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Bibliometric tools: Evaluation, mapping

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Introduction

Bibliometrics is a relatively young discipline, with clear antecedents in the 1920s and a boom since the 1960s, when the name was first coined. There is a constellation of terms denoting the statistical study of (the flux of) information, most of which are used in an indiscriminate manner, as virtual synonyms. Terms such as informetrics, bibliometrics, scientometrics, webometrics, altmetrics, netometrics or cybermetrics place the focus on different approaches and/or (sub)domains of this huge research field. Thus, informetrics might be considered the umbrella term that refers to the flow of any sort of information in any mode, whereas bibliometrics restricts its interest to published information, and scientometrics focuses on the way academic/scientific information flows. Webometrics, netometrics and cybermetrics obviously study the particular conditions of exchange of information on the Internet. Altmetrics, finally, focuses on the potentialities of social media and academic social networks and tries to downplay the role played by international indexes and citation counting. Here we

will use bibliometrics as our blanket term due to its focus on published information and its broad usage.

The need to study the way published information flows is a direct consequence of the abundance of the said information. In translation studies (TS), scholars note sometimes that it is becoming more and more difficult to keep up-to-date because of the increasing number of publications that are issued yearly. When, due to an excess of supply and shortage of funding, a library is forced to choose which journals to subscribe to or which books to buy, or when a scholar has to decide what (not) to read, or simply when one wishes to make sense of all that has been written throughout the years on a given subject, bibliometrics is there to analyse the role played by the different publications, the impact they have caused and, generally speaking, to help us draw a family tree of the development of any scientific field.

Together with the current proliferation of encyclopedias and general dictionaries, the increasing existence of bibliometric essays targeted at categorizing and explaining the historical development of TS might be considered a very meaningful sign of the coming of age of a discipline which due to its limited dimensions until quite recently could, so to say, entirely fit in one scholar's head.

In its search for significant regularities, bibliometrics is a markedly statistical discipline, whose main kinds of metrics are citation analysis, content analysis, network analysis, and diachronic analysis.

Citation analysis is probably the best known facet of bibliometrics due to its evaluative nature regarding the relative importance of research. It includes different ways of counting citations (Journal Impact Factor, Scimago Journal Rank, H-index, etc.), all of them aiming at identifying the most popular or influential publications and scholars.

Content analysis focuses on the examination of the most frequent meaningful terms (frequency of keywords, words in titles or abstracts, co-occurrence, etc.) included in the scientific publications. It aims at discovering the focuses of research and its ideological underpinnings through the analysis of these meaningful terms.

Network analysis pays attention to the relationships between (groups of) researchers, the languages of science, publishers, etc., especially through the identification of academic hubs and the ways they interact. These tools allow drawing maps of the flow of scientific information, thus contextualizing it and establishing the most productive nations or universities and the relative importance of the academic actors in a theoretically objective way. This methodology also enables us to map interinstitutional collaboration, to discover mutual influences, and to trace the genesis and evolution of schools of thought.

Diachronic analysis revolves around the historical evolution of publications, both from a quantitative and qualitative perspective. This approach also attempts to answer questions such as the moment when a given problem started to arouse attention, the evolution of ideas or reviewing the state of the art of a topic within a discipline.

Bibliometrics in TS

It is important to distinguish between bibliometrics of translations and bibliometrics of TS. Current sources for bibliometric data in the first case are Index Translationum, the Irish Translation database Trasna, the Canadian bibliography, A Biblioteca Dixital da Tradución, national libraries, etc. These databases are interesting to gather information about which books,

authors or language pairs have been translated. This way, policy makers or private institutions can get a better understanding about the current state of affairs and what needs to be translated. The number of publications of this kind is quite numerous but falls outside the scope of this work. Simultaneously, the progressive institutionalization of the discipline has brought about an exponential growth in the number of publications on the bibliometrics of TS, as well as an increase in the number of evaluative studies within the academia, both for public funding research and scholars' professional promotion. TS is a relatively young and small discipline as compared with age-old consolidated and massively cultivated disciplines such as Linguistics or Literary Studies. As a consequence, it is underrepresented in main international bibliometric tools, and it is necessary to promote TS-specific bibliographical databases, since they can become very valuable as research and assessment tools, providing, for instance, field-weighted impact. Since the 1990s, and especially in the 21st century, we have witnessed the creation of topic-centered TS bibliographical databases, such as CIRIN for interpreting studies, as well as general ones aiming at including as much TS published academic works as possible (Translation Studies Bibliography [TSB], and Bibliography of Interpreting and Translation [BITRA]), comprising tens of thousands of academic works.

Bibliometrics is a relatively new area of research within TS. After a thorough literature review carried out using both TSB and BITRA databases, around 70 contributions were found. The first contribution within TS taking this approach towards academic publications we are aware of was published in 1995. In the 1990s only five scholarly works devoted to the bibliometrics of TS were published. In the 2000s this figure more than quadrupled that of the preceding decade (22 contributions). In the 2010s eight articles per year have been published on average. The fact that in 2015 one of the leading journals in the discipline, *Perspectives: Studies in Translatology,* devoted a whole issue to bibliometrics represents a turning point and

shows this methodology is increasingly attracting more and more attention among TS scholars, who find it particularly useful to get a historical overview of the discipline as a whole or about more specific topics.

The range covered by these relatively few essays is quite far-reaching. As far as the object of study is concerned, seven papers are devoted to introduce TS bibliographical databases or deal with bibliometrics as a tool for research. Four contributions resource to specific metrics, such as citation analysis, four deal with the concept of impact, three are related to Google Scholar h-index for TS journals, one deals with co-citation, while another intends to identify key researchers within the subdiscipline of Interpreting. In this same line, Interpreting takes the lead (with 20 contributions), followed by didactics (with four), medical, scientific & technical translation (with three altogether), corpus linguistics (with two), and audiovisual translation and discourse analysis (with one contribution each). Some contributions focus on specific containers, such as journals (14 entries), MA or PhD theses (two and three, respectively), or modes of access, such as digital publishing or open access (with one each). There are also six contributions that carry out keyword analyses, and two that study the most researched topics.

Most of the existing studies either adopt a historical approach (four cases) or clearly state the time-span under analysis (ranging from 1960 to 2014). Studies focusing on languages used for research dissemination in TS or research output format are scarce (three altogether), but studies researching average number of authors, trends in author ordering, citation windows, citation advantage of given publication formats, or altmetrics, among other topics, are anecdotal or non-existent. Despite the fact that the number of papers has grown exponentially in the last decade and that there are around 50 different authors with at least one contribution, only a few show long-term activity.

Limitations & Drawbacks

In principle, bibliometrics is a discipline with a strong mathematical basis, and its findings should be highly reliable. However, there are numerous scholars who voice important reservations due to several limitations and drawbacks. These are probably the most salient:

1. Bibliometric findings are only as strong (or as weak) as the bibliographical data they are based on. By definition and for obvious reasons, no database can ever comprise everything ever written in any living discipline, so it is necessary to work with samples. As of January 2017, the most respected citation index, JCR, includes 11 TS journals, most of them written only in English, out of at least 130 living TS journals (cf. RETI or BITRA), with scores of them including many articles in languages other than English.

2. Each discipline has its bibliographical peculiarities, such as preferred containers (journals, books, etc.), time windows for citations, average amount of citations per author, and so on, so that comparisons have to be performed among peers if they are to be significant. In the particular case of TS, international indexes tend to include it in the field of Linguistics, equating it with research areas with many more citers than TS could ever gather. This also means that TS needs to make itself bibliographically heard in the din of academic disciplines.

Likewise, data need to be interpreted to make sense. Bibliometrics does not consist of counting obvious items, and raw data are not self-evident. It needs to select what it counts (what bibliographical database(s) to use, should we count self-citations, should multiple

authors count as individual ones, should books be taken into account or journals are enough, how long should the citation windows be, etc.).

3. Users of bibliometrics tend to confuse collective and individual indexes. It is frequent to see scholars and, especially, academic authorities valuing a given contribution in terms of the journal or publisher it has been issued in. Actually, it is a basic bibliometric law that only a small percentage of articles published in a given journal attracts a high number of citations, so that acting like this means equating publications with hundreds of citations and others with none at all.

4. Impact is confused with quality. Apart from the fact that researchers may cite a given text for all sort of reasons, many of them having nothing to do with the quality of the cited text, very often, lack of impact is really due to factors such as the language of the publication or the difficulty of finding a given journal or book.

Conclusion

All in all, bibliometrics is an indispensable research tool that must be handled with care. We need to develop strong representative bibliographies and citation indexes that allow us to obtain reliable pictures of the way we research and exchange academic information. With scores of thousands of publications already issued and thousands more coming each year in a feverish 40-year history of discipline creation, with multiple schools of thought competing to make sense of our objects of study, with more and more universities and countries joining the TS quest, it is high time a discipline like ours becomes the object of study of bibliometrics.

Taken with care, working with methodologically sound approaches and large and reliable bibliographies, it will no doubt help us to understand ourselves, which probably is the ultimate goal of any human being, scholars included.

Further reading

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