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## 10. How can history of mathematics be useful for the mathematics education researcher?

One example is the use of history of mathematics to help both teacher and learner understand and overcome epistemological breaks in the development of mathematical understanding. A constructive critical analysis of the view that 'ontogeny recapitulates phylogeny'—that the development of an individual's mathematical understanding follows the historical development of mathematical ideas— may be appropriate. Another example is of research on the development of mathematical concepts. In this case the researcher applies history as possible 'looking glasses' on the mechanisms that put mathematical thought into motion. Such combinations of historical and psychological perspectives deserve serious attention.

# 11. What are the national experiences of incorporating history of mathematics in national curriculum documents and central political guidance?

This is not so much a question for discussion as a fairly straightforward empirical question, needing input from knowledgeable people in as many countries and states as possible. But of course it has policy implications too, and could lead to a sharing of experience among members of the community about how they have reached the policy-making level in their countries to influence the content or rhetoric of public documents. In some parts of the world a different relationship between history and mathematics may have been developed. For example, in Denmark and Sweden history of mathematics is regarded as an intrinsic part of the subject itself. There are also differences in styles of examination and assessment. If everyone with access to examples of such different approaches, from different countries and states, could pool their experience it would be a most valuable input to the Study.

### 12. What work has been done on the area of this Study in the past?

The answer is: quite a lot. But it is all over the place and needs to be gathered together and referenced analytically. A major annotated critical bibliographical study of the field, which might well take up a sizable proportion of the final publication, would be an enormously valuable contribution that the ICMI Study could make. It should include a brief abstract of each paper or piece of work included, and indications of the categories to which the work relates in an analytical index. Work in progress could be made available on the World Wide Web.

#### CALL FOR CONTRIBUTIONS

The ICMI Study on *The role of the history of mathematics in the teaching and learning of mathematics* will investigate the above questions over the next two years. The Study has three components: an invited study conference, related research activities, and a publication to appear in the ICMI Study series that will be based on contributions to and outcomes of the conference and related research activities. The conference will be held in April 1998 in France. The major outcomes of the study will be published as an ICMI Study in 1999 and presented at the International Congress of Mathematics Education in Japan in 2000.

The International Programme Committee (IPC) for the study invites members of the educational and historical communities to propose or submit contributions on specific questions, problems or issues stimulated by this discussion document no later than 1 October 1997 (but earlier if possible). Contributions, in the form of research papers, discussion papers or shorter responses, may address questions raised above or questions that arise in response, or further issues relating to the content of the study. Contributions should be sent to the co-chairs (addresses below). Proposals for research that is on its way, or still to be carried out, are also welcome; questions should be carefully stated and a sketch of the outcome –actual or hoped-for– should be presented, if possible with reference to earlier and related studies. All such contributions will be regarded as input to the planning of the study conference.

The members of the International Programme Committee are Abraham Arcavi (Israel), Evelyne Barbin (France), Jean-Luc Dorier (France), Florence Fasanelli (USA), John Fauvel (UK, co-chair), Alejandro Garciadiego (Mexico), Ewa Lakoma (Poland), Jan van Maanen (Netherlands, co-chair), Mogens Niss (Denmark) and Man-Keung Siu (Hong Kong).

This document is a shortened version of a longer document which is available on the World Wide Web at

http://www.math.rug.nl/indvHPs/Maanen.html#dd

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Contributions should be sent to the co-chairs at the following addresses:

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