

INTERPRETATION AND STRESS

By

Alessandra Riccardi*, Guido Marinuzzi**, Stefano Zecchin**

*SSLMIT, University of Trieste - **Psychologists

1. Changes in interpreting modes

Interpreting is a young profession which has developed during this century. The different interpreting modes — consecutive, simultaneous and now, during the 90s, the possibility of remote interpreting — testify to the great changes taking place in all sectors of human activities and how globalization is affecting our lives at the political, economic, social, cultural and environmental levels.

From consecutive to simultaneous interpreting

Consecutive interpreting was the first form of professional interpreting. It first developed and was used during and after World War I, especially during the Peace Conference of Paris and thereafter within the League of Nations. Even though the first technology for simultaneous interpreting developed by the end of the 20s, it was only at the Nuremberg trials that the simultaneous mode was put into practice as it proved necessary to cope with interpreting from and into four languages. Had it not been an absolute necessity, brought about by specific circumstances, simultaneous interpreting would not have spread the way it did, within the United Nations first and thence to other international institutions.

To begin with, many interpreters were opposed to the new system. The most common objection was that the simultaneous interpreter was forced, like a parrot, to translate the sequence of words as they were heard, excluding the possibility of understanding or remembering what was interpreted,

la traduction simultanée, affirmait-on dans les années cinquante, [...], contrairement à l'interprétation consécutive, [...] n'offre aucune possibilité de compréhension et ne laisse aucun souvenir de ce qui a été dit (Lederer 1981: 19).

This idea proved wrong and since then, simultaneous interpreting has become the most usual form of interpreting, while consecutive has shown its temporal limits, almost doubling working times with two languages and tripling and quadrupling them with the addition of one or more languages.

Economy of time was the main reason why the simultaneous mode was preferred. Interpreters adapted to the new situation and learned how to work in the booth, without the possibility of intervening directly in what was going on or of interrupting the speaker when something was not clear. New strategies were developed by interpreters and simultaneous and consecutive interpreting became subjects taught at Interpreter Schools.

Remote interpreting

Something comparable is now happening with the introduction of remote interpreting. The main difference with regard to simultaneous interpretation is that in remote interpreting the interpreter is not present where the communication takes place. As stated by Mouzourakis in his study "Videoconferencing: Techniques and Challenges", remote interpretation "is simultaneous interpretation where the interpreter is not in the same room as the speaker or his/her audience, or both" (1996: 23). The consequence is that he is deprived of many of the extra-linguistic elements that together with the language-input are essential to the correct interpretation of the sense of what he is hearing and translating.

Acceptable image and sound rendition are not available yet, as the current H 320 standards for videoconferencing produce loss of information (Mouzourakis 1996: 28-31). The limited information conveyed via videoconference may add strain and fatigue to the already stressful task of simultaneous interpretation. "Uncertainty in the face of ambiguous auditory or visual clues is likely to accentuate this stress" (Mouzourakis 1996: 33). In addition, video and sound quality provided by present standards was considered unacceptable by the interpreters in recent videoconferences organized by the European Commission and the European Parliament (Mouzourakis 1996: 31).

The advantages of remote interpreting in terms of time and money are clear, but once again the possibilities offered by new technologies may impose changes on the working habits of interpreters. As often happens with change, this may cause some additional effort or stress to the interpreter working in the new condition of videoconferencing compared to the situation s/he usually comes to grips with. Before interpreters are trained in the new mode of remote interpreting, there will be a transitional stage during which other interpreting strategies must be developed or existing ones further enhanced to cope with new circumstances.

2. Simultaneous interpretation and remote interpretation

Simultaneous interpreting is the result of cognitive processes, of which language comprehension and production are the most significant. Language comprehension is always a dynamic, active process during which the interpreter decodes the input text by means of both linguistic and extra-linguistic knowledge. Knowledge of the preceding linguistic context, the topic under discussion, the conference setting and the role of the various participants in the conference are essential to successful interpreting.

In simultaneous interpreting the time factor is the greatest language-independent constraint. The speaker-paced nature of simultaneous interpretation requires continuous adaptation to external circumstances because the target text is always produced on-line.

In remote interpreting the interpreter is not physically involved in the event taking place. S/he will rely less on extra-linguistic elements, thus concentrating almost completely on the language, and s/he will miss the contextual information which is normally almost unconsciously perceived about the conference setting, the speakers and the subject and which enables the interpreter to alleviate the burden of understanding a message expressed only in words. If the interpreter is placed out of the context where communication is going on, s/he will probably need longer portions of input elements in order to understand correctly what is being said.

Greater dependence on linguistic elements and greater concentration on what is being said may cause a more stressful situation liable to impair the performance of the interpreter in remote interpreting compared to the performance in the standard simultaneous setting.

It is possible that standard interpreting strategies, such as anticipation of the unfolding text, may be more difficult to apply. This in turn may affect the quality of the interpreting performance (which could be defined as a ratio between the amount of message being translated correctly and the amount of what is omitted).

Normally an interpreter works for 30 minutes and is then relieved by a colleague. In remote interpreting there may be a need for more frequent changes (15, 20 minutes) to cope with the different situation. If the task is more demanding the fatigue may be greater and the working stress may also be increased.

3. Stress

H. Selye, a Canadian researcher and physiologist, made the most significant contribution to the early studies about stress (1956) and its consequences on the

living organism. He defined stress as a kind of aspecific response of the organism to whatever modification demand may arise from a very broad spectrum of heterogeneous stimuli and developed the concept of the general adaptation syndrome which consists of three phases — alarm, resistance and exhaustion.

Selye does not consider stress a merely negative phenomenon, as there is also a positive stress (eustress) which enables the organism to interact suitably with the environment. Stress has pathogenic consequences only when it is protracted and intensive (distress) and the organism fails to overcome the threat and depletes its physiological resources.

In 1968 R.S. Lazarus elaborated the concept of *psychological stress* (quoted in Taylor 1995). Stress is what occurs when an individual feels that environmental requirements clearly exceed the resources available to him for coping with them. The requirements or demands are both external (environmental requirements) and internal (requirements set up by the subject). Lazarus considers stress a relational concept different for every individual because it depends on the complex relation between the individual and the environment (interaction between internal individual requirements and external environmental requirements). Furthermore, it depends on the subjective evaluation of the event. A situation may, therefore, be defined as stressful by virtue of the cognitive evaluation of a given stimulus as a possible threat, harm or challenge at the moment the person is confronted with it. This evaluation is also linked with past experiences.

The mediation of the cognitive system renders the reaction to stress something individual and partially specific. This means that if stress is seen as a result of the interaction between individual and environment, it follows that the characteristic traits of a person will determine what is and what is not stressful for him.

A stressful event is a consequence of the imbalance between environmental requirements and reaction capacity of the individual in a situation in which it is subjectively important to give a positive answer. Stress level will depend on the perception of the consequences of failure to fulfil a request. Given a certain imbalance between requirements and responses, the subject will carry out actions to cope with the situation.

Occupational stress has been related to psychological distress and to adverse health outcomes. Stress can have "disruptive after-effects, including persistent physiological arousal, psychological distress, reduced task performance, and, over time, declines in cognitive capabilities" (Taylor 1995: 254). Uncontrollable or unpredictable events are more stressful than controllable or predictable ones, stressful events may impose an overload on cognitive and attentional resources leading to arousal, performance decrements and other symptoms of stress.

Studies of occupational stress suggest that "work hazards, work overload, work pressure [...] can produce increased illness, job dissatisfaction, absenteeism, tardiness and turnover" (Taylor 1995: 254).

Considering the effects and after-effects of stress on health and job performance there is growing interest to verify whether remote interpretation could prove more stressful than simultaneous interpretation *per se* and whether specific intervention could prevent additional stress in remote interpretation.

4. Interpretation studies on stress

Interpretation is a young discipline and its studies have concentrated mostly on the process itself in order better to understand what actually happens during the interpreting process, while the physical and psychological conditions of interpreters at work have been somewhat neglected.

It is striking that virtually no other profession undergoes a similar cognitive load: no physical activity is involved or need be accomplished, no instruments can be of help, everything goes on in the mind. The technical equipment is used to carry the acoustic signal directly to the ears and not to help the interpreter in difficult circumstances. The interpreter is in a position where any decision taken is the consequence of what somebody else does or says.

At the beginning of a conference even the most experienced, efficient and skilled interpreter will feel a certain amount of tension, because he is aware that there may be some unknown elements he will have to cope with: new concepts or technical words, a difficult accent or pronunciation, technical defects, somebody not talking into the microphone, an unscheduled paper read at impossible speed. These unknown factors cannot be eliminated. Training and experience will help the interpreter to adopt the right strategy quickly, sometimes automatically, but there may be circumstances that will require additional effort imposing more strains on the interpreter. The more unknown factors the interpreter is confronted with, the higher the mental load and stress will be.

When interpreting conditions are very demanding from the cognitive point of view, even incidental factors like something falling in the booth, a sneeze, a cough, a reduction in the sound volume or somebody talking behind the booth may induce a loss of concentration or attention. Thus, it is easy to understand why hitherto no stress studies have been carried out on interpreters while performing their activities and why interpreters are not very keen to be observed and studied while at work.

In 1981-82 a large-scale survey on interpreting stress was conducted and a questionnaire was sent to 1400 AIIC members throughout the world. 826 completed questionnaires were returned (Cooper *et al.* 1982). The questionnaire

consisted of several sections to gather information on demographic characteristics of interpreters (attitude toward work, stress at work, behavioural manifestations of such stress), job satisfaction, indications of present physical health, type A/B personality characteristics, perceived stress on the job and mechanisms for coping with stress. Results indicated that

conference interpreters are under a considerable amount of pressure in their job and there are a number of areas of concern [...] work could be organised to take many of them into account, although some are less amenable to change (Cooper *et al.* 1982: 104).

Other studies on interpreters or student-interpreters investigating linguistic functions and cerebral lateralization in simultaneous interpretation have been carried out by Gran & Fabbro (1987, 1989) and Gran (1989, 1992). Stress and mental effort with the help of EEG recordings have been studied by Kurz (1994, 1995), Agosti (1997) examined the possibility of reducing stress during simultaneous interpretation with the help of a hypnotic technique, while cognitive load during simultaneous interpreting has been measured with the technique of pupillometry by Tommola & Hyönä (1996). Even when the methods applied were relatively unobtrusive (as in the latter case), researchers had to opt for laboratory techniques as a consequence of the difficulty of applying such methods to a real interpreting environment.

Several studies on aptitude testing have been carried out based on the abilities which are presumed to be necessary in order to become a good interpreter (Moser-Mercer 1984, 1985; Gerver *et al.* 1989; Russo 1989, 1993; Dodds 1990, Lambert 1989, 1992). Aptitude tests have not always proved reliable as the abilities tested were not the result of empirical research but mostly based on a broad consensus among interpreters and interpreter-trainers as to the types of skills and aptitudes sought in new members of the profession.

Up to now there have been few studies on the interpreter's personality (for a literature review see Kurz *et al.* 1996). Besides the skills needed, it would be interesting to know whether certain personality traits are common to many interpreters. Certain skills may not prove sufficient to make one an accomplished interpreter unless they are matched by specific personality elements.

In autumn of 1996, when Sergio Viaggio, chief interpreter of the UN Office in Vienna, launched the idea of a study on stress and remote interpreting to try to assess whether the remote mode could prove more stressful to interpreters than SI, there was, of course, an immediate response expressing interest. The prospect of working with the interpreters of the UNOV would provide many opportunities for an in-depth study on interpreters under working conditions.

5. Interpretation stress in simultaneous and remote interpretation

Few activities require so much concentration or place as many demands on the human psycho-motor apparatus as simultaneous interpreting. Any factor affecting perception, analysis and concentration will impair both endurance and performance, and, if persistent, the interpreter's mental and physical health.

Remote interpreting could prove to be more "comfortable" than SI for the interpreter, or it could be seen as a parallel form of simultaneous interpreting with no notable differences. Remote interpreting could, however, aggravate simultaneous interpreting conditions.

Studies are needed to examine similarities and differences, if any, between the working conditions of interpreters confronted with simultaneous interpreting and remote interpreting as well as the consequences deriving therefrom for the interpreter in terms of concentration, fatigue or anxiety. The evaluation of the differences between simultaneous interpreting and remote interpreting requires the observation of interpreters working in both conditions. It will first be necessary to find instruments suited to this purpose and to test their viability.

Together with two psychologists a study was designed, tailored to interpreting conditions: given the peculiarities of interpreting compared to other professions, it had to cause as little disturbance as possible, but at the same time be reliable and valid. A first draft study was presented to UNOV at the end of 1996. The project was divided into two stages. During the first, data about interpreters had to be collected with the help of different tests to ascertain baseline values for psychological factors important for stress evaluation. In the second, after the data-evaluation, the same group of interpreters underwent specific tests during classical simultaneous interpreting and remote interpreting.

Psychometric instruments were chosen because they are less intrusive than physiological measures of arousal, such as skin conductivity, heart rate and blood pressure or biochemical markers, especially blood levels and urinary levels of corticosteroids and catecholamines. Furthermore, as stress is the consequence of a person's appraisal processes, events are stressful "to the extent that they are perceived as stressful" (Taylor 1995: 225).

Both biochemical and physiological techniques of measurement can be expensive and require equipment that may itself influence the stressful experience and, given the special nature of a simultaneous interpretation setting, these measures may be difficult to carry out. Often interpreters do not sit quietly during their job performance, as stated by Viaggio (1997: 290):

the interpreter's own kinesics [...] can be an essential part of the message to himself. I, for one, invariably resort to all manner of gestures and bodily contortions when it comes to explaining to my audience a difficult

passage that, in fact, I am merely explaining to myself; and I have noticed that many colleagues do exactly the same.

In future, the project could be enlarged to include several measures, as stress researchers have called for the use of multiple measures.

6. Preliminary study on stress factors

In spring 1997 a first study was carried out to assess the validity of the design since, hitherto, no further known publications concentrating on psychological stress factors such as anxiety and depression had been undertaken on interpreters at work.

Subjects and material

The preliminary study was tested on 30 students at the end of the second year of interpreting studies and 15 free-lance interpreters with over 8 years work experience.

A mock conference was organized at the SSLMIT, during which interpretation-students were monitored, while interpreters were monitored in real working conditions¹.

Just before the beginning of the conference and at the end of the conference two tests were submitted to all participants, the ASQ and the CDQ, consisting of 40 items each and requiring about 10-15 minutes for completion. The two tests together give an indication of two factors linked to stress, anxiety and depression. Repeated at the end of the conference they may show up any changes, which have in the meantime occurred in these factors. Both tests are fairly short and easy to administer and therefore time efficient.

The ASQ² - IPAT Anxiety Scale - (1979) was developed to obtain clinical information on anxiety (clinical diagnosis) in a rapid, objective and standardized form. This test encompasses 40 questions or statements to which respondents must give one of three possible answers or comments. Items regard concrete situations which give rise to feelings or attitudes common to everybody in certain moments of life. The test provides what may be termed a photograph of

1 World Congress on large dams, 26-30 May 1997; E.C.C.O. Congress - European Confederation of Conservator-Restorers' Organizations, 29-31 May 1997; Österreich, Italien, Slowenien. Drei Kulturen der öffentlichen Verwaltung im europäischen Vergleich 24-26 April 1997.

2 Krug S.E., Scheier I.H. & Cattell R.B. (1976): *ASQ - IPAT Anxiety Scale*, Institute for Personality and Ability Testing, Champaign, Ill. (1963).

the anxiety level at a given time. It can also be used in follow-up checks to verify possible changes due to situational modifications.

The CDQ³ - IPAT Depression Scale - (1976) is a psychometric instrument for the measurement of depression based on factorial analysis. This test is designed as a depression measurement instrument parallel to the ASQ and can be used in follow-up procedures. Respondents must choose one of three possible responses to items about people's way of thinking about different situations. The test has proved valid for 3 aspects — factorial validity, discriminating power and theoretical consistency with other tests.

All participants in the study also had to fill in the MMPI-2, an extensive personality test, which, besides many other personality traits, gives basic data about the same factors (anxiety and depression) under normal conditions (non conference setting) and can also be used for an overall study of the interpreter's personality. The MMPI-2⁴ (567 items) is a large spectrum test to evaluate most important personality traits and emotional disturbances. It was first developed by the University of Minnesota, at the end of the 1930s by Starke R. Hathaway, a clinical psychologist, and Charnley McKinley, a neuropsychiatrist. A new restandardized version (1989) was used. The test encompasses 6 validity scales and additional scales which allow an evaluation of the greatest structural peculiarities of personality. The test has proved its validity and reliability in more than 50 years of use. Completion takes about 50-70 minutes.

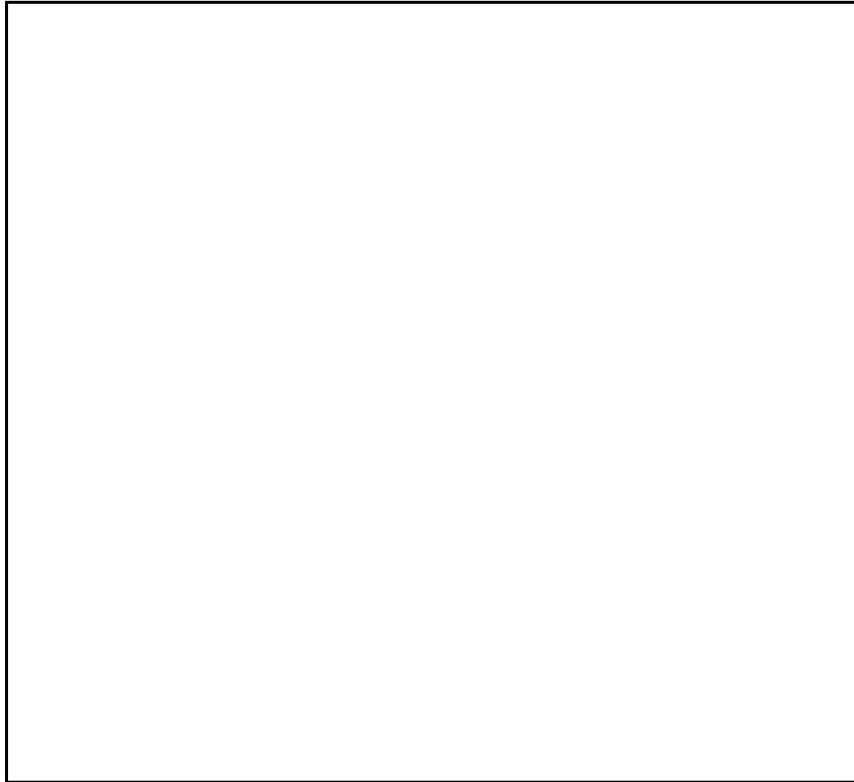
Results

The data was evaluated to find out whether the two tests administered before (ASQ b; CDQ b) and after the conference (ASQ a; CDQ a) would provide statistically significant scores for the students and for the interpreters.

For the students the results indicated that the measurement technique was sensitive to differences before and after the conference both with the ASQ and the CDQ tests. The comparison of the mean values of ASQ b ($\bar{x}=26.5$; $s=8.8$) and ASQ a ($\bar{x}=24.8$; $s=8.7$) revealed a significant difference ($t_{(29)}=3.368$ ($p=.0022$)) in favour of a greater level of anxiety before the conference. The comparison of the mean values of CDQ b ($\bar{x}=20.8$; $s=10$) and CDQ a ($\bar{x}=18.9$; $s=8.2$) revealed a significant difference ($t_{(29)}=2.862$ ($p=.0077$)) in favour of a greater level of depression before the conference.

³ Krug S.E. & Laughlin J.E. (1976): CDQ - IPAT Depression Scale - Institute for Personality and Ability Testing, Champaign, Ill.

⁴ Hathaway S.R. & McKinley J.C. (1989): MMPI-2 (Minnesota Multiphasic Personality Inventory) University of Minnesota, (1943, 1970), (It. ed. 1995, Firenze, O.S.)



For the interpreters no statistically significant differences were found in either anxiety or depression values before and after the conference: in the comparison of the mean values of ASQ b ($\bar{x}=26.5$; $s=10.3$) and ASQ a ($\bar{x}=24.6$; $s=10.7$), $t_{(14)}=1.171$ ($p=.2612$). In the comparison of the mean values of CDQ b ($\bar{x}=21.1$; $s=11.1$) and CDQ a ($\bar{x}=21.1$; $s=11.5$), $t_{(14)}=1.745$ ($p=.1030$).

Hence, test results show that the degree of anxiety and depression before and after the conference varies more in the student group than in the interpreter group.

Examination of the data indicates further interesting elements: depression values were higher after the conference for 13 students and 5 out of 15 interpreters. Anxiety decreased in the student group for 27, while 6 interpreters registered an increase.

The anxiety and depression scores obtained from the ASQ and CDQ tests for both interpreters and students varied within the standard range of normal population (Krug *et al.* 1976; Krug *et al.* 1976).

MMPI 2 results were used as an indicator of the general level of depression and anxiety outside the conference setting (Hathaway & McKinley 1989). The

mean value on the anxiety scale for students was 54, situated in the low-medium range, 9 were in the lowest part of the scale and 2 just above medium values. The interpreters' percentage was 50, which is the borderline between low and medium range, 9 in the lowest level and 1 right above the medium/high borderline. The results of the depression scale registered an average of 54 for students, 2 above the medium range and 8 below it, while for interpreters the average was 53, none above the medium range and 7 below it.

7. Conclusions

The results of the three tests administered to interpreters and students show lower anxiety and depression values than is the case for the normal sample population — with interpreters being characterized by lower values than students — possibly confirming the crucial role played by those two factors when opting for interpreting studies or an interpreting career. A broader sample of interpreters is needed for further investigation of this hypothesis and deeper insight into the personality traits of interpreters.

How can the results of the preliminary study be linked to remote interpreting? Remote interpreting is something new for most interpreters; to begin with they will have to adapt to a completely new situation which has many unknown factors and lacks many elements that constitute a normal SI condition.

It could be assumed that they will be in a similar situation to the students in our study who have trained in interpreting but do not have a real work experience. The higher score differences returned by the students in the two stress-related factors of anxiety and depression show that the new conference setting (even if only a mock conference) affects them more than it does the interpreters, which indicates higher stress levels. The main difference between novices and experts (interpretation-students and professional interpreters) is that the latter have at their disposal a larger number of appropriate strategies to deal with a wide variety of situations (Riccardi in press). Experts are able to exert control over the event and when people feel they can predict or influence an event they experience it as less stressful, even if they actually do nothing about it (Taylor 1995: 226). They also have a greater ability to adjust to the stressful event. Nevertheless, in a new uncontrollable environment such as a videoconference, interpreters may need strategies that go beyond their standard repertoire and perceive greater stress. Therefore it would be interesting to verify whether this hypothesis holds true comparing data of simultaneous interpreters working both in a traditional setting and in the remote mode. The project designed could be a possible way of verifying as much, as the tests used have proved to be reliable for monitoring two psychological factors related to stress under working conditions.

Another fundamental issue will, of course, be to recognize differences in interpreting performance owing to the separation from the speaker/event/situation and to the loss of feedback from the audience setting. Altogether it is important to provide an answer to the question of how global alienation from the communicative situation will influence the interpreter and his/her performance.

In this perspective, the preliminary study can be seen as a first step towards a larger project studying stress and interpreters, working on the free lance market and in international organizations. Within international institutions the results of the study could help decision-making as to possible strategies to be adopted regarding workload standards, manning levels and training of interpreters in the remote interpreting mode. Lastly, depending on the results, training courses could be designed to prevent a more stressful situation in remote interpreting than in the classical simultaneous mode.

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