Christian Mayer, the Manheim astronomer, has the great merit of having first (1778) made the fixed stars a special object of research, by the sure method of actual observations. The unfortunate choice of the term *satellites of the fixed stars*, and the relations which he supposed to exist among the stars between 2° 30′ and 2° 55′ distant from Arcturus, exposed him to bitter attacks from his cotemporaries, and among these to the censure of the eminent mathematician, Nicolaus Fuss. That dark planetary bodies should become visible by reflected light, at such an immense distance, was certainly improbable. No value was set upon the results of his carefully-conducted observations, because his theory of the phenomena was rejected; and yet Christian Mayer, in his rejoinder to the attack of Father Maximilian Hell, Director of the Imperial Observatory at Vienna, expressly asserts "that the smaller stars, which are so near the larger, are either illuminated, naturally dark planets, or that both of these cosmical bodies—the principal star and its companion — are self-luminous suns revolving round each other."

a borrowed light *could possibly be visible*), we should then have the means of discovering . . . . ." Throughout the whole discussion he denies that one of the two revolving stars can be a dark planet shining with a reflected light, because both of them, notwithstanding their distance, are visible to us. Calling the larger of the two the "central star," he compares the density of both with the density of our sun, and merely uses the word "satellite" relatively to the idea of revolution or of reciprocal motion; he speaks of the "greatest apparent elongation of those stars that revolve about others as satellites." He further says, at p. 243 and 249: "We may conclude with the highest probability (the odds against the contrary opinion being many million millions to one) that stars form a kind of system by mutual gravitation. It is highly probable in particular, and next to a certainty in general, that such double stars as appear to consist of two or more stars placed near together are under the influence of some general law, such, perhaps, as gravity. . . . ." (Consult also Arago, in the *Annuaire pour* 1834, p. 308, and *Ann.* 1842, p. 400.) No great reliance can be placed on the individual numerical results of the calculus of probabilities given by Michell, as the hypotheses that there are 230 stars in the heavens which, in intensity of light, are equal to β Capricorni, and 1500 equal to the six greater stars of the Pleiades, are manifestly incorrect. The ingenious cosmological treatise of John Michell ends with a very bold attempt to explain the scintillation of the fixed stars by a kind of "pulsation in material effluxes of light"—an elucidation not more happy than that which Simon Marius, one of the discoverers of Jupiter's satellites (see *Cosmos*, vol. ii., p. 320) has given at the end of his *Mundus Jovialis* (1614). But Michell has the merit of having called attention to the fact (p. 263) that the scintillation of stars is always accompanied by a change of color. "Besides their brightness, there is in the scintillation of the fixed stars a change of color." (*Vide supra.*)