been persistently misunderstood. Facts and methods are no more science than words and grammar are literature. Science, concerning itself with facts in their relation, resulting in a formula, cultivates the scientific temper. The student of literature, ancient or modern, is brought into the region of feeling, of what is known as "appreciation," and his ultimate purpose may be broadly called æsthetic. He reads himself into his material and decides what is best in thought. The student of science endeavors to keep himself out of his material, to eliminate the personal equation, to relate his facts so as to include nothing of himself. Personal injection on the one hand and personal elimination on the other represent the ultimate difference in the two cases, and two more complementary kinds of training could not be imagined. This may suggest the educational purpose of science training; not analysis merely, but through analysis to reach a synthesis which shall contain nothing of one's self. It is evident that personal contact with the facts is an essential of such training, and that purely informational work holds no more relation to it than do the old text-books about literary people and the titles of their works to training in literature.

2. THERE IS PRESUPPOSED A CERTAIN AMOUNT OF SCIENCE TRAINING IN THE PRIMARY SCHOOL. This simply refers to the observation of the ordinary phenomena included under the general head of "nature study."

With these two limitations I wish very briefly to discuss the correlation of science studies in secondary schools. In the outset I would say that the proper sequence of the informational science studies which nave been ruled out of this discussion has doubtless given much trouble, but they hold a certain definite relation to the laboratory sciences. Naturally, if geology be taught, it should follow the four fundamentals, or as much of them as may be presented in the course. Physiology, by which is usually meant a study of the anatomy of the human body, with a little physiology thrown in, finds its natural place after a course in zoology. Astronomy certainly holds a definite relation to whatever of mathematics and physics may be taught; and so on. My own personal judgment is that the less of such subjects in a secondary school the better; but I am willing to recognize the force of a general demand. The time is limited enough, at best, in which to do good work in the fundamentals of education, without trying to inject into our schemes of study an incoherent mass of odds and ends.

Taking up the real laboratory sciences, therefore, chemistry, physics, botany, and zoology, it is not at all necessary that any secondary school present all of them in its courses. It is perhaps unwise for many of the schools to attempt a laboratory equipment sufficient for all these subjects. It would usually result in such meager equipment that the real purpose of the work would be in danger of being sacrificed. Where a school can afford it all four laboratories should be represented, but they should be open to election. To compel any student to take work in all these laboratories is as much of an educational fallacy as to permit him to enter none of them.

If the scientific attitude of mind be a large purpose, aside from information, then but two laboratories are necessary, namely, a physical laboratory for chemistry or physics, and a biological laboratory for botany or zoology; and nothing less than a year in each of them should count. A school that can afford nothing more should attempt nothing more. If it can afford three laboratories, then, although a biologist, I should