

ing with long columns of human statistics, felt a relief in studying the average or mean man. Is it not possible that in many instances what nature and experience show us is only the average itself—our senses and our intellect being too coarse to penetrate to the numberless individual cases out of which the sum or the average is made up? May not even the simplest phenomenon or thing in nature be in fact an aggregate, a total, and its apparent behaviour and properties merely a collective effect? Both the kinetic and the atomic view of natural objects and phenomena seem to favour this way of regarding things,—the former showing us in many cases motion and unrest where at the first glance we saw only rest, and the latter dissolving apparently continuous and homogeneous structures into crowds or assemblages of many particles.

Thus the apparently steady pressure of gases is now known to be in reality the violent bombardment of the wall of the containing vessel by their molecules; and the most homogeneous and transparent crystal is revealed, by its optical properties, as an assemblage of very minute particles, held together by forces which may be overcome by mechanical or chemical agencies. Regarded from this point of view, our knowledge of natural objects is merely statistical: it deals with aggregates; it is a collective knowledge. And if we further consider that the sameness of the numberless constituent particles is by no means proved, this collective knowledge turns out to be merely concerned with averages: it is statistical, not individual,

26.
Application
in physics.