

perpetuity; and the more extended knowledge of Eastern Asia acquired by traveling merchants, and by monks who had been sent on embassies to the Mogul rulers, and which was diffused by them among those nations of the southwest of Europe who maintained extensive commercial relations with other countries, and who were therefore most anxious to discover a nearer route to the Spice Islands. To these means, which most powerfully facilitated the accomplishment of the wishes so generally entertained at the close of the fifteenth century, we must add the advance in the art of navigation, the gradual perfection of nautical instruments, both magnetic and astronomical, and, finally, the application of certain methods for the determination of the ship's place, and the more general use of the solar and lunar ephemerides of Regiomontanus.

Without entering into the details of the history of science, which would be foreign to the present work, I would enumerate, among those who prepared the way for the epoch of Columbus and Gama, three great names—Albertus Magnus, Roger Bacon, and Vincenzius of Beauvais. I have named them according to time, but the most celebrated, influential, and intellectual was Roger Bacon, a Franciscan monk of Ilchester, who devoted himself to the study of science at Oxford and Paris. All three were in advance of their age, and acted influentially upon it. In the long and generally unfruitful contests of the dialectic speculations and logical dogmatism of a philosophy which has been designated by the indefinite and equivocal name of scholastic, we can not fail to recognize the beneficial influence exercised by what may be termed the reflex action of the Arabs. The peculiarity of their national character, already described in a former section, and their predilection for communion with nature, procured for the newly-translated works of Aristotle an extended diffusion which was most instrumental in furthering the establishment of the experimental sciences. Until the close of the twelfth and the beginning of the thirteenth century, misconceived dogmas of the Platonic philosophy prevailed in the schools. Even the fathers of the Church believed that they could trace in them the prototypes of their own religious views.* Many of the symbolizing physical fancies of Timæ-

* Jourdain, *Recherch. Crit. sur les Traductions d' Aristote*, p. 230-234, and 421-423; Letronne, *Des Opinions Cosmographiques des Pères de l'Eglise, rapprochées des Doctrines philosophiques de la Grèce*, in the *Revue des deux Mondes*, 1834, t. i., p. 632.