

The following are the main points of this Code:

1. All original texts submitted for publication in a scientific and technical journal or periodical shall be accompanied by an abstract, to be compiled by the author himself.
2. The author shall specify in which category of original scientific literature his text is to be classified; i.e. (a) original scientific paper, (b) provisional communication or preliminary notes, (c) subject review article.
3. The "synopsis" should not exceed 200 words.

However harmless such suggestions may seem they have evoked a good deal of comment from authors and editors, as I have found from discussions with the authors and editors of scientific journals. Although it is acknowledged that documentation is valuable for the author as well, these groups take the express view that the author's interests should predominate, so that in many cases there is little willingness to strictly follow the recommendations of the Code. Thus there are serious objections to classifying articles into categories a, b and c and to fixing the length of authors' summaries. These objections are quite understandable, as the researcher-author often looks upon his article as the personal outcome of his work, with its own personal character. He does not wish to be restricted in his freedom to publish.

Although research claims to give an objective record of the laws of nature, there is no single piece of research that is entirely free from the subjective human influence of the research worker. This is why the articles lack uniformity, and it is this very lack of uniformity that creates such difficulties for the documentalists. It should be remembered that the line of reasoning followed by the researcher in his work is not so rectilinear as is frequently supposed. It is more like groping through a maze than following a predetermined path step by step (cf. A. Moles, *La Création Scientifique*, Geneva, 1957). Scientific studies would be impaired if an attempt were made to place the researchers' ideas in a strait-jacket.

But after the researcher has completed his actual investigations it is his duty to follow the shortest and most direct route, from the statement of the problem to the conclusions, when drafting his report, so that a logical line of thought is followed throughout his dissertation. This means that different "milestones" are encountered in many primary publications and especially in the typical research report.

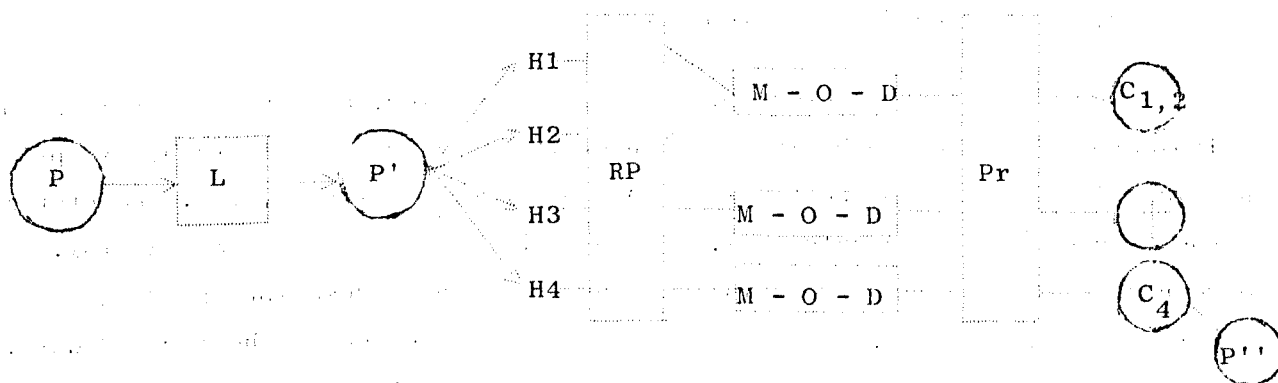
It should be emphasised that this method of publishing applies to a much less extent, or not at all, to articles of a speculative kind (philosophy, economics, sociology, theology etc.) and articles containing descriptions (history, taxonomy,

morphology, etc.). But the vast majority of scientific articles are covered by this definition.

The research and research report pattern

The research work underlying these articles may be theoretically and diagrammatically represented as follows:-

SCIENTIFIC RESEARCH PATTERN



Explanation:-

The starting point is the problem involved (P).

This is followed by the literature research (L) with a view to ascertaining existing knowledge on the problem.

We are left with a more narrowly defined problem (P') with which the research work is concerned.

The next stage is to formulate working hypotheses (H1-4).

The research pattern (RP) is worked out on the basis of these working hypotheses.

The actual research work is carried out according to this pattern.

It is assumed in the example given that two of the four working hypotheses can be dealt with in a single investigation. The investigation can be divided up into three stages:-

the determination of the research method (M)

the observation of the phenomena (O)

noting the data obtained (D)

This is followed by the processing of the data (Pr) and the drawing of conclusions (C), a part of the problem remaining unsolved (P'') and forming the starting point for further research. In the example it is assumed that working hypothesis H3 proves to be an incorrect assumption so that this investigation is incapable of yielding any results (†).