

# Human–computer Interaction in Pun Translation

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## Keywords

computer-assisted translation

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## Abstract

Wordplay is known to cause tremendous difficulties for translators, and for this reason has become a widely studied phenomenon in the field of translation studies. Despite this, and the trend in recent years to technologize the translation process, relatively little attention has been paid to the use of computers for the translation of wordplay. This is because most language technology, including machine translation, has been developed for use with informational rather than literary and other creative text types. As such, existing digital tools and resources tend to ignore linguistic anomalies and ambiguities, or else to treat them as imperfections to be eliminated rather than preserved.

Punning is a particularly pervasive form of wordplay in which one word or phrase is used to evoke another, similar-sounding word or phrase. Puns pose special challenges over many other types of wordplay in that they rely not just on surface-level features, but also a relatively sophisticated understanding of lexical semantics and the complex pragmatic phenomenon of humour. It is for these reasons that puns are often held to be untranslatable, and while this view is overly pessimistic with respect to human translation, it is true that puns are impervious to general-purpose machine translation. Nevertheless, recent advances in computational semantics have

brought us to the point where language technology might now play a useful role in the translation of puns by providing specialized support to existing translation workflows. Of course, the idea of computer-mediated translation is by no means a new one (cf. Martin Kay's "Translator's Amanuensis"), though the study described in this talk (a joint project with Prof. Waltraud Kolb of the University of Vienna's Centre for Translation Studies) is the first time, to our knowledge, that it has been empirically explored with respect to wordplay, bringing together computational-linguistic and cognitive approaches.

This talk presents and evaluates PunCAT, an interactive electronic tool for the translation of puns. Following the strategies known to be applied in pun translation, PunCAT automatically translates each sense of the pun separately; it then allows the user to explore the semantic fields of these translations in order to help construct a plausible target-language solution that maximizes the semantic correspondence to the original. Our evaluation is based on an empirical pilot study in which the participants translated puns from a variety of published sources from English into German, with and without PunCAT. We aimed to answer the following questions: Does the tool support, improve, or constrain the translation process, and if so, in what ways? And what are the tool's main benefits and drawbacks as perceived and described by the participants? Our analysis of the translators' cognitive processes gives us insight into their decision-making strategies and how they interacted with the tool. We find clear evidence that PunCAT effectively supports the translation process in terms of stimulating brainstorming and broadening the translator's pool of solution candidates. We have also identified a number of directions in which the tool could be adapted to better suit translators' work processes.