The History of Research into Conference Interpreting A Scientometric Approach*

Daniel Gile Université Lumière Lyon 2

Abstract: Quantitative analysis of the literature of conference interpreting research (CIR) highlights interesting features of its historical evolution. Paradigm shifts in the seventies and late eighties have intensified its overall production and are associated with the disappearance of some major production centers and the emergence of others. The total population of authors has increased over the years, but only a few dozen have shown long-term productive research activity, and much CIR is conducted independently of any academic institution. Institutional and economic factors seem to account for limitations in the development of CIR so far. Empirical studies represent only a small proportion of the total CIR production, but their proportion in M.A. and graduation theses is far higher. Limitations of quantitative analysis without a qualitative component are highlighted, and suggestions are made for further explorations along the way.

Résumé: Une analyse quantitative de la 'littérature' met en valeur des éléments intéressants dans l'évolution de la recherche sur l'interprétation de conférence. Des changements de paradigmes dans les années 70 et à la fin des années 80 ont intensifié la production de publications et sont accompagnés de la disparition de certains centres importants et de l'émergence de nouveaux centres. Le nombre total d'auteurs a augmenté au fil des ans, mais quelques dizaines d'entre eux seulement ont une productivité soutenue, et on note une activité de recherche importante en dehors des cadres universitaires. Des facteurs institutionnels et économiques semblent expliquer les limites de l'évolution de la recherche sur l'interprétation jusqu'ici. Les études empiriques ne représentent qu'une faible proportion de la production totale, mais une part bien plus importante des mémoires de deuxième et troisième cycle. L'article montre les limites d'une analyse quantitative sans l'apport d'un élément qualitatif. Des questions complémentaires à explorer plus avant sont mises en relief au fil de l'analyse.

1. Introduction

Many qualitative analyses have been written about conference interpreting research (CIR), both in the review part of theses and dissertations, and in separate texts (e.g. Gile 1995, *Target* 7:1 [1995], *Hermes* 14 [1995], Gambier et al. 1997), but very few quantitative analyses have actually tried to *measure* the phenomena and/or check general impressions and trends. Two exceptions are Pöchhacker 1995a and 1995b. In Pöchhacker 1995a, the author measured the productivity of individual authors, both by the number of texts published and by "bibliography points" giving different weights to different types of publications. In Pöchhacker 1995b, he also analyzed the production by languages, types of interpreting, topics, categories of texts and journals, with a diachronic part showing changes between production until 1988 and in the 1988–to–1994 period.

The present article discusses a similar approach, with partly similar categories, but has a different focus. It covers the literature until 1999 (with data available at the end of December 1999), studies production parameters as quantitative indicators of activity levels and motivation, and attempts to link these with a qualitative component to show how the two approaches complement each other. Its main aim is to highlight general trends and demonstrate the value (and some limitations) of the scientometric approach, without going into the details in either the discussion or the presentation of facts. It will be followed by more focused, more in-depth reports on specific issues. One such endeavor is Rowbotham's (2000) citation analysis of a sample of texts on translator and interpreter training. Along with the discussion of various points, the present paper also indicates issues for further investigation.

2. The Corpus

The corpus is my personal database of CIR publications compiled over the past 16 years. Data on texts quoted repeatedly and on recent literature is relatively reliable and comprehensive, unlike data on earlier publications, to which I only have access through rare references in other texts, and data on texts in languages I do not read (especially as regards the literature from Central and East-European countries — though further information on that important literature is gradually coming in thanks to regular input from Ivana Čenkova, who deserves special acknowledgment).

CIR texts are highly diversified, and include descriptions of working conditions, discussions of professional issues, handbooks, essays, prescriptive writings, reports and anecdotal texts which do not qualify as 'research texts' in a strict sense (in terms of the robust common core of definitions and descriptions of *science* in textbooks). Nevertheless, due to the following reasons, the whole corpus of papers published in translation and interpretation journals, journals from other disciplines, specialized collections, conference proceedings, theses and dissertations is covered here:

- a. Without direct access to all texts, compliance with criteria is difficult to determine.
- b. It is difficult to define sets of criteria for a wide spectrum of paradigms, going from theoretical to experimental studies through naturalistic and qualitative analyses.
- c. Many texts lie in-between essays and theoretical analyses, journalistic articles or interviews and historical analyses, reports and empirical research, and it is difficult to decide which are 'scientific'.
- d. Most authors of research texts are professional interpreters and interpretation teachers who also write about professional issues and training issues, often in the same journals where they publish their research. It would be misleading to analyze their production profile, their motivation and environmental effects solely on the basis of their research texts.
- e. The small size of the corpus (about 2000 texts for the whole period) makes it possible to cover non-research texts at a relatively small cost in time and effort.

The bibliographical corpus used here also includes a few entries on court interpreting and sign-language interpreting which focus on technical, cognitive and linguistic issues also central to conference interpreting, as well as entries dealing with translation *and* interpretation. Broadcast interpreting is also covered, but texts on community interpreting as well as entries on court interpreting discussing sociological and legal issues have been excluded, with one exception (Morris 1993) in conjunction with a specific point made in Section 4.2. These classifications and inclusion criteria are debatable and finer criteria are required for finer investigations, but the statements made here about general evolution patterns, ranks and relative sizes were checked and found robust: changes introduced for sensitivity analysis purposes in the

inclusion and classification criteria (for instance when counting certain types of theses in Czechoslovakia and Finland as doctoral vs. pre-doctoral, and when considering some borderline studies empirical in one case, and non-empirical in another) did not significantly alter the trends as reported.

3. The Growth of CIR

CIR production has grown spectacularly from the fifties to the nineties (Table 1, Figure 1).

The acceleration in the seventies and in the second half of the eighties can be interpreted in the light of Gile's 4–period description of CIR (1994):

Period 1: In the fifties and early sixties, a pre-research reflection on the principles and processes underlying interpreting by practicing interpreters, but little research.

Period 2: In the sixties and early seventies, an "Experimental Psychology Period", with a few interested psychologists and psycholinguists applying their paradigms to preliminary explorations of interpreting. As can be seen from the data (Table 3), their qualitative contribution is not matched by their quantitative contribution, as most of the production during that period is of the same kind as in the pre-research period. While the qualitative analysis and citation analysis (Barik and Gerver are still quoted frequently as important contributors to CIR) may explain why the name "Experimental Psychology Period" given to this period in the early nineties has not been challenged in the literature, if one looked only at the figures corresponding to research based on or related to cognitive psychology in the sixties and seventies (17% and 9% of the production respectively — Table 3), the importance of this contribution would not be as apparent.

Period 3: From the early seventies to the mid-eighties, a "Practitioners' Period", with interpreter-researchers taking over and the virtual disappearance of contributions from adjacent disciplines.

Period 4: From the late eighties on, a "Renewal Period" with a quest for a more scientific, more interdisciplinary investigation of conference interpreting.

In production data, the leap in the mid-seventies corresponds to the practitioners taking over, and is associated with the extension of the authors' pool to a

larger number of interpretation instructors in some major training programs, as opposed to the small number of interpreters who were interested initially and to the even smaller number of psychologists and psycholinguists who were involved in interpreting research.

The second leap, in the mid-eighties, corresponds to the new impetus of the "Renewal Period", with the arrival of many new authors attracted by the new paradigm, as well as with institutional developments such as the creation of many new academic T&I training programs and the ensuing production of publications. The question of whether this quantitative evolution was matched by a parallel qualitative evolution remains open.

4. Types of Texts

Three categories of texts are selected for closer scrutiny because of their specific position on the research scene: doctoral and post-doctoral dissertations, M.A. and graduation theses, and papers in collective volumes.

4.1. Doctoral and Post-Doctoral Dissertations

Doctoral and post-doctoral dissertations reflect a commitment of several years to high-level research. Only one major leap is evident in Table 1 (which presents global figures), from the 1990–1994 period to the 1995–1999 period. In view of the duration of the preparation of such dissertations, these numbers probably reflect work that started in the early nineties, in the first years of the "Renewal Period". A closer look at the figures on a country-by-country basis (Table 6) reveals another leap, in France, during the "Practitioners' Period", which shows that the impetus which resulted from the professional interpreters' involvement in CIR is associated not only with higher general productivity (Table 5), but also with strong long-term commitment as reflected by the dissertations completed at ESIT (Paris University's École Supérieure d'Interprètes et de Traducteurs). The fact that this development is partly hidden in the global figures because it is paralleled by a decline in the production from the USSR highlights the risks associated with inferring on the basis of quantitative data from sets to their subsets and vice-versa in heterogeneous populations. In this case, quantitative processing of the data provides meaningful results only if enough qualitative data is available to indicate that Western and Eastern CIR lived separate lives and should be analyzed separately.

4.2. M.A. and Graduation Theses

Research theses demonstrate interest in research on the part of the students (who generally also have the choice of writing a glossary instead), but say nothing about long-term commitment as doctoral dissertations do. The vast majority of theses are part of academic graduation requirements in translation and interpretation programs, in particular in Italy, Czechoslovakia/the Czech Republic, Germany and Finland (Table 2), and account in part for the high level of productivity in these countries in the nineties (Table 5). The high productivity of Italy and the Czech Republic is also due to intensive publication activity by a few individual authors (Table 7), so that theses cannot be viewed as the single determinant of 'national' productivity. However, the stream of theses and the associated supervision work are probably a further stimulating factor that maintains motivation in the relevant institutions.

The statistics show a sustained increase in the production of theses, up to the level of about 24 per year in the late nineties, whereas dissertations have remained at less than 3 per year on average during the same period. Moreover, out of the 244 authors of theses on interpreting covered in the data base, only one has completed a doctoral degree so far (Morris 1993 — on legal aspects of court interpreting), and one is in the process of completing it. Some training programs manage to motivate their students into doing a research thesis at the end of their training period, but incentives are not sufficient to sustain them through the preparation of a doctoral dissertation (also see Section 8.1 on motivation).

4.3. Papers in Collective Volumes

In CIR, papers in collective volumes are less meaningful in terms of research than theses and dissertations. Many are essays and prescriptive writings, often produced at the request of an editor rather than at the initiative of an author after completion of a study. Others are the written versions of papers given at translation and interpretation conferences, with no innovation requirements and virtually no screening for inclusion in the proceedings. In this respect, collective volumes reflect the general non-empirical nature of CIR to date (in

truly empirical disciplines, papers presented at conferences are also empirical). There are volumes, in particular Gran and Taylor 1990, Tommola 1995 and Gran and Riccardi 1996, where a number of articles reported the results of graduation thesis studies, but these seem to be the exceptions rather than the rule (to be tested in a systematic study focusing on collective volumes). It is interesting to note in this respect that in the first CIR collective volume devoted to empirical research (Lambert and Moser-Mercer 1994), ten of the eighteen papers presented had been in the mainstream of the literature on interpreting before the book appeared (Pöchhacker 1995c: 183). From Table 1, it appears that from the mid-eighties on, when the "Renewal Period" started, papers in collective volumes often approached 30% of the total production. A correlational analysis could test the hypothesis that this wealth of collective volumes is associated with institutional factors such as the need for T&I departments/programs to publish periodically, rather than with innovative research.

5. The Themes of CIR

Table 3 provides production data for a few selected themes and/or fields addressed by CIR texts. This Table is a rough approximation: having had no direct access to many texts, I could only rely on titles and references to classify them; moreover, most CIR texts are not focused studies, and address more than one field or theme. Nevertheless, a few trends and other features emerge rather clearly from the data.

a. Training

In the data, training is clearly the most popular theme in the literature from the very beginning. This is probably due not only to its importance for a community essentially composed of interpretation instructors, but also to the fact that texts on training can be descriptive, analytical and/or prescriptive, and can be written by authors without any training or skills in research solely on the basis of their experience. Stenzl (1989), and then Dodds (1997), make the point that there is little interaction between research and training in CIR, a claim that is also often heard in translation research. Against this background, it would be interesting to see how many authors write on both training and research issues, what their other common characteristics are, and to what extent and where the two fields cross-fertilize each other.

b. Professional Issues

A second popular focus of interest in the literature throughout the period under consideration concerns professional issues such as access to the profession, working conditions and working environments. Again, bearing in mind the fact that most authors are professional interpreters, its popularity in the Western world can probably be ascribed to the same factors as the popularity of publications on training. In Japan, where publications on professional issues in translation and interpreting are particularly numerous, economic factors (the good health of the publishing industry) and sociological factors (the popularity of publications revolving around the use of English as well as the glamorous image of interpreters) may provide a better explanation of the phenomenon. Further investigations into this issue could focus on the links between such texts and research work on the basis of citation analysis: while many authors, particularly in Japan, have written almost exclusively on professional issues (see Meta 33:1 [1988]), others, such as Ingrid Kurz in Vienna and Akira Mizuno in Japan, have also written extensively on research issues. Are the two fields distinct, or do they feed upon each other? A closer quantitative and qualitative look at the literature could provide an answer.

c. Language Issues

Language proficiency, studies on language-pair-specific issues and linguistic studies also take a high rank in the literature. In particular, many theses are devoted to syntactic and lexical problems associated with linguistic differences between the source and target languages, which suggests that, contrary to the opinion propounded by many during the "Practitioners' Period" (see Gile 1994, 1995), many interpreters do not feel that interpretation is languageindependent. The popularity of this topic is probably also due to the fact that language mastery is closely associated with training, and that many T&I training programs are part of modern language departments. It would be interesting to look more closely at the literature on this theme and to see whether it is more popular in such modern language departments than in specialized professional schools, what subjects are most frequently broached (lexical, syntactic, stylistic, phonological, pragmatic issues, text linguistics, language enhancement, psycholinguistic phenomena, etc.). It would also be instructive to examine whether findings have been replicated, whether they have been integrated into training and whether they make use of the literature on second language acquisition and/or contrastive linguistics.

d. Consecutive Interpreting

This topic is also associated with training. It is striking to see how many texts are devoted to it throughout the history of CIR, which suggests that consecutive interpreting is still considered an important skill (in spite of the belief of many Western interpreters). A systematic study of the literature could show, inter alia, whether there has been any clear trend towards the application of particular theories, especially from cognitive psychology (due to the importance of memory and to the reconstruction of speeches from notes), or towards particular techniques in note-taking, which is taken up time and again in publications devoted to this mode of interpreting.

e. Cognitive Issues

In the sixties and seventies, during the "Experimental Psychology Period", the psychologists' contribution was reflected by the relatively high proportion of texts devoted to cognitive issues. With the onset of the "Practitioners' Period", in the late seventies and the eighties, this proportion dropped dramatically. In the nineties, in spite of the popularity of the idea of interdisciplinarity, and of numerous imports of concepts, theories and paradigms from cognitive psychology, there were relatively few texts and/or studies on cognitive issues in CIR. An explanation of this contradiction between the high relevance of cognitive issues felt in the interpreting community and the limited development of studies in the cognitive paradigm could be found in the lack of research training among interpreter-researchers, in practical problems such as difficult access to subjects and material (see Gile 1995) and in the weakness of motivation (also see Sections 8.3.2 and 8.3.3).

f. Quality Issues

While this theme was mostly addressed in prescriptive writings during the "Practitioners' Period", it has produced a relatively large number of specific empirical studies (see for instance the reviews in Kurz 1996 and Collados Aís 1997) since the mid-eighties and is becoming very popular (with an increasing number of conferences and publications), possibly because it accommodates empirical research without a complex theoretical underpinning. Further exploration of the relevant literature, which is probably one of the most cohesive parts of CIR (with authors being aware of each other's texts, quoting them, and referring to previous findings when presenting their own), is likely to reveal interesting international influence patterns, which is one of the main products of scientometric research (Callon et al. 1993).

g. Other Issues

Two other categories in Table 3 deserve further comments:

- Neurophysiological studies of interpreting are a recent development in CIR, and have become a regular and important focus of empirical research. Since they started in Trieste under the leadership of Franco Fabbro (see Fabbro and Gran 1997) and he left the field, it would be interesting to see how they develop. A sharp decline would strengthen the hypothesis that single leaders play a crucial role in developing and sustaining an activity sector at this stage of the historical evolution of CIR (see Section 8.1.1).
- Studies on interpreting for the media should follow a different curve. While the increasing importance of English as a lingua franca has been generating worries about the future of conference interpreting, increasing internationalization is raising demand for media translation, including interpreting, hence a likely increase in the involvement of researchers in the field as well. The case of Japan is particularly interesting: the importance of television in the daily life of the Japanese and their generally high level of interest in topical events in the West gave prominence in the public eye to interpreters heard in the media. The rising level of CIR activity in Japan may well turn it into an important research center in this field not least due to the commitment and activity in the Japanese CIR community of Akira Mizuno, a broadcast interpreter (see Section 8.1.1). On the other hand, most of the Japanese authors still write in Japanese, so that the influence of their research in the West may remain limited, just as practically no influence of East European and Russian authors who wrote in Russian was felt in the West in the sixties and seventies.

6. Authors and Their Productivity

The size of the CIR community has grown in a pattern similar to that of general productivity (Table 4, Figure 2).

Again, two points in this evolution can be interpreted as reflecting the four periods in CIR history. The first is an 81% leap from the 1970–1974 period to the 1975–1979 period, corresponding to the onset of the "Practitioners' Period". The second is the slowing down of growth over the past 10 years, with an increase of only 20% between the last two 5–year periods, which may indicate that the interpreter training programs' capacity to produce

new authors is becoming saturated (while editors of journals and collective volumes continue to look for contributors).

On the whole, productivity per author remains very low, with fewer than two texts per 5-year period, and fewer than three per decade. Moreover, only a few authors are 'productive' (more than 1 text per year) or 'highly productive' (more than 2 texts per year). In a small community (fewer than 500 authors after nearly 40 years), many authors write a single text and take their leave. Even when allowing generously for newcomers with ongoing research and texts awaiting publication, one discovers a truly active community of fewer than 50 authors. A far larger number of people read CIR texts, including hundreds of students in interpretation training programs, but production comes from a very small number of individuals (see Pöchhacker 1995a, 1995b) — though no claim is made here regarding the correlation between their level of productivity and their qualitative contribution (also see Section 8.1.1).

7. Production Centers

In most established disciplines, hundreds of academic departments and research centers keep the research community and productivity alive. In emerging disciplines, one center may trigger an innovation which will eventually lead to the crystallization of a new research sub-field. The unusual CIR environment makes it particularly interesting to look at the history of the field through its geographic and institutional distribution and the work of single personalities. The reason for looking at countries as well as individual institutions is that national regulations (such as the requirement for graduation theses) and research traditions may have a strong influence on production (already mentioned in Section 4). The production of single personalities is studied in Pöchhacker 1995a, and their overall influence is taken up in Section 8.1.1. Table 5 focuses on a small number of selected countries (and on two specific centers) with a particularly interesting role and/or evolution pattern. In this essentially quantitative analysis, other countries and centers have been left out in spite of their qualitative contributions, because their overall productivity is still low. This is the case of Denmark, Israel and Spain. Denmark has a genuine small 'production center' in Århus, but its production is small. Israel is strongly represented by a single productive author, so that its analysis as a

"center" is questionable. Spain is undergoing institutional changes, in particular with the introduction of PhD requirements for teaching staff, which is likely to lead to the emergence of productive centers at several universities, but at this stage, its production is still low. (The fact that such PhD requirements have not been introduced in Italy may explain the absence of Italian PhDs in such a productive country.)

From Table 5, it appears that the USSR, Czechoslovakia (mostly Charles University, Prague) and Germany were the most productive in earlier years, though the production from Prague was unknown to the West (and a nonnegligible number of theses from Leipzig may still be missing from the corpus). The Czech and German production has increased on the whole throughout the four periods under consideration, but was superseded by other countries as other centers took initiatives, while Soviet production declined in the eighties. The changes which took place in the global configuration of the most active countries and centers during the "Renewal Period" are striking. While ESIT lost its leadership position, countries which were virtually absent in the seventies and early eighties gained prominence: Italy, the most productive country throughout the nineties; Japan (second since the mid-nineties), and Finland. The figures for Austria, France and the US are misleading, as most of their production comes from one or two particularly prolific authors.

A more reliable assessment of the productivity of each center in CIR must also take into account other factors, such as the number of theses and dissertations produced (Tables 2 and 6), and/or the number of its 'active' and 'very active' authors (Table 7). As shown in the Tables, the data confirm the high level of activity of Italy, Japan and Finland.

A sociological and economic analysis might shed light on the factors that could account for the apparent decline in production in Eastern Europe, regardless of whether it is related to the rise in Western Europe and Japan. (A tentative explanation for the decline in the East could be economic, while the rise in productivity in the West could be institutional — linked to the creation of academic training programs — and productivity in Japan could be attributed to the influence of single personalities and to sociological factors). However, in view of the small number of institutional centers around the world and of their small size (see Pöchhacker 1995a), the influence of single personalities could be just as strong as that of institutional and socio-economic factors (see Section 8.1.1).

8. Qualitative Factors in the Evolution of CIR

In the following section, the focus shifts to qualitative elements in the analysis, and to comments on the relationships between these elements and the quantitative data.

8.1. Production and Motivation

Three qualitative factors seem to have played an important role in the evolution of CIR: the action of single personalities, economic factors, and institutional factors.

8.1.1. Single Personalities

The role of single personalities in the history of CIR is reflected in their institutional action, their research, and their popularity in the literature as reflected by citations. A few examples are listed below:

David Gerver was an outstanding personality in CIR during the "Experimental Psychology Period". Interestingly, this non-interpreter researcher, the most productive during that period, the only one involved seriously in CIR, and a co-organizer of the first interdisciplinary meeting around conference interpreting (Gerver and Sinaiko 1978), authored only eleven texts (between 1969 and 1978). And yet, he is often quoted as a pioneer in the information-processing paradigm in the field. This is one case where citation analysis would reflect the impact of an author much more faithfully than production analysis.

During the "Practitioners' Period", an outstanding personality was Danica Seleskovitch of ESIT, Paris, who founded the first (and only) French doctoral program in Translation Studies (see Section 8.1.3), and whose contribution to CIR in the seventies is reflected in her own productivity, in ESIT's productivity during the same period (see Tables 5 and 6), and in numerous references to her ideas (as opposed to empirical studies — in sharp contrast with Gerver's case) in the literature. In her case, productivity analysis is better correlated with her influence in the CIR community: in a comparative table in Pöchhacker 1995b: 20, she ranks second in productivity for the period 1952–1988, but is no longer in the "top twelve" for the period 1989–1994, after the onset of the "Renewal Period", when the paradigm she defended gave way to a more science-oriented one.

In the nineties, the contribution of single personalities became less centralized. CIR spread out (Tables 5 and 6) and several local initiatives developed. In each of these, the role of single leaders, in terms of research proper, organization and/or motivation has been important. For example (no attempt at comprehensiveness will be made here), at the University of Trieste's SSLMIT, Laura Gran gave the first impetus to CIR in a strongly interdisciplinary approach, and neurophysiologist Franco Fabbro was a central figure in its materialization. In Prague, the combined drive of Ivana Čenkova and Zuzana Jettmarovà has made Charles University a dynamic CIR actor. In Japan, the contribution of Masaomi Kondo, one of the editors of Interpreting Research (Tsuuyaku riron kenkyuu), co-founder of the Interpreting Research Association of Japan and founder of an M.A. course in interpreting at Daito Bunka University, and Akira Mizuno, another editor of Interpreting Research and prolific author, is also central. All are very productive in CIR (except Zuzana Jettmarovà, who is not an interpreter), and all but Čenkova and Mizuno, who started publishing intensively later than the others, are in Pöchhacker's "top twelve" for the 1989-1994 period. On the other hand, in Switzerland, Barbara Moser-Mercer launched *Interpreting*, organized a research-oriented continuing education certificate for interpreter trainers at the University of Geneva's ETI, is in the process of creating the first doctoral program in interpreting, and can certainly be considered one of the leaders of the CIR community, but production figures do not reflect this. Ironically, this outspoken promoter of empirical research has published only two papers reporting empirical studies herself since the beginning of her career, in 1976, which again shows that personal productivity figures do not necessarily correlate well with other aspects of one's contribution. Better quantitative indicators are the number of collective volumes edited, especially those containing a high proportion of papers by authors from the editors' own centers, as well as the number of theses and dissertations they have supervised. However, even these data do not reflect the importance of their institutional, organizational, financial, didactic and other efforts which may have had a strong impact on the level of CIR activity in their respective centers. As to their qualitative influence in the community, it is best traced by citation indexing (see Callon et al. 1993), more specifically by tracing references to them in other authors' texts and thus monitoring their influence in terms of ideas, theories, models and research paradigms (again, a first analysis of this type is found in Rowbotham 2000).

8.1.2. Economic Factors

Most authors in CIR are also practicing interpreters, and in most countries, interpreting is more lucrative than academic research. The conflict of interests is obvious, and probably accounts to a large extent for the fact that most students who devoted much time and effort to a solid graduation thesis did not pursue their research interests once in the marketplace, and that professional interpreters interested in CIR, who occasionally write a paper and attend translation and interpretation conferences, do not find enough motivation for the sustained effort required to complete a PhD dissertation. At first sight, this hypothesis could be tested by studying the correlation between remuneration levels and the number of PhD dissertations produced in the same markets. However, two factors make this quantitative analysis difficult. The first is the potential effect of other variables, such as the charismatic influence of single personalities (see the dissertations produced in the late seventies and early eighties in France, where interpreters did have a high level of remuneration), making it difficult to identify the true contribution of any single variable to the phenomenon. The other is the small size of the community and of its production: in Pöchhacker's (1995a: 48) survey of the literature from 1989 to 1994, roughly one fifth of the bibliographical items were published by twelve authors, and close to 10% of the items were published by the 'top' four authors. In such a situation, results are easily biased by an outlier (associated with the production of one or two highly motivated individuals, irrespective of market conditions). In well-established disciplines with a large number of authors, production centers and publications, statistical procedures relying on large numbers are more powerful in determining the influence of individual variables, but the present size of CIR makes such techniques less than reliable.

Economic factors also cause the interpreters' approach and priorities in starting projects to differ from those of researchers in other disciplines: the latter usually start by seeking funding for their projects, which makes them dependent on institutions, departments or centers they are affiliated with. For most interpreters, such links are unnecessary, because they can fund their own research. This could account for the large number of 'free-lancing' small-scale studies in CIR (not singled out in the tables in this paper), which are rare in other disciplines. Prolific authors such as Gile, Kurz and Mizuno have been doing research and/or publishing out of personal interest in research and in the field rather than for the purpose of securing an academic position or promotion, or in the context of institutional requirements (see below, Section 8.1.3).

8.1.3. Institutional Factors

In established academic disciplines, the research community is renewed through the standard process of undergraduate and graduate studies, followed by research in an institutional body (university department, research center, etc.). In such bodies, not only is research an important part of the statutory activity, but it is also essential for individuals seeking to obtain a position and promotion. In CIR, the situation is different. Until recently, there were few translation and interpretation departments in universities. The two disciplines were generally entrusted either to departments of languages, or to specific training programs which prided themselves on giving priority to practical professional skills and did not require publications or research from their teaching staff — nor did they require higher academic degrees. The most fundamental institutional incentive for academic research was therefore conspicuously absent in CIR.

A significant institutional step was taken in the seventies, with the creation of the doctoral studies program in translation and interpreting at ESIT. As mentioned in Sections 4.1 and 8.1.1, this initiative resulted in a (relatively) large number of doctoral dissertations in interpreting during the seventies and early eighties (Table 6).

Further institutionalization occurred when translation and interpretation departments, and even translation and interpretation faculties (in Spain), were created in several countries, along with Chairs for Translation and Interpreting (for instance in Austria, Germany, Finland). As interpretation training programs were integrated into the academic framework, so were academic research requirements, which became a strong driver in the corresponding countries (see Gran and Viezzi 1995: 110), as reflected in their productivity.

Another type of institutionalization in CIR was the launching of interpretation-specific periodicals, including Trieste's *The Interpreters' Newsletter* in 1988, followed by the Japan Interpreting Research Association's *Interpreting Research* in 1991, and *Interpreting* in 1996. Their very existence generates a need for texts. At this time, they account for 213 of the 547 papers published in journals since 1988 (also note that more than 350 CIR papers were published in collective T&I volumes during the same period). With only 24% of the 'market', their role is not yet predominant as publication outlets, except in Japan, where *Interpreting Research* gives authors the opportunity to publish in Japanese in a specialized journal. The contribution of interpretation journals should be sought mainly in the qualitative aspects not readily manifested in quantitative data.

Yet another type of institutionalization in the wider field of Translation Studies, which started in the late eighties to early nineties and has had a strong influence on the development of CIR is the creation of international bodies for the promotion of research, such as the CE(T)RA Chair of Translation Studies, with its yearly training program for doctoral students. The CE(T)RA Chair's influence in CIR is reflected in particular by the fact that of the 14 doctoral dissertations on interpreting completed in the second half of the nineties (Table 6), 4 were written by CE(T)RA alumni. The CE(T)RA model was also adopted for a research training seminar held in Århus in January 1997 (see Gambetti and Mead 1998), which has led to the completion of one further PhD and to the preparation of another, which is at an advanced stage at the time this paper is being written.

8.2. Attitudes: Opening Up in CIR

A clear trend in the history of CIR is its progressive evolution towards internal and external communication and towards interdisciplinarity.

During the sixties, seventies and first half of the eighties, the CIR community was divided into non-communicating blocs and isolated individuals. Western interpreter-researchers mostly rallied around leaders from major interpretation training programs in Brussels, Geneva, Heidelberg and Paris. Judging by their texts, including their lists of references, they knew little about their Eastern European counterparts (the converse is not true — see Čenkova 1995). Nor did they know much about the work of psychologists and psycholinguists, conspicuously absent in their writings (in sharp contrast to those of their counterparts in the USSR), or about individual interpreter-researchers who did not adhere to the prevailing interpreters' paradigms, such as Ingrid Pinter/Kurz, Linda Anderson or Barbara Moser. Since the end of the eighties, both cross-center and cross-disciplinary citations have become numerous (study in progress).

One area where a dramatic change in the direction of openness has clearly occurred is interdisciplinarity. While interpreter-researchers in the seventies rejected the very idea (Gile 1994, 1995), the non-interpreter researchers' call for interdisciplinarity which was the raison d'etre of the Venice conference in 1977 (Gerver and Sinaiko 1978: 1–2) had no effect (and was followed by virtually no interdisciplinary studies), the renewed call made in 1986 by the Trieste conference organizers (Gran and Dodds 1989) was followed by actual

interdisciplinary research at the same university as reflected in the bibliographical database used for this paper, mostly (but not exclusively) through work in the neurophysiological paradigm. Unfortunately, as explained in Section 8.3.2 below, on the whole, the genuine aspiration towards interdisciplinarity has not developed into fully satisfactory implementation of the principle.

8.3. Aspirations and Limitations

8.3.1. Limitations in Communication

Technological developments, in particular the Internet, have made communication much easier, as have the numerous international translation and interpretation conferences held over the past ten years. Yet, while communication in CIR has become mainstream, it is not yet generalized.

Most strikingly, while interpreter-researchers have been reading the literature and learning the theories of adjacent disciplines, the converse is not true: non-interpreter researchers writing about interpreting tend to quote only from within their own discipline and include few citations by interpreter-researchers (citation analysis is a powerful technique for exploring this issue). Another example is that many of the M.A. and graduation theses completed at universities and interpretation training programs are not systematically announced to the CIR community, and when written in languages unknown to the majority of its members, are not translated or reported in papers in more accessible languages. This makes productivity analysis less reliable, though the loss is probably small in relation to mainstream literature.

8.3.2. Limitations in Interdisciplinarity

Interdisciplinarity has become a buzzword, with many calls for and texts on its implementation (see for instance Shlesinger 1995), the setting up of *Interpreting* as an interdisciplinary journal (Massaro and Moser-Mercer 1996), and the convening of various interdisciplinary events within and around T&I meetings such as the Turku conference (see Gambier et al. 1997) and the Ascona conference (*Interpreting* 2:1–2 [1998]). However, it is still limited in its materialization as actual research, as shown by several factors (see also Gile 1999):

 The number of non-interpreter researchers involved in sustained interpreting research has not risen over the years: only psychologist Sylvie Lambert and neurophysiologist Franco Fabbro have written more than 5 papers on interpreting each in the eighties and nineties.

- Concepts and theories from adjacent disciplines have been imported into interpreting, but they have generated few empirical studies, and do not seem to have been exported back with findings or further developments into the mainstream literature in these disciplines.
- More fundamentally, the data shows that paradigms imported from cognitive psychology, which gained a central status in the nineties, have generated a very small number of experimental studies (in the strict sense, as opposed to other types of empirical studies) carried out in CIR along the lines of mainstream research in cognitive psychology.

8.3.3. Limitations in the Development of Empirical Studies

Empirical studies still account for only a small percentage of the total production, which reflects the overall non-empirical nature of the field (see Table 8). Note, however, that the proportion of empirical studies reported in theses (Table 2) is far higher, especially considering that each empirical thesis is an original study, whereas papers often present the same empirical study at least twice (and papers often present the results of studies conducted for the thesis, as is explicitly the case in Gran and Taylor 1990, in Gran and Riccardi 1996, and in many papers published in *The Interpreters' Newsletter*). This highlights the potential importance of such theses in the field.

The contrast between the changing aspirations and the (relatively) static reality over the years as shown by the bibliographical data is thought-provoking.

9. Conclusion

It is hoped that the report on and analysis of bibliographical data presented here, however incomplete, has shown the usefulness of the quantitative component of CIR analysis in socio-historiographical work. First, it documents and sometimes qualifies impressions of the CIR scene over time. Second, it raises the analysts'/readers' awareness of phenomena or links that might otherwise have gone unnoticed. Third, it is a way of generating hypotheses on correlational and causal links, and of assessing the impact of specific authors, institutions and ideas through citation analysis. Limitations in the comprehensiveness of the data are a technical problem which affects the power of the

analysis, not its validity, provided the analyst is aware of them and sets his/her objectives accordingly.

On the other hand, this report suggests that quantitative analysis can sometimes be misleading; e.g. in the case of CIR, with its limited size, outliers (in this case highly productive individuals or institutions) can markedly change the overall patterns. In more established disciplines, populations (of researchers, institutions, dissertations, papers, etc.) are generally large enough for such outliers to have a much smaller, or even negligible, distortion effect.

The combination of basic strengths and genuine limitations in the scientometric approach as applied to CIR suggests that further studies in this paradigm, if carefully combined with qualitative analysis, especially citation analysis, should be useful in providing a clearer picture of the CIR community and its activity, and help decision-makers choose the most appropriate action, which is one of the essential roles of scientometrics (Callon et al. 1993).

Author's home address:

Daniel Gile \cdot 46, rue d'Alembert \cdot F-92190 MEUDON, France \cdot e-mail: Dgile@compuserve.com

Notes

- * I should like to acknowledge the valuable comments made on an earlier version of this paper by Catalina Iliescu and Franz Pöchhacker.
- Miriam Shlesinger. Strategic Allocation of Memory and Other Attentional Resources in Simultaneous Interpreting. Ramat Gan: Bar-Ilan University, 2000. [Ph.D. Dissertation.]

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Target 7:1. 1995. Special issue on Interpreting Research.

Tables and Figures

Table 1. CIR Production by Text Types

Period	Total prod.	Doct. Diss.	Theses	Articles in CV
Before 1970	84	2	2	5
1970-1974	60	2	5	9
1975-1979	122	5	9	26
1980-1984	181	6	18	40
1985-1989	303	10	31	101
1990-1994	562	6	56	180
1995-1999	644	14	119	158

Table 2. Number of Theses in Countries with at least 10 Theses per Country per Decade

Period	Czech.	Finland	Germany	Italy	Empirical	Total	
70s	10				2 (12% of total)	17	
80s	14		11	11	14 (29% of total)	49	
90s	26	33	24	35	65 (37% of total)	175	

Table 3. The Themes of CIR

Period	Cognit.	Consec.	History	Langu.	Media	Neurophys.	Profess.	Quality	Training
60s	8	2	2	3			5		9
	(17%)	(4%)	(4%)	(6%)			(11%)		(19%)
70s	17	14	4	14			14	4	33
	(9%)	(8%)	(2%)	(8%)			(8%)	(2%)	(18%)
80s	15	39	16	50	6	13	52	7	128
	(3%)	(8%)	(3%)	(10%)	(1%)	(3%)	(11%)	(1%)	(26%)
90s	54	91	35	169	26	35	148	65	245
	(4%)	(8%)	(3%)	(14%)	(2%)	(3%)	(12%)	(5%)	(20%)

Percentages in each cell represent the proportion of the total production for the relevant period.

Table 4. Author Productivity

Period	Total production	Total number of authors	Mean n. of texts per author	Authors with 10 texts or more	
Before 1970	84	63	1.3	0	1
1970-1974	60	47	1.3	0	1
1975-1979	122	85	1.4	0	2
1980-1984	181	120	1.5	1	5
1985-1989	303	199	1.5	3	7
1990-1994	562	362	1.5	7	9
1995-1999	644	436	1.4	9	14

Table 5. Productivity by Countries

Period	Austria	Czech.	Fin- land	France	Germany	/ Italy	Japan	Switzer- land	USA	USSR/ Russia
Before 19	70 2	2	0	3/ ESIT 2	4	0	2	6	1	7
1970-1974	1 0	9	0	9/ ESIT 6	9	1	3	1	4	6
1975-1979	9 2	9	1	27/ ESIT 21	11	1	7	5	5	10
1980-1984	1 9	18	1	40/ ESIT 28	3 4	8/ Trieste 7	0	3	3	4
1985-1989	9 24	8	4	56/ EST 23	19	30/ Tri. 26	10	5	11	5
1990-1994	4 30	30	24	37/ ESIT 13	51	67/ Tri. 63	73	13	36	2
1995-1999	31	39	40	42/ ESIT 5	22	129/ Tri. 97	63	31	26	0

Table 6. Distribution of Doctoral and Post-doctoral Dissertations in Selected Countries

Period	Austria	Denmark	France	Spain	Total production of dissertations
Before 1970	1	0	0	0	2
1970-1974	0	0	1 (ESIT:1)	0	2
1975-1979	1	0	4 (ESIT:4)	1	5
1980-1984	0	0	2 (ESIT:0)	0	6
1985-1989	0	0	4 (ESIT:3)	0	10
1990-1994	2 (Vienna)	0	0	0	7
1995-1999	2 (Vienna:1)	3 (Aarhus)	1 (ESIT:1)	3	14

Table 7. Number of Authors with More than 10 Texts per Country

Period	Austria	Canada	Czech.	France	Germany	Italy	Japan	Switzerland	USA
70s	0	0	0	1	0	0	0	0	0
80s	1	1	0	4	1	0	0	0	2
90s	2	1	1	1	1	6	4	2	1

Table 8. Number of Texts Reporting Empirical Studies, with Indications of Countries with at Least 10 Texts per Period

Period	Countries	Total - Empirical	% of total prod.
60s	_	1	15%
70s	_	18	10%
80s	_	49	10%
90s	It. 61, Finl. 33, Austria 21, Czech R. 17, Jap. 15, Can., Den., Fr. 10	234	19%

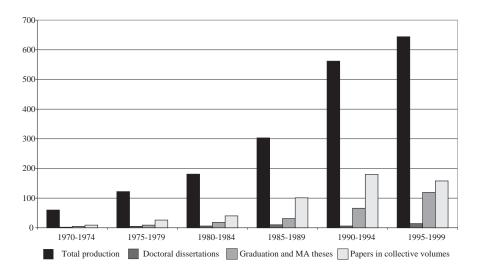


Figure 1. CIR Production

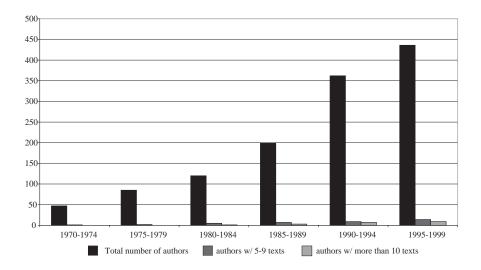


Figure 2. Evolution of the Author Population