

# A Set of Procedures Attempting at the Generation of Verbal Humor in Portuguese

Hugo Gonalo Oliveira<sup>1</sup> and Ricardo Rodrigues<sup>2</sup>

<sup>1</sup> CISUC, Department of Informatics Engineering, University of Coimbra, Portugal

<sup>2</sup> CISUC, Polytechnic Institute of Coimbra, Portugal

hroliv@dei.uc.pt, rmanuel@dei.uc.pt

## Overview

Automatic generation of verbal humor has been tackled by different authors, following different approaches and rendered differently, generally in English. Inspired by them, we implemented a set of procedures for producing humoristic riddles or definitions, but in Portuguese, taking advantage of the linguistic resources available for this language. To the best of our knowledge, besides the automatic generation of Internet memes (Gonalo Oliveira, Costa, and Pinto (2016)), this constitutes the first attempt for the automatic generation of humor in Portuguese.

## Models and examples

Six models were implemented, based on the reinterpretation of known concepts or creation of new ones with a similar sound. Here, we briefly describe the models and, for each, present an example obtained by exploiting a knowledge base with semantic relations (Gonalo Oliveira (2018)), used as features, and, when necessary, a list of compounds (Ramisch et al., 2016). Results can be rendered as a question-answer pair (riddle) or as a definition.

- **Reinterpretation of compounds:** given a known noun+adjective compound, features are acquired for each of its words, individually, and used to (re-)define it. As the meaning of the compounds is generally more than just the sum of the meanings of its words, this may result in unexpected associations, possibly perceived as incongruent, and thus humour-prone.
  - As a definition: *direitos humanos: um homem plano* (human rights: a plain man)
  - As a riddle: *Que resulta do cruzamento entre o que   plano e um homem? direitos humanos.* (What do you get when you cross a plain and a man? human rights)
- **New compounds:** as humour may result from words with similar sounds, new concepts are obtained with a single edition to the words in compounds. These can also be defined with features of their words.
  - *ponto forte* (strong point) → *porto forte: um vinho que   um lado* (strong port: a wine that is a side)
- **Reinterpretation of words:** similar to the reinterpretation of compounds, this time with single words, interpreted as a blend of two (portmanteau). This often leads to

an unexpected and, to some extent, creative meaning, attributed to the word, again perceived as incongruent, thus increasing the humour potential.

- *soldado* (soldier) = *sol+dado* (sun+data) → *soldado: uma luz que   concedida* (a given light)
- **New blends:** similar to the previous, but involving a minimal change in the words, though keeping a similar sound. It leads to a new concept with a sound that resembles a known one, interpreted as the blend of two other (often unrelated) concepts.
  - *divertido* (funny) → *devertido = dever+tido* (duty+had) → *devertido: um trabalho que   considerado* (a work considered).
- **Partial antonyms:** the orthography of some words starts or ends with the antonym of another. Novel antonyms may result from changing the start/end of those words with its antonym.
  - *bombeiro* (fireman) = *bom+beiro* (good+beiro) → *maubeiro = mau+beiro* (bad+beiro)
- **Blend of antonyms:** other words can be interpreted as the blend of other two words, each with its own antonym.
  - *friolento* (chilly) = *frio+lento* (cold+slow) → *calor-r pido* (fast-hot).

We are satisfied with some of the results produced, but not so much with others. Thus, we are currently testing ways for automatic ranking the produced results and we will soon conduct an evaluation by human subjects.

## References

- Gonalo Oliveira, H.; Costa, D.; and Pinto, A. 2016. One does not simply produce funny memes! – explorations on the automatic generation of internet humor. In *Proc 7th Intl Conf on Computational Creativity, ICCO 2016*.
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