

## Bibliographic References as the Aid of Assessment of Scientific Value of Citing Papers: Analytical Review

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It is well known that a reference is a link connecting a newly appeared scientific document presenting new (quasi-new, generalized, cumulative or reminding content) with the document that were supposed to influence radically on the process of a citing document creation. More usual practice of the use of this knowledge is the assessment of cited documents by counting references to them. In this case the citations confirm the active use of cited documents; therefore indirectly proving their value.<sup>1</sup>

At the same time it is known, that the potential value of a scientific documents being created is predetermined by the conditions of the creation.<sup>2</sup> Possibly, the most important ones are the information conditions, the so-called "cognitive basis", which is reflected in the structure of references.<sup>3</sup> Thus, if we "decipher" this structure, we can assess the potential value of citing papers as well that might enable one to have a most rapid, almost immediate assessment.

However,

- 1) the stochastic nature of such assessment is far more stronger than in case with cited papers;
- 2) therefore, such an approach is absolutely useless when applied to a single paper or to small amounts of them and might be good only for the sufficient collections of papers (say, of the same scientific schools etc.);
- 3) in contrast with the assessment of cited papers, where a more number of citations normally stands for their better value, in this case it is required to find out various indicators of structure of references, to determine their meaning and to estimate the "standard" magnitudes for comparison.<sup>2</sup>

The review of the indicators used for this purpose in a few studies fulfilled, suggested that Price's ideas of 60s and 70s<sup>4,5</sup> suggesting that the more number of references are cited (within the "quota" range of 10-22 references) in an average paper in non-humanities, the better the citing papers totality (in terms of scientific value) might be, are still valid. Possibly, even more important is a disciplinary structure of references ("the more the better") since when a scientific field is being developed in a "highway" direction, it is commonly believed that the development is more successful, the more interdisciplinary knowledge is involved. "Age" structure of references might be relevant<sup>3</sup>, but there is a lot of restricting factors and exceptions. Finally, quite unexpectedly I have discovered that the species structure of references -- which is normally so much stable -- is of a relevance, too.

In the following parts of the paper the problem of "standards" for comparison is discussed in details.<sup>6</sup> Some of empirical results are plotted. The sporadic practice of a very few institutions of the USSR in application of some of the indices for assessment of citing papers in the practice of scientific information service<sup>7-9</sup> are reported and discussed.<sup>10</sup> Finally, the discussion of recent papers concerning the practical value of citation analysis in medical libraries<sup>11</sup> is provided.

### References and the Endnote

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10. All of them were medical research institutions; I don't know if this fact has special meaning.
11. Salmi L.; Citation analysis and impact factor ; *Newsletter to European Health Libraries* N 28 (1994) 17-18.