

Translation and the Production of Knowledge in *Wikipedia*: Chronicling the Assassination of Boris Nemtsov

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Little more than two years have passed (at the time of writing) since the brutal and senseless murder at the end of February 2015 of Boris Nemtsov, a prominent Russian opposition politician and fighter for democracy. The debate over the circumstances surrounding his murder, its possible motives, and continuing consequences is still running. The pages of *Wikipedia* reflect this debate and bear witness to the massive and on-going multilingual effort to chronicle and, gradually, to make sense of this shocking act of violence.

In rapid succession, over the course of a few days in February to March 2015, *Wikipedia* articles documenting this event were created in Russian, Ukrainian, English, Korean, Kazakh, Armenian, Sinhala, and Chinese, followed, a few months later, by one in Czech. While some of these have proved to be essentially static statements, the first three have undergone an intensive, on-going process of meticulous development in which the editors have drawn both text and references from other editions of the online encyclopaedia in order to strengthen the accounts, narratives, and rationalizations that they construct for their respective readerships. This article offers a fine-grained, albeit non-exhaustive, investigation into all nine articles, focusing in particular on the first three, in order to consider the role played by translation in the production of knowledge across the multilingual encyclopaedia. The article commemorates the life and work of Boris Nemtsov.

Translation in *Wikipedia*

While the multilingual *Wikipedia* now forms the object of a modest but growing research effort (see Fichman and Hara; Rogers; Zhou,

Demidova, and Cristea), the contribution of translation scholars has hitherto been surprisingly limited, despite their discipline’s importance for developing a better understanding of how the different editions of the encyclopaedia interrelate, and how knowledge is produced within it and disseminated among its various parts. Fichman and Hara’s *Global Wikipedia* is one of the main sources on the multilingual *Wikipedia* and covers a wide range of subjects, including news reporting, point of view, knowledge sharing, gender issues, and the handling of controversial topics. The absence of translation-related content from this volume is mirrored in the relative neglect of *Wikipedia* in translation studies forums. As of April 2017, the Benjamins *Translation Studies Bibliography* lists only two articles with the word “Wikipedia” in the title: McDonough Dolmaya and Alonso, about *Wikipedia* translation quality and professional translators’ perceptions of the encyclopaedia, respectively (Gambier and van Doorslaer n. pag.). A brief overview of the main features of *Wikipedia* is thus a necessary first step to illuminate the place of translation in the encyclopaedia, before returning to the specific articles on the murder of Boris Nemtsov.

As I write (in April 2017), there are 295 language editions of *Wikipedia* (see “List of Wikipedias” n. pag.), which, taken together, rate *Wikipedia* as the fifth most popular site on the internet (“Alexa” n. pag.). Table 1 summarizes the wide variation in the size and popularity of the nine language editions I focus on in this study:

| Edition | Number of Articles (April 23, 2017) | Size Ranking | Daily Average Page Views (April 3-22, 2017) |
|-----------|--|-----------------|---|
| English | 5,391,226 | 1 | 253,598,053 |
| Russian | 1,389,277 | 7 | 31,244,227 |
| Chinese | 937,983 | 15 | 11,994,602 |
| Ukrainian | 692,384 | 16 | 1,568,103 |
| Korean | 379,265 | 25 | 2,344,726 |
| Czech | 378,850 | 26 | 2,262,874 |
| Armenian | 219,160 | 36 | 135,420 |
| Kazakh | 218,542 | 37 | 561,816 |
| Sinhala | 13,268 | 123 | 17,648 |

Table 1

Size and level of popularity of the nine *Wikipedia* editions (see “List of Wikipedias” and “Siteviews Analysis”)

The global profile and reach of the English edition is evident in its daily average page views (column four), which is the highest by almost a factor of ten.

Throughout the encyclopaedia, the editing mechanisms, collaborative ethos, and wiki software greatly soften the distinction between translation and original writing and give rise to written products that can often best be understood as hybrid collages of text fragments of varying provenance. Articles are dynamic in nature and have been described variously as “living documents” (Callahan 69) and “moving objects” (Shuttleworth, “Locating” 315), in the sense that they can be constantly updated, altered, and improved by individual users as they move through time. Each successive version is available for further editing by other users, but it remains accessible via an article’s Revision History (available in the “View history” tab). Ultimately, no definitive, final version of any article is reached. This means that each of the nine Nemtsov articles under study here has an independent development trajectory, and any similarity that exists between any two or more at a given moment will not necessarily persist indefinitely but may start to “decay” (Shuttleworth, “Locating” 315; Gottschalk and Demidova n. pag.) as each continues to be edited independently of the others. *Wikipedia* translation—a concept that should encompass not only translation within the encyclopaedia but also translation from external sources—can be broadly described as collaborative but not, generally speaking, crowdsourced (see Shuttleworth, “Locating”). As Hautasaari and Ishida note, articles may be “translated partly, completely or extended through translation activities”, while material that was created through translation can be further edited using other, target language sources (127).

Different types of human translation constitute only some of the possible procedures for transferring content between editions. Other kinds of transfer include non-native writing and un-post-edited machine translation (MT), as discussed further below (see also Shuttleworth, “Wikipedia Translation”). Along similar lines, textual clues, such as images, annotations, and external links (Gottschalk and Demidova 1090), can all be used to detect the possible presence of translation.

As will be seen below, *Wikipedia* uses two translation-related templates. The first is used to “declare” the presence of at least some translated material in an article, while the second requests the translation of material from a different language version in order to improve the quality of an existing article. The insertion of either template—the former on an article’s Talk Page and the latter at the top of the article itself—automatically triggers the article’s inclusion on the appropriate “Translated pages” or “Articles needing translation from foreign-language Wikipedias” list, respectively (Shuttleworth, “Locating” 318-19; 321). The problem, however, is that there exists an unknown quantity of translated material that is not declared by the presence of the first template (and, in any case, these automatically generated lists do not exist in every edition of the encyclopaedia). As I have suggested elsewhere, “undeclared” translated material can be thought of as the “dark matter” of *Wikipedia* translation: It resides in unknown locations, and there is probably considerably more of it than one is aware of (Shuttleworth, “Locating” 328). This being so, it frequently falls to the researcher to perform manual comparisons of pages or to study an article’s Talk Page and Revision History for evidence of the possible presence of translated material that has not been declared by means of a template (see Shuttleworth, “Locating”).

A network graph presented by Liao and Petzold (10-12) provides a very clear visualization of the linking between parallel articles in different *Wikipedia* editions: While around a dozen languages—mostly European, but including Japanese and Chinese—are linked to with great frequency, there is also (unsurprisingly) a tendency for languages between which some kind of affinity exists to link to each other. This visualization reflects numbers of so-called interwiki links to parallel articles in other languages and does not reveal anything about translation flows (or the “routes” that translation most frequently takes within the encyclopaedia). At the same time, in their study of discussions about translation in the Finnish, French, and Japanese *Wikipedias*, Hautasaari and Ishida contend that the English *Wikipedia* frequently serves as the source for translation activity intended to improve the quality of another edition (127). While the picture may well prove to be more complex than this, the data has not

yet been collected that would permit the generation of a translation-based network graph as comprehensive as that of Liao and Petzold. As a first step in this direction, however, Table 2 presents as complete a picture as possible of the volume of translation that took place between the nine editions included in this project:

| From \ Into | English | Russian | Chinese | Ukrainian | Korean | Czech |
|-------------|---------|---------|---------|-----------|--------|--------|
| English | | 35,582 | 12,110 | 8,572 | 1,427 | 39,793 |
| Russian | 1,637 | | 30 | 12,422 | 8 | 1,305 |
| Chinese | 426 | 62 | | 3 | 8 | 32 |
| Ukrainian | 78 | 7,564 | 0 | | 0 | 71 |
| Korean | 88 | 26 | 112 | 0 | | 0 |
| Czech | 760 | 168 | 0 | 24 | 0 | |
| Armenian | 14 | 8 | 0 | 0 | 0 | 0 |
| Kazakh | 0 | 27 | 0 | 0 | 0 | 2 |
| Sinhala | 0 | 0 | 0 | 0 | 0 | 0 |

Table 2

Numbers of articles partially or fully translated between the nine languages under study (as of April 24, 2017), from the lists linked to from “Translated pages” (declared translation only; figures not available for translation into Armenian, Kazakh, and Sinhala).

While English is clearly the dominant source language for other language editions featured in the table, there is an unmistakable and understandable link between Russian on the one hand and Ukrainian and Czech on the other, and to a lesser extent between Korean and Chinese. We will be returning later to this question of translation flows.

Wikipedia, the Production of Knowledge, and Point of View

The theoretical framework I draw on for understanding the concept of knowledge is that presented by Johnsen, who sees knowledge primarily as a social phenomenon. For him, knowledge is neither fact, nor truth, nor opinion, but a “socially war-

ranted” understanding of a concept, topic, or event. Facts become knowledge in the presence of an interpretation (Johnsen 10), the implication of which, as observed by O’Sullivan, is that knowledge can be “contentious, problematic, controversial” (123)—an insight that applies to *Wikipedia* in spite of its striving for neutrality. *Wikipedia* does not discover knowledge as such but tends to create a synthesis from often disparate elements that make sense within the context of particular narratives, political beliefs, and points of view. The knowledge that *Wikipedia* editors produce derives from this synthesis and involves constant updating and expansion of sourced research (Pfister 229-30), the result of which can typically be a textual collage compiled into a partially or fully integrated and coherent whole, to which translation contributes wherever appropriate or expedient. Concepts formed in the study of news translation, where translation is seen, along with editing, as a process that entails “selection, correction, verification, completion, development or reduction” (Bielsa and Bassnett 57), are certainly of relevance here, although the *Wikipedia* scenario is probably more complex, given the collaborative, open-ended manner in which articles are developed. The brief discussion that follows will thus appeal to a number of concepts helpful for understanding how certain complex processes give rise to the different configurations of knowledge that can be observed in sets of articles such as those dealing with Nemtsov’s murder.

The concept of co-creation (as used, for example, by Fuchs 221-22), which emphasizes the deeply collaborative and largely democratic nature of the *Wikipedia* editing process, offers an important insight into the encyclopaedia’s approach to knowledge production. This concept has a number of possible entailments, perhaps the most important for us being the involvement of the consumers or users of a particular product or service in its creation and development (see, for example, “Co-Creation”). The pooled expertise that this authoring style exploits is manifested in this context as a kind of participatory journalism, the aim of which is to transpose information in a format designed to meet the requirements of the target readership (Bielsa and Bassnett 132), whether or not translation is involved in the process. The editing mechanisms of the encyclopaedia allow it to bridge the

“knowledge gap” between the publication of news and the writing of history books (Lih 5). In the specific context of the articles on Nemtsov’s murder, the time-frame is shorter, as in many cases there was an intensive period of development that coincided with the time when the facts were still being established and preceded the start of a coherent attempt to frame the tragic event in the most comprehensible manner within a particular political or national context. In instances such as this, *Wikipedia* can act as a “clearinghouse for breaking news” (Pfister 224). In order to react adequately in such situations, a certain “rhetorical agility” (Hartelius 155) is called for as the editors document events by tracking external links, responding rapidly to any new developments and rewriting or reframing articles in accordance with a coherent, developing narrative, as the need arises (Pfister 224).

Wikipedia’s encyclopaedic knowledge is thus seen as inherently unstable. Weltevrede and Borra argue that this instability stems from the “continuous (re)negotiation of existing knowledge” encouraged by the encyclopaedia’s editing mechanisms (1-2). The implication for the present project, as already mentioned, is that in editing an article, no definitive end-point is ever reached, the notion of knowledge instability being “inscribed into the *Wikipedia* platform” (Weltevrede and Borra 12). Whether an article’s quality inevitably improves with continued editing is a separate issue, and is to some extent open to debate (O’Sullivan 125-26).

As a consequence of *Wikipedia*’s knowledge democratization, a high level of knowledge diversity can be observed across the different versions (Hecht and Gergle 299), in terms not only of the coverage that each edition apportions to different topics but also of the differing manners in which individual subjects are framed (291). Indeed, it is through the collaborative processes themselves that the raw material becomes converted into “socially acceptable” knowledge (O’Sullivan 122). Readers possessing the linguistic ability or equipped with the appropriate tools can therefore browse the encyclopaedia in its entirety to obtain a variety of points of view on a particular topic or news event (Otterbacher 64-65). The question of how knowledge comes to be framed in different ways and how “facts” are developed in different cultural settings (Hara and Doney n. pag.) will be of

central importance in the discussion of point of view below. In practical terms, a number of researchers (e.g., Callahan 72 and Rogers 165) have observed that the content of the English edition is more global in nature, this edition being seen almost as a “general repository of global knowledge,” while other editions tend to display a more local character (Callahan and Herring 1914; see also Callahan; Hara and Doney; Otterbacher). That said, the encyclopaedia is “deterritorialized” (Roberts 196) and work on any given edition can potentially be globally distributed.

Translation and Point of View (POV)

Gottschalk and Demidova identify the study of differences in POV as one area of interest to those researching the multilingual *Wikipedia* (1092). This is against the backdrop of *Wikipedia*’s well-known Neutral Point Of View (NPOV) principle that requires editors to represent “fairly, proportionately, and, as far as possible, without editorial bias, all of the significant views that have been published by reliable sources on a topic” (“Wikipedia:Neutral” n. pag.).¹ This principle constitutes one of the encyclopaedia’s three core content policies, along with “Verifiability” and “No original research.” It requires editors to distinguish between contested assertions, opinions, and facts, to use non-judgmental language, and to indicate the relative prominence of opposing views (“Wikipedia:Neutral” n. pag.). The policy extends to choice of article title, article structure, and the notions of due and undue weight.

The concepts of knowledge and POV are closely intertwined, and, in spite of the existence of this policy, it is clear that parallel articles in many respects differ in terms of the precise knowledge they articulate. Apart from the broad differences in editions presented above, a number of studies (e.g., Callahan and Herring; Rogers; Callahan; Zhou, Demidova, and Cristea) have identified a variety of ways in which such differences in the articulation of knowledge manifest themselves. For example, in their study of articles on famous people (“local heroes”) in the English and Polish *Wikipedias*, Callahan and Herring draw on a range of evidence (including some translation-based) to identify the following differences between language versions:

- the English entries contain more references and external links, are more positive in tone, contain a greater diversity of information, mention controversy more readily, and tend to be longer than their Polish counterparts;
- the Polish entries focus more on the subjects' professional accomplishments and personal lives (1912).

As they conclude, the findings from the study present a challenge to *Wikipedia's* NPOV policy (1913) as they indicate that corresponding articles can differ in terms of sources, range and focus of information, tolerance of controversy, and even tone. In a later article, Callahan also observes that English-language articles favor English sources over alternatives in other languages, a tendency that reduces the potential for expanding knowledge (73). Callahan discusses the question of bias not only in terms of differences in cultural, social, national, and linguistic backgrounds (to which list we should add political), but also according to the so-called "Systemic Bias" reflected in the different selections of articles available in each edition.

Along similar lines, Rogers examines a number of *Wikipedia* articles on the Srebrenica Massacre, most of which were originally created through translation from the English-language article, but which, over the course of six years, have all developed distinctive national "storylines and viewpoints" (13). Rogers observes differences in article titles ("Massacre" vs. "Genocide" vs. "Fall"; 168), and even in crucial facts such as victim counts (167). On the other hand, Zhou, Demidova, and Cristea present a different view on non-neutrality, applying techniques such as sentiment analysis to more than one million sentences from five European-language *Wikipedias* to conclude that "a moderate but stable amount of sentiment-expressing information"—an average of 8%—that reflects both positive and negative sentiments can be found in every language edition studied, adding that these sentiments are often language-specific (751).

Finally, a fairly common term—used by Massa and Scrinzi; Rogers; and Zhou, Demidova, and Cristea—for denoting the set of dimensions along which corresponding articles can differ from each other is "linguistic point of view" or LPOV, a broad term that covers information focus, article title and structure, choice of external sources, and tone.

Aims and Methods of the Current Study

Focusing on the nine editions of the Nemtsov article, the current study attempts to answer the following questions: 1. How much translation appears to take place? Can its presence be identified and how easy is it to detect?; 2. What are the general features of *Wikipedia* translation in terms of common translation sources and flows, how does translated material reside within the nine articles, and how does it evolve and get distributed over time?; 3. To what extent and in what ways does translation help maintain the encyclopaedia's NPOV principle and/or create LPOVs specific to each of the nine articles? Following a brief presentation of the characteristics of each of the nine articles, these areas will be investigated in turn. The analysis does not involve examining the translation process, Talk Page discussions, or individual editor-translators' profiles, although detailed information on all these topics is available within *Wikipedia*'s research ecosystem.

A systematic search for translated material can be difficult to conduct (see Shuttleworth, "Locating"); however, given the interlinked nature of this set of articles and the urgency with which some of them were developed in the early stages, I would have been surprised if at least some translated material had not been present. Besides my personal interest in the topic, the likelihood of the set of articles illustrating the interplay between knowledge production and the interlingual flow of information was a major motivation in my choice of material.

Wikipedia articles are fundamentally different objects from most other texts because of the persisting accessibility of all intermediate drafts and because many articles belong to a set of parallel versions in different languages. A new approach to identifying where translation has occurred and analyzing its features was thus called for. Once the study's focus had been settled, evidence of the presence and precise location of translated material was searched for as follows:

- checking for the inclusion of the relevant template
- looking for possible mentions of translation on Talk Pages
- comparing contemporaneous versions of parallel articles in different languages, current ones being viewed in Many-

pedia (see below) and older ones being accessed via the Revision History, although with 1,966 non-current editions of the Russian Version² to check through (for example) it was only possible to spot-check these.

It was then necessary to establish the following:

- the chronology of the articles' creation and development
- the basic statistical information on encyclopaedia editions and individual articles
- the major translation flows and other inter-edition influences
- the translation direction for each source/target-text fragment pair identified (by comparing insertion times)
- the extent, nature, location, insertion time, and subsequent evolution of each fragment identified
- the possible sharing of structure, references, and images across editions
- the nature and extent of POV bias in the different articles
- the knowledge parameters and issues, and the role played by translation.

Because of the volume of data generated by even such a relatively small set of articles, the analysis could not be exhaustive. However, for each article, particular attention was paid to the following: its initial shape and probable origin; its broad evolution vis-à-vis other language versions; and its current version as probably the most “considered” one to date.

Being unable to read all nine articles myself, I used Google Translate to determine the content of some (the Korean, Kazakh, Armenian, and Sinhala Versions) and to help establish precisely what had been translated and from where. Using this procedure imposed clear limitations on the analysis I could perform on those versions.

To assist in the various stages I used the following digital tools³:

- Page View Statistics, including Langviews and Siteviews: numerical data on article versions across languages and on entire *Wikipedia* editions

- Revision History Statistics: article-specific numerical information on edits and editors
- Revision History Search (“WikiBlame”): first use of a word or phrase in an article’s Revision History
- Manypedia: parallel viewing of two current versions of the same article (see Massa and Scrinzi).⁴

Finally, given its size and heterogeneity, generalizing about *Wikipedia* is notoriously difficult. The small-scale qualitative investigation presented below is precisely that: a case study that seeks to make some initial suggestions regarding the parameters determining how translation contributes to knowledge production, how it appears to function in general, and where it is likely to be located. Further case studies will be required before we are in a position to make significant generalizations about this topic and to understand how different factors are likely to influence the presence and nature of translation.

The Role of Translation in Knowledge Production

At 23:31 on 27 February 2015, the Russian politician Boris Yefimovich Nemtsov was shot dead on a bridge in central Moscow while walking home with his girlfriend. A former Deputy Prime Minister of Russia, for some years he had been an outspoken critic of the Russian regime; at the time of his death, he had been working on a dossier of evidence about the involvement of Russian forces in the war in Ukraine and had been imminently due to lead a march protesting about the economic crisis and Russia’s continuing involvement in the war. Following President Putin’s promise of a thorough investigation of the murder, a number of arrests were quickly made although to date nobody has been convicted or held properly to account.

The articles that were created to chronicle this killing present an excellent example of the “rhetorical agility” discussed above, to which *Wikipedia* is perhaps ideally suited: Of the articles that sprang so quickly into existence over the course of very few days, three underwent a long period of intensive development and updating. The precise sequence of the articles’ creation and on-going editing is shown in Figure 1.



Figure 1

Timeline for the creation and editing of the nine articles (as of March 2, 2017). End dates could change through renewed activity.

The presence of some of these languages on the list is not surprising, while others seem to have appeared almost randomly, very possibly as a result of the interest and commitment of individual editors. While at least some of the basic events are recounted in each version, definite LPOVs also come to the surface, at least in the more major versions. Furthermore, all of the versions contain at least some translated material, whether this is hidden or declared as such.

Some further information about the articles is presented in Table 3 below. Column two indicates the extent of the editorial input that has contributed to each version and confirms that while the Russian, Ukrainian, and English Versions are the result of extensive editing, many of the other versions are much less well developed. Against the background painted by these figures, I later consider how translation has contributed to knowledge production within the articles and what kinds of translation have been involved, and from what sources, by looking briefly at each of the versions in order of their creation.

| Language | Total Number of Edits | Word Count of Text |
|-----------|-----------------------|--------------------|
| Russian | 1,966 | 3,465 |
| Ukrainian | 235 | 2,813 |
| English | 554 | 4,142 |
| Korean | 36 | 531 |
| Kazakh | 3 | 101 |
| Armenian | 12 | 86 |
| Sinhala | 41 | 582 |
| Chinese | 14 | 247 |
| Czech | 23 | 2,737 |

Table 3

Information about the articles as of February 25, 2017, based on the Revision History Statistics tool and a word count by Microsoft Word (that for Chinese counts characters rather than words).

The first of the articles to appear, the Russian Version, was created precisely one hour and 23 minutes after the tragic event that it documents. As can be seen from Table 3, this article, not surprisingly, is one of the two longest and has received by far the greatest number of edits by the largest number of editors. The short period immediately following its creation was characterized by frenetic editing activity that gave rise to an extremely rapid growth rate: By the end of the day after the murder, the article had already reached well over half its current length, with approximately one third of the total number of edits having been implemented. This indicates how editors sought to provide users with a digest of the most up-to-date and reliable information at their disposal on an on-going basis. By way of contrast, in the first three months of 2017, only twelve edits were performed, and the length increased by only 45 words. It is nonetheless one of only two versions still being regularly edited.

As would perhaps be expected, the greater part of the article's text appears to be the result of original composition, or at least of drawing on Russian-language sources. That said, a certain amount of translation from the English Version is either present in the current edit or else has come and gone over the course of the article's evolution, as discussed below. Generally

speaking, what has often been translated is short extracts that themselves come from sources cited by the English Version. Like the Ukrainian and English Versions—the other two long articles—the Russian Version in many respects appears to emphasize certain aspects of the subject or to favor the inclusion of details that are in line with a particular political POV or national interest. Finally, templates inviting translation from the English and Ukrainian Versions were displayed sporadically for a few days during March 2015.

Like the Russian Version, the Ukrainian Version was created and developed very rapidly, growing to one third its current length, with one third of the total number of edits already implemented, by the end of February 28, 2015. On the other hand, edits are now very few and far between. As with the Russian Version, most of the content is from same-language sources or arises through original composition, although there is at least some condensed translation of an extended passage from the Russian Version. Throughout its history, this article appears to have made no use of translation templates.

The English Version is the last of the three major versions to have been created before midnight on February 27, 2015 and the other edition still being actively edited. Like the Russian and Ukrainian Versions, following its creation slightly more than two and a half hours after the shooting, it underwent a period of intensive editing (although one that was perhaps slightly less frenetic than the Russian Version), reaching one fifth of its current length by the end of February 28, 2015, with nearly one quarter of the total edits having been implemented. Like the Russian Version, the current English Version seems to contain an appreciable amount of translated material, mostly from (or via) the Russian Version itself but occasionally from other Russian (and other) sources independently consulted. It is possible to identify some sentences, or slightly longer stretches of text, that have at some point been translated from the Russian Version. There is also some evidence of other translated material having come and gone during the course of the article's development. A template inviting expansion of the article through translation from the Russian Version was displayed between February 28, 2015

and March 2, 2015, while another flagging the presence of text translated from the Russian Version has been displayed on the Talk page since February 28, 2015.

At least some of the text of the original Korean Version appears to have been translated from the English Version—the opening, most of the “Events,” and some of the “Reactions” section—and all thirteen references have also been copied from the same edition. While some further text was added after the first edit, the Korean Version has been left behind by the English Version, which has continued to grow significantly in size. No translation-specific templates have been used.

The result of just three edits, the Kazakh Version consists of five sentences that were created in the first edit and left unchanged by the second and third. Of these sentences, three are translated from the opening paragraph of the Russian Version, while the other two are taken from a Kazakh journalistic source. There is no evidence of any influence from the English Version, nor is any use made of translation-related templates.

The three short sentences that constitute the Armenian Version appear to be a rough, condensed translation of the first paragraph of the Russian Version, with no evidence of the English Version having been used as a source. There are only very slight wording differences between the first and the current version. The article contains no translation templates or references.

The relatively short Sinhala Version has been translated sentence by sentence in progressive edits, generally from the opening and the “Reactions” section of the English Version, although at least one phrase is derived from the Russian Version. The current version contains two templates, which invite translation from the Russian and (slightly surprisingly) the Kazakh Version.

The original Chinese Version comprises a direct translation of the short opening paragraph of the English Version and includes one Russian and three English references, with one Taiwanese source also added. Following this initial major edit, no noticeable changes have been made. This article makes no use of translation-related templates.

The last version to have been created by quite a wide margin, the Czech Version, is a whole-text translation of the Russian

Version. As such, it was created almost in its entirety at the first edit, with relatively few subsequent additions. This major act of translation is acknowledged by the presence of a note (rather than a template) citing the Russian Version as its translation source. Interestingly, the Czech Version has been almost entirely devoid of references throughout its history, and the current version has been annotated with frequent citation requests. Since its creation, this version has effectively stayed still, while the Russian Version has had some pieces of text added—including an entire new section—and some removed.

The English, Russian, and Ukrainian Articles

As already explained, the presence of a template in the Talk Page makes the use of translation fully apparent but does not indicate the amount of translated material the article contains. In the case of the English Version, the template shown in Figure 2 has been displayed on the Talk Page since 00:06, February 28, 2015.⁵ Its inclusion marked the third edit to the article, which was presumably the first act of translation. This first instance was followed by an unspecified number of other acts of translation, all of which are covered by this original template. Interestingly, the English Version is the only one to feature this template; the Sinhala Version displays templates encouraging improvement via the Russian and Kazakh Versions, as did the English Version briefly for the same languages.

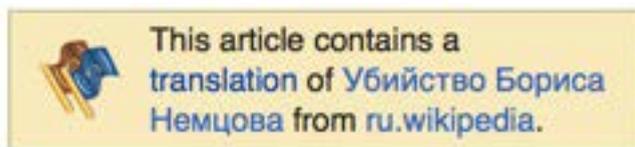


Figure 2

Template indicating the presence in the English Version of some material translated from the Russian Version

Any translated material not declared in this manner is considered an example of what I have described as “dark matter” translation. In the absence of the appropriate template, however,

an investigator can sometimes still infer the presence of translated material by following some of the procedures detailed earlier in this article, without having to resort to comparing versions. At the same time, most well-constructed articles will provide citations for a large proportion of the statements they contain (all but the Czech and Armenian Versions do this), so that citing a source in another language can also indicate that a minor act of translation has taken place. That said, most instances of translation are only detectable through the careful analysis of potential source and target language pairs.

Knowledge provenance is clearly an important facet of the knowledge embodied in an article. The potential lack of traceability caused by the presence of hidden translation leads to a partial concealing of the provenance of textual content. Five other aspects of translation that cast important light on the provenance and nature of the knowledge embodied in these articles as well as the role of translation in its production will thus be examined. These are translation flows, the forms of translation and the other transfer types encountered, the use of other-language references, how translated fragments evolve over time, and, finally, the use of MT.

Firstly, translation acts have two main sources: the English Version (for the Chinese, Korean, and Sinhala Versions) and the Russian Version (for the Armenian, Czech, and Kazakh Versions). In addition, the English and Russian Versions themselves draw material from each other, while the Ukrainian Version is relatively more independent. The English Version appears to be the only one that unequivocally translates direct from sources external to the encyclopaedia (see below). Leaving the whole-text translation from Russian into Czech to one side, it seems that English is used most frequently as a source of translation. Translation out of the English Version into another edition is indubitably commoner than the opposite, in line with its role as an international repository of knowledge.

Secondly, some but not all of the transfer types listed by Shuttleworth (“*Wikipedia Translation*”) have been used in one or other article version, as can be seen from the following revised list:

- Whole article human translation: The Russian Version as it existed at or around 22:48, November 21, 2015 was translated in its entirety into Czech.
- Translation of extended extracts: The Ukrainian Version contains one extended but abridged translation from the Russian Version, while the Kazakh, Sinhala, and Chinese Versions all came into being through the use of this procedure.
- Translation of short text fragments: These can frequently be found in the English, Russian, and (to a lesser extent) Ukrainian Versions.
- Translation with unexpected articles as source texts: This has not been found in the current data.
- Post-edited MT: This is a theoretical possibility but is very difficult to detect.
- Un-post-edited MT: A small amount of this occurs in the English Version, as explained below.
- Self-translation: This has not been investigated.
- Paraphrase: As stated above, the Armenian Version is a paraphrase of the first paragraph of the Russian Version.
- Non-native writing: This procedure may be widespread but has not been examined in detail.
- Structural influence: There is considerable image sharing. The main image, for example, which depicts an impromptu shrine with flowers and candles, can be found in all except the Czech and Kazakh Versions. The “Reactions” sections that exist in the English, Russian, and Ukrainian Versions—but which originated in the Russian Version—at first developed largely in parallel but then grew rapidly apart, as will be discussed further below.
- Inclusion of material in a different language: This has not been found in the current data.

The above list would appear to provide sufficient grounds to conclude that translation features in many different forms and is indeed not the only method for transferring material between *Wikipedia* editions. It also seems to confirm the general validity of the analogy between the practices of *Wikipedia* translation and those typical of news translation suggested earlier.

Thirdly, in many versions, one can observe a widespread borrowing of references, although the presence of a reference from a different language does not necessarily indicate that an act of translation has taken place. Source borrowing commenced early in the development of some versions: For example, the first Russian items appeared in the English Version's reference list at 03:52, February 28, 2015, the Russian and Ukrainian Versions following suit with English-language references at 08:37 and 10:47, respectively.

Across all versions, the numbers of shared references are currently as shown in Table 4.

| Version | Total no. of references | No. of references in native language | No. of references in other languages |
|-----------|-------------------------|--------------------------------------|---|
| Russian | 158 | 147 | English: 8 Estonian: 1 Finnish: 1 Hungarian: 1 |
| English | 123 | 69 | Russian: 48 Armenian: 2 Estonian: 1 Finnish: 1 Latvian: 1 Hungarian: 1 |
| Ukrainian | 92 | 20 | English: 1 Russian: 71 |
| Korean | 13 | 0 | English: 3 Russian: 10 |
| Czech | 1 | 1 | 0 |
| Chinese | 5 | 1 | English: 3 Russian: 1 |
| Armenian | 0 | 0 | 0 |
| Kazakh | 3 | 1 | Russian: 2 |
| Sinhala | 15 | 0 | English: 4 Russian: 11 |

Table 4

Distribution of references in the nine versions (as of April 28, 2017)

The significance of reference sharing is that it demonstrates that the co-creation principle works across as well as within language editions. The Estonian, Finnish, and Hungarian references

appeared in the English Version first and at least some of them may have been imported into the Russian Version from there. Sixteen of the Russian-language references in the Ukrainian Version are to Ukrainian sources (Ukraine being a largely bilingual country).

These figures for the remaining versions indicate their level of dependence on material imported from other languages. Furthermore, the presence of the Russian sources cited in the Korean, Chinese, and Sinhala Versions—as well as the Estonian, Finnish, and Hungarian references in the Russian Version—points to material having been introduced into these versions indirectly via English. Interestingly, the editors of the Czech Version elected to omit all Russian sources except one, although this was subsequently removed and a single Czech reference added instead. It is possible that the large-scale preservation of source language references may be perceived as a problem by editors in the case of whole-article translation.

The fourth aspect concerns what the most appropriate models of text evolution are and what can happen to a translated fragment after it has been inserted—or in other words, some of the practical consequences of the rhetorical agility and the knowledge instability discussed earlier.

The nine articles contain abundant evidence of the similarity decay already mentioned, which results from independent subsequent editing, although it is most clearly concentrated in the English, Russian, and Ukrainian Versions. For example, at 08:14, March 2, 2015 the following direct quotation from *Kommersant* was added to the Russian Version:

По сообщению газеты Коммерсантъ, записи с установленных в округе камер наблюдения оказались либо не очень четкими, либо и вовсе отсутствовали, так как их отключили на время ремонтных работ.

[As reported by the *Kommersant* newspaper, the recordings made by the security cameras installed in the area were either not very clear or completely non-existent as they had been switched off for maintenance work.]

The translation added to the English Version at 08:30, March 2, 2015, was as follows: “According to Russian newspaper at the time of the murder *Kommersant* all the security cameras in the area were switched off for the maintenance [sic].” The speed with which this summarizing translation was added—sixteen minutes after the original was uploaded—is typical of much *Wikipedia* editing. (The obvious linguistic errors that it contains were rectified the following day.) Although the source fragment has persisted largely unaltered, an addition was made at 06:17, March 28, 2017 that completely changed the contextual meaning by stating that following the *Kommersant* report

Московский департамент информационных технологий, опровергая эту информацию, заявил, что все камеры на месте убийства работали исправно и никаких работ с оборудованием в это время не проводилось.

[the Moscow Department of Information Technologies contested this information by declaring that all cameras near the scene of the murder were functioning normally and no work on the equipment was being carried out at the time.]

On the other hand, the translation as of 09:11, March 5, 2017 survives without further modification. In this particular instance of similarity decay, then, source-target text similarity is reduced through editing of the source text. (There is of course also a POV aspect to this example.) Sometimes, on the other hand, a translated fragment appears and then vanishes again just as speedily, as happens with the following text, added to the English Version at 23:30, February 28, 2015 and present in the same form in the current version: “Prime Minister of Canada Stephen Harper stated that he was ‘shocked and saddened’ and called the murder a ‘shameful act of violence,’” a close translation of which was added to the Russian Version at 13:30, March 1, 2015:

Премьер-министр Канады Стивен Харпер заявил, что он «шокирован и опечален» и назвал убийство «позорным актом насилия».

[Prime minister of Canada Stephen Harper stated that he was “shocked and saddened” and called the murder a “shameful act of violence”.]

This was then removed at 18:58, March 5, 2015 when the section on international reactions was reduced. Subsequently, it was re-inserted at 15:28, March 7, 2015 and removed by the next edit, at 17:12, March 7, 2015 (this possibly recurring on further occasions too). Each time the translated text was removed, the reference remained as a footnote, in which form it still features in the current Russian Version.

Here, what we see is an “island” of translation that surfaces (twice) only to submerge once again. On the other hand, one final possibility is simply for a translated fragment to appear and to persist unchanged (until the current version of an article, though it may of course change in future). Whatever the scenario, although a *de facto* stable version of each article has gradually been reached, there is no guarantee that the steady progress towards this has always been one of improvement (in terms of richness and reliability of information), nor that a development in the news story, or other stimulus, may not trigger a further intensive bout of editing.

Finally, in spite of this procedure being officially characterized as “worse than nothing” (“Wikipedia:Translation”), examples of un-post-edited MT can occasionally be encountered. For example, at 05:55, March 3, 2015, a 338-word machine-translated version of the words of Chechen leader Ramzan Kadyrov was added to the English Version only to be removed 23 minutes later.⁶ Other similar examples may lurk in the Revision History of the English, Russian, or Ukrainian Version. The Czech, Armenian, Korean, Kazakh, and Chinese Versions, on the other hand, are all translated by humans.⁷ Considerable amounts of post-edited MT output may of course exist but this remains difficult to detect.

Point of View and Translation

This section examines some of the POV issues raised earlier in the article. The discussion covers article structure, the language of cited sources, global/local orientation, and political standpoint, all of which are of relevance for the development of a contextually appropriate, socially acceptable knowledge configuration. The discussion focuses on the English, Russian, and Ukrainian Versions.

There is some variation in the titles of the articles. For example, the English Version is entitled “Assassination of Boris Nemtsov,” while the title of both the Russian and Ukrainian Versions translates as “Murder of Boris Nemtsov.” It is by no means clear whether the form the title takes in each language is due to translation or not, although one should perhaps note that many of the languages do not specifically lexicalize the concept of assassination. Overall, the structures of the English, Russian, and Ukrainian Versions seem to have been largely independent of each other right from the start. Because of the way they have developed, the structures of the English and particularly of the Ukrainian Version appear to emphasize the context of political opposition while that of the Russian Version focuses more on the progress of the investigation. Regarding the language of cited sources, as demonstrated in Table 4 above, and contrary to what is stated by Callahan (73), the English Version contains multiple references to sources in other languages and is far more internationally engaged in this respect than the Russian and, arguably, the Ukrainian Version.

The “Reactions” sections of the English, Russian, and Ukrainian Versions differ greatly from each other; each reflects an LPOV but seems to have developed largely independently, except that there has been some English into Russian translation in the course of their evolution. With the cutting back of the “International Reactions” section, a number of translated statements by foreign politicians were reduced to footnotes (compare, for example, the versions of 17:52, February 28, 2015 and 06:17, March 28, 2017).

The Russian Version focuses on local detail (such as names of Russian agencies, officials, and newspapers) and information about the investigation and the suspects, and appears less con-

cerned with offering criticism of Russia. The Ukrainian Version contains considerable discussion of the likely commissioner of the murder (in earlier versions), a list of other political killings, and material of specific interest to Ukrainian readers. The English Version is concerned with placing events in an overall international context and devotes more space to the political opposition and the war in Ukraine. Interestingly, the Ukrainian and English Versions also refer to the Russian President much more frequently than the Russian Version, mentions tending to be either negative or neutral in tone.

Forty-eight out of the 123 references in the English Version are to Russian-language sources; some are used for their factual content, while others are exploited for material that supports the English LPOV. These include independent Russian media outlets, for example, and some citations absent from the Russian Version (although this is not to say that it contains no material from such independent sources). The English Version also contains six citations in other languages.

Where both the English and Russian Versions cite the same material from a single source, a difference in LPOV can occasionally be identified. The most striking example of this is the following comment made by Nemtsov in an interview that appeared in the weekly news publication *Sobesednik* on February 10, 2015:

Оппозиционный политик рассказывал о своей маме Дине Яковлевне и признался, что та боится, что его скоро убьет Владимир Путин (или его люди).

[The opposition politician spoke about his mother Dina Yakovlevna and admitted that she was afraid that he would soon be murdered by Vladimir Putin (or his people).]

At 08:16, March 4, 2015, this appeared in the English Version as follows: “Nemtsov wrote on Russia’s ‘Sobesednik’ news website that his mother was afraid Putin would kill him.” In the current version, this has been edited into the following: “Russia’s *Sobesednik* newspaper reported that Nemtsov said that his mother was afraid

Russian President Vladimir Putin would kill him.” What is significant in both of these is that the original ambiguity—“Vladimir Putin (or his people)” —has been removed and the Russian president is identified unequivocally as the potential killer.

Possibly quite independently of the English Version, at 14:15, March 7, 2015, the following appeared in the Russian Version:

Немцов отвечал на вопрос корреспондента журнала «Собеседник» относительно того не опасается ли он, что Путин может в ближайшее время его убить.

[Nemtsov answered the *Sobesednik* magazine correspondent’s question about whether he was afraid that Putin could kill him in the near future.]

Whether this wording incorrectly attributes this fear to Nemtsov himself rather than his mother, or is citing a different point in the interview, the current version is more closely modelled on the wording given above:

Немцов в интервью журналу «Собеседник» рассказал, что его мама переживает за него и боится, что за критику в адрес Путина его могут убить.

[In an interview given to the *Sobesednik* magazine Nemtsov said that his mother was concerned for him and feared that he could be killed for criticizing Putin.]

As with the English Version, the editing here removes the original ambiguity, but, unlike the English Version, it moves the potential responsibility for Nemtsov’s killing away from Putin. I would therefore argue that each edition’s LPOV is reinforced by means of interlingual translation and/or intralingual editing.

Where the English Version contains a citation not present in the Russian Version—especially one in a third language—this will often also support the local LPOV. A number of the translated statements in the “Reactions” section of the English Version, for example, are clearly supportive of the anti-regime LPOV:

Minister for Foreign Affairs Edgars Rinkēvičs wrote in Twitter that the “murder of Boris Nemtsov is a proof of the lunacy that rules in Russia.” Expressing his condolences to the family, he also stated that “there’s a very little hope for an objective investigation.”

This particular extract, taken from a source in Latvian, is typical of the statements contained in this section for the critical stance it adopts towards the situation in Russia. Many of these were also present in the Russian Version prior to being reduced to footnotes.

Eight out of 154 of the references contained in the Russian Version are to English-language sources—a markedly smaller proportion than that of Russian-language references in the English Version. In the case of third-language citations, the translation flow into Russian seems to be generally, but not invariably, via English. At 15:17, February 28, 2015, the following text, sourced from a Finnish text on the website of the Finnish Broadcasting Company, was added to the English Version: “President Sauli Niinistö stated that the murder of Boris Nemtsov was a ferocious and reprehensible act. He suspected political reasons behind the killing and expressed his worries over consequences.” Shortly afterwards, at 15:45, February 28, 2015, the following was added to the Russian Version:

Президент Финляндии Саули Нийнистё назвал убийство лидера оппозиции Бориса Немцова «свирепым и предосудительным деянием». Нийнистё отметил, что знал Немцова лично.

[President of Finland Sauli Niinistö called the murder of opposition leader Boris Nemtsov “a ferocious and reprehensible act.” Niinistö observed that he had known Nemtsov personally.]

On this occasion, the same source seems to have been exploited independently by the two article editions (although the English Version may also have influenced the wording in the Russian Version), while, in line with its LPOV, the Russian Version fo-

cused on a personal comment rather than possible political motives. In the latest English Version, the wording is preserved almost unchanged, while in the current Russian Version, the above text has been replaced by a footnote. The sharp reduction of the “International Reactions” section can be seen as bringing the article into line with Russian LPOV.

The Ukrainian Version includes only one English citation, a tweet by Lithuanian President Dalia Grybauskaitė about what the murder tells us about the state of Russia. This is shared by the English Version but not by the current Russian Version. The sentiment expressed can be said to run contrary to the Russian LPOV, which started to assert itself after a few days with the reduction of international reactions. A spot-check of the 71 Russian-language citations in the Ukrainian Version (see Table 4 above) indicates that many refer to factual content in a quick-fire manner, while a number consist of translated extracts from independent sources critical of the Russian regime.

Instances in which a translated fragment conflicts with the local LPOV are hard to find and may in fact be generally short-lived. Thus, it seems that, when it is not used to convey basic factual content, translated material tends to support LPOV. It also seems likely that an article’s LPOV crystallizes over a period of time, and involves the modification or removal of existing translated (and other) material in the process.

Conclusions

A number of findings emerge from this analysis. In terms of the visibility of translation in *Wikipedia*, acts of translation are rarely declared by a template, or indeed mentioned on the Talk Page or the Revision History, which means that most translation is of the “dark matter” variety. Some, but not all, are accompanied by a reference to a source in another language, which means that knowledge provenance is not always clear. Generally speaking, compared to my previous study of translation into English in the encyclopaedia, I found considerably more translation than I was expecting. In this instance, the English and Russian Versions—the global and the significant local edition—are used as almost exclusive sources for

translation between editions. Translation features in many forms but is not the only means of moving material between editions. Examples of indirect translation can be found, and un-post-edited MT occurs, albeit fleetingly, even in serious contexts such as this.

An important aspect of knowledge production in *Wikipedia* is that parallel articles offer editors stepping-stones to external sources in other languages. There has been much more borrowing of non-English references in the English Version than I expected, although admittedly the topic is a non-English one. The co-creation principle, moreover, appears to work across language editions. There is also abundant evidence of similarity decay caused by changes to either the target or source text. On the other hand, some translated fragments persist essentially unchanged, while others resemble islands of translation that emerge at a certain point in time only to be submerged once again.

In terms of point of view, translated material is generally either relatively neutral or supportive of an article's LPOV. This is arguably a missed opportunity for establishing a broader knowledge base for a developing article. An article's structure can be shaped to reflect LPOV, with translated material being included or removed as appropriate.

These findings demonstrate the broad role played by translation in knowledge production across the multilingual encyclopaedia. A continuation of this line of research via a more exhaustive study into the articles discussed here would be valuable. Alternatively, a complementary investigation of different aspects of the translation process would also be enlightening. Finally, a study similar to the present one but focusing on sentiment analysis would also be of great interest.

Notes

¹ Similar policy statements exist in 111 other editions. Those I have examined (Russian and Ukrainian) appear to be broadly in line with the English, although subtle differences between versions of the policy may exist.

² The nine articles will be referenced and listed in Works Cited according to their languages using this format.

- ³ The first three of these are available via an article’s Revision History and the last at <<http://www.manypedia.com>>.
- ⁴ Other tools such as MultiWiki (Gottschalk and Demidova), Contrope-dia (Weltevrede and Borra) and Omnipedia (Bao et al.) now also exist but are not currently easily accessible or released for general use.
- ⁵ Time in *Wikipedia* versions is generally according to UTC (Co-ordinated Universal Time, broadly equivalent to Greenwich Mean Time) by default (see “Help:Page”).
- ⁶ Kadyrov’s original Russian can be found at <<https://www.instagram.com/p/zyY3odiRv9/?modal=true&br%20%2F>>.
- ⁷ I would like to thank Katerina Ticha, Anna Mkhitarian, Hye-Kyung Lee, Assima Omarova, and Caiwen Wang for confirming this for me. It has not yet been possible to verify the Sinhala Version.

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