

Annexe I. Proposal to I.C.M.I. Professor Y. Akizuki.

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ANNEXE I.

Proposal to I.C.M.I. Professor Y. AKIZUKI.

1^o I think it is very fortunate that the study of mathematical education is proposing in a powerful way the more general understanding and use of mathematics, as the modern developments in science and technology require. It is also fortunate that I.C.M.I. is making its contribution toward rendering mathematical education more effective and more efficient. On the other hand, I am worried that people in general, and scientists and engineers in particular, will be drawn more and more into narrow specialization and will acquire an overspecialized point of view. Indeed, it seems to me that most scientists are now devoting themselves each to his own speciality with an interest for that alone and are giving little consideration to its relations to human affairs taken as a whole.

Mathematics itself is growing rapidly in all its various specialized branches, but the best mathematics is concerned also with reflection upon the meaning of these specialities for "mathematics as a whole". And we can find out the fact that the recent nice papers are unifying several different branches standing at the deep point. This reflective side of mathematics should be very strongly emphasized at the present time, thus encouraging everyone to consider how his own particular field is embedded in the whole. I believe that, if one brings out this aspect of mathematics properly in mathematics teaching, he will be far more effective teacher.

With this end in view I submit that is desirable to give some place to the history of science and mathematics in the mathematical curriculum even at a fairly elementary level—say in the high-school. History taught with this aim should not be confined to a review of events and dates but should be an account of mathematical and scientific thinking. For example the development and dissemination of the ideas of DESCARTES, GALILEO, KEPLER and NEWTON and their relationship to modern civilization, might be adequately discussed. In any case it is

important that everyone should be taught to appreciate the value of creative and original thinking, including his own.

In the same spirit I am certain that most serious consideration ought to be given to the introduction of lectures on the history of science and mathematics among the courses of the teacher's college. All teachers of mathematics in every kind of school should understand thoroughly how theoretical science and mathematics have been developed.

I should therefore like to propose that I.C.M.I. study how history, conceived in the above sense, may be taught in our schools, above all in our teacher's colleges. I also request that I.C.M.I. discuss the evaluation of such teaching of history.

2° Science and mathematics have been developed mainly in Europe since the period of Euclidean geometry, rather than in India or China. But recently there have been produced in India, China and Japan a number of great mathematicians and we may expect that there will have many worthy successors in the future. Of course, Orientals in our times have learned mathematics in the Western style. But we may note that Oriental philosophies and religions are of a very different kind from those of the West. I can therefore imagine that there might also exist different modes of thinking even in mathematics. Thus I think we should not limit ourselves to applying directly the methods which are currently considered in Europe and America to be the best, but should study mathematical instruction in Asia properly. Such a study might prove to be of interest and value for the West as well for the East. Thus I desire to draw the attention of I.C.M.I. to these points.

ANNEXE II.

*Questionnaire adressé à tous les membres de la C.I.E.M.
et aux Sous-commissions nationales.*

Ces renseignements sont demandés en vue de la publication d'une documentation internationale sur l'enseignement, dans le but d'accroître la coopération de pays à pays au niveau de l'enseignement. Prière d'adresser les réponses au secrétariat de