

When a stone falls to the ground, no one wonders; and to the present day no "explanation" of that very common occurrence has been forthcoming. Everyone knows that stones are heavy—and so they "naturally" fall when they get a chance. To say that the motion is due to the attraction of gravity is to play with words, like the physician who ascribed the anæsthetic action of chloroform to its "soporific qualities". The laws of chemical combination however are unexpected, unfamiliar, wonderful—that is why they "need" an explanation.

The wonder, of course, and the need, are in the Chemist, not in the chemicals; and the nature of the explanation that will satisfy him depends upon his experience and education. In Lemery's "*Cours de Chimie*," a book which passed through thirteen editions between 1707 and 1715, was translated into all the chief languages of Europe, and was universally regarded as the best text-book of its day, the Author ascribes the properties of acids to their "smallest particles" being finely pointed, "one can detect the sharpness by the tongue,"—while alkalis he explained, were porous, like unglazed pottery. When acids and alkalis are brought together, the fine points of the former enter the pores of the latter, and break off there, so that the resulting body has neither points nor pores, and the formation of neutral salts by the action of acids on alkalis is explained! This explanation, now-a-days, may seem a trifle naïve; but the celebrated Physiologist, Prof. Ehrlich, in

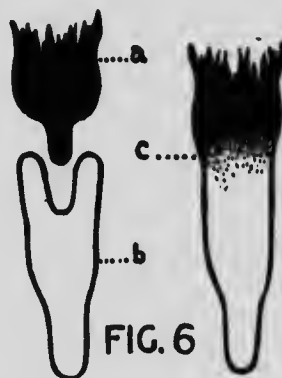


FIG. 6

a and b, components; c, compound.

representing the "ultimate particles" of the constituents of blood serum, makes use of diagrams which resemble nothing so much as the micro-organisms and animal cells with which his training as a Biologist has made him familiar!

The general acceptance of the hypothesis of atoms must be ascribed to the powerful impression produced on men's minds by the astronomical