

seems to be original. This goes to show that the human foetus exhibits signs of animation parallel with those of bodily configuration. In significance and purpose Albertus' observation is, therefore, far removed from Harvey's ideas, although the *method* is the same.

It is not unlikely that Harvey was familiar with Albertus' text in which comparative embryology was treated on a broad Aristotelian basis, although Albert deviates in some points from the Philosopher. He was quoted by Harvey, though in a different context and second hand—here Harvey refers to Caesar Cremoninus (1552–1631) who succeeded Zabarella at Padua and is called by Harvey the 'outstanding expert in Aristotelian philosophy'. He strongly opposed Albertus, Harvey continues, for having introduced incorporeal—spiritual—qualities or more divine kinds of heat such as brightness and light. These were supposed to enter the body from outside, by contrast with Harvey's Aristotelian idea of spiritual immanence.<sup>11</sup> Two further places can be adduced from Harvey's anatomical lecture notes in which Albertus Magnus is mentioned—here he is bracketed together with Aristotle, Avicenna and Cardanus and Scotus and Thomas respectively, again suggesting quotation from a secondary source.<sup>12</sup> However, we have every reason to believe that Harvey was well acquainted with scholastic commentators of Aristotle, notably St. Thomas Aquinas, as Wilkie has recently pointed out<sup>13</sup>. We may add that Harvey made use of the Thomistic *nihil est in intellectu quod non antea fuerit in sensu* and that he referred to the Averroistic *intellectus possibilis*.<sup>14,15</sup>

In conclusion, then, Harvey's method in demonstrating tissue irritability as independent of the brain by pricking the embryonic *anlage* with a needle was foreshadowed by an observation of Albertus Magnus in human foetuses, although neither the experimental conditions nor the biological conclusions are comparable.

<sup>11</sup> HARVEY, *De generatione animalium*, exercit. LXXI, ed. 1662, p. 317; tr. WILLIS, p. 504, with ref. to CAESAR CREMONINUS, *De calido innato et semine pro Aristotele adversus Galenum*, Lugd. Batav. 1634, Dictatio VII: reprobatur opinio allata ex Alberto et ex propria sententia et excluditur substantia coelestis a misionibus elementorum, p. 64–76.

<sup>12</sup> G. WHITTERIDGE, *The anatomical lectures of William Harvey*, Edinburgh and London, 1964, fol. 63 v, p. 220 and fol. 94 r, p. 324. The 'bulk-quotation' of Albertus concerning the ventricular localisation of brain functions is reminiscent of the references given by Vesalius in this matter (*De corporis humani fabrica*, second ed. Basil. 1555, pp. 774 and 792, lib. VII, cap. 1 and 10). The same applies, though to a lesser degree to Vesalius' condemnation of 'Alberti illius magni indoctissimo de Virorum mulierumque secretis libro' (concerning the seven-cell theory of the uterus—*ibidem*, lib. V, cap. 15, p. 667).

<sup>13</sup> J. S. WILKIE, 'Harvey's immediate debt to Aristotle and to Galen', *Hist. Sci.*, 1965, 4, 103–24, notably p. 104 seq.

<sup>14</sup> WILLIAM HARVEY, *De generatione animalium*, Praef, ed. 1662, sig. x 7; Willis, p. 154.

<sup>15</sup> *Ibid.*, exerc. LXXII, ed. 1662, p. 325; tr. Willis, p. 513.

#### AMERICAN ASSOCIATION FOR THE HISTORY OF MEDICINE

DR. Glenn Sonnedecker, Professor of Pharmacy (historical and social studies), University of Wisconsin, was elected to the Council of the American Association for the History of Medicine at its recent annual meeting in Rochester, Minnesota. Sonnedecker is probably the first pharmacist to serve the organization in this way. He participated in the meetings at Rochester as a representative (and director) of the American Institute of the History of Pharmacy, which is a constituent member of the American Association for the History of Medicine.