

On Fixed Stars

To the Ancients the stars were the "fixed stars", distinguished from the wandering stars or planets by the facts that they hold unchanged their positions with respect to one another. The objects which for the Chaldean shepherd comprised the constellation of Orion still appear above the southern horizon during winter evenings, with the configuration they had 3,000 years ago. And thus the stars remained until two hundred years ago, when Halley, in 1718, showed that Sirius, Procyon and Arcturus had perceptively changed their positions with respect to neighboring stars.

As to the size and distance of the stars the ancient mind could only speculate. They should mimic the excursions of the Earth in its motion round the Sun. But no such change of place had been detected, because, as Copernicus said, the stars are very distant. His opponents, however, said this was only to be expected, for since the Earth did not revolve about the Sun, such a shift could not occur.

Nevertheless, the Copernican point of view slowly gained adherents, and the conviction gradually grew in the mind of men that a central sun surrounded by revolving planets is the correct conception of our solar system. And, finally, precise and skillful measures of Bradley put the matter beyond a doubt.....

stars were..... "Fixed Star": 星(こゝで特に恒星)は動かない星であつた—
 —distinguish: 區別—planets: 遊星—positions.....another: 相互の位置
 —Constellation: 星座—horizon: 地平線—configuration: 配列—
 Sirius: 大犬座アルファ星シリウス—Procyon: 小犬座アルファ星プロシオ
 ン—Arcturus: 牧夫座アルファ星アルクトゥルス—speculate: 想像—
 mimic.....Earth: 地球の運動につれて動く—Opponents: 反對者—
 revolve: 周轉する—Shift: 運動—Solar system: 太陽系—measures:
 観測—Bradley: 英國第二代勅任天文博士ブラドイレー

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恒星について