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EPISTEMOMETRIA, A TERM CONTRIBUTING TO EXPRESS THE MEANING AND POTENTIAL METHODOLOGIES OF SCIENTOMETRICS IN SPANISH SPEAKING COUNTRIES *

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Glänzel & Schoepflin reflections on what they define as a crisis affecting scientometrics is certainly a challenge to all of us committed to its development. What is more, the cogitation does not merely denounce the growing weaknesses that can be recognized within the stupendous endeavour involved in the objectivation of the act that generates authenticated knowledge. In addition to this diagnosis, Glänzel & Schoepflin present some tasks that, if adopted collectively, could help to overcome some of the determinants that lead to what they judge as crisis of the field.

Surely, the interest for scientometric studies has been growing strongly all over. This is true in Latin America where the social instituted value of endogenous science is rather weak. To confront the limitations that this peculiar cultural aspect carries in the region, many scientists have tried to instrumentalize the capabilities that scientometrics provides in the benefit of adequate science and university policies. With this in mind, I would like to focus my comments on Glänzel & Schoepflin's reflections as a scientometrician dealing with the particular situation of the field in Latin America.

Although the terms bibliometrics, informetrics, scientometrics and technometrics are etymologically distinctive, there is a tendency to use them as they were synonyms which produces a terminological ambiguity that plays an important role in the loss of substantiality that certain putatively scientometric studies yield. Scientometric studies clearly possess a profound social meaning. The methodological aspects comprised in the scientometric endeavour demand the same rigorous care than the one followed within the scientific method. However, the attempt to gain objectivity on matters involving sociological and psychological variables obligate proper consideration of dynamic contexts throughout methodologies that, while requiring compatibility, need to emerge from genuine interdisciplinary interactions.

* Comments on the paper by W. GLANZEL U SCHOEPFLIN, *Scientometrics*, 30 (1994) 375.

Several reports in Spanish, - written as well as oral - use the words *cienciometría* and *cientometría* to refer to scientometrics. These words do not belong to the Spanish language, are not etymologically constructed and do not have any real meaning. Therefore, they contribute to conceptual ambiguity and occasionally to the use of unrestrained methodological deviations that weaken the endowment of knowledge that scientometrics is building.

To resolve the absence of a proper Spanish word to translate the meaning of scientometrics, Claudio Wagner, a philologist from the Universidad Austral de Chile, suggested the use of the word *epistemometria* (used by me for the first time in 1998⁵). This word (*epistemometría*) was coined by Wagner by analogy with *epistemología*, i.e. theory of science. The base *epistemon* in Greek refers to "acquired knowledge" equivalent to "science", in opposition to *gnosis* (cf. *gnoseología* "theory of

knowledge") which means "knowledge as capacity".

As discussed by Braun et al.,⁶ scientometrics deals with the analyses of quantitative aspects of the generation, propagation and utilization of scientific information, in order to contribute to a better understanding of the mechanism of scientific research as a social activity. The term epistemometría clearly involves the meaning of scientometrics, and provides the correct etymological frame compelling the proper use of methods to validate the social recognition of the quantity and quality of the emerging authenticated knowledge. The Spanish term was created having in mind that it was also necessary to ratify the subtle but clear differences that exists between scientometrics (naukometrija, Wissenschaftsmetrie) as discussed by Braun et al.,⁶ and bibliometrics.

It is of interest to note that, at least in Latin America, scientometrics as a field, has gained increasing public prestige. Nevertheless, it is also important to recognize that, as pointed by Glänzel & Schoepflin, the field lacks consensus. Many studies corresponding to bibliometrics of informetrics have been mislabeled and presented as generators of scientometrics indicators. Although the information concerning the scientific capacity yielded by bibliometrics and informetrics is highly valuable, it results from factual indicators that not necessarily express valid estimations that measure and qualify the science produced. Thus, although it is desirable to interlink the strengths of each subdiscipline, it is critical to regard the fact that they are not synonymous.

The rather small scientific output in Latin America claims for effective public policies, Scientometric indicators are vital to assess the research activity that is being supported, However, proper policy-making demands other crucial information that, scientometrics. Certainly bibliometrical information - which does not necessarily represent aspects involved in the process of generating authenticated knowledge - as well as informetrics, which includes crucial facts concerning the required environment for the development of science, strengthen the circuit of scientometrics while enriching the potentialities, of each subfield. Among others, this is particularly clear in research relevant to policy-making. A recent study by ac Meis⁷ making use of the methodologies emerging from the above mentioned subfields, showed that Ph.D. training of Brazilian biochemists within the country rendered highly productive and competitive scientists at low cost - finding of outmost importance for policy-makers in countries where the scientific community is small.

In my opinion 'drifting apart bibliometric subfields' does not necessarily mean to weaken scientometrics, nor bibliometrics. It is true that bibliometrics is an interdisciplinary research field. But scientometrics (word used in the title of the commented analyses) encompasses methodological restrictions warranting the expresion of scientific indicators of science. As such, it constitutes a particular subfield. This point of view is not cierly considered inthe section what can be done? in Glänzel & Schoepflin refections where bibliometrics as a term received the main responsibility for fulfilling the needs to develop the science of science.

Surely the matters included in Glänzel & Schoepflin's discussion paper cover many important topics concerning the uncertainties in the expansion of scientometrics. I chose to express my point of view as one of the many self-made scientometrists convinced that the field is clearly contributing to strengthening science in Latin America and that striet terminology definitions certainly support the quality that we all expect inthe science of science. Definitely as some of the topics ddiscussed are matters of opionion. Future meetings would be clearly helpful to attain the needed consensus. In the meanwhile whether or not the field is in crisis, epistemometria is strongly needed in Latin America.

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