

THE PURPOSE OF THE LABORATORY.

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We do not desire to turn out from our high schools specialists of any kind whatever—our purpose is to help the pupil to such understanding of physical principles and such knowledge of their practical applications as will give him a profounder realization of his everyday world. If you believe, as I do, that the study physics, if it means anything at all to the average immature, over-worked high school pupil should mean a truer knowledge of every day phenomena, a livable acquaintance with his immediate surroundings; if you believe that he will be aided to this knowledge by putting into his hands wherever possible practical applications to physical principles, rather than insisting upon his discovery of arithmetical ratios; if you believe in the identity of purpose of laboratory and classroom, that they mutually aid each other and that their single purpose in secondary schools is to make physics interesting and vital: then the qualitative side of the work will appeal to you and juggling with figures will be like the rattling of dead bones.

What matter whether it is classroom or laboratory where the teaching is done? To give pupils twenty credits out of a hundred for laboratory work seems quite outside of the sense of our teaching. They learn the subject in one place as well as in the other, and they should be tested for their general knowledge and for that only.

How often have we all known pupils, both boys and girls, to come away from the laboratory thoroughly confused as to what they have been doing. They have performed the experiment as directed, have made measurements and computations, adding here, dividing there, just as they have been told to do—for they are perfectly docile—but to what end? They have simply lost their way in the tangle of figures; and the conclusions drawn are senseless to them and so valueless. Figures have obscured facts, and arithmetic has taken the place of physics.

We are teaching elementary physics where the relation between things, the universal relation of cause and effect is vastly more important than the relation between quantities.