

MEN AND MEDICINE

Albert von Bollstädt, Premier Biologist of the Thirteenth Century

• Albert von Bollstädt, better known today as Albertus Magnus, was born in 1193 in Lauingen in Swabia. He came of a noble family but preferred to live a life of scholarship and teaching. In 1212 he went to Padua, where he studied the liberal arts for ten years. A year later he entered the order of St. Dominic. After completing his studies at Bologna he went to teach at Cologne and then at several other cities in Germany. His fame as a teacher grew rapidly and in 1243 Thomas Aquinas went to study with him. Both went to Paris in 1244 and both returned to Cologne in 1248. Albert continued his study and teaching there until 1280, except for the years 1260-62 when he served as Bishop of Ratisbon. However, he found the administrative duties uncongenial, and he, therefore, resigned that post to return to his scholarly pursuits in 1262.

Albert's philosophical doctrines lived on in the works of St. Thomas Aquinas, who expanded them and wove them into a unified system; St. Thomas' debt to Albert is generally recognized today. However, Albert had no peer as a biologist, despite which his part in keeping alive the sciences of botany and zoology is known to only a few. He was also one of the most learned physicists and chemists of his time, but in these fields

he served chiefly as an encyclopedist; on the other hand, in the biological sciences he was at once compiler, observer and experimentalist. All his scientific writings were, of course, based on the writings of Aristotle, but Albert also used the writings of Arabic and Jewish scholars freely. For example, Albert's phrenologic ideas were derived with little change from those of the tenth-century Syrian physician Costa ben Luca. Albert's *De Vegetabilibus* and his *De Animalibus* were massive compilations of information derived from the writings of Aristotle and of medieval Arabic and Jewish writers, as well as from his own innumerable observations on plant and animal life. He used these observations as such and also employed them to correct the errors of the earlier writers, including Aristotle. His botanical writings contained little material of a specific medical nature, because writing on medical practice was forbidden to the members of his order at that time; however, his works were widely read and were frequently referred to by healers who used plant products in their treatment of patients. The often reprinted *De Secretis Mulierum*, a treatise on women, has been ascribed to Albert but really was the work of his pupil Henry of Saxony.

Albert's great interest in science in no way weakened his religious beliefs. In fact, the latter apparently

abetted the former. According to one legend Albert experienced great difficulty in learning anatomy as a young man. In accordance with the recommendation of his spiritual advisor, Albert spent the night in prayer in the chapel of his monastery. Toward dawn he saw Three Virgins in a vision, and the next day he knew anatomy thoroughly.

Albertus Magnus is usually regarded as a typical medieval figure, *i.e.*, a scholastic philosopher and theologian, one of whose main interests was the study of earlier philosophers, chiefly Aristotle. However, Albert's refusal to accept those of Aristotle's ideas which were not supported by available data, and, more particularly, his strong inclination toward observation and experiment in biology indicate that Albert had some of the qualities of Renaissance men. His stature as a scholar and the re-use of his work by later scholars helped biology to become an observational, *i.e.*, a modern science. This might have happened more quickly if so many of the scholars who came after him had not adhered to the medieval habit of blindly accepting authority—in this case the authority of Albert's own works. In addition, his careful descriptions of plants and his collation of all available knowledge about them was of enormous value to practitioners of medicine, almost all of whose drugs were of botanical origin. ■