

## REFLECTIONS

# The Impact of Technologies on Interpreting: An Interpreter and Trainer's Perspective

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## 1. Introduction

I have been an interpreter and interpreter trainer for over a decade. Some of the questions I received most frequently from my clients, students, and colleagues are about the future impact of technologies on this profession, for example, What does the future hold for the interpreting industry and profession in the age of artificial intelligence? Will human interpreters be replaced by machines? Is remote interpreting (RI) going to be the new norm? How do we prepare the next generation of interpreters to adapt to a fast-changing market?

These questions may sound clichéd in the age of Zoom, TikTok, and Facebook, but they are current and complex. However, the discussions on the subject in the field of interpreting studies are still limited; many interpreters are either unaware of or dubious about the power of technologies in the industry; only a small number of interpreting programmes have included the subject of technology in their curriculum. This paper is my humble attempt to present my thoughts on this topic, based on my experience as a conference interpreter and an interpreter educator.

Conference interpreters have always been working with technologies and the very birth of simultaneous interpreting was celebrated with the introduction of a wired system nearly 100 years ago. Conference interpreters have used the Internet, search engines, laptops, and tablets including the recent use of remote interpreting platforms as time changes.

Fantinuoli (2018) pointed out, "When compared to written translation or other language professions, the advances in information and communication technology have had a modest impact on interpreting so far". It was also noted that "interpreters' work still mainly relies upon traditional or manual methods, and the technological advances in interpreting have been extremely slow" (Corpas Pastor 2018: 140).

That was, of course, the situation before the COVID pandemic. During the global pandemic, the significant impact of technological progress on the profession is widely acknowledged. This is particularly the case with RI, and enormous breakthroughs have been made in the areas of Computer-assisted Interpreting (CAI) and Machine Interpreting (MI).



I am no expert in interpreting technologies; however, I have been following the developments in this area for some time and tested some of the off-the-shelf solutions myself. I will provide a few examples of existing applications of RI, CAI, and MI in the following sections, and discuss the impact these solutions might have on interpreter training.

## 2. Remote Interpreting (RI)

In the past few years and certainly during the pandemic, remote videoconferencing solutions have evolved substantially. RI has shifted from the provision of over-the-phone and videoconferencing solutions to more complex and advanced cloud-based remote interpreting<sup>1</sup> (Corpas Pastor 2018: 153).

RI as a mode of interpreting is now deployed not just for consecutive interpreting or in the context of dialogue interpreting, as was the case before the pandemic, but also in simultaneous interpreting and by large institutional employers such as the United Nations and the European Union. The development has been so noticeable that the International Association of Conference Interpreters (AIIC) published a set of new guidelines on distant interpreting in the span of a few months after the outbreak of the pandemic<sup>2</sup>. The interpreting community made a speedy response to the changes, as the president of AIIC Uroš Peterc commented in an interview (Interactio 2021) that ‘we transitioned the hard way’ and the changes the community made in one year ‘would have taken 5-7 years otherwise’.

Such is the force of technological progress at an unusual time. Despite this, there are of course limitations to RI. And I can speak from my own, albeit limited experience that the unprecedented technological progress is not only posing a new array of technological, logistical and organisational challenges to interpreters, but also transforming many socio-economic aspects of the profession – from working conditions to professional identity, from job security (or lack of) to interpreters’ relations with other stakeholders in the industry. The changes have been so drastic and complex that it can be hard for interpreters to understand the full impact, at both personal and professional levels.

There are understandably varying attitudes towards RI and I know almost equal numbers of interpreters who love it and who loathe it. In reality, more and more conference interpreters are accepting and embracing it. Like it or not, RI is a reality, possibly a new norm, and it is likely to grow in the post-pandemic world. This is because the experiments during the pandemic have proven that RI can be a viable solution, and many stakeholders who now have a limited budget consider it a valuable option to cut costs and increase service accessibility. Hybrid meetings are likely to be a trend in the foreseeable future. Indeed, for many interpreters including myself, RI has been a lifesaver as it enabled us to work through challenging times. It is now part of the service package that we offer, just like other modes of interpreting.

And this is where I think interpreting education programmes need to reflect the change. If RI is going to be the new norm, the next generation of interpreters needs to be trained with RI – they need to know

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<sup>1</sup> Some examples of cloud-based RI solutions are Zoom, Lark, Kudo, Interpretfy, Interactio and InterpretCloud.

<sup>2</sup> These documents include: ‘AIIC Best Practices for Interpreters during the Covid-19 Crisis’, ‘AIIC Covid-19 Distance Interpreting Recommendations for Institutions and DI Hubs’, ‘Covid-19: Advice on performing interpreting assignments from home in extremis’ and ‘AIIC Interpreter Checklist: Performing Interpreting Assignments from Home in extremis during the Covid-19 Pandemic’. For more information, please consult AIIC distant interpreting information page at <https://aiic.org/site/world/about/profession/distanceinterpreting>.



how to use RI platforms, how to set up their own home offices, how to communicate with other stakeholders, and how to defend interpreter's working conditions. Working remotely adds additional cognitive loads and new communication challenges, such as tiredness of eyes from looking at the screen for too long (screen fatigue), the increased amount of stress when working in isolation (stress management, isolation, and alienation), very limited contextual information related to the assignment, exposure to sudden, loud, or startling noises coming through the earphone, which can lead to hearing losses in extreme cases (acoustic shocks), and difficulties in rota team-work. However, these issues are often not featured in the existing curriculum of interpreting programmes, and research on these areas is still limited. In fact, many trainers probably have never worked on RI platforms themselves and may still see this development as something unconventional. How do we train the next generation of interpreters if we as trainers have very limited knowledge about a mode of work that is likely to be part of our students' profession?

I think a good starting point is to keep some elements of distant learning on the training agenda, for example, remote tutorials or remote mock conferences. I know this happened in many institutions during lockdowns, as an *ad hoc* solution to maintain continuity of teaching and learning. Many of these remote solutions were innovative but they were typically put together in a rush and not designed to be an integral part of the curriculum in the long term. Remote teaching risks being dropped off completely when education programmes return to face-to-face. I think it would be helpful to maintain some form of remote training to give trainers and students the chance to explore RI in a more structured way, through which the students are equipped for the changing landscape in the interpreting profession and industry.

I know there is a long list of challenges when it comes to distance learning in general, particularly with remote simultaneous interpreting (RSI) training, as I have been doing this for over a year at my own institution. However, I see it as a good opportunity for students to practise RI in a controlled environment.

It is observed that many of the challenges my students and I have experienced in RSI training are similar to the ones interpreters normally encounter when working remotely, such as screen fatigue, loss of motivation and concentration, and varying quality of audio/video signals. By carrying out synchronised interpreting training on mainstream videoconferencing platforms such as Zoom and Lark, students learn to appreciate the basic technical requirements for RSI (e.g., the connection, headsets, and microphones). They can practise meeting etiquette (e.g., who speaks in what order and how to take over the microphone) and familiarise themselves with different remote working methods (e.g., interpreting from on-campus labs as 'the RI hubs' *vis-à-vis* interpreting from their own rooms acting as home office). Crucially, they are learning to defend interpreters' working conditions and look after themselves when interpreting remotely (e.g., how to minimise stress, screen fatigue, and acoustic shocks).

One thing I didn't expect from my remote teaching experience is how tech-savvy many student interpreters are. Most students were quick learners, and they came up with a whole range of practical solutions for RI. For instance, they used cloud-based synchronised timers to work out the interpreting rota, they used WeChat Groups to assist communication among booth mates, voice diction for quick vocabulary search, and Google Drive for online document collaboration. Some of these solutions were so creative that I ended up applying them in my recent RSI assignments. As technological advancement



in RI has been so swift, future generations of interpreters can contribute as much to the knowledge in this area as the current generation, if students were involved in contributing solutions from the very beginning.

In my view, conference interpreting programmes at degree level can easily incorporate RI into the existing training without making a drastic change to their curriculum or training agenda.

## 2.1 Remote mock conferences

Many interpreting programmes organise mock conferences as part of their training. These meetings can be moved completely online where all participants join remotely or delivered in a hybrid way. There is no set format: meetings can be designed to designate different settings and modalities to reflect the actual real-world practice in the market and the resources available to an interpreting programme. For instance, on-campus interpreting labs can be set up as ‘the hubs’ where student interpreters work from, and external speakers, trainers, and other participants can attend the sessions remotely; or all participants can gather in one room whereas interpreters work from their ‘home offices’. If technical setup permits, one can even organise joint mock conferences with another interpreting programme.

Remote mock conferences are a good way for students to develop hands-on skills on RI. Students can try out different roles, for instance, meeting organisers, consultant interpreters, moderators, speakers, and audience. This will help students understand the complex eco-system of RI and give them the skills and confidence they need to communicate with clients in the future.

## 2.2 General seminars on RI

General seminars and talks on RI can be a good way to give students structured information on the topic. These sessions can be embedded in modules relating to professional development or interpreting studies, depending on the expertise of the trainers. This can include a wide range of topics, from the technology, logistical and organisational setup if the sessions are practice-oriented, to psycho-linguistic and social-economic aspects of RI, if they are theory-based.

Here are a few examples of the topics that can be included in a professional development workshop and/or in an interpreting studies seminar:

- AIIC guidelines on distant interpreting and its amended code of conduct for interpreters,
- specialised RSI platforms such as KUDO and Interpretfy,
- technological requirements for RI from a home office,
- logistical and organisational challenges of using RI,
- scholarly discussions on cognitive loads,
- impact on the working conditions of interpreters,
- interpreter’s self-perception and perceptions of different stakeholders,
- the status of the profession (professionalisation or de-professionalisation).



### 3. Computer-assisted Interpreting (CAI)

CAI is another area where several attempts have been made to improve interpreters' productivity in different interpreting contexts (Corpas Pastor 2018: 142). There are various types of CAI tools available on the market, and most of them are related to terminology management solutions, note-taking applications, and voice-to-text devices (ibid).

Terminology management tools are probably the most widely used CAI solutions that I am aware of. While most interpreters still manually compile their glossaries, either electronically or in the old-fashioned hand-written form, there is a growing number of interpreters who are testing out automatic terminology tools available in the market.

One such tool which claims to provide a 'complete solution for professional interpreters' is InterpretBank (InterpretBank Website)<sup>3</sup>, which is a software developed by Claudio Fantinuoli. Apart from the conventional functions of compiling, storing and searching terms within glossaries, InterpretBank offers a few cloud-based, AI-supported features such as translation suggestions, automatic term-extraction, automatic glossary creation, and speech recognition (ibid). Some of these functions have already been integrated into KUDO, allowing a degree of CAI during RI.

The existing CAI terminology tools are far from perfect. Take InterpretBank for instance, I installed its older version a few years ago only to find that it couldn't run on Mac OS. I have recently tested the latest version, and while the software has been improved significantly, not least for its operability on Mac OS, I can still name a few noticeable limitations to the software. For instance, it is not cheap<sup>4</sup> and it is still platform-dependent, which can be difficult for synchronisation when working with two operating systems. It also requires some time and effort to convert one's existing glossaries to the software's database, and depending on the format of the original glossaries, this initial configuration may not be straightforward. Another challenge is usability: users will need some training and practice to get used to it, particularly if the software is going to be used during a simultaneous interpreting assignment. All these probably explain the low degree of uptake of this software (and other similar terminology management tools) by the interpreters that I know.

Research into the role of CAI tools for interpretation is still limited. However, there are some pioneering studies (e.g., Desmet et al. 2018, Prandi 2018), which show that CAI tools, under specific circumstances, may help to improve quality in the booth, and some automatic functions may even help to reduce the cognitive load during simultaneous interpreting.

These are a few experimental studies and more need to be carried out in this area. The findings from the experimental studies are already fascinating and if more studies point to a similar result, it will contribute to faster adoption of CAI tools among practitioners and trainers. Again in this area, I think it will be helpful to inform students of the solutions available in the market and encourage them to

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<sup>3</sup> <https://www.interpretbank.com/site/>

<sup>4</sup> The current rate set for InterpretBank Freelance is 169 Euro plus VAT, but users need to pay for annual renewal of the PRO package to get access to AI functions such as term extraction and translation suggestion, and there is additional charge for adding one extra workstation/desktop installation. More pricing information can be found via: <https://www.interpretbank.com/site/pricing.html>



explore and experiment themselves, so that they may in turn contribute to the discussions and practices in this area.

#### 4. Machine Interpreting (MI)

When it comes to the future impact of technology in interpreting, perhaps the most debated topic is the use of artificial intelligence and the ambitious goal of replacing human interpreters with machines by the designers and developers. Existing MI solutions typically combine the following three technologies to perform the task: automatic speech recognition, machine translation, and speech-to-text synthesis<sup>5</sup>. Because MI is designed to replace humans, as opposed to merely assist human interpreters in their work as in the case of CAI, or to change the way interpreters deliver their service as in the case of RI (Fantinuoli 2018: 5), it is the most controversial technology so far – on the one hand, market obsession and enthusiasm by the developers, and interpreters’ aversion and scepticism on the other<sup>6</sup>.

The reality is, “the success of these systems has been quite modest so far as they fail to achieve the goal of quality and usability even for the most basic real scenarios in which interpreting is needed” (Fantinuoli 2018: 6).

However, technology is progressing rapidly. In a series of online events on AI and interpreting organised by the AIIC United Kingdom & Ireland<sup>7</sup>, guest speakers from the industry presented some of the scenarios where the latest MI solutions could perhaps be applied, such as combining voice synthetic technology with avatars of real actors to create pre-recorded multilingual content and using portable machine translation devices or over-the-ear earpieces for consecutive/dialogue interpreting. And whilst there are obvious problems with these solutions, it is not hard to imagine MI being applied in specific areas ‘for non-critical content or non-critical users’ (Corpas Pastor 2018: 157) in the near future, particularly in settings of public service interpreting.

This is particularly relevant when considering interpreters are already faced with other imminent challenges, such as reduced demand in some markets and/or settings due to budgetary constraints of international organisations and corporate clients, and the use of English as default working language in the professional world. With the advancement of MI, stakeholders will have more choices when it comes to multilingual communication, particularly when service accessibility and affordability are their primary considerations.

As Fantinuoli (2018: 7-8) explained: “Although MI is still in its infancy and the limits of current implementations are clear, there is no doubt that the fast evolution of this technology will have both a long-term impact in some areas of the profession...and, most interestingly, a short-term impact in the public perception of the activity performed by professional interpreters (and consequently in the

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<sup>5</sup> A good summary of the latest development in MI is the following AIIC webinar on AI: ‘Automated speech translation: challenges, approaches, scale, uses and edge cases’ which can be watched via: <https://aiic.co.uk/company/roster/companyRosterDetails.html?companyId=11937&companyRosterId=51>

<sup>6</sup> An example of this is the iFlytek scandal in 2018 when it was found to synthesise the transcript of live human simultaneous interpreting as its own MI output. More information on the report can be found via <https://www.caixinglobal.com/2018-09-22/iflytek-accused-of-giving-its-ai-program-credit-for-translations-done-by-humans-101329380.html>.

<sup>7</sup> For more details on the webinar series, please visit <https://aiic.co.uk/site/uk-ie/AI-interpreting>



perception of different stakeholders). This, in turn, may under certain circumstances, undermine the status of the profession well before the time MI will represent a potential threat to human interpreters". As a result, "the pressure to embrace new technologies may soon increase. Not only the market but also society...may have enough persuasive power to impose a paradigm change on the profession, no matter the personal attitudes towards it and the concerns about potential consequences on quality, working conditions and so forth" (ibid).

So how will all these affect the current and future training agenda of interpreting programmes? Again, I think the next generation of interpreters need to be made aware of technological development in interpreting, particularly in areas of automation and digitalisation. Students need to be made aware that the market for mediocre interpreters will be diminishing and the competition will intensify as clients will have more choices, particularly in settings where accuracy is less important than cost-efficiency and/or service accessibility. And when clients do hire human interpreters, they will expect more added value; therefore the assignments are likely to be more technically demanding. It will be harder for just-so-so interpreters to establish themselves in the market.

If this were the trend, I think the designers and managers of interpreting programmes will have to think very hard about the profiles of interpreters they are going to train. In my opinion, the programme managers will have to decide whether their programmes are going to provide elite training or general education. If it were the former, the programmes need to be designed to train the ablest for high-profile conferences. If it were the latter, they would need to provide training for a broad range of careers in the language service industry, such as linguists working with MI, interpreting project managers, and event managers. In this way, students are equipped with a set of useful transferable skills, rather than being conference interpreting specific (for instance, simultaneous interpreting will be unnecessary for trainees of this profile).

I am of the view that a hybrid programme where students of both profiles are trained by the same team of trainers following the same curriculum will not be viable, because their intended training outcomes are so different, thus leading to unrealistic expectations for the majority of students on the one hand, and insufficient training for a handful of the ablest on the other. In the end, if technological development in interpreting is likely to impose a paradigm change to the profession and its labour market, it will sooner or later bring about a similar change to interpreting programmes and their training agenda.

## 5. Conclusion

In this paper, I have looked into the future impact of technology in interpreting based on my experience as an interpreting practitioner and trainer. Technologies such as RI, CAI and MI have progressed significantly over the past few years and in particular during the pandemic. They now represent a new trend in the market and will no doubt bring profound changes to the profession. Interpreting education programmes need to respond to these changes and adjust their training agenda so that the next generation of interpreters will be better equipped to face the challenges and embrace the opportunities brought about by new technologies.



## Declarations and acknowledgement

The author declares no conflict of interest.

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