Book Reviews

dust jacket accurately summarizes the main argument of the book: Gibbon was a "stubborn, persevering, single-minded genius, whose determination . . . resulted in the one thing essential for sustained progress in heart surgery". Romaine-Davis' chronological account, beginning with Gibbon's birth and early years, culminates in the first successful use of his pump oxygenator on a human patient in 1953. The book does not end there. Several topics which might have been expected to amplify her account of the machine's development are rather curiously added on at the end. These include, for example, a chapter on 'Support for medical research, 1930-1950'. These short chapters do not, by and large, make up for the relative neglect of matters financial and institutional elsewhere in the book. However, Romaine-Davis' meticulously detailed style provides readers who may not find her analysis to their liking with some fascinating material. There is an account, for example, by Gibbon's wife, who assisted him throughout the early years, of the daily routine of the laboratory in the 1930s. The work entailed endless animal experiments. (Later in the book the author provides a chapter entitled 'In support of animal research'.) We also learn something of the collaboration with IBM, who provided a team of engineers to build Gibbon's first machines, and, in passing, of F. D. Dodrill's team in Detroit who were similarly assisted by engineers from General Motors. This led one visitor to remark that Gibbon's machine "looked a little like a computer, and the machine in Detroit like a car motor". There is a wealth of technical detail in this account but Gibbon's approach is not fully contextualized amongst those of others working on the same problem, some of whom reached quite different solutions (notably controlled hypothermia). Overall, the book leads one to conclude that the relationship between biography and the history of a technology is, at best, a tangential one.

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GERRIT BOS (ed.), Qustā Ibn Lūqā's medical regime for the pilgrims to Mecca: the Risāla fi tadbīr safar al-ḥajj, Islamic Philosophy, Theology and Science, texts and Studies, vol. 11, Leiden and New York, E. J. Brill, 1992. pp. 184, Gld 100.00, \$57.25 (90–04–09541–1).

Gerrit Bos has produced an excellent edition, translation and detailed commentary on the treatise of Qustā ibn Lūqā (c. 820–912 AD) on medical problems and precautions to be taken by Muslim pilgrims to Mecca. Bos has supplied an introduction, including a brief discussion of the author and the genre of the "health guides for the traveller", and Arabic and English indices of terms and names and glossary of materia medica.

The thrust of Bos's argument, substantiated in the opinion of the present writer, is that Ibn Lūqā was familiar with Hippocrates and Galen and derived significant portions of his material, especially the discussion of the parasite *dracunculus medinensis* (the guinea worm), from the Byzantine Paul of Aegina, with whom Rhazes (d. 925) and other Arab physicians were conversant. If the translation of Greek texts into Arabic, especially from the ninth century, allowed Islamic medical writers direct access to Galenic medicine, Ibn Lūqā's treatise exemplifies a less direct method of transfer.

Ibn Lūqā suggests the traveller needs a general knowledge of a regimen for "resting, eating, drinking, sleeping and sexual intercourse", of types of fatigue and their cures, of diseases caused by "the winds" and their cures, and of vermin and their bites. The pilgrim to Mecca in particular needs knowledge of the water and improvement of contaminated water, of "expedients" to quench thirst, of "prophylaxis against . . . dracunculus medinensis and haemorrhoids", and of snakes and snake bites (p. 19).

In a treatise ostensibly dealing with Hijazi materia medica, specifically Hijazi medical phenomena are few, however. Ibn Lūqā characterizes only the guinea worm as especially associated with the region. Unmentioned is the water of the Zamzam well in Mecca, which the fourth Shi 'i Iman Zayn al-'Abidin (d. 712 or 713) was said to have described as useful for pains in the spleen, or

¹ Islamic Medical Wisdom. The Tibb al-A 'imma, Batool Ispahany (transl.), Andrew J. Newman (ed.), London, The Muhammadi Trust, 1991, p. 25.

Book Reviews

the fever "Abû Rokkāb" which the Iranian traveller Muhammad Farāhanī (d. 1912) noted struck many pilgrims.²

If more general than circumscribed, Ibn Lūqā's contribution will repay comparison with other general Islamic medical compendia. Contrasting *materia medica* and their uses might be especially fruitful, for example.

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² A Shi 'ite Pilgrimage to Mecca 1885–1886. The Safarnâmeh of Mîrzâ Muhamma Hosayn Farâhanî, translated and edited by H. Farmayan and E. L. Daniel, Austin, University of Texas Press, 1990, p. 207, 207n21. The guinea worm features in neither of these works.