Axial\ term+of+DP]\) (1), and \([P+D+Axial\ term+of+DP]\) (2):

(1) \(a\ \text{dins}\ de\ \text{la}\ \text{capsa}\)
   ‘inside the box’

(2) \(al\ \text{costat}\ de\ \text{la}\ \text{casa}\)
   ‘next to the house’

2. Complex PPs as in (1) and (2) are commonly analysed following Svenonius's analysis to axial terms. Such analysis is depicted in (3) for the example in (1) (see Roy 2006 and Roy & Svenonius 2008 for French, Fàbregas 2007 and Romeu 2014 for Spanish, among many others; outside the Romance domain, see Pantcheva 2006 for Persian, Takamine 2006 for Japanese, Pretorius 2017 for Afrikaans, to cite a few).

\[
\begin{array}{c}
\text{PP} \ [K\ a] \ \text{Deg\ Deg} [\text{Loc\ Loc} [\text{AxPart\ AxPart\ DINS}][\text{KP} \ [K\ de] ][\text{DP\ a\ casa}]]
\end{array}
\]

In these analyses, axial terms are considered functional words, not nouns, because they do not display all the properties normally attributed to nominals: they cannot be modified, they lack plural, and they cannot be quantified (Roy 2006, Svenonius 2010). However, as observed by Matushansky and Zwart (2018), this argument can be contested on the ground that these properties are also typical of weak nominals (Poesio 1994, Carlson and Sussman 2006, Aguilar-Guevara 2014).

3. In this work, I provide data from Catalan that shows that both weak nominals and axial terms display similar properties. For instance, compare examples (4) and (5) featuring the weak definite casa ‘house’ (4a and 5a), and axial term fons ‘end’ and davant ‘front’ (4b and 5b, respectively). Both of them allow sloppy readings in elliptical contexts (4), and show the same restrictions with possessives (5).

(4)a. \(\text{La}\ \text{Marta va anar}\ \text{a}\ \text{casa}\ i\ \text{l’Anna, també.}\)
   ‘Marta went home and Anna did too.’

   \(\text{The\ Marta}\ \text{AUX}\ go\ \text{at}\ \text{home}\ \text{and}\ \text{the=}\text{Anna, too}\)

b. \(\text{La}\ \text{Marta ballava}\ \text{al}\ \text{fons}\ \text{de}\ \text{l’habitació}\ i\ \text{l’Anna també.}\)
   ‘Marta was dancing at the end of the room and Anna too.’

(5)a. \(\text{Vaig}\ \text{a}\ \text{casa}\ \text{meva/}^*\text{a}\ \text{meva}\ \text{casa.}\)
   ‘I go home.’

   \(\text{I.go}\ \text{at}\ \text{home}\ \text{mine/}^*\text{at}\ \text{mine}\ \text{home}\)

b. \(\text{El}\ \text{llibre}\ \text{és}\ \text{davant}\ \text{meu/}^*\text{meu}\ \text{davant.}\)
   ‘The book is in front of me.’

   \(\text{The\ book\ is\ in.front\ mine/mine\ in-front}\)

In addition to (4) and (5), weak nominals and axial terms show a similar distribution in Catalan with respect the type of preposition they appear with. Thus, in Catalan, the preposition a and the preposition en have different patterns of selection: while a selects DPs or indefinites, en combines with indefinites and mass NPs (e.g. en/\(^*a\)
vinagre/pensions in/at vinegar/hostels 'in vinegar/hostels' Sancho Cremades 2002). Both weak nominals and axial terms are introduced by the preposition a (5), never by the preposition en. This fact points to the definite nature of axial terms, even in those PPs in which the determiner is not overt as in (1).

(6) a. a/en casa /comarques /el metge /la universitat
   At/in home provinces the doctor the university

b. a/en dins /fora /el costat de /la dreta de la capsa
   at/in inside out the side of /the right of the box

4. The analysis draws on Matushansky & Zwarts’s proposal of axial terms as weak nominals. More specifically, I argue that axial terms are interpreted as DPs that have a definite kind interpretation (Borik & Espinal 2015). However, an analysis of axial terms as entity denoting categories falls short to account for their fundamentally relational nature. In order to avoid this problem, I assume, following Bassetanyas-Bars (2016, 2017) that relational nouns are not semantically (or syntactically) different from sortal nouns, in that they are intrinsically non-transitive (cf. Le Bruyn 2016), although they are pragmatically associated with a relation between two entities. The predicative part-whole/possessive relation between the axial term and the DP that appears in the complement of the complex PP is brought about by a functional head denoting an inalienable possessive relation between an entity and a kind. The analysis of complex PPs for Catalan (1) and (2) is depicted in (6) and (7), respectively.

(7) [DP a [a] [DP [d] DINS ]] [nP [el costat ] [DP [de ] [DP la capsa ]]]]

(8) [DP a [a] [DP [el ] nP [la universitat ] [DP [de ] [DP la capsa]]]]]

4. The analysis outlined allows us to explain the morphosyntactic properties of Complex PPs across Romance languages. First, it accounts for the parallel distribution that weak nominals and axial terms show in Romance languages. Thus, in those languages with a/en alternation both weak nominals and complex PPs with axial terms feature the same preposition: Fr. en ville in city vs. à l’hôpital at the hospital vs. en tête de in head vs. a la tête de at the head. Second, it accounts for the fact that Complex PPs show a possessive morphosyntax, which can be of two sorts depending on the language and on the type of ground, a preposition of partitive semantics, OF (9b), or a preposition of locative semantics, AT, (9a). Locational and genitive possessives, which can be associated with the pattern in (9a) and (9b), are two common strategies to express possession across languages (Stassen 2009, 2013).

(9) a. Gianni era nascosto dietro (al)l’albero (Tortora 2006)
   G. was hidden [behind a the.tree]

b. Mario è dietro di/*(P) lui. (Ursini 2015)
   Mario is behind of/*(P) him