bic literature which bears upon the *progress* of astronomy; but as the little that there is must be considered as a sequel to the Greek science, I shall notice one or two points before I treat of the stationary period in general.

When the sceptre of western Asia had passed into the hands of the Abasside caliphs,[40] Bagdad, "the city of peace," rose to splendor and refinement, and became the metropolis of science under the successors of Almansor the Victorious, as Alexandria had been under the successors of Alexander the Great. Astronomy attracted peculiarly the favor of the powerful as well as the learned; and almost all the culture which was bestowed upon the science, appears to have had its source in the patronage, often also in the personal studies, of Saracen princes. Under such encouragement, much was done, in those scientific labors which money and rank can command. Translations of Greek works were made, large instruments were erected, observers were maintained; and accordingly as observation showed the defects and imperfection of the extant tables of the celestial motions, new ones were constructed. Thus under Almansor, the Grecian works of science were collected from all quarters, and many of them translated into Arabic.[41] The translation of the "Megiste Syntaxis" of Ptolemy, which thus became the Almagest, is ascribed to Isaac ben Homain in this reign.

The greatest of the Arabian Astronomers comes half a century later. This is Albategnius, as he is commonly called; or more exactly, Muhammed ben Geber Albatani, the last appellation indicating that he was born at Batan, a city of Mesopotamia.[42] He was a Syrian prince, whose residence was at Aracte or Racha in Mesopotamia: a part of his observations were made at Antioch. His work still remains to us in Latin. "After having read," he says, "the Syntaxis of Ptolemy, and learnt the methods of calculation employed by the Greeks, his observations led him to conceive that some improvements might be made in their results. He found it necessary to add to Ptolemy's observations as Ptolemy had added to those of Abrachis" (Hipparchus). He then published Tables of the motions of the sun, moon, and planets, which long maintained a high reputation.

These, however, did not prevent the publication of others. Under the Caliph Hakem (about A. D. 1000), Ebon Iounis published Tables of the Sun, Moon, and Planets, which were hence called the *Hakemite* Tables. Not long after, Arzachel of Toledo published the *Toletan* Ta-

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[40] Gibbon, x. 81. [41] Id. x. 86. [42] Del. *Astronomie du Moyen Age*, 4.