

Light verbs features in European Portuguese

Inês Duarte^{†*} Anabela Gonçalves^{†*} Matilde Miguel^{†*} Amália Mendes^{*}
Iris Hendrickx^{*} Fátima Oliveira^α
Luís Filipe Cunha^α Fátima Silva^α Purificação Silvano^α

Faculty of Letters[†]
University of Lisbon
Lisbon, Portugal

Centre of Linguistics^{*}
University of Lisbon
Lisbon, Portugal

Faculty of Letters/ Centre of
Linguistics^α
University of Oporto
Oporto, Portugal

isduarte@sapo.pt anajop@netcabo.pt tilde@mail.telepac.pt
{amalia.mendes,iris}@clul.ul.pt foliveira@netcabo.pt luisfilipecunha@gmail.com
mhenri@letras.up.pt puri_silvano@hotmail.com

Abstract

We present a study of constructions of the type <light verb + noun> in European Portuguese. We analyse these constructions as complex predicates where both the light verb and the noun share an important role in the predication and we focus on the aspectual combinatory properties of the two elements of the complex predicate. We propose that light verbs inherit the feature specification of the corresponding main verbs, but that the light verbs are underspecified regarding (some of) the event structure features.

1 Introduction

Constructions where a verb and a noun with predicative properties combine have been studied from different theoretical approaches. In these constructions, verbs have been considered i) light verbs as defined in Jespersen's (1949) seminal work, ii) support verbs (Gross, 1981), in the sense that they have lost part or all of their meaning and have no predicative value in the construction, iii) auxiliary verbs with aspectual properties (Abeillé *et al.*, 1998) or iv) a specific subclass of verbs that play a relevant role in the predication (see Rosen, 1990; Butt and Geuder, 2001; Butt, 2003; Samek-Lodovici, 2003, a.o.), also referred to as light verbs. In this paper, we will argue for the latter predicate-like approach on the basis of evidence from European Portuguese. We will concentrate on the properties of sequences of the form <light verb + noun>

headed by light verbs *dar* 'to give', *fazer* 'to make/do' and *ter* 'to have' (See examples 1).

- (1) (a) O presidente deu algumas orientações ao governo.
'The president gave some orientations to the government.'
- (b) O primeiro-ministro fez uma apresentação da nova lei no Parlamento.
'The prime-minister made a presentation of the new law at the Parliament.'
- (c) O presidente teve uma conversa com o primeiro-ministro.
'The president had a talk with the prime-minister.'

We will take into account the interaction between these light verbs, the aspectual classes of the verbs from which the nouns are derived and the final interpretation of the resulting complex predicates.

2 Properties of complex predicates of the type <light verb + noun>

These light verbs behave like predicates insofar as they have their own argument structure, preserve the core lexical meaning of their corresponding main verb and exhibit some syntactic alternations of the same kind as the ones main verbs exhibit (as shown in Duarte *et al.*, 2009). They are also sensitive to the aspectual class of the noun they combine with. Taking into account Vendler's (1967) and Moens's (1987) aspectual verb classes and extending them to deverbal nouns (Filip, 1999, a.o.), we observe that the light verb *dar* combines with nouns derived from predicates denoting points, processes, and culmi-

nated processes, but not states nor culminations (cf. examples 2):

- (2) (a) *O João deu uma estada no Brasil. STATE
the John gave a stay in Brazil
(b) O João deu um passeio. PROCESS
the John gave a walk
'John took a walk.'
(c) O trabalhador deu uma pintura à casa. CULMINATED PROCESS
the worker gave a painting to the house
'The worker painted the house.'
(d) *A Maria deu um nascimento / um assalto à casa. CULMINATION
the Mary gave a birth / a holdup to the house
(e) Cristiano Ronaldo deu um espirro / deu um toque na bola. POINT
Cristiano Ronaldo gave a sneeze / gave a touch to the ball
'Cristiano Ronaldo sneezed / kicked the ball'

The light verb *fazer* combines with nouns derived from predicates denoting culminated processes and processes, but not points or states (cf. examples 3).

- (3) (a) *O João fez uma vida. STATE
the John made a life
(b) A Maria fez uma caminhada. PROCESS
the Maria made a walk
'Maria took a walk.'
(c) O João fez uma leitura do artigo. CULMINATED PROCESS
the John made a reading of the paper
'John read the paper.'
(d) *O João fez um espirro. POINT
the John made a sneeze
'John sneezed.'

And finally, the light verb *ter* combines with deverbal nouns denoting processes, culminated processes, culminations, points and states (cf. examples 4):

- (4) (a) A Maria teve uma vida fascinante. STATE
'Mary had a fascinating life.'
(b) Os turistas tiveram uma viagem agradável. PROCESS
'The tourists had a nice trip.'
(c) O edifício teve uma construção difícil. CULMINATED PROCESS
the building had a difficult construction

'The building was constructed with difficulty.'

- (d) O atleta teve uma chegada triunfal. CULMINATION
'The athlete had a triumphal arrival.'
(e) Cristiano Ronaldo teve um toque genial. POINT
Cristiano Ronaldo had a touch ingenious
'Cristiano Ronaldo kicked the ball with genius.'

Several properties interact to the characterisation of the sequence <light verb+noun> as a complex predicate. On the one hand, its aspectual class is crucially determined by the noun (accepting the hypothesis about the preservation of the aspectual value of the noun as in Marín and McNally, 2009); on the other hand, the external argument of the light verb controls the external argument of the noun it combines with (compare 5a with 5b):¹

- (5) (a) Os professores deram uma grande motivação aos alunos.
the teachers gave a great motivation to the students
'The teachers motivated greatly the students.'
(b) *Os professores deram uma grande motivação dos examinadores aos alunos.
*The teachers gave a great motivation of the examinee to the students.'

3 Event structure of complex predicates

In the spirit of the long trend which describes Vendler's (1967) verb classes in terms of feature clusters (Dowty, 1979; Smith, 1991; Scher, 2005; a.o.) and adopting Moens' (1987) verb classes, we will adapt Harley's (2009: 333) feature specification for verbalizers that form main verbs (see examples 6) to account for the aspectual properties of main verbs themselves.

- (6) (a) V_{BE}: [-dynamic], [-change of state], [-cause]
(b) V_{CAUSE}: [+dynamic], [+change of state], [+cause]
(c) V_{BECOME}: [+dynamic], [+change of state], [-cause]

¹ For further arguments in favour of considering the sequence as a complex predicate, see Butt (2003), Duarte *et al.* (2006) and Duarte *et al.* (2009).

- (d) V_{DO} : [+dynamic], [-change of state], [-cause]

We propose (i) to keep the features [\pm dynamic], [\pm cause] from Haley's feature specification (ii) to use [\pm change] (ranging over change of state, of location and of possession) (iii) to introduce the feature [\pm durative], to distinguish culminated processes, processes and states from culminations and points (iv) to introduce [\pm instant(aneous)], in order to distinguish points from all the other classes (see Smith, 1991) when the verb combines with the noun. The results are presented in (7), with the following association: BE (state), CAUSE (culminated process), BECOME (culmination), DO (process) and DO_INSTANT (points).

- (7) (a) V_{BE} : [-dynamic], [-change], [-cause], [+durative] [-instant]
 (b) V_{CAUSE} : [+dynamic], [+change], [+cause], [+durative] [-instant]
 (c) V_{BECOME} : [+dynamic], [+change], [+cause], [-durative] [-instant]
 (d) V_{DO} : [+dynamic], [-change], [-cause], [+durative] [-instant]
 (e) $V_{DO_INSTANT}$: [+dynamic], [-change], [-cause], [-durative] [+instant]

The main verb *dar* is a culmination, *fazer* a culminated process and *ter* a state. We compare these aspectual features to those of the light verbs *dar*, *fazer* and *ter* in (8), arguing for the underspecification of features for this class of predicates.

- (8) (a) dar_{light} : [+dynamic], [\pm change], [\pm cause], [\pm durative] [\pm instant]
 (b) $fazer_{light}$: [+dynamic], [\pm change], [\pm cause], [\pm durative] [-instant]
 (c) ter_{light} : [\pm dynamic], [\pm change], [\pm cause], [\pm durative] [\pm instant]

The feature specification proposed for these light verbs captures the different combinatory properties and interpretations of the complex predicate headed by each of these verbs. The light verbs *dar* and *fazer* have the [+dynamic] feature, preventing them to combine with nouns denoting states, which are [-dynamic]. As they are underspecified for the [change] feature, they may combine with nouns denoting processes and culminated processes, which will value one of these features: [-change] in the case of a process noun, and [+change], in the case of culminated

process nouns. Whereas *dar* is underspecified for the [instant] feature, allowing nouns denoting points, *fazer* keeps the [-instant] value of its homonymous main verb, thus excluding nouns denoting points. In the case of the light verb *dar*, the exclusion of culminations must be accounted for post-syntactically, in the C-I interface. The light verb *ter* is the most defective one, allowing all classes of predicative nouns, which derives from the fact that all its features are underspecified.

We present in (9) and (10) two different results of a combination between the light verb *dar* and two nouns, *passeio* 'walk' and *estada* 'stay'.

- (9) (a) *dar um passeio*
 to give a walk
 'to take a walk'
 (b) dar_{light} : [+dynamic], [\pm change], [\pm cause], [\pm durative]
 (c) *passeio*: [+dynamic], [-change], [-cause], [+ durative]
 (d) *dar um passeio*: [+dynamic], [-change], [-cause], [+durative]
- (10)(a) **dar uma estada no Brasil*
 to give a stay in Brazil
 'to stay in Brazil'
 (b) dar_{light} : [+dynamic], [\pm change], [\pm cause], [\pm durative]
 (c) *estada*: [-dynamic], [-change], [-cause], [+ durative]

Combining the light verb *dar* with a process denoting noun (*passeio*) do not result in a conflict between the feature specification (cf. 9b-c), while combining the same verb with a state denoting noun (*estada*) creates a conflict between the values for the [dynamic] feature. In (9), the other light verb features are underspecified and the entire sequence inherits the values specified in the noun features.

The complex predicate of the type <light verb + noun> is formed in Syntax: the interpretable underspecified features of the light verb are valued by the specified features of the noun when the verb moves to a functional head, whose Specifier is occupied by the moved DP object.

4 Corpus Annotation

In the scope of our work on complex predicates, we have established guidelines for corpus annotation, taking into consideration a larger set of constructions than the one described here: (i) two

main verbs, forming a restructuring construction, like *querer estudar* ‘to want to study’ (ii) two main verbs in a causative construction, like *fazer rir* ‘to make laugh’; (iii) a light verb followed by a deverbal noun: *dar um passeio* ‘to take a walk’, or by a psych-noun: *ter medo* ‘to have fear’. We will here discuss the annotation results regarding the latter type <light verb+noun>, which we restricted to the three verbs *ter*, *fazer* and *dar*, discussed in the preceding sections. (See Hendrickx *et al.* (2010) for the complete discussion of the guidelines, methodology, evaluation and results). The noun+verb constructions are denoted with the tag [CN] where a determiner precedes the noun, and with the tag [CNB] in contexts with bare nouns (cf. examples 11).

- (11) (a) Facto que leva a CGD a considerar que não [CNB]tem obrigações em relação aos trabalhadores.
 ‘A fact that leads the CGD to believe that it doesn’t have obligations towards the workers.’
 (b) o erro de [CN]fazer uma interpretação literal
 ‘the error of making a literal interpretation’

We consider that there is a typical ordering of the elements of the CP in the sense that the canonical form will be <verb (determiner) noun>. However, in the corpus, this is not always the order in which the elements occur (consider, for example, the case of relative clauses) and this is taken into consideration in the annotation system. Consequently, each element of the CP is tagged with information on its typical position inside the CP (position 1, 2, etc.), as well as on its contextual position in the corpus (B=Beginning, I=Intermediate, E=End). The elements forming the CP may not be contiguous in the corpus and in that case only the elements pertaining to the CP are annotated. For example, the adverb *logo* ‘immediately’ in (12) is not annotated.

- (12) dar[CN1_B] logo uma[CN2_I]
 ajuda[CN3_E]
 give immediately an help
 ‘give help immediately’

These guidelines were applied to the manual annotation of the CINTIL² corpus, a 1 million

words corpus of European Portuguese, tagged and manually revised (Barreto *et al.*, 2006), composed of transcribed spoken materials, both formal and informal (one third of the corpus) and of written materials (remaining two thirds). We present in Table 1 information on the frequency of this type of complex predicates in the written and spoken subpart of the corpus and the partial frequencies of bare nouns and nouns preceded by a determiner.

label	written	spoken	total
CN total	706	586	1292
CNB	353	213	566
CN_	353	373	726
total	1176	805	1981

Table 1: Frequency of the CPs of the type <light verb + noun> in the CINTIL corpus

In Table 2 we observe the frequencies of the three verbs in the corpus. We notice significant differences according to the presence or not of a determiner with the noun: the verb *fazer* is clearly dominant when followed by a noun preceded by a determiner, while the verb *ter* is the more frequent light verb with bare nouns. Further studies of these frequencies will have to take into consideration whether the noun is singular or plural.

CNB	written	spoken
<i>dar</i>	69	27
<i>fazer</i>	87	52
<i>ter</i>	197	134
total	353	213
CN	written	spoken
<i>dar</i>	79	34
<i>fazer</i>	193	231
<i>ter</i>	81	108
total	353	373

Table 2: Frequency of *dar*, *fazer* and *ter* with determiner +noun [CN] and with bare nouns [CNB]

We plan to contrast our proposals of aspectual restrictions holding between light verbs and nouns presented in Section 3 to the list of nouns occurring in the corpus with each of the three verbs. Another objective is to partially include in the annotation system some of our findings regarding the aspectual information conveyed by

² The CINTIL corpus is a joint project of the Natural Language and Speech group of the Sciences Faculty of the Uni-

versity of Lisbon (NLX-FCUL) and the Centre of Linguistics of the University of Lisbon (CLUL).

both light verb and noun and on the aspectual restrictions that hold between the two elements.

5 Conclusion

We have argued for the predicate status of the sequence <light verb + noun> and for the specificity of light verbs with regard to the corresponding main verbs in terms of the underspecification of (some of) their event structure features. We have proposed that complex predicate formation takes place in the Syntax, through the checking/agree operation of the light verb unvalued interpretable aspectual features. Due to this operation, the complex predicate gets its aspectual features (compositional semantics may assign derived aspectual readings to the whole sentence).

Acknowledgments

We would like to thank the anonymous reviewers for their helpful comments and valuable suggestions. The work presented in this paper was undertaken as part of the project *Complex Predicates: typology and corpus annotation*, supported by the National Foundation for Science and Technology (FCT) under the grant PTDC/LIN/68241/2006.

References

- Abeillé, A., D. Godard and I. Sag. 1998. Complex Predicates in Nonderivational Syntax. *Two Kinds of Composition in French Complex predicates, Syntax and Semantics* vol. 30. San Diego Academic Press, San Diego.
- Barreto, F., A. Branco, E. Ferreira, A. Mendes, M. F. P., Bacelar do Nascimento, F. Nunes, and J. Silva. 2006. Open resources and tools for the shallow processing of portuguese. In *Proceedings of the 5th International Conference on Language Resources and Evaluation (LREC2006)*, Genoa, Italy.
- Butt, M. and W. Geuder. 2001. On the (Semi)Lexical Status of Light Verbs. In Corver, N. and H. van Riemsdijk (eds.), *Semi-lexical Categories: On the Content of function words and the function of content words*: 323-370. Berlin: Mouton de Gruyter.
- Butt, M. 2003. The Light Verb Jungle. *Harvard Working Papers in Linguistics*, Vol 9: 1-49.
- Dowty, D. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Duarte, I., A. Gonçalves and M. Miguel. 2006. Verbos leves com nomes deverbiais em português europeu. In *Textos seleccionados do XXI Encontro*

Nacional da Associação Portuguesa de Linguística, Lisboa: APL, pp. 315-328.

- Duarte, I., M. Colaço, A. Gonçalves, A. Mendes and M. Miguel. 2009. Lexical and syntactic properties of complex predicates of the type <light verb+deverbal noun>, *Arena Romanistica*, 2009:4, pp. 48-57.
- Gross, M. 1981. Les bases empiriques de la notion de prédicat sémantique. *Langages*, 63:7-52.
- Harley, H. 2009. The morphology of nominalizations and the syntax of vP*. In Giannakidou, A. and M. Rathert (eds), *Quantification, Definiteness, and Nominalization*. Oxford: Oxford University Press.
- Hendrickx, I., A. Mendes, S. Pereira, A. Gonçalves, I. Duarte. 2010. Complex Predicates annotation in a corpus of Portuguese. In *Proceedings of the fourth Linguistic Annotation Workshop (LAW IV)*, pp 152-156, Association for Computational Linguistics, Uppsala, Sweden, 2010.
- Jespersen, O. 1949. *A Modern English Grammar on Historical Principles*. London: George Allen & Unwin; Copenhagen: Ejnar Munksgaard.
- Marín, R. and L. McNally. 2009. *From Psych Verbs to Nouns* (ms). International Workshop 'Events across Categories', Madrid.
- Moens, M. 1987. *Tense, Aspect and Temporal Reference*. University of Edinburgh: PhD. Dissertation.
- Rosen, S. 1990. *Argument Structure and Complex Predicates*. New York, Garland.
- Samek-Lodovici, V. 2003. The Internal Structure of Arguments and its Role in Complex Predicate Formation. *Natural Language & Linguistic Theory*, 21: 835-881.
- Filip, H. 1999. *Aspect, Eventuality Types and Noun Phrase Semantics*. Garland Publishing, New York.
- Scher, A.P. 2005. As Categorias Aspectuais e a Formação de Construções com o Verbo Leve *Dar*. *Revista GEL*, v. 2: 9-38.
- Smith, C.S. 1991. *The Parameter of Aspect*. Dordrecht: Kluwer Academic Publishers
- Vendler, Z. 1967. *Linguistics in Philosophy*. Ithaca / London: Cornell University Press.