

Paraphrasing Emotions in Portuguese

Cristina
Mota

Diana
Santos

Anabela
Barreiro

Abstract

Emotions are often referred to with language (Maia and Santos 2018; Santos and Maia 2018) and, in fact, according to some authors (Wierzbicka 1999), they show the highest variability in forms of expression. For example, in Portuguese, the verb *apaixonar* (fall/be in love) allows the following syntactic variation: *ele apaixonou-se por*, *ele estava apaixonadíssimo por*, *ele é um apaixonado por*, *ele ficou apaixonado por*, together with the related adverb *apaixonadamente* and noun *paixão*, e.g. *teve uma paixão ADJ por ela*. Although there are subtle and not so subtle semantic differences between these examples, they show clearly that emotions offer wide paraphrasability means.

By analysing five different texts in two varieties of Portuguese, namely Portuguese from Portugal and from Brazil, corresponding to more than 2,500 aligned sentences, this paper intends to find cases of emotion paraphrases.

We use the emotion framework devised in Mota and Santos (2015) – developed to annotate the AC/DC corpora (Santos and Bick 2000) – and revise the results. The emotion paraphrases will then be aligned with CLUE-Aligner (Barreiro, Raposo, and Luís 2016).

The second step is the enrichment of the paraphrastic resources of Port4NooJ, the Portuguese module of NooJ (Silberztein 2016), with emotion information. This will be done by merging this new information with the one previously derived from lexicon grammar tables of human intransitive adjectives (Mota, Carvalho, and Barreiro 2016) and constructions with the support verbs *fazer* and *ser de* (Mota, Baptista, and Barreiro 2019; Mota, Chacoto, and Barreiro 2017).

Finally, we will use Port4NooJ within the eSPERTo paraphrasing system (Barreiro and Mota 2017) to suggest paraphrase emotions and



INESC-ID & Linguatca
Lisbon, Portugal
Universidade de Oslo &
Linguatca
Oslo, Norway



cmota@ist.utl.pt
d.s.m.santos@ilos.uio.no
anabela.barreiro@inesc-
id.pt



[DOI number]

evaluate the results.

References

Barreiro, Anabela and Cristina Mota (2017). "e-PACT: eSPERTo Paraphrase Aligned Corpus of EN-EP/BP Translations". In: *Tradução em Revista* 1.22, pp. 87–102.

Barreiro, Anabela, Francisco Raposo, and Tiago Luís (2016). "CLUE-Aligner: An Alignment Tool to Annotate Pairs of Paraphrastic and Translation Units". In: *Proceedings of the 10th Edition of the LREC*, 2016. Portorož, Slovenia: European Language Resources Association, pp. 7–13.

Maia, Belinda and Diana Santos (2018). "Language, Emotion, and the emotions: multidisciplinary and linguistic background". In: *Language and Linguistics Compass* 12.5.

Mota, Cristina, Jorge Baptista, and Anabela Barreiro (2019). "The Lexicon-Grammar of Predicate Nouns with ser de". In: *Port4NooJ: 12th International Conference, NooJ 2018, Palermo, Italy, June 20–22, 2018, Revised Selected Papers*, pp. 124–137.

Mota, Cristina, Paula Carvalho, and Anabela Barreiro (2016). "Port4NooJ v3.0: Integrated Linguistic Resources for Portuguese NLP". In: *Proceedings of the Tenth International Conference on Language Resources and Evaluation LREC 2016*. LREC 2016. Portorož, Slovenia, pp. 1264–1269.

Mota, Cristina, Lucilia Chacoto, and Anabela Barreiro (2017). "Integrating the Lexicon-Grammar of Predicate Nouns with Support Verb fazer into Port4NooJ". In: *Formalizing Natural Languages with NooJ and Its Natural Language Processing Applications, 11th International Conference, NooJ 2017, Revised Selected Papers*. Ed. by S. Mbarki, M. Mourchid, and M. Silberztein. Springer, pp. 29–39.

Mota, Cristina and Diana Santos (2015). *Emotions in natural language: a broad-coverage perspective*. Tech. rep. Linguateca.

Santos, Diana and Eckhard Bick (2000). "Providing Internet access to Portuguese corpora: the AC/DC project". In: *Proceedings of the Second International Conference on Language Resources and Evaluation (LREC 2000)*. Ed. by Maria Gavrilidou et al., pp. 205–210.

Santos, Diana and Belinda Maia (2018). "Language, emotion and emotions: a computational overview". In: *Linguistics and Language Compass* 12.5.

Silberztein, Max (2016). *Formalizing Natural Languages: the NooJ Approach*. Wiley Eds.

Wierzbicka, Anna (1999). *Emotions across languages and cultures: Diversity and universals*. Cambridge University Press.

