internal refraction at that of the second, or the "relative index of refraction," is constant for the same media, and is equal to the quotient of their respective *absolute* refractive indices. Thus, if the first medium be water, and the second be plate-glass, whose respective absolute indices are $\frac{4}{3}$ and $\frac{3}{2}$, the relative index, or that out of water into glass, will be $\frac{3}{2}$ divided by $\frac{4}{3}$ or $\frac{9}{8} = 1{\cdot}125$.

(30.) A very curious result follows from what has been said,—viz., that though light can pass out of a rarer medium into a denser, whatever be the obliquity of incidence, even when the incident ray but just as it were grazes the surface, yet the converse is not the case. For every denser medium, there is a limit of obliquity, beyond which transmission into a rarer cannot take place. The ray is *wholly reflected* without undergoing any diminution of brightness whatever; observing the same law of equality between the angles of incidence and reflexion, as in the case of ordinary reflexion on a mirror. The brightness of the reflexion, however, far surpasses anything that can be obtained from the most brilliant looking-glass or metallic mirror, being equal to that of the object directly seen. The effect is very striking, and is easily seen by immersing a small rod obliquely in a glass tumbler of water, and viewing the *under* surface of the water from below upwards at a moderate obliquity. The reflexion of the rod is seen without the smallest diminution of brightness. It is thus that fishes see the bottom of their pond reduplicated by internal reflexion on the distant parts of its surface. The *rationale* is simple enough. If two angles