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The topic of literary translation in issues of literary journals
between 1980 and 2000:
new interdisciplinary methodology
for examining discourse surrounding literary translation

Thesis booklet

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1. Context and research questions of this project

This thesis aims to explore how social discourse about literary translation is reflected in primarily literary journals, secondarily in other sources, and how this reflection can be modelled. The significance of the topic is based on the idea that discourse partly reflects and partly shapes the perception, financial status and visibility of literary translators. These areas are often explored in Hungarian¹ as well as international² research. The period under investigation (1980-1999) brings forth a rather significant change in the status of literary translators due to changes in cultural policy marked by the political transformation, the so-called regime change of 1989 (see chapter 5 in my dissertation). Therefore, it seemed suitable to examine whether this shift is reflected in any way in social discourse.

Social discourse is understood here as the processes of the interactive and complex information flow and opinion formation that take place in society. These processes are impossible to examine as a whole. Even a partial attempt raises the question as to what methodology to use for that purpose – a question often posed and difficult to answer when talking about complex systems (see part 2.1 in this thesis booklet and chapter 2 in my

¹ CEATL and Zoltán HALASI, „MEGY-CEATL felmérés 2011”, 2011, <https://www.mufoorditok.hu/dokumentumok/>; CEATL and Anna TODERO, „CEATL-felmérés 2013”, 2013, <https://www.mufoorditok.hu/dokumentumok/>; Anikó SOHÁR, „Mit gondolnak a műfordítók saját helyzetükről? Egy felmérés előzetes eredményei”, in *A fordítás elméleti és gyakorlati kérdései: tiszteletkötet Papp Andrea emlékére*, ed. István NYOMÁRKAY and Sándor István NAGY, 269–299 (Budapest: MTA Modern Filológiai Társaság, 2019); Anikó SOHÁR, „Mit gondolnak a műfordítók saját magukról? Egy felmérés eredményei 2”, in *A nyelvtudomány aktuális kérdései. Tanulmányok Nyomárkay István emlékére*, ed. Sándor István NAGY, 431–441 (Budapest: MTA Modern Filológiai Társaság, 2019); Anikó SOHÁR, „Mit gondolnak a műfordítók a műfordítói kompetenciákról? Egy felmérés eredményei 3”, in *Új kihívások, új módszerek. Filológia egy változó világban.*, ed. Sándor István NAGY (Budapest: MTA Modern Filológiai Társaság, előkészületben); Anikó SOHÁR, „Working for Peanuts. The Economic Situation of Hungarian Literary Translators”, *Parallèles*, 35. sz. (October 2023): 25–43, <https://doi.org/10.17462/para.2023.02.06>; Kinga KLAUDY, „Empirikus kutatások a fordító láthatatlanságáról”, in *Az alkalmazott nyelvészet regionális szerepe. A XXI. Magyar Alkalmazott Nyelvészeti Kongresszus előadásai.*, ed. Katalin HORVÁTHNÉ MOLNÁR and Antonio Donato SCIACOVELLI, 137–143 (MANYE-NYME, 2012); Orsolya ANDRÁS, „Láthatóság és láthatatlanság a fordítás korszakaiban”, *Erdélyi Múzeum* 81, 3. sz. (2019): 53–64; Dalma GALAMBOS, „Mit tudunk meg a magyar műfordítókról a CEATL 2020-as felmérésének részleges eredményeiből?”, in *A nyelvtudomány aktuális kérdései. Tanulmányok Nyomárkay István emlékére*, ed. Sándor István NAGY, 173–186 (Budapest: MTA Modern Filológiai Társaság, 2021); Dalma GALAMBOS, „Így születnek a műfordítók? Képzési, felkészülési lehetőségek, kompetenciák és megítélésük a magyar műfordítók körében”, in *Iránytű az egyetemi fordítóképzéshez, A műfordítás-oktatás kérdései*, ed. Zsuzsa CSIKAI and Márta KÓBOR, Kontraszt Kiadó, 83–108 (Pécs, 2021).

² CEATL et al., „Comparative Income of Literary Translators in Europe”, 2008, <https://www.ceatl.eu/current-situation/working-conditions>; CEATL et al., „Survey on working conditions, 2020”, 2022; PETRA, *Towards New Conditions for Literary Translation in Europe: The PETRA Recommendations* (Bruxelles: PETRA, 2012); THE AUTHORS GUILD, „A Glimpse into the World of U.S. Literary Translators”, The Authors Guild, 15 December 2017, <https://www.authorsguild.org/industry-advocacy/glimpse-world-u-s-translators/>; Paola RUFFO, „Human-Computer Interaction in Translation : Literary Translators on Technology and Their Roles”, in *Proceedings of the 40th Conference Translating and the Computer*, 127–131 (London: AsLing, 2018); Klaudia BEDNÁROVÁ-GIBOVÁ, „Exploring the literary translator’s work-related happiness: the case study of Slovakia”, *Across Languages and Cultures* 21, 1. sz. (June 2020): 67–87, <https://doi.org/10.1556/084.2020.00004>.

dissertation). It was my explicit goal to utilise methodology that helps lessen subjectivity as much as possible but at the same time, is not purely quantitative, allows the researcher to process large quantities of sources and makes the representation of complex phenomena possible. There was no such framework available for a translation studies project. Therefore it became my primary aim to develop such a methodology.

Due to the diachronic nature of certain research questions, literary journals (specifically, *Alföld* and *Nagyvilág*) were selected as a corpus which provide texts in a relatively consistent fashion from the entirety of the period under examination (for further explanation of this choice, see part 2.1 here or section 3.2 in my dissertation). This limits the range of participants of the observable discourse (involving both authors and readers) primarily to members of the literary sphere and those interested in literature. Furthermore, the scope of the examination of this section of social discourse is limited to the extent and in the way it is manifested in the selected literary journals. At the same time it is important to note that the method I hereby developed and tested has the capacity to be automated and used on other, different kinds of corpora (part 2, chapters 3, 4, 6 and 7).

As part of the method, I created a coding system that is capable of making a type of content analysis automatic. While establishing the coding system, I simultaneously used it to annotate the corpus selected for the purposes of this phase (part 2.2, chapter 3). Using this annotated corpus, the annotation process can be extended to other corpora (part 2.3, chapter 4). The resulting data can model these corpora and the ways discourse about literary translation is reflected in them in a number of ways. It is statistically proven that these aims were met with success and the method provides scalability and a wide range of options for application.

Due to the size and novelty of this undertaking, this dissertation serves as a pilot project. It is also exploratory in the sense that testing the new methodology was part of the process and consequences drawn based on the results can and will be used later to enhance the effectiveness of the developed method and tools. This is why my research questions and hypotheses primarily pertain to the methodology and only secondarily to the thematic results.

My main research questions and hypotheses regarding methodology are as follows:

- (1) Can consistent annotation be performed with the help of the processes for verification and coding system creation outlined in part 2.2 and section 3.3, even though annotation was performed by myself as the only annotator in the current, pilot phase of the research project? I hypothesised that due to the complexity of the task, the

consistency of the annotation will prove uneven, however, the process will bring useful conclusions that can be used for improvement.

- (2) Even though my coding system represents more subtle nuances and implications (see part 2.2 and sections 3.3 and 3.4) compared to similar studies, can it be automatically carried over to other corpora using machine learning? I hypothesised that in the case of the most frequent or the simplest labels it is possible, however, I expected uneven results for the rest.
- (3) Can the thematic aspects of the discourse about literary translation be modelled using my coding system? I hypothesised that at least certain simpler aspects can be modelled.

My main research questions and hypotheses regarding the themes relevant to literary translation are as follows:

- (1) Can the methodology I developed reflect the changes caused by the regime change in the discourse about literary translators? If so, what changes will be reflected? I hypothesised that the results will show signs of thematic change to some extent that can be connected to the change in the status of literary translators (prestige and state funding were diminished, a new, international capitalist market was rapidly developing).
- (2) Can the difference between the profiles of the two journals under examination be shown based on the data resulting from the experiment? I hypothesised that, since the topic of literary translation is more relevant to the profile of the journal *Nagyvilág* compared to that of the journal *Alföld* (see part 2.2 and section 3.2), literary translation will be mentioned more often, in more detail and in a more complex way and these differences will be shown by the data.

2. Theoretical and methodological background

2.1 Theoretical background of the dissertation

Chapter 2 of my dissertation outlines the theoretical concept of the project which defines its approach, methods and the way results are handled and evaluated. It consists of two main components: complexity theory and network theory.

The idea behind complexity theory can be summed up as follows: *complex systems* or *complex adaptive systems* can be described by the criteria elaborated in section 2.2. A central aspect of their behaviour is continuous, dynamically changing interactions between their components (i.e., a very large number of elements, often agents or factors controlled by agents). The behaviour of these systems cannot be described by simplistic (reductive) rules, especially when those rules ignore the interactions between various elements and levels of the system and aim to only focus on one specific aspect of the system instead. Even though tendencies can and do exist in complex systems, their processes cannot be fully modelled or predicted. Therefore, their examination requires methods and approaches that enable factoring in, handling and even modelling their complex, ever-changing interconnectivity to the extent that it *is* possible. Both the broader and the more specific topic of this project (the former being the social aspects of literary translation, the latter, how discourse about them can be modelled) are complex adaptive systems and require a corresponding approach. This justifies a bottom-up framework that starts from the lowest possible level of data and operates in an exploratory, data-driven way (more about these concepts in section 2.1) as opposed to a top-down approach which utilises and examines more general and specific hypotheses.

Network theory is seamlessly applicable both at a theoretical and a practical level. It is based on mathematics, primarily graph theory – see section 2.3 – and statistics. In social network theory, these fields are combined with other approaches to understand, describe and model networks (often complex adaptive systems) found in society. Network theory is used in this project as a cognitive framework as well as part of the novel data visualisation and analysis tools I developed for outlining certain aspects of the results. These entail graphs which model interactions and connections between data points in certain parts of the database – more about this in part 3 and section 6.4.

2.2 Methodology of Phase One: corpus, annotation and development of the coding system

It must be acknowledged that the most important topic and the most significant result of my dissertation is the development and testing of my own methodology. This process consists of two phases. In phase one, I annotated a suitable corpus using the coding system developed during this project. The aim of phase two was to use the resulting database for creating a tool that is capable of validating the annotation performed by me (manual annotation) and carrying it over to another, larger corpus.

As for the selection of the corpus, I chose two literary journals that were consistently published during the entirety of the period under examination. This promised the advantage that diachronic changes in the discourse may be more reliably modelled as opposed to other sources that do not provide periodical and – at least thematically and in terms of editing – relatively homogenous resources.

My primary choice, *Nagyvilág* is the single most relevant literary journal of the era for this study due to its profile related to world literature and – especially prior to the regime change³ – its marked popularity. Between 1956 and 2016, it was in most cases published monthly. Its editors in chief during these two decades were László Kéri until 1992, and after then, Anikó Fázsy. However, because of the hypothesis that literary translation as a topic will be relatively frequent on its pages and its relatively long issues (more about this in section 3.2), it seemed reasonable to select a smaller corpus for a pilot stage. For this purpose, I chose *Alföld*, which is a less sizeable corpus both in terms of the length of its issues and the frequency of translation being mentioned. I hoped its more manageable scope would allow performing and reiterating the processes needed for establishing and testing the coding system, annotating the corpus and reviewing the annotation (more about this below and in section 3.3). Its profile is primarily related to Hungarian literature in this period; however, it does include a number of essays, reviews, research papers and such that are relevant for this study. It has been published – usually monthly – since 1950. It was originally entitled *Építünk* and received its current name, *Alföld* in 1954. Its editors in chief were Béla Juhász until 1990, Béla Márkus until 1993, and after then, Géza Aczél.

During phase one (section 3.3), I listed all of the excerpts that at least mention translation (I chose the paragraph as a text unit) from any non-literary article in the journal using search words. At the same time, I annotated them with the coding system which I was simultaneously developing. I used two kinds of labels: content labels and context labels. I established the labels in both coding systems based on tendencies observed in the texts themselves (bottom-up approach). Despite the fact that it is unavoidable that my biases, existing knowledge and mindset should affect the resulting categories, I made a concerted effort to lessen distortion by reflecting on the position I hold in the process, making my biases conscious where possible, repeating and reviewing the process several times and thoroughly analysing the phenomena I observed. It will be possible to further lessen the subjectivity of the process by involving more

³It was a cultural phenomenon in its own right. During its most popular period it was published in 50,000 copies every month: KULTER.HU, „Irodalmi folyóiratok a megszűnés szélén”, *KULTer.hu* (blog), 29 February 2016, <http://www.kulter.hu/2016/03/irodalmi-folyoiratok-a-megszunes-szelen/>.

annotators as is best practice in the field. However, it was not possible during this pilot phase due to it being a doctoral project (more in sections 3.4 and 7.2).

The aim of the content labels was to describe the content – as it is related to literary translation – of every selected text unit as closely as possible. Therefore, several of them could be assigned to the same paragraph (this is called *multilabel classification*) but one label could only be assigned once to each paragraph. The idea behind context labels was much simpler, they only signified one thing: what it is that justifies translation being mentioned in the paragraph in question. Only one of them could be assigned to each paragraph (*multiclass classification*). Originally, I used 38 content labels and 10 context labels (their definitions are listed in sections 3.4 and 3.5, labelled sample paragraphs can be viewed in section 3.6). Later, based on data, some of them were merged (more in section 6.4). Content labels are the soul of my method since a significantly larger number of them are found in the database compared to context labels. Furthermore, content labels are what enables (partial) modelling and analysis of the discourse (see chapter 6). Context labels in turn only provide further information for understanding the systems described by content labels by signifying the context. The final database holds 638 texts, 1,515 paragraphs, 1,515 context labels and 4,011 content labels.

2.3 Methodology of Phase Two: Machine Learning

Phase two aimed to enable carrying over the database I created (manual database) to the main corpus, the issues of *Nagyvilág*. For this, I received help from dr. Pál Zsámboki who is a researcher at the Alfréd Rényi Institute of Mathematics, at the Artificial Intelligence department.⁴ It is the aim of this thesis booklet and my dissertation to document my own work. However, even though I actively participated in every aspect of phase two with suggestions and decisions, it is without the shadow of a doubt that the machine learning-related aspects of this project would not have been possible had it not been for the excellent work of my collaborator. His efforts are described in more sufficient detail in our paper published in the proceedings volume of LREC-COLING 2024.⁵

⁴ He gained his doctorate in algebraic geometry, then transitioned to the field of Machine Learning in 2021. His main field of interest is reinforcement learning, however, he is passionate about any field related to Machine Learning. Recently, as shown in one of his most important publications, he participated in proving an Erdős conjecture unsolved for more than forty years: Gergely AMBRUS et al., „The Density of Planar Sets Avoiding Unit Distances”, *Mathematical Programming*, 06 October 2023, <https://doi.org/10.1007/s10107-023-02012-9>.

⁵ Dalma GALAMBOS and Pál ZSÁMBOKI, „Training BERT Models to Carry over a Coding System Developed on One Corpus to Another”, in *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, ed. Nicoletta CALZOLARI et al. (Torino, Italia: ELRA and ICCL, 2024), <https://aclanthology.org/2024.lrec-main.1452>.

He performed the preparation of the corpus (journals *Alföld* and *Nagyvilág*) for Machine Learning, including the removal of sections not relevant for the project (e.g. literary texts or references to translators following articles). Based on both of our ideas, he trained the *language model* we used (*transformer*; on how this model works and why we selected it, see section 4.3) to make it capable of recreating the annotation process. We used the model PULI-BERT-Large⁶ which had proven to be the most suitable model available for our purposes at the time. On our challenges and decisions around the machine learning process, see section 4.4. Consequently, my collaborator used the trained model to predict labels on the journal *Nagyvilág* which resulted in the data I analyse in chapter 6 both independently and in comparison, to the manual database.

My decision to make machine learning part of my method was only partially due to the fact that it made it possible for annotation to be carried over to different corpora. Its other benefit – a comparably important one – was its capability for evaluation and validation of the work done manually in phase one. *10-fold crossvalidation* provided statistical validation. This process involves ten separate *transformer* models to be finetuned on nine tenths of the train set (in this case, the manual database), then the model attempts to label the remaining one tenth without any previous knowledge of the manually assigned labels relevant to that part. Every model performs the test on a different one tenth of the set. Using the manual database as key, the accuracy of the model, i.e., how accurately it is able to imitate the manual annotation process, can be confirmed on the whole train set. Crossvalidation brought excellent results for content labels and good results for context labels, therefore manual annotation was proven to be consistent which in turn made the machine learning process consistent as well. For more details and quantifiable validation results, see section 4.5.

We used a further validation process in addition to *crossvalidation* in order to confirm the efficiency of the model in performing the same annotation on *Nagyvilág* that it was trained to do on *Alföld*. This process will be referred to as manual validation. Overall, it involved selecting – based on statistical criteria –, and manually annotating a sample of 100 paragraphs. At the same time, the same paragraphs were annotated by the model as well. Then the results of manual and machine annotation were compared. For content labels, again, the results were excellent. For context labels, the efficiency of the model was not sufficient, therefore context label data from machine annotation will not be analysed. However, since content labels are the most

⁶ Zijian Gyöző YANG et al., „Jönnek a nagyok! BERT-Large, GPT-2 és GPT-3 nyelvmodellek magyar nyelvre”, in *XIX. Magyar Számítógépes Nyelvészeti Konferencia*, ed. Gábor BEREND, Gábor GOSZTOLYA and Veronika VINCZE, Magyar Számítógépes Nyelvészeti Konferencia 19 (Szeged: Szegedi Tudományegyetem TTIK Informatikai Intézet, 2023); „NYTK/PULI-BERT-Large · Hugging Face”, last accessed: 12 February 2023, <https://huggingface.co/NYTK/PULI-BERT-Large>.

crucial part of the method, validation results overall still far exceeded our expectations. For details about the process and exact results for manual validation as well as more about the potential causes for the issues we experienced regarding context labels, see section 4.6.

3. Results

Chapter 6 aims both to showcase the application and applicability of as well as the first results from the methodology. I approached the analysis of the two databases in three ways: I used summarised label data (section 6.2), I examined tendencies emerging from occurrence frequency and co-occurrence (how often two labels occur together in an average paragraph) of labels and I tested carrying over annotation to a different kind of corpus as grounds for comparison to the original corpus. To this end, I used *A műfordítás ma*⁷ (“Literary translation today”), an influential volume consisting of essays and studies, and again, used summarised label data (section 6.5). Details can be reviewed in the dissertation, only the most important processes and results will be reiterated here.

By summarised label data I mean describing how many labels, annotated paragraphs and articles can be found over how many pages or issues as well as their monthly and yearly distribution. Both journals only had a handful of issues with significantly higher than average results. In these cases, I examined and showed what caused the outlying data. The method proved to be highly efficient in identifying articles or issues very relevant to the topic of literary translation. It could also be shown based on data that *Nagyvilág*, as predicted, covers the topic in more detail and more frequently than *Alföld*. An interesting tendency could be outlined surrounding the fact that in 1997, both journals produced outlyingly high label counts. After examining the issues from that year more closely, it became apparent that a handful of unusually detailed articles were responsible for this phenomenon. Considering that these outlying articles mostly discussed theoretical topics, I formed the hypothesis – especially because the same tendency was observed in both journals – that this is due to increased interest around Translation Studies in the second half of the nineties. This was corroborated by listing relevant academic events. Some of the articles in question could also be linked to a relevant conference. At the same time, it became apparent at several points in the analysis (section 6.2) that a single, unusually detailed article is enough to cause significant changes in the usual tendencies observed in the rest of the database (e.g. strongly affects the average or even the results of the whole year). This clearly shows that the amount of data collected here is not sufficient for

⁷ István BART and Sándor RÁKOS, ed., *A műfordítás ma: tanulmányok* (Budapest: Gondolat, 1981).

outlining diachronic tendencies because outlying factors are too sensitive to local changes, i.e. even a relatively small deviation from the average in an issue can cause large changes on a monthly or even yearly level. Therefore, in this stage, diachronic examinations can only be performed with caution and in certain cases. Examining the database as a whole provides more balanced results due to its overall larger scope.

For this purpose, I primarily used co-occurrence matrices, graphs and eigenvector-centrality scores (2.4, 6.3-4). Co-occurrence matrices show how often each label occurs together with each other label. Graphs demonstrate label networks and some of their characteristics. Eigenvector-centrality signifies which label holds a central position within a network and (quantifiably) to what extent. I chose five networks of thematically linked labels for analysis. Three significant tendencies I observed are:

- (1) It is more likely that a translator is mentioned and mentioned in more detail if they are more known for other roles or fields (i.e. a poet who incidentally also translates);
- (2) In connection to, as well as beyond the previous point, discourse is observably more translator-oriented than translation-oriented;
- (3) Based on data, it was demonstrable in more than one way when certain topics were touched on in a superficial way, i.e. translation theory as a topic is a peripheral element of reviews rather than a topic in its own right.

Finally, the results of further carrying over to a different kind of corpus were described (section 6.5). The volume I chose provided excellent grounds for comparison because its primary topic is literary translation which resulted in very different co-occurrence and frequency data patterns compared to the journals. While it was mostly one label for *Alföld* and two for *Nagyvilág* that were the most central and which significantly affected the networks of labels, in *A műfordítás ma*, four labels share a similar level of centrality and the rest of the labels very frequently co-occur with each one of them. This way, co-occurrences show a much more balanced picture compared to the other two databases. One of the central labels is *other*, significantly more central than in the journals, demonstrating what happens when the themes in a corpus cannot be sufficiently described with the coding system, which here is due to the density and relevance of the topic in the volume.

The last chapter (7) evaluates the whole project and draws conclusions outlining the further improvement of the method. As for the research questions listed in part 1, regarding the methodology:

- (1) Manual annotation showed a very high level of consistency which was proven by using cross-validation. Furthermore, it was not just the more frequent labels that achieved excellent results in this regard but each and every one of them. For context labels, consistency was sufficiently good.
- (2) In relation to the previous point: carrying over the content labels was also achieved with excellent results. For context labels, results did not justify their carrying over for analysis, even though content labels held more nuance and implications. High efficiency of carrying over annotation to *Nagyvilág* was statistically proven.
- (3) Certain thematic aspects of the discourse about literary translation could be modelled using my coding system. To a high level of statistically verifiable accuracy, it could be modelled among other aspects: how frequently, when and (as defined in my dissertation) how deeply literary translation is mentioned in the corpora; which of the themes described by the labels are mentioned and how often, mainly in the context of what other themes; to what extent topics are central or peripheral; how relevant literary translation is and in connection to what other topics it is relevant in the corpora. As for capacity for analysis, these data types can be analysed individually, in pairs or in networks of complex relations. The emergence of thematic networks was also observed, and with further finetuning of the coding system as well as carrying it over to further corpora, observed tendencies will become more nuanced and more capable of generalization.

Answers to research questions regarding the themes relevant to literary translation are as follows:

- (1) Even though the database created from the corpus is sizable, for general diachronic examinations its size still proved insufficient because for that purpose, they have to be separated into at least twenty sections (one for each year). For thematic analyses, each one-twentieth of the data has to be divided further to up to 36 individual parts. This is why the amount of data does not support the examination of general diachronic tendencies, at most only those relevant to the journals of the corpus. The method showed capacity for supporting the analysis of tendencies, however, more data is required for further steps. For this purpose, it is advisable to increase the size of the corpus, possibly alongside the number of years under examination.

- (2) Finally, indeed, it was statistically verifiable and demonstrable that literary translation in the journal *Nagyvilág* was mentioned more often, in greater detail and in a more complex fashion than in the journal *Alföld*.

4. Relevant publications

GALAMBOS, Dalma. „Új módszerek a műfordításról való gondolkodás vizsgálatára. A próbavizsgálat első fázisának módszere és eredményei”. In *Varietas delectat*, ed. Anikó SOHÁR. Akadémiai Kiadó, 2024. <https://doi.org/10.1556/9789636640002>.

GALAMBOS, Dalma and ZSÁMBOKI, Pál. „Training BERT Models to Carry over a Coding System Developed on One Corpus to Another”. In *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, ed. Nicoletta CALZOLARI, KAN Min-Yen, Veronique HOSTE, Alessandro LENCI, Sakriani SAKTI and Nianwen XUE, 16698–16712. Torino, Italia: ELRA and ICCL, 2024. <https://aclanthology.org/2024.lrec-main.1452>.