off *some, but not all* of the motion of the terminal ball of the first set. This will still continue to advance after the blow, but to a less extent, and with less momentum than in the former case, and, just as in that case, will propagate backward a wave, though a feebler one, *of extension.* Starting, then, from the same place at the same moment, the two waves—the reflected portion (or echo) and that which runs forward in the second set of balls, set out each in its own direction *in opposite phases.*

(87.) The intensity of the reflected wave or echo will be feebler the nearer the balls of the two sets approach to equality (or the less the difference of density in the two media). If they are exactly equal, the go-between ball will carry off all the motion of the ball which strikes it—or there will be *no* reflected wave, no echo. And this agrees with fact. At the common surface of two transparent media of equal refractive power, however they may differ in other respects, there is no reflexion. But suppose the second set of balls, as also the single intermediate one, *larger* than the first. In that case (still according to the laws of elastic collision) the last ball of the first set not only will *not advance* after the shock, but will be driven back, and the wave which it will propagate backwards will no longer be one of extension, but *of compression.* This being also the case with that propagated onwards in the second series,—in this case both will start on their respective courses from the point of reflexion *in the same phase.*

(88.) In the undulatory theory of light the "denser"