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THE MATULA IN HERALDRY: THE GRANT OF ARMS TO LEWIS CAERLEON

Paul A. Dreschnack

Lewis Caerleon was a physician of the late fifteenth century, known to have been consulted by both Margaret Beaufort and by her son Henry Tudor. He received a pension following the latter's accession as Henry VII, and served as physician to Elizabeth of York. He was appointed a knight of the king's alms in St George's Chapel, Windsor Castle, as a reward for his services to the Tudor dynasty, and was granted a coat of arms by John Writhe, Garter King of Arms, on 28 July 1493 (**Plate 1**, and Appendix).¹

The arms include three estoiles, which may express Caerleon's interest in the literature of astronomy; but an examination of the crest reveals what appears to be a urinal in a carrying basket. The text of the patent blazons the crest as *ung orynall dedens son case en leurs p(ro)pres couleurs*, but in medicine the vessel is called a matula. Practically speaking, two questions come to mind: what is a matula? and why is it here?

To answer these questions, we must look at the history of medicine. To a physician the mainstay of diagnosis is, and always will be, physical examination. Ancient Greek and Roman physicians were all well aware of this. They could take the pulse, look at skin changes, and examine bodily waste materials. CAT scans of Egyptian mummies have shown the remains of calcified parasitic schistosomes that can cause haematuria (blood in the urine), and it is thus likely that Egyptian physicians will have observed this symptom.²

Humoral theory related that one's 'well being' was dependant upon the balance of blood, phlegm, and red and yellow bile. Hippocrates of Cos (*fl.* c. 400 BC), in his *Aphorisms* 7. 34 thought that foaming of the urine was due to kidney disease (a high protein concentration, or proteinuria). Rufus of Ephesus described haematuria in Egypt in the time of Trajan (AD 98-117) while Galen (129-?199) noted excessive urine production (diabetes), although his contemporary Aretaeus the Cappadocian is credited with naming the disease. Hindu physicians were cognizant that black ants were attracted to the urine of diabetics.³

Islamic scholars also investigated haematuria in the course of their analytical study of medicine.⁴ Abu Ali al-Husain ibn Abdullah ibn Sina (980-1037), also known as Avicenna, dealt with the phenomenon and its causes in the course of his *Canon of Medicine* (*al-Qanun fi'l-Tibb*). The Hebrew philosopher, physician and rabbi Moses

¹ Full text at CA rec Ms Misc. Grants 7/401; see also 3/13; 5/181; 7/417; Vincent 164/133, 146. For biographical details of Caerleon, see the entry by Keith Snedegar in *Oxford DNB* and further sources cited there.

² P. B. Adamson, 'Schistosomiasis in Antiquity', *Medical History* 20 (1976), pp. 176-88.

³ M. H. Haber, 'Pisse Prophecy: a brief history of urinalysis', *Clinics in Laboratory Medicine* 8. 3 (1988), pp. 415-30.

⁴ E. G. Brown, *Arabian Medicine* (Cambridge 1921), pp. 45-52.

Maimonides (1135-1208) wrote extensively on the analysis of urine in his *Medical Aphorisms*.⁵ This included 25 chapters of interpretations of Galen's work.

In one form or another, uroscopy – the simple sensory examination of urine – has been performed by Babylonian, Egyptian and Hindu physicians. Islamic medical texts were studied by Salernitan doctors in the ninth to thirteenth centuries, and through their work and that of the seventh-century Byzantine Theophilus Protospatharius, the principles of uroscopy became known to the French scholar Giles of Corbeil in the second half of the twelfth century. In his verse *De urinarum iudiciis* Giles identified twenty different colours of urine, and was one of the first to describe the round-bottomed matula flask.

It was during the middle ages that uroscopy began to develop as the principal basis of making a diagnosis. This was because it was the only evidence available other than physical examination. Interestingly, renaissance physicians began to focus more and more on uroscopy, and less and less on physical diagnosis. Thus at Venice in 1491 the German Johannes de Ketham published, under the title of *Fasciculus Medicinae*, a compendium of medical works of the previous century; it

illustrated a 'urine wheel', which was a colour guide to diagnosis, based on the colour of the urine, with illustrations of the urine in the matula (Figure 1).

The shape of the matula was meant to simulate a normal human being's urinary bladder in place (*in situ*), and at rest. So the urine would sit in the glass container exactly as it would sit in the human body (*in vivo*). It was a common tenet, at that time, that chyle (a milky fat secreted into the small intestine) became blood and 'humors'. As the humors were thought to be excreted in the urine, the astute physician could evaluate the nuances of disease by examining the patient's urine. This was always done in front of the patient, his family, or the servant delivering the urine in a carrying basket.⁶ Modern laboratory analysis

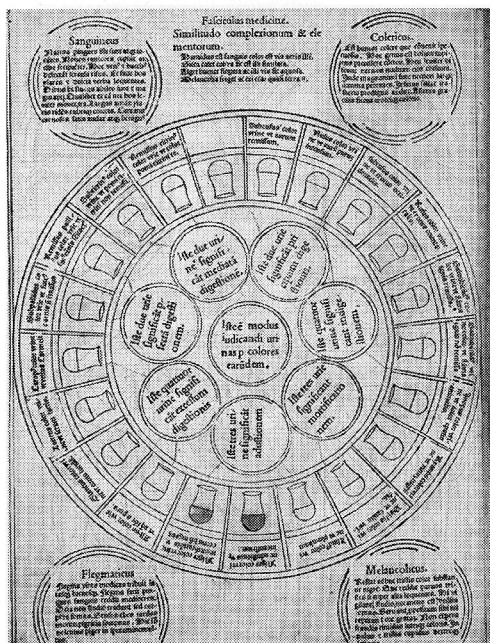


Figure 1: Urine or matula wheel from Johannes de Ketham, *Fasciculus Medicinae* (Venice 1491). Private collection.

⁵ F. Rosner and S. Muntner, 'Moses Maimonides' aphorisms regarding the analysis of urine', *Annals of Internal Medicine* 71. 1 (1969), pp. 217-20.

⁶ R. Wittern-Sterzel, 'Diagnosis: the doctor and the urine glass', *The Lancet* 354, sup. 4 (Dec. 1999), p. S13.

did not exist, but colour, odour, particulate matter (sediments), and consistency could be evaluated with as discriminating an eye as a modern sommelier examines a Bordeaux.

Colour and sediments were of particular interest to a physician of the middle ages, as he would hold the matula up to the light for examination with the naked eye. The very picture of this examination became representative of the educated status of the physician from the twelfth to the seventeenth centuries inclusive. The matula, which was usually carried in a basket so as not to spill the contents, thus came to represent the physician with the same familiarity that the caduceus does today. It was quite common for European artists to immortalize physicians with paintings in exactly this position (**Figure 2**); the martyr and physician St Cosmas was likewise depicted in this way, and this picture of the physician holding the vessel up to the light came to represent the patient's faith in the doctor to diagnose – one of the early representations of the hallowed 'doctor-patient relationship'.⁷

Within half a century of the grant to Caerleon, Philipus Aureolus Theophrastus Bombastus von Hohenheim (1493-1541), also known as Paracelsus, added alchemical principles to the analysis of the body's mechanisms, and in the process favoured the development of modern laboratory medicine. Alchemy divided all matter into essentially sulphur, mercury, and salts. Elaborate furnaces were made, usually of gold, to distill urine for chemical analysis. Acids, such as vinegar, were added to precipitate proteins.⁸ Yet the alchemist of the early 1500s had scant understanding of what this signified.

The emblem of a matula could scarcely be, for its era, a clearer, more up-to-date and technically specific statement of membership of the medical profession. Lewis Caerleon's intellectual interests have been thought to lie more in the direc-

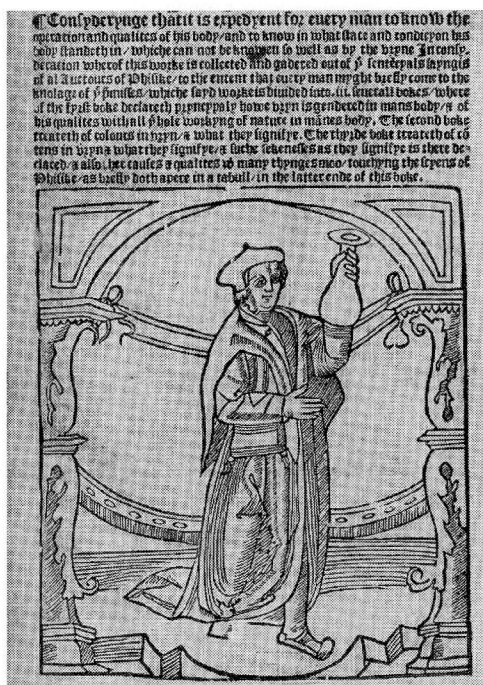


Figure 2: Physician examining urine, from *The Judycyall of uryns* [London: Wynkyn de Worde or John Byddelle, c. 1512]. Private collection.

⁷ W. I. White, 'A new look at the role of urinalysis in the history of diagnostic medicine', *Clinical Chemistry* 37. 1 (1991), pp. 119-25.

⁸ W. Pagel, *Paracelsus: an introduction to philosophical medicine in the era of the Renaissance* (2nd rev. edn., Basel, London and New York 1982), p. 161.

tion of astronomy than in medicine,⁹ and this might be thought to be confirmed by the three prominent estoiles on his shield. But his choice of crest indicates clearly where his professional allegiance lay.

⁹ Snedegar, loc. cit.: 'Despite being a physician, Caerleon had little concern for medical literature; he was rather an enthusiastic annotator, copyist, and writer of astronomical texts. He had a special interest in eclipses and during his imprisonment he occupied himself with the compilation of eclipse tables, which he had begun in 1482, based on the Alfonsine tables.'

Appendix: College of Arms record ms Misc. Grants 7/401.

A tous p'sens et advenire quj ces p'sents letters Verront ou orront, John writhe autrement dit Gartier Roy Darmes des Anglois Salut avec Humble recommendacon Equite veult et ordonne q les homes vertueux et de noble courage soient par leurs merits, et bone renome remunererez, et non pas seulement leurs psonnes en reste mortelle vie tant breifne et transitorie, mais apres eulx ceulx qui de leurs corps issiront et seront pcreez soient en toutz places de grant honneur perpetuellement avec autres reluysans pour certaines Ensignes, et domonstrances de honneur, et de Noblesse. Cestassauoix de Blazon, Heaulme, et timbre assigne a leur exemple autres plus sefforcent de perseveramment User leurs jours en faitz d'armes et ocumres vertuosees pour acquirir la renomee dancienne noblesse en leur signe et posterite, Et pourse ye Gartier Roy Darmes des anglois dessusdit qui non pas seulement par comune renomme maiz aussi par le Rapport, et tesmoignage de pleuseurs dignes de ffoy suis pour Vray adverty et informe que messire Louis Caerlion Chevalier, et Docteur en medecine a longuement pursuy les faitz de vertu, et de noblesse, et tant ence que autres ses affaires sest porte vertueusement, et honorablement gouverne tellement quil a bien deseruy et est digne que doresnavat perpetuellement luy et sa posterite soient en toutes places honorables admis renommes comptez nombrez et receuz ou nombre, et en la compagnee des autres gentils, et nobles homes, Et pour la remembrance dicelle sa noblesse par vertu de lautorite, et pouvoir annexe et atribue a mondit Office de Roy d'armes ay deuyse ordone et assigne au susdit messier Louys pour luy et sa posterite avec leur difference deue le Blazon Heaulme et Timbre en la mannoir qui sui sauit. Cestassavoir darg' et de v' party en palle ung chief dazure sur le dit chief trois Estoilles d'or et dargent party a son timbre Ung orynall dedens son case en leurs ppres couleurs assis sur une torce d'or et de pourpre mantele de vert double argent, si come la picture en la marge cy denant le demonstre a avoir et tenir pour luy et sa ditte posterite, Et eulx a User a tousiour mais. En tesmoing de ce le Gartier Roy Darmes dessusdit ay signe de ma main et seelle du seell de mes Armes ces p'sentes. Fait et donne a Londres le iour de S' Sampson lan de nre Sr M: CCCC quartervingtz et Treize et lan du raigne de Roy Henry le septiesme nre tres redou- ble et Soverain Seigneur le huitiesme.

Examined with the original Garter Roy darmes dez Anglais
in the hands of James King Painter
of arms 5 of May 1710 – Peter Le Neve Norroy.