

those stated in my paper on the sun in the last lecture, will not fail to observe that they are materially smaller—by one thirtieth part of their respective amounts. The numbers there stated are in accordance with the state of our knowledge accepted at the time when that lecture was delivered, which rested for its basis on observations made upon Venus at the time of her transit across the sun's disc in the year 1769—observations by which the nearest distance of the orbits of Venus and the earth was concluded in terms of the earth's diameter, on the same general principle, though by a somewhat more refined and circuitous process, as that from which the least distance of Mars has just now been derived. As the circumstances of this earlier determination (delicacy of instruments and means of observation alone excepted) were much more favourable to exactness, astronomers would have hesitated in accepting the more recent conclusion in preference to the former, were it not for the support and corroboration it derives from another determination, also quite recent (though somewhat prior in point of date), depending on a direct measurement of the velocity of light by a peculiarly ingenious and delicate process invented and executed by M. Foucault. To explain the nature of this process here would lead me too far away from the immediate object of this discourse, from which, indeed, the whole of what is above said on the distance of the sun and planets would be justly considered as a digression were it not in some sort obligatory on every one to account for a departure from numerical statements once made. Suffice it therefore