

Leaving aside these details, we must unreservedly commend the author for having successfully undertaken the hard task of editing, translating and commenting on such a complex text. He has presented us with a valuable contribution to Galenic studies and an indispensable tool for scholars interested in the history of Greek and Arabic Islamic medicine, as well as in the history of the transmission of science in the Mediterranean societies from Late Antiquity to the Renaissance. We look forward to the announced publication by the same author of an edition of Galen's *De Crisibus* and its Arabic translation.

Theo Loinaz

Fabian Käs, *Die Mineralien in der arabischen Pharmakologie. Eine Konkordanz zur mineralischen Materia medica der klassischen arabischen Heilmittelkunde nebst überlieferungsgeschichtlichen Studien*, Akademie der Wissenschaften und der Literatur · Mainz, Veröffentlichungen der Orientalischen Kommission Band 54, 2 vols, Wiesbaden, Harrassowitz Verlag, 2010, XVI + 1167 pp.

The two elegant volumes here reviewed embody the most comprehensive and thoroughly documented research on Arabic pharmacognosy published to date. Not that the subject was virgin soil, since there is a remarkable amount of literature on

this ancillary discipline of medicine (although in the case of mineralogy much of it is rather obsolescent). However never has such a full-scale philological study been attempted to document the knowledge and use of simple mineral drugs in the Arabic Islamic pharmacognostical tradition.

The task certainly was no less than titanic, the main goal being the production of an exhaustive concordance of mineral *materia medica*, in the broad sense conveyed by the Arabic concept of *adwiyah ma'daniyyah*, as opposed to drugs based on plants and animals. The minerals range from stones and gems to metals, salts and earths, from natural pearls and coral to man-made porcelain and glass.

The impressive corpus that has been scrutinized speaks most eloquently of the author's unparalleled endeavour. It comprises the bulk of early, classical and postclassical literature on pharmacognosy written from Iran to al-Andalus: from the ninth-century Abbasid translations of Greek and Syriac texts and the great Iranian medical encyclopaedias (al-Ṭabarī, al-Rāzī) to the beginning of the modern era (e.g. eighteenth-century al-Jazā'irī). An outstanding and most valuable feature of this corpus is the fact that, besides items of primary literature including published and manuscript sources, it incorporates the fragmentary transmission (through direct and indirect quotations by later authors) of a number of no-longer extant texts.

The concordance is arranged according to the Arabic alphabet. Each entry is introduced by a lemma in both Arabic script and Roman transliteration, immediately followed by a chronologically arranged compilation of references to passages in which the mineral under examination is mentioned. To the meticulous collection of relevant *loci* many cross-references are added that concisely but clearly show the relations of textual dependence within the tradition of each drug. Every entry also includes a critical analysis of the data gathered in the concordance, in the form of a commentary on transmission-related matters, along with useful considerations on identification and etymology.

Furthermore, as promised by its title, the study includes a series of brief monographs devoted to the main authors and texts examined in the corpus (pp. 1-197). Grounded on the sound tradition of German textual criticism and *Quellenforschung*, the author offers what he too modestly qualifies as a “knappe Charakterisierung” of each work with a double synchronic-diachronic focus: the text itself and its contents; and its place within the pharmacognostical tradition as revealed by its relations to other works (the *Abhängigkeitsverhältnisse*). The author’s display of solid scholarship is best exemplified by his precision in dealing with material in manuscript form, such as al-Rāzī’s *Khawāṣṣ* (pp. 35-36), al-Tamīmī’s *Murshid* (pp. 50-56), Ibn Janāḥ’s *Talkhīṣ* (pp. 61-

73, a work hitherto deemed lost), Ibn Biklārīsh’s *Mustaʿīnī* (pp. 97-103) or Ibn al-Bayṭār’s *Mughnī* (pp. 155-158).

Never shallow in his analysis, the author shows that this kind of strenuous investigation, however merely mechanical it may seem, undeniably yields its fruits and can help to corroborate, complement, modify or even refute details of our understanding of the medico-pharmacognostical tradition, which still depends in great measure on Arabic medical historiography. The interpretation of quotes from the pseudo-Aristotelian *Book of Stones*, for example, leads to the postulation of two different recensions: a standard one represented by Ruska’s edition and an apocryphal recension from which al-Qazwīnī, among others, must have derived part of his lithognomical data (pp. 5-7). Some light is also shed on the problematical ascription of the *Risālah Hārūniyyah* to al-Masīḥ b. Ḥakam (pp. 22-25). The evidence gathered from quotations by both Eastern and Western physicians clearly shows that the al-Masīḥ from which they drew their information has rather little to do with the real author of the *Hārūniyyah*. In this respect, we deem especially enlightening the finding of some coincidences between Ishāq b. ‘Imrān’s work (as reflected mainly in Ibn al-Jazzār’s *Iʿtimād* and later Andalusī authors) and the *Hārūniyyah*. These coincidences do not seem to point to a common source, but rather to pseudo-Masīḥ having elaborated on

some testimony to Ibn 'Imrān's tradition – a question that undoubtedly deserves further investigation. We hope that these two novel contributions may serve as a tiny sample of the kind of in-depth research carried out by the author, to which one cannot render due justice within the limits of a short review.

Let us now be permitted to make some comments on the choice of texts included in the corpus – and we hasten to say beforehand that these remarks are in no way intended as a criticism, but, on the contrary, as a sincere assessment of the study under review, to which one can do little more than add an expanding note here and there, the vast mass of information having already been gathered and carefully sifted for one's use. Therefore, when we speak of omissions or missing items, we are not talking about shortcomings, but restrictions to which the corpus has been necessarily (yet perhaps not always happily) subjected.

The first of these restrictions (and it was an obvious one that needed no excuse) has been to limit the main corpus to texts written in Arabic, with the major exceptions of Muwaffaq's Persian *Abniyah* and Syriac lexicography. Therefore, the comprehensiveness of the study does not extend to Hebrew or Latin and vernacular mediaeval traditions, which are precious witnesses (sometimes even unique, the original work being lost or unknown) to the history of Arabic Islamic science – cf. for instance the Latin Mesue (defi-

nately not Ibn Māsawayh but nonetheless his works are worth a look) or the *Liber Serapionis de Simplicibus Medicinis*.

Although relevant data has only exceptionally been extracted from strictly medical literature, namely from pharmaceutical and ophthalmological texts, much attention has been paid to other related sources, such as old *lapidaria* (e.g. pseudo-Aristotle's *Book of Stones*) and general encyclopaedias containing sections on mineralogy (for instance, al-Qazwīnī's *'Ajā'ib al-makhlūqāt*). Regarding other not so evidently related genres, the exclusion of alchemy as a whole is explicitly (but maybe not convincingly) justified. However, no mention is made of geography, which is an almost unexplored realm in terms of pharmacognostical contents. Let one simply glance at any treatise, such as al-Mas'ūdī's *Murūj al-dhahab*, and one shall be easily persuaded of the unexpected wealth of information found therein. There we learn that he systematically distinguishes مرمر from رُخام (cf. for example *Murūj* ed. Pellat II 13<sub>10,13</sub>, relevant to the entry on p. 998), knows a variant مغنطيس (II 91<sub>13-17</sub>) not reckoned alongside مغنطيس and مغنيطس in the concordance (cf. pp. 1017-28), and mentions four species of emerald from the mines in Upper Egypt (أصمّ / مغربيّ / بحريّ / مرّ , cf. II 132<sub>8</sub>-134<sub>8</sub>) unheard of in the pharmacognostical tradition (cf. pp. 665-9). This, again, is only to illustrate how much more usefully one can peruse

these texts with this gigantic concordance in one's hand.

Within the strict limits of pharmacognostical literature, it is remarkable that no manuscript has been consulted for Stephanus' Arabic translation of Dioscurides' book (Paris MS BNF Ar 2849 being an easily available item), despite the many shortcomings of the Dubler-Terés edition. Abū l-Ṣalt Umayyah's *Book on Simples*, on the contrary, is quoted from Cairo MS Dār al-Kutub al-Miṣriyyah Tibb 509, as the author seems unaware of the existence of a critical edition of this treatise as well as of its mediaeval Latin and Catalan translations in *Arnaldi de Vilanova Opera Medica Omnia XVII* (Barcelona 2004). The edition of the Arabic text by A. Labarta is based on six MSS, one of them (Q) being the one used by the author in his research.

Moreover, there are a few major omissions of texts the examination of which may eventually affect (although, one must acknowledge, not drastically) the details of some entries. One of these is Ibn Juljul's *Tafsīr* on Dioscurides' Book V, not indeed lost against what is stated here (p. 57). This omission is all the more regrettable since the author was in fact acquainted with its publication by I. Garijo (Cordova, 1992). Even if the ending is wanting, it can add some noteworthy non-redundant data (cf. nos. 27-74, pp. 98-103). Cf. for example:

No. 33 ابيوس سيذيرو وهو زعفران الحديد (< Diosc V 80 s.v. ἰὸς σιδήρου = ed. Wellmann III 52<sub>17</sub>-53<sub>5</sub> | cf. ed.

Dubler-Terés V 63, p. 408<sub>1-14</sub>), to be taken into account in the discussion on pp. 664-5.

No. 35 مولوبيذانا وهو حجر رصاصي (cf. Diosc V 83 and 85 s.v.v. ὁ μολύβδου δοειδής λίθος and μολύβδαινα = W III 52<sub>17</sub>-53<sub>5</sub> and 56<sub>17</sub>-57<sub>5</sub> | cf. D-T V 65 p. 410<sub>10-11</sub> and V 67 p. 411<sub>1-11</sub>), relevant to the lemma on pp. 466-467.

No. 43 احراس وهو حجر الأرتكز [MS الاونكن ] (cf. Diosc V 93 s.v. ὄχραν = W III 64<sub>15</sub>-65<sub>5</sub> | cf. D-T V 75 p. 416<sub>4-10</sub>), cf. the corresponding entry on pp. 216-218.

Cf. also no. 37 *murdārsanj* (→ pp. 974-8, especially p. 977 footnote 1), no. 41 *kiyānuṣ* = *lāzaward nuḥāsī* (→ pp. 944-8), no. 45 *zāwūq* (→ p. 630]), no. 71 *ḥajar afrūjī* = *ḥajar ifrīqī* (→ pp. 407-410).

Another Andalusī unnecessarily underrepresented is Ibn Wāfid with his *Book on Simple Medicines*. The section on minerals (lost in Arabic and only retrievable in fragments, as here, through quotes therefrom in Ibn Biklārish, al-Ghāfiqī, al-Idrīsī, etc.) is partially preserved in a fourteenth-century Catalan translation (ed. L. Faraudo, Barcelona 1943), with minerals on pp. 161-168: from *atamade* (= ائمد) to *or* (= ذهب). An even more important testimony is provided by the abovementioned *Liber Serapionis*, which is actually a Latin translation of Ibn Wāfid's treatise by Simon of Genoa with the help of Abraham of Tortosa, as proved by J.C. Villaverde in 1997 (*Aljamía* 9: pp. 111-118). In the *princeps* edition of 1473 the rele-

vant section occupies fols. 150a-166c.

Besides Ibn Zuhr's *Kitāb al-aghdhīyah* and *Taysīr* one misses his father's (Abū l-'Alā' Zuhr, d. 1131) *Khawāṣṣ* (diverse MSS and some fragments edited by L.M. Arvide) and *Mujarrabāt* (ed. C. Álvarez, Madrid 1994). A scan of the latter yields an unrecorded مرتك ذهبي (p. 121<sub>1</sub>) to be added to pp. 974-8; توتيا بطرنية (pp. 10<sub>1</sub>, 17<sub>14</sub>, 20<sub>10-11</sub>), a variety of tutty apparently not mentioned by any other authority (cf. pp. 361-9), whereas توتيا مرازنية (p. 17<sub>14</sub>) seems to be related to Ibn Juljul's الموازنية (?) and to the طين الانجبار known, among others, to Bakhtīshū', al-Tamīmī, and al-Bīrūnī (cf. pp. 368-9); a طين الانجبار (pp. 23<sub>11</sub>, 35<sub>10</sub>, p. 102<sub>13</sub>) / طين انجبار (pp. 24<sub>7</sub>, 47<sub>1</sub>, 52<sub>15</sub>, p. 104<sub>1</sub>) ≠ طين أرمني, much in the line of Ibn Samajūn and Ibn Rushd (cf. pp. 786-7) or an extraordinary medical attestation of حجر كذان (p. 104<sub>15</sub>) to back up the scanty available data gathered on p. 926.

Al-Shafrah's (d. 1360) *Kitāb al-istiḡṣā'* (ed. E. Llaveró, Alacant 2005) contains a second *maqālah* on simple and compound drugs (pp. 110-131) in which one finds on p. 112<sub>22</sub> no. 17 أسرنج وهو الزرقون – a characteristically Western synonymy (cf. pp. 234-235) and an interesting marginal gloss to p. 117<sub>9-11</sub> no. 49 زهرة النحاس in MS G (cf. Spanish translation p. 212, footnote 220).

The polygraph Ibn al-Khaṭīb (d. 1374) wrote a *Kitāb al-wuṣūl li-ḥifẓ al-ṣiḥḥah fī l-fuṣūl* (ed. M. de la C. Vázquez, Salamanca 1984) with a

notable glossographical appendix on pp. 137-175. Although it contains practically no mineralogical data (فيموليا 170<sub>5</sub>, فيروزج 150<sub>14</sub>, دهنج 171<sub>20</sub>), the entry on *maghnītis* (المغنيطس حجر الماس الذي يجذب الحديد (p. 162<sub>5</sub>) is an isolated Andalusī witness to a synonymy otherwise attested only in the late Maghreb (cf. p. 1019, footnote 2).

Still in al-Andalus and missing from the corpus is the *'Umdat al-ṭabīb* (ed. Bustamante, Corriente and Tilmatine, Madrid 2004; cf. nos. 177 and 940, for instance) or Alcoati's treatise on ophthalmology (ed. M.C. Vázquez, Salamanca 1973 for the Arabic and Latin texts of the fifth *maqālah*, and ed. Deztany, Barcelona 1933 for the fourteenth-century Catalan translation of the whole book).

As for the Eastern tradition, al-Qalanisī (m. 1165) may be considered a rather strange omission, because a modern edition of his *Aqrābādhīn* has been available since 1983 (M. Zuhayr al-Bābā, Aleppo). In Chapter 49 *On Properties* (pp. 299-312) we find: اسروب (← Galen), بسد , بورق (← Alexander of Tralles), كهربا , حديد (← Ibn Māsawayh), مغناطيس (← Theophrastus), سالموايه و Alex. of Tralles), شكف , نحاس (← Balīnās), ملح (a noteworthy witness to al-Rāzī's *Khawāṣṣ*, cf. p. 748 of the book under review), and ذهب .

Nevertheless, all this is but trifling when set against the astonishing quantity of texts perused, many of which are unedited manuscripts. For each omission that one

might adduce there are at least twice or thrice as many texts that have not just been scanned, but systematically and scrupulously examined. However, it is not a simple matter of quantity: the study covers *nearly all major texts* available, with no exception. The contribution of Dioscurides' Arabic transmission is analysed, when possible, through all five versions known to us (*Vetus*, Stephan-Ḥunayn, al-Nātilī, al-Malaṭī and Mihrān), Galen's universally quoted *Mufradah* and *Mayāmir* are both explored here for the very first time, and so is al-Ghāfiqī's *Mufradāt*, of which three MSS have been consulted besides Barhebraeus' *Muntakhab*. All this is presented with such a clear and systematic arrangement and commented on with such a wealth of detail that there is no doubt that it shall become a reference (we dare say *the* reference) and the basic frame for any further research in the field of Arabic Islamic medicine in general.

Theo Loinaz