

SUBTITLING STANDARDS IN NORWAY

WITOSŁAW AWEDYK

Adam Mickiewicz University in Poznań



ABSTRACT: The main objective of this paper is to present the specificity of the work of a Norwegian subtitler in view of the unique language situation in Norway. In addition to the challenges an audiovisual translator needs to face, a general description of the Norwegian language policy will be presented here.

AUDIOVISUAL TRANSLATION IN NORWAY

On the audiovisual map of Europe, Norway is classified as a subtitling country, together with the Netherlands, Belgium, Portugal, Greece, Israel and the remaining Scandinavian countries, including Finland (Gottlieb 1992:169). Dubbing, which is a typical method of audiovisual translation (hereinafter referred to as AVT) dominating in the south of Europe and in German-speaking countries¹ can also be found in Norway but its use is limited to productions for children (cartoons on TV and productions from major Hollywood studios, such as Disney, Pixar and Dreamworks). The dominating AVT methods in Norway seem to confirm the observations made by Gambier (1996:8) and Fawcett (1996:84), who point out that in Europe a clear distinction between larger and smaller countries can be seen as the former show a tendency to favour dubbing while the latter turn to subtitling. As Bassnett and Lefevere (1998) observe, the reasons for the above state of affairs may be two: economic and political, with the latter serving allegedly as one of the forms in which governments are able to regulate political censorship². In the Scandinavian context the social, the cultural, as well as the

¹ The dubbing countries are sometimes referred to as FIGS group.

² This argument, however debatable, has given rise to some discussion; for details see Bassnett & Lefevere (1998).

linguistic impact of audiovisual translation for state-owned tv channels is often stressed (Njaal 1989:114). As argued by Njaal (ibidem) and Pedersen (2011), the body of text Scandinavian-language subtitlers produced each year for television channels (and now for also the DVD and Blu-ray market) leaves a distinctive impression on the propagation of the language forms found in subtitles among the speakers of the respective Scandinavian languages. Also, another interesting trend can be observed in the Nordic countries. As argued by Pedersen (2007, 2011), Scandinavian subtitling norms are converging, probably as a consequence of earlier attempts among Scandinavian subtitlers to hammer out some general guidelines for subtitling standards in Norwegian, Swedish, and Danish³.

Nor can the economic reason be overlooked here as the production of a film for the local audiences may substantially differ as far as the financial outlays are concerned. Bogucki (2004) claims that the production costs of a dubbed version of a film may be ten times higher from those needed for a subtitled version, since professional actors, often local celebrities, are hired for main roles⁴.

AVT AND THE SPECIFICITY OF THE NORWEGIAN LANGUAGE SITUATION

From the point of view of audiovisual translation, the Norwegian example is fairly special, if not even unique. Naturally, there are places on the audiovisual map of Europe where the state of affairs is somewhat more complicated due to their language situation. This can be observed for example in Finland and Belgium where there are two official languages present in their public life. This means that Finnish and Belgian broadcasters are legally bound to offer subtitles in both languages to cater for the needs of the two speech communities in question.

An even more interesting situation can be observed in Norway, where there are two written language forms, known as *bokmål* and *nynorsk*, which co-exist in public space, both enjoying equal status of the official language. Consequently, both of them are used in all spheres of public life, including the mass media. As a natural consequence of the above status quo, the audiovisual translation activity in Norway is determined by the country's language situation, especially in view of the fact that the subtitling quota for the media

³ See Mathiasson (1989), Nelvik (1989), or Njaal (1989).

⁴ In the recent history of television, Polish viewers were able to experience this phenomenon in the 1990s when, thanks to satellite dishes, Poles could watch newest American tv series, which were too expensive for the then Polish broadcasters, on German television channels such as RTL or Pro7.

presence of either variety on the state-owned television channels is strictly regulated by law.

SUBTITLING AS A FORM OF AUDIOVISUAL TRANSLATION

Subtitling as a form of AVT in film translation is conditioned by a very specific context the translators have to relate to. This uniqueness of film subtitles originates from the following factors (compare Gottlieb 1992:162ff and Tomaszkiwicz 2006:112ff):

1. The spoken text of the source language is translated into a written text in the target language; consequently, some level of informality inherent in speech can be lost through translation;
2. The subtitles are added material to the already existing, predominantly spoken, text in the source language; as a result, the subtitled version in the target language is always perceived as subordinate to the original text of the source language;
3. The subtitles are instantaneous, as are the unfolding events on screen over which the viewer has no control;
4. The subtitles of the target language and the text in the source language must be synchronous, which, given the limited range of resources subtitlers have at their disposal, may sometimes prove to be a somewhat daunting task;
5. Subtitles in AVT are multi-dimensional as they need to account for all communication channels used in the source material to convey the message; this puts extra stress on subtitlers who are often left to their own devices as regards the editing (and maybe also screening) process that leads to successful information transfer into the target language.

The above factors may present a great challenge to a Norwegian subtitler for a variety of legitimate reasons. To begin with, the subtitles in Norwegian ought to comply with the requirements concerning, among others, inflectional forms approved of by the Norwegian Language Council (*Språkrådet*), which sets out the guidelines for the Norwegian language policy (Hauge & Stokkeland 2005) The selection of inflectional forms also needs to comply with the latest spelling reform from 2005, which gives bokmål users more freedom of choice by “adjusting its spelling to the most widespread written language usage and thus consolidating it” (Vikør 2009:130).

In addition, special care needs to be taken so that the users of both written standards of the Norwegian language can understand the translated text, a prerequisite that undeniably requires from the subtitler a high level of language awareness and a great deal of linguistic sensitivity.

Of course, linguistic correctness is not the only priority of a subtitler as the translation also needs to comply with other formal and pragmatic requirements, among which the readability of the subtitled text seems to be of utter importance. Unlike other text forms, subtitles need to be kept simple and easy to follow, they should also be devoid of any forms which may irritate or confuse the potential viewer. Consequently, subtitles should not include

archaic or literary forms, and, preferably, they should bear resemblance to the contemporary spoken language. Another crucial requirement set for the subtitler is the constant need for brevity. In this respect, Nelvik (1989:73) observed a marked tendency among Norwegian subtitles to simplify, for the sake of condensation, the use of personal pronouns. He noticed that Norwegian subtitlers tend to supersede the accusative pronouns *ham* and *henne* with their shorter, nominative counterparts *han* and *hun* (or even *ho*), respectively (ibidem). While the feminine nominative personal pronoun does save two, or even three letters, its masculine counterpart poses a more complex issue. While Nelvik (1989:74) stresses the urgency of squeezing in as many characters into a single line of subtitles as possible, one should also bear in mind the fact that *han* found in the object position is a dominating form used in speech by contemporary *bokmål* users, which may just as well be the prime reason for this form to appear in Norwegian-language subtitles.

SCOPE OF STUDIES ON AUDIOVISUAL TRANSLATION IN NORWAY

In view of the fact that the language situation in Norway is fairly unique, it has been often discussed by, among many others, sociolinguists and dialectologists⁵. With its population amounting to 5 million⁶ and its two official mutually intelligible written standards: *bokmål* (used by between 85 and 90% of the population) and *nynorsk* (used by between 10 and 15%) Norway undoubtedly emerges as an interesting area for linguistic research. This, however, fails to be reflected in the amount of research conducted in the domain of AVT studies in Norway⁷. Interestingly, this stands in stark contrast to the situation in the neighbouring Denmark, where there is a strong representation of academic research devoted to the issues of AVT. In view of the above, the scarcity of AVT-related research projects and academic publications in Norway may seem rather surprising (see Blystad & Maasø 2004, Kristiansen 2008, Pedersen 2011). Also, the few existing publications have a tendency to focus, though not exclusively, on the problem of intralingual translation for television and video/DVD/Blu-ray market, especially for the needs of both the hearing and hard of hearing audience (Kristiansen 2008)⁸.

⁵ see Blom & Gumperz (1972), Fasold (1990), Haugen (1966), Hudson (1980), Jahr (1990, 1992, 1996), Trudgill (2001) and many more.

⁶ <http://www.ssb.no/befolkning> (last accessed 14 June 2012).

⁷ see Krogstad (1998), Lomheim (1999, 2000).

⁸ In the recent years, a new issue in studies on subtitling in Scandinavian countries has emerged; it is related to the fact that Scandinavian broadcasters allow regional dialects, even the broadest ones, to be used in locally produced shows; this has sparked off the debate in the

The above-mentioned status quo of AVT studies in Norway may seem even more perplexing once one becomes aware of the specificity of challenges Norwegian subtitlers need to face in their work.

Firstly, the target audience is known for their very high level of language awareness, if not over-sensitivity. Secondly, it should be noted here that in Norway all language issues, including spelling reforms, have always been the central topic of many political and social debates unprecedented even in the remaining Scandinavian countries; suffice it to say that before any spelling reform is effective, it needs to be approved of by *Stortinget*, the Norwegian Parliament. And finally, a Norwegian subtitler needs to observe a very restrictive language policy regarding both the inflectional forms used in the subtitles and the choice of the written standard in which the subtitles are to be realized in. To meet these requirements, the Norwegian Association of Audiovisual Translators, founded on 15 October 1997 works closely with the Norwegian Language Council (*Språkrådet*) to ensure that authorized forms are used in subtitled programmes⁹.

Another crucial factor contributing to the complexity of the Norwegian situation is what the present author chooses to call the ‘self image of Norwegian language native speakers’, which, in the face of the on-going dispute on the media presence of either language form may bewilder an outsider. The stereotypical perception of these two language standards among Norwegians centres on the question which of the two varieties ought to be perceived as more ‘Norwegian’ – the dominant *bokmål*, which, in an oversimplified way, can be seen as a Norwegianized version of Danish, or the minority *nynorsk*, the variety created on the basis rural Norwegian dialects. This contentious point, together with the people’s strong self-image has given rise to, among others, the heated discussion on the extent of the media presence of both varieties and the right of *nynorsk* users to be duly represented, at least, in the state-owned television stations.

SUBTITLING STANDARDS IN THE NORWEGIAN MASS MEDIA

One of the issues which have been investigated in relation to subtitling standards in Scandinavia is the translatability ratio for different genres. Gottlieb (1994, 1996) has proposed a translatability model, by which he means the amount of translatable text found in different types of productions for television, radio and film. Although the data below have been used in

respective Nordic countries on the potential need to include intralingual subtitles (see Kristiansen 2008:63ff).

⁹ www.navio.no (last accessed 14 May 2013).

reference to Danish broadcasters, these figures could easily be adapted to the Norwegian context as well:

- American tv series 60%
- Foreign language feature films 60%
- Reality shows 60%
- Documentaries 30%
- Cooking programmes 30%
- Music and entertainment 10%
- Sport 10%

The next aspect associated with subtitling standards relates to Norway's language policy, the crucial part of which is namely aimed at the propagation of *nynorsk* among all Norwegian-based broadcasters based in Norway. *Nynorsk* has a statutory presence of 25%, a goal which only the state-owned tv channels belonging to NRK ('Norwegian Broadcasting Corporation') attempt to comply with. There is, however, strong opposition to *nynorsk* presence in AVT of feature films and tv series among the Norwegian public. The examples of this opposition can be found even on social networking sites such as like Facebook, where hate pages as for instance *No to Pacific Blue in nynorsk*, are popular forms of voicing one's dissatisfaction with the state's policy concerning the media presence of *nynorsk*.

Throughout the history of Norwegian television, however, attempts have been made to promote *nynorsk* by broadcasting some of the most popular tv series with *nynorsk* subtitles. For example, *Derrick* and 'Allo, állø, Norwegian tv viewers' favourites, were shown with *nynorsk* subtitles. In the recent years Hollywood productions like *The Devil Wears Prada* and *Stardust* were also broadcast on Norwegian state-owned tv channels with *nynorsk* subtitles, a trend which is likely to gain in frequency.

When it comes to cinema translation, the situation can arouse even more curiosity since between 1985 and 2008 *nynorsk* was conspicuously absent in cinemas and, consequently, all films shown in Norwegian cinemas had *bokmål* subtitles only¹⁰. Traditionally, the reasons for this situation have been ascribed to the high costs of subtitling with the cost of 2 film copies in *nynorsk* reaching the price tag of between 60 and 70 K NOK (ca 10 K euro)¹¹. Of course today, with the widespread use of computer-enhanced AVT software the financial reasons can no longer be substantiated and so, since 2008, we have observed a rise in the number of films shown in Norwegian multiplexes with alternative subtitles in *nynorsk*. Again, the reinstatement of *nynorsk* in the Norwegian

¹⁰ The first film with *nynorsk* subtitles shown in Norwegian cinemas, after a 23-year break, was the acclaimed Brazilian *Tropa de Elite* ('The Elite Squad').

¹¹ www.abcnyheter.no (last accessed 14 May 2013).

cinema subtitles was preceded by a long grass roots campaign waged by a youth organization called *Norsk Målungdom* (Norwegian Language Youth).¹²

As for the subtitling standards on television, there exists an interesting difference between the three so-called continental Scandinavian countries concerning exposure time of subtitles, namely: two full lines of text (60 characters) are shown on screen for 6 seconds in Norway, compared with 5 seconds in Denmark and 7 seconds in Sweden. While the Scandinavian length standards for a two-liner appear to be fairly clear-cut, the same cannot be said about the exposure time in the case of shorter subtitles. As Lomheim (2000:124) points out, the exposure time for Norwegian subtitles largely depends on their length, which can vary from three to eight seconds.

There is also a marked difference between the three languages concerning the number of subtitles in films. Gottlieb (2001) claims that a film is a 'polysemiotic phenomenon', so "a screen adaptation of a 100,000 word novel may keep only 20,000 words for the dialogue, leaving the semantic load of the remaining 80,000 words to the non-verbal semiotic channels – or to deletion" (Gottlieb 2001:6). According to Njaal (1989:113) a foreign-language feature film has, on average, 850 subtitles in Danish, 650 in Norwegian and 500 in Swedish¹³. This difference, however, does not concern the number of characters in the translated text, but rather the speed at which the text changes on screen. As a research project conducted among Scandinavian television viewers reveals (ibidem), Norwegians can easily adapt to the subtitling standards on both Danish and Swedish tv channels. Swedes, on the other hand, are likely to react to the speed at which the Danish subtitles change on screen while Danes may react to the compression methods found in Swedish subtitles on television.

To prove the validity of the above observation, a more recent research project was conducted in Norway by Tveit (2004). It aimed at establishing the optimal exposure time for a two-liner so that the viewers can read the text and, at the same time, focus on the visual information on the screen (2004:2). Tveit found that by reducing the exposure time from six to five seconds, a negligible decline in the perception of visual information can be observed while, at the same time, the retention of visual information substantially increases (2004:64). The above finding may lead one to assume that the reduction in the exposure time will not necessarily lead to the loss of any important written information found in the subtitles, and that the viewers will gain more information from the picture. This, in

¹² <http://www.nrk.no/kultur-og-underholdning/1.5836900> (last accessed 14 May 2013).

¹³ Cinema translation into Norwegian contains, on average, 400 subtitles more (Njaal 1989:111).

consequence, leads Tveit to conclude that “cutting the exposure time by one second is more of an advantage than a disadvantage” (2004:62)¹⁴.

According to Tveit (2004:58) both NRK and TV 2, the two biggest Norwegian television companies, have found that six seconds is the appropriate exposure time for a full double liner. Nevertheless, it might be tempting to assume that if the exposure time was to be reduced to five seconds, in agreement with Tveit’s findings and with the exposure time standard in Denmark, one might be able to display more subtitles, and consequently, fit in more textual information.

Furthermore, the above standards have been recently reviewed by Pedersen (2011) who points out to some substantial changes that took place in Scandinavian subtitling norms in the noughties (2011:133). He claims (*ibidem*) that together with the technological advancement the reading speed has increased. This has resulted in higher subtitle density now amounting to as many as 70 characters in a two-liner, with the exposure time in Denmark and Sweden fluctuating between 5 and 7 seconds. Pedersen (2011:131) writes also that there seems to be a general understanding among Scandinavian subtitlers that Swedish subtitling has a tradition of slower expected reading speed and lower subtitle density in comparison to the remaining Scandinavian countries (see also Lomheim 2000:114f.).

Interestingly, the present author has not been able to find any reliable information concerning Norwegian viewers’ opinions on their having to follow on screen subtitles in the alternative written language standard. It would be tempting to assume that, for example, those who use *bokmål* would probably need more time to read the subtitles in *nynorsk* and vice versa.

THE FUTURE OF AVT STUDIES IN NORWAY

All of the above may lead one to conclude that there is a wide scope of potential in AVT studies in Norway. It is especially needed in the case of interlingual AVT, a more insightful analysis of which seems to be perceptibly missing here. The status quo of AVT studies in Norway may seem even more perplexing in view of the fact that both in Denmark and Sweden¹⁵ AVT studies have already established themselves as a university discipline and an important area of linguistic research (Gottlieb 1992).

The insight into the complexity of the language situation and the ensuing specificity of Norwegians as the target audience ought to offer a broad area of academic research with possible pragmatic implications for the practitioners.

¹⁴ It must be noted here, however, that Tveit’s findings may not be representative of the whole Norwegian population since the reading abilities of his respondents, who were between 13 and 20 years of age, may not entirely reflect the reading abilities of an average Norwegian.

¹⁵ And also in Finland (see Gambier 1996), which, due to its language specificity, has not been discussed in this article.

To the present author, the area which seems particularly interesting is the interdependence between the language competence and the translation ratio. It has been argued that in the European countries where children start learning foreign languages early, especially English, “watching television makes a substantial contribution to their understanding of spoken English and to improving their pronunciation” (Ivarsson & Carroll 1998:35).

From the limited body of the currently available data it transpires that there is a relation between the language of the original and its audiovisual translation into Norwegian. As argued by, among others, Graedler (2002), an audiovisual translator may be tempted to leave out a considerable amount of the original text in English, quite justifiably assuming that the Norwegian viewer will understand the message thanks to his/her high level of communicative competence in English¹⁶. This, however, may have a double-edged sword effect as Norwegian viewers are likely to be more sensitive to any serious deviations from the original text, no matter how justifiably defensible from the subtitler’s point of view they may be (Haddal 1989:23).

And finally, it would also be interesting to see how different subtitled translations from other languages are done when compared with those from English. It may seem relevant in AVT translation of films from other languages, particularly in view of the findings from the study conducted by Tveit (2004), where the subjects responded positively to the reduction of the exposure time of Norwegian-language subtitles.

Another possible area worthy of a thorough investigation could be the interdependence between the language of subtitles (*bokmål* or *nynorsk*) and the exposure time of the translated text. In the author’s opinion, the specificity of the Norwegian language situation ought to be reflected in AVT studies since the Norwegian case is quite unique and also since the debate on the media presence of both varieties has gained in its intensity in the recent years.

REFERENCES

- Bassnett, Susan, & Andre Lefevere. 1998. *Constructing Cultures, Essays on Literary Translation*. Clevedon: Multilingual Matters.
- Blom, Jan-Petter & John J. Gumperz. 1972. Social meaning in linguistic structures: Code switching in Northern Norway, in: Gumperz, John J. & Dell Hymes (eds). *Directions in sociolinguistics*. New York: Holt Rinehart and Winston, pp. 407–34.
- Blystad, Espen Seip & Arnt Maasø. 2004. *Den usynlige teksten. Om teksting på norsk fjernsyn*. Available at: www.navio.no/tekst/.../den_usynlige_teksten.pdf. (last accessed 14 May 2013).
- Bogucki, Łukasz. 2004. *A Relevance Framework for Constraints on Cinema Subtitling*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

¹⁶ It is also highly probable that similar assumption can be made as regards the communicative competence in English among Swedes and Danes.

- Fasold, Ralph. 1990. *Sociolinguistics of Language: An Introduction to Sociolinguistics*. Oxford: Blackwell Publishers.
- Fawcett, Peter. 1996. Translating film. In: Harris, Geoffrey T. (ed.). *On Translating French Literature and Film*. Amsterdam/Atlanta: Rodopi, pp. 65-86.
- Gambier, Yves. 1996. La traduction audiovisuelle: un genre nouveau? In: Gambier, Yves (ed.). *Les transferts linguistiques dans les médias audiovisuels*. Paris: Presses Universitaires du Septentrion.
- Gottlieb, Henrik. 1992. Subtitling – a new university discipline. In: Dollerup, Cay et al. (eds.). *Teaching Translation and Interpreting*. Amsterdam: John Benjamins, pp. 161-170.
- 1994. *Tekstning – synkron billedmedieoversættelse*. København: Center for Oversættelse, Københavns Universitet.
- 1996. Tekstning, et polysemiotisk puslespil. In: Frandsen, Finn (ed.). *Medierne og sproget*. Ålborg: Ålborg Universitetsforlag.
- 2001. *Screen Translation. Six studies in subtitling, dubbing and voice-over*. Copenhagen: Kopi Service.
- Graedler, Anne-Line. 2002. Engelske lånord i norsk 1950-2000. In: *Språknytt 2002*, pp.3-4 and also available at: www.sprakrad.no/nb-no/Politikk-Fakta/Fakta/Engelsk_i_norsk (last accessed 30 June 2012).
- Haddal, Odd. 1989. Tekstingspraksis i Norge. In: *Nordisk TV-Teksting*. Oslo: Nordisk Språksekretariat, pp. 18-30.
- Hauge, Rikke & Jostein Stokkel (eds.). 2005. *Språkqualiteten i film og fjernsynsteksting. Rapport fra en konferanse i Oslo, mars 2005*. Oslo: Språkrådet.
- Haugen, Einar. 1966. Dialect, language nation. In: *American Anthropologist* 68, pp. 922-35.
- Hudson, Richard A. 1980. *Sociolinguistics*. Cambridge: Cambridge University Press.
- Ivarsson, Jan & Mary Carroll. 1998. *Subtitling*. Stockholm: Transedit.
- Jahr, Ernst-Håkon (ed.). 1990. *Den store dialektboka*. Oslo: Novus.
- 1992. *Innhogg i nyare norsk språkhistorie*. Oslo: Novus.
- (ed.). 1996. *Nordnorske dialektar*. Oslo: Novus.
- Kristiansen, Janne Skovgaard. 2008. *Intralingual subtitling of Norwegian film – representing the audio aspect in the best way possible for both a hearing and hard of hearing audience*. Stavanger: University of Stavanger (unpublished M.A. thesis). Available at http://www.hlf.no/Documents/Dokumentbase/Interessepolitiske%20mappe/Kristiansen_Janne_masteroppgave.pdf (last accessed 10 Apr. 2013).
- Krogstad, Morten. 1998. Subtitling for cinema and video/television. In: Gambier, Yves (ed.). *Translating for the media*. Turku: University of Turku – Centre for Translation and Interpreting.
- Lomheim, Sylfest. 1999. The Writing on the Screen Subtitling: A Case Study from Norwegian Broadcasting (NRK). In: Anderman, Gunilla & Margaret Rogers (eds.). *Word, Text Translation*. Clevedon: Multilingual Matters Ltd, pp.190-207.
- 2000. *Skrifta på skjermen: korleis skjer teksting av fjernsynsfilmen?* Kristiansand: Høyskoleforlaget.
- Mathiasson, Hans Åke. 1989. Nordisk TV-samarbete – i går, i dag och i morgon. In: *Nordisk TV-Teksting*. Oslo: Nordisk Språksekretariat, pp. 3-8.
- Nelvik, Nikolai. 1989. Tekstning og språkregler i Norge. In: *Nordisk TV-Teksting*. Oslo: Nordisk Språksekretariat, pp. 71-80.
- Njaal, Øystein. 1989. Kommersiell video og fjernsynsteksting. In: *Nordisk TV-Teksting*. Oslo: Nordisk Språksekretariat, pp. 111-116.
- Pedersen, Jan. 2007. *A Comparative Study of Subtitling Norms in Sweden and Denmark with a Focus on Extralinguistic Cultural reference*. Stockholm: University of Stockholm.
- 2011. *Subtitling Norms for Television. An exploration focussing on extralinguistic cultural references*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

- Tomaszkiewicz, Teresa. 2006. *Przekład audiowizualny*. Warszawa: Wydawnictwo Naukowe PWN.
- Trudgill, Peter. 2001. *Sociolinguistics: An Introduction to Language and Society*. London: Penguin Group.
- Tveit, Jan Emil. 2004. *Translating for Television. A Handbook in Screen Translation*. Bergen: JK Publishing.
- Vikør, Lars S. 2009. Lexicography and language planning in Scandinavia and the Netherlands. In: Nielsen, Sandro & Sven Tarp (eds.). *Lexicography in the 21 century*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

Witosław Awedyk

Uniwersytet im. Adama Mickiewicza w Poznaniu
Katedra Skandynawistyki
Collegium Novum
al. Niepodległości 4
61-874 Poznań
Poland
witosz@amu.edu.pl