Translation of a text from one language into another is by laypeople believed to be an easy task which can be performed by anybody who knows a foreign language. However, by experts and researchers of translation process, it is perceived as one of the most complex intellectual activities. To translate a text we have to read it and understand it, and in fact we need to understand the authors intentions, which is not always easy and depends on whether or not the author expressed his/her ideas in a clear coherent manner. Then the translator has to transfer the sense and express it in another language taking care that the reader of the translated text will understand the information as it was intended to be understood by the author. There is a general consensus that a translator should translate only into his/her native. Translation into a foreign language is looked down upon because the translator not being its native speaker is likely to make mistakes and create a text obscure to the reader. Interestingly, writing in one's foreign language does not have as many opponents as translation into a foreign language.

Living in the times of global exchange of information which is primarily done in English, the number of texts which need to be translated into English to enter the flow of international communication is constantly growing. In our project we ask a fundamental question: Is translating into a foreign language a larger effort than into the native language for a professional translator? How the translator distributes his attention over the stages of the translation process: reading and interpretation of the source text, meaning transfer into the target language including selection of appropriate vocabulary and writing down the translation deciding on adequate syntax and cohesion of the entire text? Finally, we ask whether directionality has an effect on the process which leads to a translation as a product.

Is it possible to look into the translator's mind when in fact everything is happening inside his/her head? Yes, it is, if we agree with the premise of behavioural studies that by observing what is visible in the translator's performance we can by inference 'look' into the mind. As in today's world translators work on computers, the current research methodology relies on data which can be collected from this particular human-computer interaction. The most modern tools which we intend to use include an eye-tracker and a key-logging program which records the activity on the keyboard while the text is typed.

An eye-tracker is equipment which registers the eye movements. Following the eye-mind hypothesis by Just and Carpenter (1980), eyes including their fixations and pupil dilation reflect the cognitive effort of a person who is solving a problem or doing a task. For example, Kahneman (2012) reported that in his experiment the pupil of a person who was in memory adding 3 digit numbers was dilating by ca. 50%. In our experiment the eye-tracker will help us to collect information concerning the way the translator reads the source text, where his eyes are fixating for longer and to which fragments he/she returns when facing problems with writing the translation.

The visual data will be supplemented by the record of the writing process collected by the key-logging program. In a completely unobtrusive way to the translator the program records pauses when the translator is solving problems as well as it notes deleted elements of the text. The key-logging file will let us measure cognitive effort put in producing a translation. Below is an example of the key-logging data when the translator was translating a sentence from Polish into English: 'Gmina Sieraków poło ona jest w zachodniej Wielkopolsce, 75 km od Poznania w pobli u drogi krajowej nr 24 (ok. 10 km) oraz autostrady A2 (ok. 40 km)'.
[Start][•21.824]Sier•akpo   ów•municipality••••••   •••   [•31.825]T•• •••••••••
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Analysing the log we can see that the translator started to translate after less than 20 seconds (the first pause after opening the source text – pauses are measured to a millisecond). We can see how many letters were deleted and how long it took to translate the entire text or its fragments so that the translation read: ''The small city of Sieraków is located in western Wielkopolska just 50 miles from Pozna   with good access by motorway''.

Thanks to data collected in this way we plan to compare in a very detailed manner the course of the translation process in forward translation (i.e. into one's native language) with inverse translation (into one's foreign language) and assess the effect directionality has on the distribution of cognitive effort.
In the second stage of the project we want to analyse corrections made by proof-readers of the translated texts. In line with the principle expressed in the quality norm PN-EN 15038:2006, every translation should be corrected by a person other than the translator. Our task is to analyse the nature of the corrections (e.g., lexical or stylistic errors) and to correlate these with the data from the process in which mistakes were made by the translator.

To obtain statistically valid results, we plan to conduct our research on 25 professional translators. Because of such large number of participants and the modern tools, we believe that our project is innovative in the area of translation process research and entirely pioneering in Poland. The significance for the discipline of Translation Studies which lacks basic research and empirical studies with large numbers of subjects is extremely relevant. It will give us grounds to answers some fundamental questions: Is the opinion that inverse translation requires higher cognitive effort confirmed by the process data? Is forward translation always devoid of errors? Where in the process mistakes originate depending on directionality?

We believe that our results will make a substantial contribution to the discussion around inverse translation and might contribute to a change in the negative view shared by theorists and major employers on the translation market. In reality translators frequently translate from minor language, such as Polish, into their foreign major language (mostly English). It is our intention to show whether directionality has a visible effect on how they translate. Practical implications can contribute to improving training programs for future translators as well as help us to understand the complexity of their work.