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For patients in the 1920s, diagnosis and therapeutic tools rather than social position were now determining hospital admission. The hospital was becoming a complex operation, no longer seen as adequately supervised by absentee lay trustees, but only by professionalizing superintendents. To some critics, hospitals were beginning to appear as monolithic and impersonal medical factories. But though cash transactions had now replaced benevolence, Rosenberg qualifies the marketplace metaphor. Physicians were still paid in prestige and clinical access, trustees in deference and acknowledgement of status, nurses and other workers in security. Patients did not simply buy a commodity. Third-party payment, government involvement, technological change and economic growth provided a further stimulus to the growth of hospitals, but still did not provide a simple market model. Rosenberg claims that, as with defence spending, those advocating expenditure on hospitals promoted not only self-interest but shared social assumptions about security, in this case to be achieved through scientific medicine with its healing promises.

Rosenberg draws from his immense historical knowledge—not simply the history of American medicine—to interpret a wealth of material from various types of hospitals, as well as from diaries, letters and other primary sources. He selects examples and quotations with consummate skill, and, with great insight, presents a coherent account of the rise of the hospital system, giving us on the way a cogent account of the history of modern medicine itself which is beautifully written and accessible to a wider public. His work has for some years served as a model for many of us. If you read *The care of strangers*, you will see why.

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BRUCE T. MORAN, *The alchemical world of the German court: occult philosophy and chemical medicine in the circle of Moritz of Hessen (1572–1632)*, Sudhoffs Archiv, Beiheft 29, Stuttgart, Franz Steiner, 1991, pp. 193, illus., DM 58.00 (paperback, 3–515–05369–7).

BRUCE T. MORAN, Chemical pharmacy enters the university: Johannes Hartmann and the didactic care of chymiatria in the early seventeenth century, Publication 14 (NS), Madison, Wisc., American Insitute of the History of Pharmacy, 1991, pp. vii, 88, illus., \$16.50 (0-931292-24-7), \$7.50 (paperback, 0-931292-23-9).

For a radically Protestant prince in the unstable Germany of the Counter-Reformation, scientific patronage had a special significance. The Landgrave Moritz of Hesse-Cassel inherited a Lutheran principality and a dispute with his Darmstadt cousins over the administration of the University of Marburg. His hopes of a northern European Protestant alliance and his attempts to interfere with Lutheran ceremonial in Marburg were frustrated, but the promotion of alchemical endeavour at the Cassel court served to compensate for such impotence by beckoning to an arcane world of possibility. It was, as Bruce Moran claims in a study of Moritz's court that inevitably recalls R. J. W. Evans's Rudolf II and his world, a "patronage of despair".

The political strategy involved in developing a court identity associated with hermetic philosophy included the infiltration of the University of Marburg by Paracelsian professors, and the employment of court physicians to supervise and evaluate the production of chemical remedies by the numerous alchemists who found temporary harbour at Cassel. Moran also provides a thought-provoking portrait of the hermetic culture of Moritz's court by identifying the contribution of Paracelsian visionaries, the authors of Rosicrucian manifestos, and the publications of Michael Maier and Joseph Duchesne. The common motif is the occult re-interpretation of Christianity, finding analogies to creation and redemption in the alchemical processes, predicting the emergence of a new enlightenment, and extending the *ethos* of alchemy to embrace a form of lay piety and social criticism. Maier's famous emblems provide a key to a literary culture imbued with alchemical symbolism.

The association of progressive Reformed religion with occult enthusiasm introduces the crucial problem related to the integration of Paracelsian medical experiment into the academic tradition, namely the subjectivity of hermetic wisdom. The rhetoric of the quest for patronage

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helped to qualify this, because in order to win Moritz's favour it was not enough to claim special revelation; as other plausible obfuscation failed, one had to achieve some practical credibility. The quarrel between Andreas Libavius and Johannes Hartmann, the subject of a separate monograph by Moran, also assisted in the process. As Moritz's appointee to the first chair of Paracelsian chemistry, Hartmann was expected to be an expositor and apologist of the Cassel court philosophy. His inaugural address as *professor publicus chymiatriae* at Marburg, published in 1613, responded to an unnamed assailant identified by Moran as Libavius. In turn Libavius branded Hartmann as a dreamer who ought never to have forsaken mathematics for chemistry; hence the hidden agenda of Hartmann's laboratory practice, as Moran explains it, to discredit Libavius' pronouncements by exposing his inexperience.

Hartmann's laboratory notebooks, preserved at Erlangen, enable Moran to reconstruct in some detail the two courses offered at Marburg in 1615–16. Although the students were treated as initiates, the "secrets" that were passed on to them were not mystical but entirely empirical. The chemical college is thus interpreted as a significant development in the stabilizing of Paracelsian doctrine by subjecting the astral explanations of disease to the discipline of pedagogy. Precisely because *chymiatria* functioned as a polemical and political strategy, it sought a middle way between institutional *auctoritas* and hermetic subjectivity. In glossing one dimension of the Libavius controversy, therefore, Moran's monograph on Hartmann forms a substantial footnote to Owen Hannaway's *The chemists and the word*.

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LUIS GARCIA BALLESTER, MICHAEL R. McVAUGH, and AGUSTIN RUBIO VELA, *Medical licensing and learning in fourteenth-century Valencia*, Transactions of the American Philosophical Society 79, pt. 6, Philadelphia, American Philosophical Society, 1989, 8vo, pp. vii, 128, \$15.00 (paperback).

In this study historians of medieval medicine begin to reap the benefits of McVaugh's, Garcia Ballester's and Rubio Vela's exhaustive investigations into the extensive municipal and royal archives of the Kingdom of Valencia. And what a mine of new information these archives are proving to be! In essence, this slim volume confines itself to a study of the Valencian medical licences that the authors have identified in the archives. Thirty-one documents relating to the examination and supervision of medical practitioners have been edited, and are presented here with accompanying translations in a substantial second appendix. On the basis of this evidence, the authors seek to chart the development of medical regulations in Valencia from the late thirteenth to the early fifteenth century.

In a thorough study of the documents, the authors examine the relationship between the mechanisms of medical regulation, the institutionalization of medical teaching, and the new requirement for practitioners to be qualified in "the principles of medical science" and to be possessed of "verified experience". In exploring this relationship the authors reveal how medical regulations became more detailed and more comprehensive with the addition of examinations, specified levels of training, and municipal tribunals of professional examiners. Their account of the procedure followed in Valencia for granting licences to practise reveals how, in both form and content, these examinations derived from university classroom exercises. It also highlights the importance that was placed upon the requirement for verified practical experience on the part of the candidate.

But this study is much more than an internal analysis of a few medical licences. Throughout, the authors have sought to place municipal and royal legislation in the matter of medical regulation within the broad social and economic context of fourteenth-century Valencia. They explore the conflict of interests between the municipal authorities and the crown; they examine the tensions created by the need to regulate medical practice and the need to ensure a sufficient supply of medical practitioners; and they point to divisions that arose between lay physicians and tonsured practitioners who claimed clerical privilege that exempted them from municipal regulation. The authors are especially sensitive to the relationship between medical regulation