ON THE SCIENCE OF INTERPRETATION

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Introduction
Research on conference interpretation has undeniably gained fresh momentum since the mid-1980s, not least thanks to the work initiated and followed up by the "Trieste School" of interpretation research. Daniel Gile, who deserves much of the credit for the revitalization and reorientation of "Interpretation Research and Theory", as he likes to call it, has spoken of a Renaissance period (Gile 1992) characterized by empirical research rather than "personal theorizing".

While anyone with a genuine interest in the investigation of conference interpretation as an academic field of study cannot but welcome this "empirical reorientation", it does seem appropriate or even necessary that interpretation researchers also pause to reflect on the wider (inter)disciplinary, theoretical and methodological framework(s) in which research on conference interpretation is carried out. I would therefore like to raise and discuss some issues of theory and methodology, moving from the general fundamental question of "The Name and Nature of Interpretation Studies" to particular problems of methodology in some of the studies produced at Trieste (Balzani 1990, Galli 1990) and ending with the seemingly trivial issue of measuring speed in corpus-based research on interpretation. The latter will be illustrated with examples from my own research on SI while the discussion of the more general, theoretical issues will also draw on impressions from "interpretation studies" as (re)presented at the Vienna Translation Studies Congress, September 9 through 12, 1992.¹

¹ I am grateful to Laura Gran for kindly extending the deadline for the submission of this article until after the Congress. Including the event in this discussion seemed to be in the interest of an INTERPRETERS NEWSLETTER.
"theory", in turn, has powerful implications for the (inter)disciplinary identity and status of the study of interpretation. Let me illustrate this point by a look at the theoretical and methodological underpinning(s) of recent research work on interpretation. For an unlikely point of departure, I shall quote from a dialoue in Cole Porter's 1955 musical Silk Stockings.

"What is your theory?"
- You do not believe Kamichev?
- No ma'am!
- Then what is your theory?
- My theory is that there is no theory.

What the pragmatic American character in the musical makes paradoxically explicit in the last line characterizes an attitude that seems to underlie even some of the crucial methodological guidance offered by Gile (1991a:166) when he suggests, contrary to Toury (1991a) that "naturalistic" exploration of reality does not require prior translational or translatorial hypotheses. While I would agree that "systematic observation of reality" is valuable per se, I doubt that we can look at the subject under study without some preconceived idea of what are looking at and what we are looking for in looking at it. Whether that preconception, however implicit, should be or can be referred to as a theory, depends on the methodological conventions of the discipline in which the theorizing and/or research is done. The way matters stand in the study of conference interpretation, it seems that theory has a place only at the tail-end of empirical research while the conceptual framework at the point of departure remains curiously undefined.

An attitude which corresponds to a motto like "Take care of research and the theory will take care of itself" stands in clear contradiction to the statement by Toury (1991b:185) that "only studies which are indeed carried out within a defined theoretical framework deserve to be regarded as 'research activity', in the first place." What makes this difference in orientation rather critical is the fact that it separates the study of interpretation from the study of translation as envisaged by one of the leading scholars in the field of Translation Studies. Indeed, while the latter has increasingly forged its own identity as an independent, if interdisciplinary, field of study, a similar profile for "Interpretation Studies" has yet to emerge, despite the programmatic statement made by John Dodds at the 1986 Trieste Symposium:

Everybody agrees that conference interpreting is a craft and a profession but it is also an academic subject in its own right and as such it should have its own applicable, workable theory and methodology. This may well represent an interdisciplinary study - one which resorts to other fields of knowledge for support, elucidation and analytical techniques but, at the same time, it should be quite autonomous from these other disciplines. (Dodds 1989a:18; emphasis added)

A striking example for the lingering lack of disciplinary identity is provided by Dodds (1989b) himself, who edited a volume containing four interesting papers on interpreting and sight translation under a title which essentially appeals to teachers of English. If we nevertheless take seriously the claim that conference interpreting should have its own theory and methodology and be quite autonomous from other disciplines, we need to ask where the place of the discipline of "Interpretation Studies", if this is what we want to call it, might possibly be.

The Name and Nature of Interpretation Studies

The name used by Daniel Gile to refer to the domain in question is "Interpretation Research and Theory" or IRT, for short, which obviously reflects the priority, in the true sense of the word, of research over theory. In broader contexts, he also speaks of "interpretation (and translation) research" (or I/T research), without however specifying the nature of the relationship between "research on interpretation" and the discipline of "Translation Studies". Most strikingly, though, Gile (1991b) also uses the capitalized English term Translation to denote both translation and interpretation! The striking bit about this, at least for anyone familiar with the German literature in the field, is of course the fact that this generic concept of Translation (meaning T&I) was introduced by the "Leipzig School" of translation and interpretation research already in the late 1960s and that this conceptualization of T&I has become a key aspect of functionalist communication-oriented theorizing about professional T&I since the early 1980s (Vermeer 1983, Reiβ &

German scholars have thus used the term *Translationswissenschaft* to refer to the academic discipline in charge of the study of professional T&I. In practice (and sometimes in theory as well), however, the theoretical models developed so far have been focused primarily on (written) translation and then extended to interpretation only by way of analogy. In her attempt at adapting the structure of the discipline of Translation Studies as envisaged by James S. Holmes (1988)², Reiß (1989:98), herself a co-author of the "Foundations of a general theory of T&I", states that the term *Dolmetsch-wissenschaft* to refer to the (sub)discipline of interpretation (analogous to *Übersetzungs-wissenschaft* for the study of written translation) has not gained acceptance. The solution should be simple: If *Dolmetschwissenschaft* did not exist, it would be necessary to invent it! The general discipline of "T&I Studies" would thus be composed of at least two subdisciplines, namely "Translation Studies" and "Interpretation Studies", as indicated in the schema below.

![Diagram of Translation & Interpretation Studies](image)

In such a scheme, general principles, concepts and definitions (such as communication, culture, situation, convention, text, function, etc.) can be considered jointly for T&I whereas models specific to interpretation must be developed for particular types of assignments, modes of interpreting, language combinations, processing problems, etc. The results of process- and product-oriented empirical research will be applied to interpreter training, quality assurance, the development of tools aiding the interpreter's work, etc.

What makes this simple conceptualization of the "Name and Nature of Translation and Interpretation Studies" somewhat difficult is, paradoxically, a problem of translation. Since the English language does not offer a neutral generic term for translating/interpreting activity as such, the discipline seems stuck with either an unwieldy explicit name or a less transparent acronym like "T&I Studies". However, the English language being what it is, a pragmatic solution does indeed exist and was put to a practical test at the Vienna Translation Studies Congress: The term "Translation Studies", which was originally used in the field of literary translation and later on broadened to include the study of (written) translation in general (Snell-Hornby 1988), was further extended to the scholarly study of any type of professionally mediated communication across barriers of language and culture. Thus, at the Translation Studies Congress interpretation researchers were listening to a plenary lecture by "general theorist" Hans Vermeer as attentively as did scholars and teachers of literary and technical translation to the plenary lecture on interpretation research by Daniel Gile. Unless appearances were deceptive, the nearly three score T&I scholars from over thirty countries of the world interacted in a way that went far beyond mere peaceful coexistence. At least for the duration of the conference, there was nothing all that strange about translation scholars and interpretation researchers being under the same roof.

If the convergence of the subdisciplines of Translation Studies and Interpretation Studies is easy enough to accept, things become more...
complicated once we consider the theoretical and methodological framework in which the study of interpretation is supposed to proceed.

PT OR ER?

In his analysis of interpretation research and theory over the last 15 or so years Gile (1990) deplores the stagnation engendered by what he calls "personal theorizing" (PT), as practiced by the "Paris School" of traductologie around Danica Seleskovic and Marianne Lederer, and calls for "proper scientific research" to move beyond mere intuitive, speculative reasoning. Given the dominance of the issue of cognitive processing in research on interpretation, Gile envisages such research by way of cooperation with the scientific community, particularly with the discipline of cognitive psychology. The ultimate goal of such interdisciplinary empirical work seems to be the elucidation, by experimental research (ER), of the mental processes in conference interpreting. And, indeed, much of the work done at the "Trieste School" appears to deliver just that: experimental scientific research. That such work is not without problems (and why) will be discussed below.

As indicated earlier, there is a tendency in interpretation research to embark on empirical investigations without a prior theoretical model or conceptualization of the factors and systemic relationships involved in the issue under study. The focus is set to the on-line mental micro-processes while the interactional, socio-psycho-logical, personal and cultural factors involved in the professional handling of conference interpreting assignments receive little, if any attention. What is important is that these socio-cultural and interactional factors figure prominently in the theoretical models developed for T&I as a professional course of action and have been hypothesized to play an essential role in the "macro-process" of T&I (Pöchhacker 1992). Unless one rejects the disciplinary set-up shown in fig. 1 and views interpretation research as an isolated empirical pursuit, this difference in perspective between scientific experiments and comprehensive theoretical models designed to capture the full complexity of the task under study is bound to threaten the perceived validity and mutual compatibility of research findings and conceptual models. Let me illustrate this with an example of scientific research done at the "Trieste School" as presented in Gran & Taylor (1990).

Balzani (1990) reports on an experiment designed to verify "l'incidence du support visuel en I.S." In the introductory statement, the examples given for information received through the visual channel include a view of the proceedings ("la situation ambiante") and of the gestures and facial expressions of the speaker, while ultimately, the concept of visual support appears to be narrowed down to the interpreter being able to see the speaker. For the experiment, four types of source text (improvised-general, improvised-technical, read-general, read-technical) of 4 to 5 minutes duration were pre-recorded on audio-tape and on video-tape. Twelve final-year interpreting students were then asked to interpret the texts with or without the video-image of the speaker. Interpretations were rated by two judges according to three criteria (fidelity, linguistic output quality, and presentation) and subjected to statistical analysis. The results showed no significant difference in interpretation quality between SI in the audio and the video mode for read texts of a general nature, and a lower number of fidelity errors in the video mode for improvised texts.

While the results of the experiment are not altogether implausible, their validity for professional SI under authentic working conditions is severely limited at best. Balzani (1990) studied the handling of texts produced by one particular "speaker" outside of any communicative interaction. Thus the "visual support" studied included neither "la situation ambiante" of a particular type of meeting nor visually presented material such as slides. More critically, the impact of "being able to see the speaker" on the quality of interpretation was measured by counting various types of "errors" in the target text as assessed by two judges. The problem of error analysis in terms of omissions, additions, inaccuracies, etc. with respect to the source text has been around since the early 1970s. That the psychologist Barik (1969) developed and used such an error classification at a time when the belief in "translation equivalence" was still largely unshaken, seems understandable. Using it as a measure of interpretation quality in "modern" research, after much explicit criticism of its irrepliability (Gerver 1976, Stenzl 1983) and twenty years of coming to terms with the communicative complexity of text processing, can hardly be justified. What is more, even if the "errors" of meaning, language and presentation were amenable to intersubjective assessment, their presence in students' output has little
specificity for the role of "being able to see the speaker" but may be due to a variety of personal or strategic factors underlying the processing of a particular text. In short, the complexity deducible from conceptual models of text-processing in professional SI is such that their experimental manipulation is still fraught with numerous uncertainties and methodological risks.

This is not to say that experimentation would not be feasible in the study of SI. Rather, my doubt about Balzani's study, which by all means represents a laudable effort, is meant as a caveat against a precipitous drive for experimental findings when the impact of the web of interdependent factors and conditions bearing on the task of professional SI has hardly begun to be unraveled by the observation and description of authentic corpora.

I take these comments to be fully in line with the methodological guidance offered by Gile (1991a), who is well aware of the biases and built-in weaknesses of experimental research and points out that "observation precedes experimenting" in the "basic pattern of scientific research accepted worldwide" (Gile 1991a:37). While I fully subscribe to the plea for observational research (OR) in the study of interpretation, I would like to sound a further caveat concerning the "scientific" status of research in SI. We may all agree not to equate "science" with positivistic experimental research, but given the above-mentioned reticence towards general theoretical and conceptual models in "pure science", I would feel more at ease if we saw interpretation research as a discipline of "scholarly study" which involves both deductive conceptual models and their corpus-based empirical verification. Such an identity of "Descriptive Interpretation Studies" would seem to fit well with the theoretical and methodological state of the art and the research infrastructure in our field.

Yet, even if we embrace observational studies as the most promising research strategy in Interpretation Studies, we may still be confronted with considerable methodological difficulties. A good example for this is the "case-study" of SI in medical conferences reported by Galli (1990), who analyses a corpus of ten original speeches and interpretations recorded at two medical conferences. The problem is that the criteria according to which the four Italian and six English speeches were included in the corpus remain as unclear as the situational circumstances of the two conference assignments from which they were taken. Quite possibly, "selection" depended on the cooperative attitude of the three interpreters by whom the authentic interpretations of the ten speeches were produced. While this would be understandable, given the unwillingness of many professionals to have their products put under analytic scrutiny, it does limit the representativeness of the corpus and the empirical findings. Also, it is not clear which "case" Galli (1990) actually studied, since her research involved ten different speeches by three different interpreters at two different conferences. There is no need here to discuss the design and findings of the study. Suffice it to say that Galli (1990), too, uses her own scheme of error classification after Barik (1969) for a "quantitative analysis of interpreters' mistakes and omissions." She adds a fourth type of "departure from the original text" to the "omissions, additions, and substitutions" known since Barik (1969) and, curiously enough, refers to this catch-all category of "errors" defying classification as "interpreted material".

One of the three determinants of interpretation quality examined by Galli (1990) is the presentation rate of the original speeches. As Balzani (1990), she measures the "speech rate" in "words per minute". Quite apart from the implications of the word count for Galli's corpus, I would like to look at the seemingly trivial issue of speed as a test case for the methodological prerequisites of corpus-based research in interpretation.

SPEED (Some Problems of Empirically Evaluating Delivery)

One of the methodological limitations often bemoaned by researchers interested in the quantitative (i.e. statistical) analysis of interpretations is the small size of the samples or corpora available for study. Gile (1991a) has suggested a clever way of overcoming this problem, namely multi-center studies, in which corpora can be exchanged and worked on by several (groups of) researchers in various locations (and countries). For that to happen, though, one needs some consensus on the way in which authentic corpora should be documented so that fellow interpretation scholars can use them for answering their particular research questions. The issue of transcription has hardly been problematized. The same holds true for "speed", which researchers in the West, most notably of the "Paris School", have usually measured in "words". Apart from some
comments by Gerver (1976), the fact that researchers in the so-called "East", working with languages such as Czech and Russian, have usually analyzed speech rate in terms of syllables per unit time has flatly been ignored. With international multi-center research on the agenda, the question of how to measure speed cannot be avoided any longer. If we consider speed or presentation rate a significant variable, our corpus data will not be compatible if we count and compare words per minute in Italian and Czech - or Finnish, for that matter.

There will be some, of course, who will suggest that we stick with words and simply convert them into syllables when needed. It has been tried. Dégéan le Féal (1978) converted her word counts of French and German speeches into syllables by using a factor of 1,5 and 1,75, respectively. (The method by which she arrived at her conversion factors was not specified.) However, using a syllability factor of x for a given language will not do. Janovcová (1980) analyzed authentic Czech speeches taped at conferences with SI and found that even within the category of "improvised texts" the syllability factor fluctuated between 1,74 and 2,23 syllables per word. For his corpus of spoken German texts in a psycholinguistic study, Wiese (1983) reports a factor of 1,38 while in my own corpus of a technical conference the average factor for all German speeches was 2,04 syllables per word. In short, the number of syllables per word in a given language is a function not only of the mode of speech (improvised vs. read) but also of the genre or text type and thus the conference under study (cf. Sofr 1984:266). Syllables may not be an "objective" yardstick of speed, let alone a measure of "information" per unit time. Nevertheless they seem to be the closest approximation to a quantifiable indicator of speech rate that can be used for international corpus-based analyses.

To finish these remarks about SPEED on yet another caveat, let me illustrate the sensitivity of speech rate data to analytical procedures by citing some findings from my own descriptive research on a corpus of a conference on small business management with simultaneous interpretation between English and German.

Speed was measured in syllables per minute for a total of 108 source and target texts with a duration ranging from 30 seconds to 33.5 minutes. The syllable count was established for samples taken according to a detailed sampling grid for the various durations of texts and adjusted for pauses of more than 1.5 seconds in the sample. Average speed for all texts in the corpus was 219.5 syll./min. (SD: ± 39.6). A breakdown into native and non-native speakers showed a striking congruence between the speed of texts produced by German and English native speakers (245.75 syll./min. and 245.80 syll./min., resp.) whereas the average speed of speeches by non-native speakers of English (45 out of 108) was 198.5 syll./min. This suggests a "speaker variable" which might play a role, for instance, in corpora of medical conferences as investigated by Galli (1990).

Apart from interesting findings concerning the output rate of the interpreter with respect to the speed of the original speech, which I cannot go into here for limitations of space, my corpus analysis also yielded data on the speed of four different types of speech (read - from notes - preconceived (without notes) - extemporaneous). The speech rates (in syll./sec.) are as follows:

- read (n = 11) 3.83
- from notes (n = 14) 3.68
- preconceived (n = 11) 3.59
- extemporaneous (n = 36) 3.55

There seems to be a nicely linear correlation between the degree of "pre-planning" and the rate of delivery, which, incidentally, does not quite coincide with the account given in Dégéan le Féal (1978). However, if another variable in the conceptual model of delivery factors, namely "number of addressees", is taken into consideration, a (type- rather than token-based) comparison of read and extemporaneous speeches addressed to the plenum gives quite a surprising result: While the speed of the ten read originals proves quite stable at 3.84 syll./sec., the speed of the ten extemporaneous originals amounts to 3.84 syll./sec. as well! In other words, depending on the breakdown and selection of the texts analyzed, the variable of speech rate may be subject to different interactions with other factors of text delivery which thus can be neglected only at the risk of considerable distortions in the empirical findings.

Conclusion

Interpretation Studies, as I would like to call our domain of scholarly activity, has been called a field "with little theoretical development" in a previous issue of The Interpreters' Newsletter. In light of the above, it seems justified to add "and of limited methodological sophistication". Shlesinger
(1989:7) speaks of "an emerging field still in the process of staking out its territory" and adds "as has been the case of translation studies in general". It is to this process of staking out our territory that I wanted to contribute with the present article.

As much as "Translation (and Interpretation) Studies" might be an interdisciplinary field of study, interpretation scholars need to forge a theoretical and methodological identity of their own, lest their academic "territory" become a peripheral domain of research by linguists or cognitive psychologists. In this attempt to consolidate the disciplinary profile of Interpretation Studies, it seems prudent to take advantage of the emerging disciplinary framework of Translation Studies and to work toward a "convergence" of conceptual models and empirical research. Signs of a mutually beneficial convergence of approaches to the study of interpretation were indeed visible at the Vienna Translation Studies Congress, and this article hopefully carries over some of the momentum felt by the T&I scholars there.

At best, this paper thus contributes to the debate of some broader disciplinary and methodological issues in the scholarly study of interpretation. At worst, it is stating some obvious truths long accepted by the interpretation research community at large. The latter would be a sign of poor judgment on the part of the author - but a good sign indeed for the health of the discipline of Interpretation Studies.

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