That feeling of being there: Vision and presence in remote interpreting

Remote interpreting is not ‘business as usual’ — which just happens to take place in a dimly lit room replete with screens and monitors — but a completely different new modus operandi for the interpreter.

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1. Introduction

Not that long ago, the mention of remote interpreting (RI) and the associated working conditions issues would have generated only limited interest among European Parliament (EP) interpreters. This state of affairs is now history, following the November 19, 2002 meeting which brought together MEPs and national parliamentarians from 13 applicant countries in the EP plenary chamber - a world première in multilingual interpretation with no less than 23 passive and 23 active languages (15 in normal mode and 8 in RI mode).

The recourse to remote interpreting for some languages in this meeting (amid much controversy and despite frantic, last-minute efforts to use a wireless system that would permit normal interpretation instead) raised quite a few fears among interpreters about the November 19 meeting serving as a precedent for the introduction of RI as a routine working method at the EP. What is most at stake is the option of using remote interpreting in order to cope with the expected shortfall in meeting rooms with 20 (or even 15) booths between 2004 and the completion of a new EP building complex two or three years later. This could force interpreters into a difficult choice between full multilingualism and the preservation of their working conditions.

Against this background, the letter from EP President Pat Cox to the president of AIIC [1] (plus a similar letter to interpreters from the EP Secretary-General) did a lot to allay these fears. While reiterating that the EP would continue to explore remote interpreting as a possible option, it contained the explicit commitment that RI would not be forced upon interpreters without their consent. More important still was the further commitment that any further experimentation with this technique should take into account not just technical parameters alone, but also the health side for the interpreters involved. It may then be that, in retrospect, last November’s event and the Cox letter will be seen as the turning point in the EP’s approach to remote interpreting, as the moment when emphasis shifted at last to the human, medical and working condition aspects of RI.

2. Health aspects

Giving proper attention to interpreters’ health problems, notably eye strain, back pain and neck pain,
is long overdue, as they have been a constant feature of both earlier RI experiments as well as the
more recent spate of experiments that took place between 1999 and 2001 (UNO, February 1999 and
April 2001; ETI-ITU, April 1999; SCIC, January 2000; EP, January 2001 and December 2001; and
EU Council, April 2001). Stress is also a significant feature of remote interpreting, and there is
already one experiment (the ETI-ITU April 1999 test) that has produced quantitative evidence to
show that remote interpreting is significantly more stressful than normal interpreting.

At the same time, as the above experiments have shown, interpreters engaged in remote interpreting
have also experienced a level of psychological discomfort equal to, if not greater than, their level of
physical discomfort. The vast majority of ‘remote interpreters’ have reported feeling a lack of
participation, alienation, and loss of concentration, together with increased fatigue and reduced
self-perceived quality. Moreover, there is a suggestion of potentially persistent ‘after effects’ in the
form of mild cognitive disturbances as the result of prolonged exposure to RI; these should not be
overlooked in future studies.

It will be crucial for forthcoming experiments to confirm the objective nature of such complaints and
to provide a quantitative measure of their importance, in view of the potential impact upon
interpreters’ health, and also of their employers’ legal responsibility for health and safety in the
workplace. A better understanding of such relevant implications of remote interpreting is also a
precondition for any meaningful comparison of the true cost of RI against that of normal
interpretation.

Important as it is to quantify the level of such complaints, one has to go further. Just what is the root
of the physical and psychological problems experienced by the remote interpreter? Early RI
experiments had to contend with serious image and especially sound quality problems; at the time, it
was only natural that any physical and psychological discomfort experienced by interpreters could
be ascribed to technical factors alone. By now, however, these initial problems have been overcome.
In the recent series of experiments mentioned above, excellent sound quality was achieved, even in
the case of transmission over ISDN lines (UNO, February 1999). Nor is image quality per se a
problem any longer, as evidenced by the fact that (unlike meeting room images) close-up images of
speakers were favourably rated by interpreters in all these experiments. In view of recent technical
advances in sound and image quality, the alibi of poor technical conditions as an explanation for
recurrent interpreter health complaints is becoming increasingly untenable.

3. The role of vision

Indeed, these complaints (eye irritation plus neck and back pain) would appear to suggest that, under
RI conditions, the interpreter has to put in extra effort – and suffer additional stress – in order to
obtain a proper view of the meeting room from screens or monitors. This would be understandable
in the face of poor image quality; yet RI experiments have shown that the same complaints persist
even when crisp, state-of-the-art plasma displays are used. This clearly flies in the face of our
everyday experience with even average-quality display devices: the movie theatre screens and TV
sets that deliver much of our entertainment.

At this point, one might be tempted to conclude that the negative reaction to RI on the part of the
vast majority of interpreters is the result of mass hysteria or even a latter-day Luddite conspiracy.
But it could also be that it is our analogy between film and TV viewing, on the one hand, and
Remote Interpreting, on the other, that is in some way flawed.

Such an analogy would make perfect sense within the traditional paradigm of human vision as an
essentially passive process, with the eye acting like a camera to produce a faithful image of the
visual field in the brain, where it is analysed for colour, form and motion before being apprehended
in its totality by a central, conscious agent, the so-called ‘homunculus’. [2]

But recent research over the past thirty years or so, notably efforts to build computational models of visual perception [3], experiments on both normal and visually impaired subjects, plus improved non-invasive brain scan techniques, such as functional magnetic resonance imaging (fMRI), has shown that such a paradigm is far too simplistic. A number of counter-intuitive results about visual perception have emerged from this research. For instance, colour, form and motion are perceived independently in specific, specialised areas of the brain, so that some patients with brain lesions can respond to form but not to colour, or vice versa, while others can only respond to slow-moving objects but not to fast-moving ones. In fact, colour, form and motion are not even perceived simultaneously but in the above temporal order, with a time lag between colour and motion of 60-80 milliseconds. [4]

This means that no single, integrated image of our visual field can ever be formed for a homunculus to look at. Instead, all vision is fragmented and selective, emphasizing some aspects of reality at the expense of the rest, as comparing eyewitness accounts of one and the same incident will demonstrate. Human vision does not work like a video camera, passively recording the details of the world around us; rather, it searches for those essential features which allow it to answer specific questions and deal with urgent problems, especially when survival is at stake. What emerges from recent research, then, is a new paradigm: that of problem-driven, selective and active vision.

The active nature of the interpreter’s vision is perhaps most convincingly demonstrated by eye-gaze studies. As Barbara Moser-Mercer has emphasised, interpreters do not merely look at the speaker; instead, the direction of the interpreter’s gaze at any given moment is closely correlated with the kind of visual information needed to help with the processing of the meaning that the interpreter is constructing [5]. But such a significant source of individualised information is not available to the remote interpreter, despite the valiant efforts (generally welcomed by interpreters) of professional teams of cameramen and directors to select and capture the most ‘relevant’ views of the meeting room.

Even if perfect camerawork were possible, the remote interpreter remains at the mercy of video transmission and display technologies that still rely on the older paradigm of passive vision. The quality of these technologies is commonly judged not on the basis of their adequacy for active information searches, but rather on their entertainment value, i.e. whether they can deliver images that ‘look good’. As a result of this approach, most current video transmission and/or display discards or distorts a lot of visual information in the mistaken impression that it would be imperceptible anyway. [6]

Remote interpreting is not an isolated case in this respect. Similar challenges arise in the context of the search for visual information in a number of other activities that cannot take place directly but have to be performed within a virtual environment [7], [8]. There are a number of such examples: fire fighters using remotely operated vehicles to handle dangerous situations such as a fire in a nuclear reactor; surgeons operating with special miniature tools at the end of a cable equipped with equally miniscule video cameras, to avoid cutting a major hole in their patients; remote control of robots engaged in deep sea and volcanic exploration as well as space exploration.

4. Presence in a virtual environment

The study of activities taking place within such virtual environments has shown that both task performance and the degree of physical and psychological comfort experienced by the human operator crucially depend on his/her sense of ‘being there’, of presence, or the “perceptual illusion of nonmediation” within that virtual environment [9].
The level of presence experienced can be quantified by the use of detailed questionnaires such as have been proposed in the literature [10], [11], [12], or by measuring human physiological response such as skin conductance [13] in a manner similar to the one used by the ETI-ITU test to measure stress through the analysis of saliva samples.

An imperfect measure of the level of presence, or rather its absence, in remote interpreting experiments thus far is in fact provided by the negative responses of interpreters to questionnaire items such as ‘view of the meeting room’, ‘feeling of participation’ or ‘ability to concentrate’. It is clear that these experiments have failed to achieve any appreciable level of a “perceptual illusion of nonmediation”; to be fair, they have not even tried to do so. The obvious inconsistency between bright screens and monitors and an otherwise dimly lit room or the lack of any semblance between the remote interpreter’s visual field and what is visible from a normal booth only serve to compound the difficulties experienced by the interpreter in actively searching for needed information on a screen or monitor.

Conversely, presence could serve as an ‘anthropocentric’ yardstick for comparing interpreters’ cognitive performance, together with the associated physical and psychological discomfort, for different meeting typologies or technical set-ups. In this way, the concept of presence would not only provide a unifying framework for studies of remote interpreting but would also allow them to benefit from the rich literature that already exists on presence (see, for example, www.presence-research.org) and which could be a source of interesting suggestions for future directions to be explored, e.g.:

- More interactivity enhances presence [14]. While the system of individual view selection tested in the EP January 2001 experiment only led to confusion, there is a lot of current research in videoconferencing using individual head tracking for participants to produce synthetic, computer-generated images that appear more ‘realistic’.
- A wider field of view also enhances presence [15]. While most monitors and even screens used for display cover only the foveal (central) field of vision, peripheral vision is a rich source of information that is currently lost in RI. Artificially (again through computer-generated images) combining these two fields of vision enhances presence [16].

Whether or not presence is the right metaphor for the remote interpreter’s predicament, the time has perhaps come for a radical reappraisal of the way in which the administrations of international organisations as well as private conference organisers have dealt with RI till now. Believing that the problems faced by interpreters will go away just by throwing more megapixels at them, or by ‘ergonomically’ rearranging screens and monitors, amounts to mere wishful thinking.

What is urgently needed instead is the realisation that remote interpreting is not ‘business as usual’ — which just happens to take place in a dimly lit room replete with screens and monitors — but a completely different new modus operandi for the interpreter. As for the intense physical and psychological discomfort experienced by the remote interpreter, these are not artifacts of specific technical set-ups or ergonomic conditions, but the consequence of having to contend with an artificial, inconsistent, virtual environment while already engaged in an extremely demanding cognitive task. The use of sophisticated, necessarily expensive technology, with all its attendant complexity, might help in restoring a certain sense of presence, thus alleviating some of the interpreter’s discomfort. But it is still unlikely to be able to eliminate it altogether.

An earlier version of the article appeared in the November 2002 issue of Lingua Franca, the bulletin of European Parliament interpreters.
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16. Beating the Limitations of Camera-Monitor Mediated Telepresence with Extra Eyes

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