teaches the best way to minimize those difficulties, and thus lessens the possibilities of erring. It teaches how arduous is the task, how untiring the energy, to find truth, and proves how foolish it is to send forth theories which have cost but a few unguided observations as infallible truths. Logic does not *supply* arguments, but *tests* them.

There is a branch of this subject which is mathematically true, and that is Deductive Logic. If the premises be correct, then, that the conclusion will be true is just as sure as two and two make four. But the difficulty is in observing and experimenting correctly to procure the premises, and this is where logic aids, too. It is true that some acute minds can reason correctly without this training, but to ordinary minds it is of the utmost necessity to enable them to do well what a few brilliant minds can do without it.

To observe correctly requires education. Observations must be exact; surrounding conditions must be considered. One observation would be useless. For instance, a traveller might visit a European country one season, and find the weather very warm. He would not be justified in concluding that the weather in that country was always very warm at that period of the year; he might visit the country the next year at the same time and find the weather cool. How would he arrive at a correct conclusion? By making a number of observations, and taking the mean.

Again, to form a correct idea of the action of a drug, its results must be watched under varied circumstances, as age, sex, occupation, mode of life, etc. As far as possible adverse circumstances must be guarded against, as in the case of a patient being treated for hæmorrhagic diathesis before performing a surgical operation undue excitement and exercise must be prevented, or else these might counteract the effect of the treatment, and evil results might lead the unwary to propound a theory that the treatment employed was not efficient, whereas the treatment might have been all that was indicated, but the counteracting influences were not eliminated or taken into consideration. Hence the necessity of isolation for correct observation.

Exactness in observation is beautifully exemplified in an article published in the *Cosmos* of May, 1895, by Dr. Black, entitled, "An Investigation of the Physical Characters of the Human Teeth in Relation to their Diseases and to Practical Dental Operations, together with the Physical Characters of Filling Materials." This is an excellently written article, showing careful research and a scientific mind. It is articles like this that raise the standard of the dental profession, and reflect credit on each member of the profession. The following quotations well exemplify exactness in observation and experiment. On page 356 Dr. Black says:

"A still more difficult problem has been to so systematize the