GAVIN D. R. BRIDSON, VALERIE C. PHILLIPS and ANTHONY P. HARVEY (compilers), Natural history manuscript resources in the British Isles, London, Mansell; New York, R. R. Bowker Company, 1980, 4to, pp. xxxiv, 473, £97.00.

The manuscript papers of British scientists 1600-1940, (Guides to Sources for British History, 2), London, HMSO, 1982, 8vo, pp. vii, 109, £3.95.

As David Elliston Allen justly remarks in his Foreword to *Natural history manuscript* resources in the British Isles, "Manuscripts are the historian's bread: the basic source of sustenance without which his subject can scarcely exist". Accordingly, reference works that locate and describe archival holdings are to the historian what the appropriate Guide Michelin is to the tourist; and all the more valuable to historians of science and medicine since they are increasingly concerned with less public aspects of scientific activity. The actual creation of knowledge, discipline building, motives and rewards, economics and invisible colleges: these are issues on which the public, published record is often silent.

The two works under review are thus especially timely, and though "natural history" and "science" are primarily under scrutiny, the medical historian will also find much of interest. One of these volumes is expansive and expensive, the other patchy but affordable. Their editors have tackled the problem of presenting information differently. *Natural history manuscript resources*, compiled from questionnaires and visits to repositories, is arranged by repository. It lists 443 of these (it excludes the Public Record Office) and makes no attempt to cover privately-held manuscripts. "Natural history" is broadly interpreted, and the editors have attempted to include every British repository holding *any* natural history manuscripts or papers by or concerning natural historians. Absolute comprehensiveness is obviously impossible, but the achievement is considerable. Happily, the records of many smaller societies and defunct organizations are included. An excellent introduction explains the project's history and aims. Although repositories are listed individually, separated items and split collections may often be linked by consulting the comprehensive name, place, and subject indexes. The annotated bibliography is a superb guide to archives and manuscripts aids available to the general historian.

Medical men appear here primarily in their role as naturalists, but the editors have defined "natural history" sufficiently broadly, and doctors were so active in areas such as botany, palaeontology, and zoology to ensure full medical representation in the name index. John Hunter, Joseph Lister, John Goodsir, John Fothergill, Edward Tyson and William Cheselden are among the names appearing there. Medical institutions surveyed include Royal Colleges in London and Edinburgh, the Pharmaceutical Society, Wellcome Institute for the History of Medicine, and the Chelsea Physic Garden. The subject index lists references to physiology, anatomy, pharmacy, and herbals.

In contrast to the fullness of Natural history resources, The manuscript papers of British scientists, 1600-1940 is slim, selective, and priced within reach of the individual. It had a long gestation (twenty years), being initiated by a joint committee of the Royal Commission on Historical Manuscripts and the Royal Society. In 1976, the Commission took over the task of completing the guide, but the hand of the Royal Society can be seen from the percentage of FRSs among the 635 scientists chosen for inclusion. The rather restricting criteria of selection led to the inclusion of only "those recognized to have advanced significantly the state of knowledge in their respective fields through their scientific discoveries or inventions". (By contrast. MacLeod and Friday's Archives of British men of science. Mansell, 1972, recorded the attempt to trace the papers of no less than 3,000 nineteenth- and twentieth-century scientists.) Manuscript papers has also been selective about the amount of information given on each scientist's papers (e.g., letters are noted only where they form a substantive group). The preface gives no clues about how an archive's significance was determined. No living scientists are included, although 1940 sometimes refers only to the date by which "significant work" has been done. Papers in government departments have generally been ignored; usefully, however, the Medical Research Council as a quango has been included.

Instead of the repository, this guide takes the individual as its unit of analysis. An index lists about 380 repositories, including a number from abroad. Manuscripts in private hands are also

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covered, with instructions to refer to the Historical Manuscripts Commission for details. Medical scientists are generously represented, along with a few clinicians. Among physiologists, for instance, William Sharpey, Michael Foster, Charles Sherrington, and Henry Dale make it, but not Ernest Starling, William Bayliss, or E. A. Sharpey-Schafer. Thomas Sydenham is included, but not Richard Bright; Edwin Chadwick but not William Farr. No attempt has been made to indicate scientists for whom no papers could be located.

So rich are the manuscript resources of British science and medicine that no guide can hope to be complete. For natural history, however, we now have as full a guide to public repositories as is practicable; and while *Manuscript papers* would be three times as useful were it three times as long, at least it makes a start, in a well-produced inexpensive volume. The preface also alludes to the possibility of a further volume. In the meantime, we can be grateful for these reference books.

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ROSEMARIE DILG-FRANK (editor), Kreatur und Kosmos. Internationale Beiträge zur Paracelsusforschung, Stuttgart and New York, Fischer, 1981, 8vo, pp. 206, DM. 58.00 (paperback).

The eleven papers in this collection were originally published in *Medizinhistorisches Journal*, 1981, 16. Three of them are in English, one is in French, and seven are in German, and they treat Paracelsian themes in different ways. Walter Pagel's 'The Paracelsian Elias Artista and the alchemical tradition' shows Paracelsus describing the adept of the future in the form of the Biblican Elisha, a doublette of the prophet Elijah. This name was often used in anonymous alchemical treatises during the Middle Ages. Paracelsus believed in the transmutation of iron into copper, from the evidence of iron when added to a copper-vitriol solution seeming to be transformed into copper. He also believed that the adept will literally transmute iron, through the stage of copper, into gold. The post-Paracelsian tradition includes a friend of Giordano Bruno, Raphael Eglinus Iconius (1559–1622), who published Bruno's notes even after Bruno had been apprehended by the Inquisition. Eglinus believed in the conversion of mercury into various metals, and that Elias Artista would, in the future, do the same for transmutation into gold. This tradition culminates in the Messianic movements of the seventeenth century. Then Elias is interpreted alchemically as the universal medicine whereby what is ordinary or bad can be changed into something good.

Arlene Miller Guinsburg points out the role of magic in Paracelsus' theological interpretation of passages in the Gospel according to St Matthew. Hartmut Rudolph's paper on Paracelsus' exegesis and understanding of Scripture compares him with Luther, his contemporary. Both stress the importance of faith, but Paracelsus insists that faith must be based on and confirmed by experience, just like medicine.

Joachim Telle deals with Paracelsus' highly individual language, Lucien Braun's 'Nature et philosophie' explains what Paracelsus meant by such terms as "light of nature", "light of the spirit", *astrum*, and *monarchia*. Wolfgang Schneider investigates to what extent Paracelsus' prescriptions, though based on alchemical ideas of quintessences and elixirs, have entered the pharmacopoeias of his time and later because the substances contained in them were recognizable and their compounds were found to have curative effects. Karl-Heinz Weimann's paper shows the development of dictionaries of Paracelsian terms right into the twentieth century. Textual criticism aided by biographical data is represented in Edwin Rosner's paper on Paracelsus' monograph on the miners' disease. He comes to the conclusion that the bulk of the extant monograph is from the 1560s and not genuine, but based on a short version by Paracelsus of 1520. Robert-Henri Blaser's 'Ulrich Gyger, sin diener' is purely biographical.

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