

face of the earth sustains a pressure of twelve trillions of pounds, or six thousand billions of tons.

The extent to which matter may be divided, both mechanically and chemically, may be regarded as one of the wonders of modern science. Little, indeed, is said at this day respecting the infinite divisibility of matter; which, if theoretically possible, is now generally regarded by philosophers as in reality untrue. With Sir Isaac Newton, they now mostly consider it "probable that God in the beginning formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes and figures, and with such other properties, and in such proportion to space, as most conduced to the end for which he formed them."

These ultimate particles are called atoms; and although none of them have ever been rendered cognizable by the senses, yet it can be shown that they must be inconceivably small. Gold may be spread over silver wire so thin that fourteen million films of it would make a pile only one inch thick; while fourteen million films of common writing paper would form a pile three quarters of a mile thick. Gold may be beaten so thin that one twenty millionth part of a grain is visible to the naked eye, and one fourteen hundred millionth part through a microscope. Yet in each of these fragments there may be, for aught we know, millions of atoms. A certain species of fungus, (*bovista giganteum*), has been known to attain the size of a gourd in one night; and it is calculated that the cellules, of which it is composed, must amount to 47,000,000,000. If it grew in twelve hours, this would give 4,000,000,000 per hour, or more than 66,000,000 each minute. Animalcules have been discovered so small that 1,000,000 would not exceed a grain of sand, and 500,000,000 could sport in a drop of water. Yet each of these must have blood-