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Tracking translators' eye movements and keystrokes as an empirical basis for making inferences about translational processing and for modeling translation

Arnt Lykke Jakobsen
Center for Research and Innovation in Translation and Translation Technology (CRITT)
Copenhagen Business School

The kind of empirical study we are currently particularly interested in at the CBS CRITT centre involves studying translators' micro-behavioural activity as they translate, i.e. their eye movements as they read (or monitor) text and their keystrokes as they type their translation on a computer keyboard. Neither of these processes directly reflects the core process of translation if understood in terms of the decisions whereby comprehended source text meaning is represented (or 'mapped') in target language expressions with similar or 'equivalent' meaning and/or function. The eye movements and the succession of fixations reflect the process by which the translator constructs source text meaning, a necessary prerequisite of translation, and the keystrokes reflect the result of the mapping (or subsequent remapping), a necessary postrequisite, but neither activity directly reflects how comprehended meaning gets converted into the target language (how it gets re-represented) or how the translator decided that a given target representation or formulation was to be preferred. Translation frequently makes it necessary for the translator to compromise on representing meaning literally, but precisely how a non-literal translation was arrived at is something we cannot know from our behavioural data. We have to guess. However, the guesses we make can be more informed if we know in detail, processing segment by processing segment, (a) what was read at a given point in time, (b) what was written in reaction to such reading, and (c) what words were given special attention (reread and/or revised) by the translator in the process. Our guesses can take such evidence into consideration and force us to build models of translation that are capable of accounting for accompanying behavioral evidence.

Introspection can of course also help us form ideas about the nature of the decisions involved in the remapping process. Think aloud is another method whereby we may hope to get data about (conscious) decision-making. Though both of these methods can (appear to) give us insights that are not obtainable by other means, they are both fraught with methodological problems. Therefore, we favour a multimethodological approach ('triangulation') based primarily on analysis of 'hard' behavioural data, but in combination with qualitative data from think aloud, retrospective interviews, etc.

Our aim is to build a corpus of user activity data made up of eye movement data (ST words read), keypress data (TT words written), and ST-TT alignment data from which it will be possible to build a model of translational behavior based on statistical probabilities.