final elements, so that he can tell that this proof depends ultimately upon proving the equality of certain lines or angles, and that one upon the similarity of certain figures, etc. This power of analysis is an absolute essential to the teacher of mathematics, and it should be his aim to teach underlying principles rather than a mass of proofs and theorems. In order to do this he must have a broad view of his subject; he should be familiar with the more modern subjects, as, for example, the properties of the complete square and a harmonic ratio, and so on. To accomplish this, his preparation should have embraced, as an absolute essential, a good course on analytic geometry, while some knowledge of the Calculus and the history of mathematics would be a desideratum.

Undoubtedly many of our teachers in the larger and better schools have had such training, but in our smaller schools this is seldom the case. While due attention is paid to a candidate's knowledge of English, the sciences, etc., the authorities are too prone to believe that anyone who has studied geometry or algebra at all can teach these branches. And so it happens that the various branches of mathematics are divided up among the teachers of other subjects, or, if there is a special teacher of mathematics, it is someone who can be obtained at a small salary. Such teachers can have but little insight into the subject, but they can teach a book after a fashion, and instill into the students a certain routine knowledge of the subject. Should they, however, attempt to use the heuristic method, they would make a dismal failure.

A second question to consider is that of time. In order that the method should prove a success, the pupil must not only study out his proofs but he must actually work them out in writing. This is necessary for several reasons. In the first place, we must remember that he either has no text book at all, or, if he has one, it is to contain no proofs. In order, then, to fix the subject matter he must elaborate his own text. This will involve a very large amount of writing. For, after the proof has thus been worked out, it must be corrected and, probably, rewritten. This is necessary if we are not to court the danger that the students fall into careless habits of expression. It would thus seem as if the student would be obliged, under these conditions, to give more than its due share of time to the subject of geometry. On the other hand, all this written work will have to be corrected by the teacher, and, where there are large classes, this is a physical impossibility. It is, therefore, out of the question to use the method in large classes, or in case the teacher has several classes in geometry. Only small classes can be thus handled, and then there is danger of overcrowding the students with work.

There is also danger that students who are not conscientious go to other books for the proofs. In this case they would not only receive little benefit, but positive harm would be done them.

One very strong objection to the method is that, under the present conditions, it cannot do what its advocates claim for it. To be sure, it might eliminate memorizing in one sense of the word, but the bane of mathematical teaching is not to be found so much in memorizing as in the routine character of the work done. This is true for all subjects from arithmetic up. Give a student something he can do by some cut-and-dried method or by some formula, and he is happy. But ask