

pleasure, and, while practical utility is not lost sight of, to create and strengthen a desire for mental improvement for its own sake.

The study of that science in which are associated great practical utility and remarkable fitness for mental improvement, demands more than ordinary attention. It is also equally true, that to an individual possessing no further information than a popular acquaintance with the theory of a science, his interest in its development is greatly increased by the successful performance of a few simple experiments illustrative of theoretical views. If the solution of a mechanical or astronomical problem is capable of creating a feeling of gratification, how much more would that interest be increased by the successful application of theory to practice ; but such application does not, from the nature of circumstances, lie within the reach of the majority.

The science of Astronomy, though adapted beyond comparison, to lead to a refined and intellectual tone of mind, yet, in its more sublime departments, dwells upon objects and scenery the unassisted eye can never hope to witness. A powerful telescope enables us to discover the marvellous structure of the ring of Saturn, certainly among the most magnificent illustrations of "the power, wisdom, and goodness of God manifested in the creation." The same instrument reveals to us the splendid spectacle of 'suns revolving around suns,' in the binary systems of stars, and affords us optical proof of the motion of our own source of light and warmth, with all his attendant planets, through intermediate fields of ether, with a velocity inconceivably great. Numberless, indeed, are the examples of beauty, order, and power afforded by celestial scenery, but they are only known to the million by description ; they have neither time nor means to see their forms or watch their motions ; they can only hear or read of them, and experience tells us that for the uneducated mind this is not enough ; a passing interest alone is created, which vanishes almost as soon as the tale is told or the description read.

So with the science of Optics, one department of which beautiful branch of learning affords a boundless field for experiments of a most magnificent character, in which colors and forms of surpassing beauty and brilliancy can be produced by the refraction and polarization of solar light ; a class of phenomena, however, rarely to be witnessed, except by those who have time and means to produce them ; neither are they susceptible of ordinary practical application.

Not so, however, with organic Chemistry and Vegetable Physiology. Both the time and the means lie within the reach of every individual engaged in Agricultural occupations to satisfy himself of the truth of numerous and interesting facts developed by these Sciences ; and it is on account of the wonderful adaptation of the means to the end, by processes *apparently* the most mysterious and incomprehensible, yet which Organic Chemistry beautifully explains and illustrates, that they are fitted beyond all others for mental improvement, independently of the varied practical application of which they are susceptible.

Numerous experiments, explanatory of the processes of vegetable life, may be readily performed by every student, requiring no expensive apparatus ; and since, in such experiments, the final result is usually all that is required to be observed, and not the actual process itself, (for that, in most cases, can only be inferred and not witnessed,) the time required by the experimenter is a very