Can we expect our students to discover the law of refraction, *i. e.*, the law that the ratio of *sin i* and *sin r* is constant? To be sure, we may let the student measure the angles of incidence and refraction and he will, perhaps, obtain the following data:

Angle of incidence: 0°, 12°, 20°, 40°, 60°, 70°.

Angle of refraction: 0°, 9°, 15°, 28½°, 41°, 45°.

From the first three pairs, says Dr. Recknagel in the *Zeitschrift f. Math. Unterricht*, the pupil might infer that the index is 4·3 and is simply the ratio of the angles. But the last three pairs of angles show that the guess is wrong. However, "the right law is soon drawn out by questioning" (herausgefragt). No doubt it can, if *leading questions* are put, but usually in no other way. Let not the teacher be misled into the belief that by leading questions put to his pupils, he has gotten them actually to discover the law for themselves; they have merely taken the hint given them; they have *verified* the law, but not *discovered* it. We are not criticising the mode of procedure pointed out by Dr. Recknagel, but we object to the conclusion that the pupil has been led to make a discovery. History teaches us that four great scientists, whose minds had been richly endowed by nature and trained by years of scientific effort, endeavored to discover the law of refraction and *failed*. Ptolemy, one of the two greatest astronomers of antiquity, Al Hazen, the greatest Arabic physicist, Witelio, a prominent writer of the thirteenth century, and Kepler, the discoverer of "Kepler's Laws," vainly tried to establish the exact mathematical relation between the angles of incidence and of refraction. Can, therefore, youths with untrained minds accomplish on the spur of the moment what Ptolemy, Al Hazen, Witelio, and Kepler could not do after years of study? By chance they might, but only by chance. As a rule, the theory that the pupil should be made to re-discover the laws of nature leads either to failure or to deception. With even the brightest and maturest minds, discovery is largely a matter of accident. The history of science clearly proves this. The great Huygens recognized this when he said that a man capable of inventing the telescope by mere thinking and application of geometrical principles, without the concurrence of accident, would have been gifted with superhuman genius. In the school-room we cannot *wait* for such accident, though we should try to profit by it, if it does come.

I have pointed out how the history of physics disproves a certain pedagogical theory, how it shows the desirability of holding speculation in check by experimentation, how it emphasizes the necessity of patience on part of the teacher and perseverance on part of the student. I might have spoken of the great liberalizing effect of the view which it affords of the development of the human intellect. But with the practical teacher all these considerations dwindle into insignificance as compared with the aid to be derived from history as a stimulant, as a means of exciting interest. If a teacher creates a living interest in a subject, all other difficulties vanish. Before the introduction of the modern physical laboratory, physics was almost always a subject disliked by students. Even now it is not always popular. The number of students electing laboratory work at the University of Cambridge under James Clerk Maxwell was always small, Ritchie at the London University had comparatively few students. Biot in Paris had often not above half a dozen. Any remedy against such a condition of things must be hailed with joy. Of course, as Rowland says, "Some are born blind to the beauties of the world