centre, do actually follow the law of arithmetical progression (as on the above theory they should do), being in the proportions of the numbers 0, 1, 2, 3, etc.

(95.) By measuring then the diameter of (say) the tenth dark ring (for the sake of greater precision), calculating the corresponding interval, *or versed sine*, and taking one-tenth of the result, we shall get the interval corresponding to the first dark ring—for any particular coloured light—and this, by what has been above shown, is the half of a *wave-length* for such light. Proceeding thus, Newton found for what he considered the most luminous yellow rays, one 89,000th part of an inch for the interval in question, which gives for the length of an entire undulation of such rays, one 44,500th of an inch. This comes exceedingly near to the result which later experimenters have obtained for that purely homogeneous yellow light emitted by a salted spirit-lamp, which is one 43,197th of an inch. For the extreme red and extreme violet rays, (as well as their limits can be fixed,) the corresponding wave-lengths are respectively one 33,866th, and one 70,555th of an inch.

(96.) These, it will be observed, are the lengths of the undulations in air. In water, glass, or other media, they are smaller, in the inverse proportion of the refractive index of the medium; for in such media the velocity of light, as we have seen, is less in that proportion; and the number of undulations per second remaining the same, while the space occupied by them is less, their individual extent must of course be less in the same proportion. This, too, is in accordance with