ent stages. It is true, for example, all through the course of education that science which is merely bookish science is very useless, and yet few exercises work out Nature's method of teaching more perfectly than real experimental work—that is to say, continuous and systematic inquiries, the answers to which are found and tested by practical operations carried out by the student himself. The necessity for system in this work is, perhaps, referred to by Carlyle. He asks: "Does not the very fox know something of Nature? Exactly so; it knows where the geese lodge! The human reynard, very frequent everywhere in the world, what more does he know than this, and the like of this?"

MANY METHODS, YET NO INCONSISTENCY.

But my purpose to-night is to revive your interest in some methods having a bearing on the teaching of Elementary Science which you have heard of before, and some apparently very modern, and to show that each has its proper place and purpose, and that the discovery of new methods need not displace old friends.

THE SOCRATIC METHOD.

Perhaps one of the oldest methods of teaching is that method of sharpening the wits by cross-examination called "the Socratic method" In its pure form this method is applicable to two kinds of science, one of which is based on operations and actions that are universally going on amongst men, and respecting which all persons—even the very young—have some knowledge. This is the science of conduct. It is that science upon which Socrates himself exercised his art of questioning. He could do this on such subjects as virtue, industry, thrift, etc., without providing any knowledge but what may be supplied by the mind of the student who seeks an answer to the question. We may still do the same with the same class of subjects.

The other subject to which the Socratic method in its pure and simple form is applicable is a certain stage of Elementary Science in which every question can be accompanied by a practical experiment from which the answer is derived by simple observation. But this method does not carry us far, and we soon find it defective.

THE HEURISTIC METHOD.

The Socratic method pure and simple is destructive, and we want a constructive addition to it. Recently this addition has received a name if not a local habitation. One of the earliest recorded experiments in physics is that of Archimedes with the crown of Hiero. Every schoolboy knows the story of the problem about the crown, the revelation of the bath, and the excitement of the philosopher as he rushed through the streets shouting, "Eureka!"

Since then the word has been much used for advertising purposes as indicating discovery or experiment. For instance, enterprising haberdashers ask us to buy *ureeker* shirts. And now the same verb εὑρίσκω ("I find out" or "discover") gives a name to a method of teaching chemistry and physics—the heuristic method. It is true this method is applicable to other subjects—to art, to geometry, to algebra, etc. Let me quote a passage from a recent text book:—

Examples were given of these applications, and a practical exercise with a young pupil was done with a number of wooden cubes as follows, the answers being given by the