TO TEACHERS OF PHYSICS.

At the sessions of the Central Association of Science and Mathematics Teachers, and elsewhere, the statement is frequently made by teachers of Physics that the mathematical attainments which pupils bring to physics in the secondary school are as a rule quite inadequate.

The following may be taken as fairly typical:

"This leaves the boy free to make all the mathematical errors of which he is capable; and the number and variety of these which he can put into a simple calculation, especially if it involves a trifle of algebra, is the despair of the teacher,—I cannot say the wonder of the teacher, for the phenomenon, remarkable as it is, soon fails to excite surprise. * * * I find upon inquiry that other teachers, not only in this country, but in England also, report similar weakness in their pupils. Mathematical feebleness and fallibility are the birthright of no small part of every class beginning physics. The only question is, what to do about it."—Hall, *Teaching of Physics*, New York, 1902, p. 287.

For the teacher of mathematics the question is a serious one and deserves careful attention. I have some theories of my own with respect to the causes of this deficiency, but, believing the views and experience of the many would prove much more illuminating than those of one or a few, I venture to propose the following questions to teachers of physics:

1. Does your experience warrant you in making as strong a statement as that of Professor Hall concerning the mathematical deficiencies of your pupils?
2. Or, on the other hand, do you find that your pupils recall as well as they should the mathematics which they have previously been taught?
3. If not, to what extent and in what respect are they deficient?
4. What do you regard as the causes and what is the remedy of this state of affairs?
5. General remarks.
6. Do you authorize the publication of your statements with your name?

Those who are willing to reply to these questions are re-

quested to send replies at their early convenience to the address below. The replies will be collated and a summary published, together with such general remarks as the character of the replies may elicit, and the citation of particular statements in so far as they throw special light on the questions discussed, but, of course, no names will be published without authorization.

The value of such an inquiry depends on the number of replies received, and it is hoped that a large number will have the goodness to send at least a brief reply. No one should hesitate to reply because he has no decided views or experiences. The proper average will be reached only if these conditions also are duly represented among the replies.

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LABELLING PARAFFIN BLOCKS.

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The following may be nothing new, nevertheless it is an excellent way to keep a record of the material embedded in paraffin blocks. When much sectioning has to be done and the embedded material accumulates faster than can be sectioned, or it is desired to preserve an unsectioned remainder this method is one that will prevent confusion and waste, resulting from forgetting just what was embedded in the blocks. On a small paper slip write the name and character of preparation, whether stained or injected, and lay this in the surface of the still liquid paraffin with its embedded material and let it solidify with the block. Or melt the slip on with a hot wire after the block has been cooled. In this way there are no troublesome wrappers and the label cannot get off.

A more systematic way would be to keep a memorandum book, numbering each object embedded and writing this number on the label to be embedded in the block.