

rather than as progressing by taking us ever closer to the truth. Newton-Smith, on the other hand, argues that while the classic Popperian argument for scientific change as the provider of increased verisimilitude falls down, the Laudanian position is no less untenable, and that there are, after all, non-Popperian arguments for seeing science as an evolution towards the truth.

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WOLFGANG HUEBNER, *Die Eigenschaften der Tierkreiszeichen in der Antike. Ihre Darstellung und Verwendung unter besonderer Berücksichtigung des Manilius*, (*Sudhoffs Archiv*, Supplement XXII), Wiesbaden, Steiner, 1982, 8vo, pp. xi, 646, DM. 218.00.

Astrology forms perhaps the most important complement to medical history. Indeed, it may serve as a guide illuminating the transition from traditional (ancient – medieval) to modern medicine. For this may be seen as the secular result of its rejection – starting with (though still ambiguous) statements of Paracelsus and definitely pronounced without compromise by Van Helmont (1648). Here the *astra* are strictly left by themselves in the sky – they are to us mere signals indicating clock-time and seasons, but without any “influence” or “significance” concerning “life, body or fortune”. In other words, they are merely pointers to that cosmic “necessity” to which *everybody* is subjected, whatever his *individual* complexion or fate – *astra necessitant, non inclinant*. To understand the medical theory and practice that had gone before and was to survive in some form or other even today we have to re-think in ancient astrological terms in order to make sense notably of the bulky source-material on venesection and critical days in prognosis; the latter was one of the columns of Hippocratic medicine which was heeded by such an eminent modern clinician as Traube. In all this knowledge of the zodiac, and qualities attributed to each of its “signs” in itself and its influences on a certain individual, is essential. The number of pertinent sources and variants is legion and the work under notice provides their first and fundamental synopsis and synthesis. The result is a *corpus*, a systematic reference work of the first order including new texts and commentaries to which no justice can be done in the present frame and available space. The key-figure in all this remains Manilius of the Augustan age (early first century A.D.) with his poetical *Astronomica* as based on the earlier, but much less explicit work of Aratus, a protégé of the Egyptian Ptolemy Philadelphus in the first half of the third century B.C. It was Manilius who clearly separated the qualities of the zodiacal signs from their influences and effects. Astrology had, of course, its cradle in Babylon, and spread to Egypt and the Roman empire; it reached India. Through Persian and Arabic influence it re-entered Europe via Sicily and Spain to find new fertile soil in the artistic, scientific, and philosophical movement of the Renaissance when equally older objections to it were vigorously propounded. For our knowledge of this development the Arabic transmission of Greek sources was decisive, notably through such perennially influential authors as Albumasar, Abenragel, Alcabitus, the book *Picatrix*, and many others. Additionally, Indian and Syriac sources can now claim attention in this respect. Of new texts here presented, one in Greek deals with venesection and purgation. Diseases and their astrological complements naturally occupy much attention and space – particularly a detailed differentiation of diseases of the skin including fistulae and alopecia. Indeed, this book provides an essential tool for the historian of medicine and science.

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ERICH DINKLER, *Christus und Asklepios*, Heidelberg, Carl Winter Universitätsverlag, 1980, 8vo, pp. 40, illus., [no price stated], (paperback).

This suggestive study of two Christian painted reliefs from Rome of c. A.D. 300 illustrates well the Christian takeover of motifs from pagan healing cults, particularly that of Asclepius. Even if Dinkler's main contention, that the types of the bearded Christ the healer and of the miracle-working apostle come from statues of Asclepius, perhaps from Pergamum, cannot be proved for certain, he is right to set it within the context of a struggle between competing healing cults. A century ago, Adolf von Harnack drew attention to the literary evidence for the assimilation

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of motifs from pagan healing cults by the Christians, and it is good to have a further archaeological demonstration of the same point. This rivalry may go some way to explain the total destruction at Pergamum of all artistic representations of Asclepius of Pergamum, for which we have to rely on statues and coins from Thrace and the Black Sea region and on the late testimony of an Arabic scholar who knew his Galen, see G. Strohmaier, *Festschrift Franz Altheim*, 1970, pp. 143–153. Dinkler rightly notes the long survival of non-Christian healing shrines into the fifth century: in Britain the shrine of Nodens at Lydney was built in the last third of the fourth century, and its great days extended well into the fifth, long after the adoption of Christianity as the official state religion.

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HENK J. KLASSEN, *History of free skin grafting. Knowledge or empiricism?*, Berlin, Heidelberg, and New York, Springer-Verlag, 1981, 8vo, pp. xii, 190, illus., DM. 70.00/\$35.50.

Surgeons have always been interested in ways of speeding the healing of large open wounds. But it was not until 1869 that Reverdin, a Swiss surgeon working in Paris, discovered how to transplant small pieces of skin which had been completely detached from the donor site. This is “free skin grafting”, which is one of the main principles of plastic and reconstructive surgery today. Klasen has written the first book to be devoted solely to this method of skin grafting, and he has given a detailed account, with an excellent bibliography, of its development from the middle of the nineteenth century up to 1950, concluding that “every step . . . has been based on empiricism”.

Klasen mentions Zeis, who produced the first history of plastic surgery in 1863, but omits Zeis’s references to the re-union of completely detached parts, and the fact that this union was considered to be the physiological basis of the successful “take” of the pedicled-flap grafts which were then so popular. Hoffacker (1828) had unrivalled experience of the injuries sustained by the duelling students in Heidelberg, and gave clear reports of successful re-union of amputated parts of the face. Klasen also omits the work of Baronio (1804) on free grafting in animals, and Hooke’s experiments (1663–64) in the early years of the Royal Society. There is no index.

“Free-grafting” is only one method of transplanting skin. “Pedicled-flaps” have a much longer history, but Klasen does not mention their relation to “free grafts” and the varying popularity of each at different times; the rival claims of these methods were not resolved until the First World War. This book is primarily for surgeons, who will know how these methods of grafting complement each other.

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FRANÇOIS JACOB, *The possible and the actual*, Seattle and London, University of Washington Press, 1982, 8vo, pp. viii, 71, £6.30.

It is nearly always interesting to read how a great scientist regards the general philosophical and moral problems raised by his subject, especially if he belongs to a culture rather different from one’s own. We may be close to France geographically, but anyone who tries to follow existentialist philosophy may feel that we are many miles apart. It is pleasant, therefore, to find that François Jacob thinks very much as we Anglo-Americans do, with great humanity but hints of romantic idealism. He is certainly one of the greatest molecular biologists, and he also has an excellent grasp of most of the major problems of biology in general and of medicine. In these sixty-nine pages are words of wisdom on many of the intellectual, social, and political problems raised by science.

It is all done with a light touch and much good historical sense. He begins with “Why two sexes rather than three?” and so to some classical allusions and to the question of how “myths