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DRUG THERAPY IN MEDIEVAL ISLAM INSIDE AND OUTSIDE HOSPITALS

Leigh N.B. Chipman*

Introduction

I will try to introduce one of the most important aspects of a pharmacist's work in medieval Islam, the relationship with prescribing physicians, through the comparison of recipes composed by physicians for use in hospitals with the way those recipes are quoted in a manual for the private pharmacist. This paper is based upon ongoing research for my Ph.D. dissertation, thus it is very much a work in progress and my conclusions are necessarily tentative.

Was there in fact a difference between drug usage inside and outside hospitals in the Islamic Middle Ages? From the eighth century onwards, pharmacy and medicine are recognized as separate professions; however, they are greatly intertwined, with each depending on the other. While the hospital pharmacist was directly under the control of the physicians there, the private pharmacist would often share his premises in the market with a physician, enabling patients/customers to have their prescriptions filled immediately and on the spot¹.

Additional questions are raised by the comparison of texts, questions that relate to the pharmacist's status in the economy of knowledge. The physician is undoubtedly a learned man; his very title of *tabīb* means one who is not a mere empiric (that would be a *mutaṭabbib*), but rather has knowledge of the philosophical concepts underlying medical practice. Medicine is a science, an *ʿilm*, often coupled with the *ʿilm* par excellence, *ʿilm al-ḥadīth*, the science of Prophetic traditions, which cares for the soul as *ʿilm al-tibb*, the science of medicine, cares for the body². The pharmacist, on the other hand, is a mere craftsman; he practices *ṣināʿat al-saydala*, the apothecary's trade: a technique rather than a science. How is this reflected in the texts?

The Sources

A few words on the texts I am discussing: My basic text is a manual for pharmacists composed around the year 1260 in Cairo by the otherwise unknown Jewish druggist, Abū'l-Munā Dāwūd b. Abī Naṣr al-Kūhīn al-ʿAṭṭār al-Hārūnī al-Isrāʾīlī (hereafter al-Kūhīn al-ʿAṭṭār), called *Minhāj al-dukkān* ("The management of the [apothecary] shop"). The work is composed of 25 chapters, beginning with a moralizing exhortation to al-Kūhīn al-ʿAṭṭār's "son," and includes chapters on simples, substitute drugs, and weights and measures. The other chapters, the formulary proper, deal with compound medicines according to their methods of preparation. This was a very popular book, which exists in about 30 manuscripts, and according to Goitein, continued to be in use by "traditional druggists" in Cairo until the twentieth century³, and according to Levey, writing in the 1960s, "is still very popular mainly outside the large cities."⁴ In his introduction, al-Kūhīn al-ʿAṭṭār states that he is composing this work because none of the preceding formularies have been suitable for pharmacists;

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rather they have been written by physicians for physicians, and are not as useful in a drugstore setting as they are in a hospital one⁵. At the same time, he assures the reader that many of the recipes he presents have been selected from the most famous works of the past, mentioning by name five well-known books: *al-Irshād* by Ibn Jumay⁶, *al-Malakī* by al-Majūsī,⁷ *al-Minhāj* by Ibn Jazla,⁸ Ibn al-Tilmīdh's *Aqrābādhīn* and *al-Dustūr* by Ibn Abī al-Bayān. These last two are the focus of the comparison today.

Ibn al-Tilmīdh was a twelfth-century Christian physician who worked at the 'Aḍudī hospital in Baghdad, eventually becoming the chief physician there, as well as composing a pharmacopoeia for its use. This pharmacopoeia, known usually as *Aqrābādhīn Ibn al-Tilmīdh*, has not been printed. I had available two manuscripts: BL Or. 8293 (in microfilm) and Bodleian Marsh 537, fols. 182b-226b (in photostat). These manuscripts are greatly divergent, appearing to belong to different traditions. *Minhāj al-dukkān* quotes Ibn al-Tilmīdh thirty-four times. All but five recipes quoted were found in both manuscripts, of which one does not appear in either, while four appear only in BL Or. 8293, thus it would seem that al-Kūhīn al-'Aṭṭār was aware of the tradition represented by this manuscript rather than that represented by Marsh 537.

Ibn Abī al-Bayān al-Isrā'īlī (d. 634/1236) was a Karaite physician and director of the Nāṣirī hospital in Cairo, and he composed his famous *al-Dustūr al-bīmāristānī fī al-adwiya al-murakkaba* ("The hospital formulary for compound medicines") for use there. *al-Dustūr al-bīmāristānī* has been published by Paul Sbath in two versions⁹. Ibn Abī al-Bayān is the author most quoted by al-Kūhīn al-'Aṭṭār, with 82 appearances of his name in the text of *Minhāj al-dukkān*. al-Kūhīn al-'Aṭṭār uses a number of formulae to introduce recipes that he quotes on the authority of Ibn Abī al-Bayān. Slightly less than forty percent of the recipes al-Kūhīn al-'Aṭṭār seems to quote from *al-Dustūr al-bīmāristānī* are not present in Sbath's editions. While it is easy to explain the absence of some recipes, the fact that almost no recipe quoted as taken from "al-Dustūr al-bīmāristānī," the title of Ibn Abī al-Bayān's work appears problematic. Without doubt al-Kūhīn al-'Aṭṭār had been in personal contact with Ibn Abī al-Bayān - recipes he received orally (*min lafẓ ibn al-bayān* - from Ibn al-Bayān's mouth; 'an *ibn al-bayān* - on the authority of Ibn al-Bayān) or as a kind of personal communication (*min khaṭṭ ibn al-bayān* - from Ibn al-Bayān's hand) may very well not have been included in the "official" compilation of recipes. What, however, is "al-Dustūr al-bīmāristānī" quoted so often, if it is not Ibn Abī al-Bayān's pharmacopoeia? Perhaps, contrary to what is generally accepted, rather than composing a formulary himself, Ibn Abī al-Bayān selected recipes from an existing one used at the Nāṣirī hospital?

The Recipes

How do recipes from *Aqrābādhīn Ibn al-Tilmīdh* and *al-Dustūr al-bīmāristānī* appear in *Minhāj al-dukkān*? The first characteristic that leaps to eye is the lack of verbatim quotation. There is only one single case of a recipe from Ibn al-Tilmīdh being repeated word for word in *Minhāj al-dukkān*¹⁰. The divergences between source and quotation are of many kinds, ranging from a discrepancy in the quantity of ingredients to completely different instructions for preparation. Even the classification of the recipes is not immune to this: a particular *ma'jūn* (confection) in *Minhāj al-dukkān* is called a *jawāriṣhn* (electuary) in *Aqrābādhīn Ibn al-Tilmīdh*, indicating the fluidity of definitions of pharmaceutical preparations¹¹.

Moreover, it is quite possible that pharmaceutical recipes, even those bearing the name of some esteemed master, were considered as "public domain," so to speak. Rather than each transmitter

being bound to absolute fidelity to his source, it was permissible to change and adapt traditional recipes to present-day reality. With regard to Ibn al-Tilmīdh, in general, most of the differences in versions are additions that appear in *Minhāj al-dukkān*. An extreme case is the following, a recipe for a sleeping draught¹².

Aqrābādihīn Ibn al-Tilmīdh

Shabyār pill

Aloe, 3 *dirhams*¹³

Mastic and rose, of each 1 *dirham*

Grind and form into pills

The dosage: at bedtime, 1 *mithqāl*¹⁴ to 2 *dirhams*

Minhāj al-dukkān

Shabyār pill, and its meaning in Persian is "friend of the night"

To be used at night, causes sleep, works without harm, cleanses the stomach and the brain, purges gently

From Ibn al-Tilmīdh

Socotran aloe, 3 *dirhams*

Mastic and rosebuds, of each one *dirham*

Grind and mix and knead with fennel juice or celery juice

Use when necessary, 1 *mithqāl* to 2 *dirhams*, after drying

What is the significance of these additions? Most obvious is al-Kūhīn al-ʿAṭṭār's explanation of the name and use of *ḥabb al-shabyār*. He was writing in Egypt close to a century later than Ibn al-Tilmīdh - possibly Ibn al-Tilmīdh's Baghdādī audience knew enough Persian to understand immediately that this was a sleeping pill, whereas al-Kūhīn al-ʿAṭṭār's audience did not. Second, al-Kūhīn al-ʿAṭṭār explains what this medicine is good for, while Ibn al-Tilmīdh does not. This is something of a false dichotomy, though, as in many cases Ibn al-Tilmīdh does give a particular drug's indication. Indeed, more than giving the *shabyār*'s indications, al-Kūhīn al-ʿAṭṭār is clarifying the meaning of *raftq al-layl*. The heart of the recipe, the ingredients and their quantities, is almost identical, the only difference being al-Kūhīn al-ʿAṭṭār's use of rosebuds rather than roses. Ibn al-Tilmīdh is laconic in his directions for preparation: grind and make into pills, he says, the dosage is one *mithqāl* to two *dirhams* at bedtime. Al-Kūhīn al-ʿAṭṭār takes this and breaks it down into components: grind, mix, knead with fennel juice or celery juice, and use when necessary one *mithqāl* to two *dirhams* after drying. There is no mention here that the end result should be a pill, rather than an ointment, say. The heading "*shabyār* pill" is sufficient. The two authors agree on the dosage, although Ibn al-Tilmīdh emphasizes that it should be taken at bedtime, while al-Kūhīn al-ʿAṭṭār says "when necessary;" in other words, not only at bedtime. This corresponds to the fact that for him, the *shabyār* pill is not only a soporific, but also an aid to digestion.

The version appearing in *Minhāj al-dukkān* is much fuller than that of *Aqrābādihīn Ibn al-Tilmīdh*. This is almost invariably the case, and very often the additions are detailed directions for the preparation of the drug under discussion. al-Kūhīn al-ʿAṭṭār seems far more punctilious about noting all the stages that the raw *materia medica* should undergo, even if there is only a single ingredient. In contrast, Ibn al-Tilmīdh will sometimes simply give a list of ingredients under a certain heading, leaving the reader to complete the preparation by himself. In the following example¹⁵, the contrast between the prescribing doctor and the dispensing apothecary is marked:

Aqrābādhīn Ibn al-Tilmīdh

Aloeswood stomachic

Indian aloeswood, 3 *dirhams*

Peel and flesh of citron, 2 *dirhams*

Cinnamon and aniseed, of each 1 *dirham*

Saffron, half a *dirham*

Sugar, 1 *mann*¹⁶

Minhāj al-dukkān

Aloeswood stomachic

also from Ibn al-Tilmīdh

Take Indian aloeswood, 3 *dirhams*

Peel of citron, the yellow [part] free of white,
2 *dirhams* dried

Cinnamon and aniseed, of each 1 *dirham*

Saffron, half a *dirham*

Grind each drug separately, sift the drugs and
knead with bees' honey skimmed of froth, and
remove

If you want sugar, use it and break it into pieces
and take it

Beneficial

Not only does al-Kūhīn al-ʿAṭṭār give detailed instructions on how to prepare this digestive electuary, while Ibn al-Tilmīdh leaves preparation completely at the reader's discretion, he is also more precise about the kind of citron peel to be used, and gives the option of using either honey or sugar.

Unlike most of the other sources quoted in *Minhāj al-dukkān*, Ibn Abī al-Bayān seems to give more details than al-Kūhīn al-ʿAṭṭār does, as in the following recipe for squill (*Urginea maritima*) oxymel (*sharāb al-sakanjabīn al-ʿunṣulī*):¹⁷

al-Dustūr al-bīmāristānī

Squill oxymel syrup

Beneficial for hemiplegia and facial
paralysis and joint pains and evil
acquisition(?) and coarseness of the spleen;
opens obstructions in the liver

Take from a medium squill bulb at harvest
time the quantity of 1 and a half *raṭls*¹⁸

Chop finely with a wooden knife

And place in a linen cloth

And suspend in a vessel filled with strong
wine vinegar

Let there be the space of two fingers
between it and the vinegar

Stop the mouth of the vessel and place in
the hot sun for two months

Take out of the sun

For every *raṭl* of sugar or good pure honey
add 4 *ūqiyya*¹⁹ of the squill vinegar

Cook as plain oxymel, remove and use

Minhāj al-dukkān

Squill oxymel syrup

From Ibn Bayān's *Dustūr*

Take from a medium squill bulb at harvest time
the quantity of 1 and a half *raṭls*

Chop finely with a wooden knife

And place in a linen cloth

And place in a glass vessel filled with 7 and a
half *raṭls* of strong wine vinegar

Let there be the space of two fingers between it
and the vinegar

Stop the mouth of the vessel and leave in the
sun

Then take of this vinegar 4 *ūqiyya* for every
raṭl of sugar

Let it reach [the desired] consistency and
remove

Most obvious here is the detailed indications provided by Ibn Abī al-Bayān, that are completely missing from al-Kūhīn al-ʿAṭṭār's version of the recipe. Does he expect the physician explicitly to prescribe this medicine, thus making indications unnecessary? If so, why is this not always the case? In addition, Ibn Abī al-Bayān gives highly detailed instructions for preparation, contrasting sharply with al-Kūhīn al-ʿAṭṭār's vagueness: rather than sealing the mixture for two months and leaving it in the sun, Ibn Abī al-Bayān rather pedantically places the box in the hot sun and then takes it out of the sun, before mixing it with either sugar or good pure honey; rather than letting it achieve the [desired] consistency, Ibn Abī al-Bayān requires that the sugar and vinegar be cooked like plain oxymel (the recipe for which he has already given).

Another recipe with more detailed instruction in the *al-Dustūr al-bīmāristānī* version is for root oxymel (*sharāb sakanjabīn uṣūlī*)²⁰, which describes in detail the procedure for dissolving sugar in vinegar. However, this recipe also shows al-Kūhīn al-ʿAṭṭār using the Baghdādī *raṭl* while Ibn Abī al-Bayān leaves the choice of the Egyptian or Baghdādī *raṭl* to the person making up the medicine - one would expect the opposite, with the hospital being more precise than the private shop.

al-Kūhīn al-ʿAṭṭār has certain expressions that he adds almost invariably, no matter who he is quoting. The most common addition is the word *nāfiʿ*, "beneficial," which so often appears tagged on to recipes. This almost never appears in the sources; indeed, when a similar word, like *mujarrab*, "tried and tested," appears in the source-recipe, in *Minhāj al-dukkān* it will usually be accompanied by *nāfiʿ*, as well. An interesting variant is *nāfiʿ in shāʿa allāh*. The addition of "God willing" has the effect of weakening the approval expressed by "beneficial" - perhaps this recipe is not so beneficial after all? This might be the medico-pharmaceutical equivalent of the historians' *allāhu aʿlam*, "God knows best," indicating at least a lack of certain knowledge and even distrust.

An interesting phenomenon is al-Kūhīn al-ʿAṭṭār's erasure of any reference to hospitals in his versions of the recipes: a syrup of screw pine (*kādī*, *Pandanus odoratissimus*) that Ibn al-Tilmīdh notes as being *nuskhat al-bīmāristān ʿamal zahrūn* - the hospital version, made by Zahrūn²¹ - is attributed merely to Ibn al-Tilmīdh in *Minhāj al-dukkān* (*sharāb al-kādī min aqrābādhīn ibn al-tilmīdh* - from Ibn al-Tilmīdh's pharmacopoeia)²², while a recipe headed *qaraṣ al-banafsaj al-bīmāristānī* (the hospital's violet pills)²³ appears in *Minhāj al-dukkān* as *qaraṣ al-banafsaj li-ibn al-tilmīdh* (Ibn al-Tilmīdh's violet pills)²⁴. On the other hand, al-Kūhīn al-ʿAṭṭār makes reference to following doctor's orders in two recipes, one of which does not appear in either manuscript of *Aqrābādhīn Ibn al-Tilmīdh*²⁵, while the second appears in both manuscripts without this sentence²⁶.

Conclusions

This brings us back to the question of the doctor-pharmacist relationship, of which the hospital/non-hospital dichotomy is an aspect. This relationship is made explicit in *Minhāj al-dukkān*, but the details are elusive. Certainly al-Kūhīn al-ʿAṭṭār pays more attention to the process of preparing drugs than he does to the underlying theory, but the physicians themselves do not always pay more attention to theory than to practice. It is not always obvious whether a specific recipe was intended for the eyes of a physician or a pharmacist.

As I have shown, the evidence of the texts as texts is inconclusive. They can tell us that the ostensibly unlearned pharmacist felt free to change and adapt the recipes he found in books. They do not tell us what, if any, difference there was between drug usage by doctors in hospitals and pharmacists in the marketplace. This may be the key: research into the economic and social history

of medieval Islamic pharmacy, rather than the comparison of pharmaceutical texts, no matter how practice-oriented they may be, may provide the solution to this question. In the next stage, I plan to focus on economic and social history, and I hope that my findings will indeed enable me to provide a more complete answer than I have been able to do today.

References

- 1- See S.K. Hamarneh, "The rise of professional pharmacy in Islam," *Medical History* 6 (1962): 59-66.
- 2- On the developing relationship between medicine and *ḥadīth*, see I. Perho, *The Prophet's Medicine: A Creation of the Muslim Traditionalist Scholars* (Helsinki, 1995), *passim*.
- 3- S. D. Goitein, *A Mediterranean Society. Vol. II: The Community* (Berkeley, 1971), p. 265.
- 4- M. Levey, *Early Arabic Pharmacology* (Leiden, 1973), p. 98.
- 5- *Minhāj al-dukkān*, ed. H. al-'Aṣī (Beirut, 1992), p. 10.
- 6- *Kitāb al-Irshād li-maṣāliḥ al-anfus wa-al-ajsād*, a medical encyclopedia composed by Abū al-Makārim Hibatallāh Ibn Jumay' al-Isrā'īlī (d. 594/1198). Unpublished.
- 7- 'Alī b. al-'Abbās al-Majūsī (d. 384/994), *Kāmil al-ṣinā'a al-ṭibbiyya (Kitāb al-Malakī)* (Būlāq, 1870), 2 vols.
- 8- Abū 'Alī Yaḥyā b. 'Īsā Ibn Jazla (d. 493/1100), *Minhāj al-bayān fīmā yasta'miluhu al-insān*, an alphabetical handbook of both simple and compound medicines. Unpublished.
- 9- P. Sbath (ed.), "Le Formulaire des hôpitaux d'Ibn abil Bayan, médecin du bimaristan annacery au Caire au XIII^e siècle," *Bullétin de l'Institut d'Egypte* 15 (1932-1933), pp. 9-78; P. Sbath and C.D. Avierinos (eds. and trans.), "Sahlān Ibn Kaysān et Rašīd al-Dīn Abū Ḥulayka: deux traités médicaux," *BIE* 25 (1953), pp. 43-75.
- 10- This is a recipe for *ḥabb al-sūranjān (Colchicum autumnalis)*: *Minhāj al-dukkān*, p. 115 = BL Or. 8293, fol. 22a = Bodl. Marsh 537, fol. 189b.
- 11- *ma'jūn mufarrij* (cordial confection), *Minhāj al-dukkān*, p. 72; cf. *jawāriṣh mufarrij* (cordial electuary), BL Or. 8293, fol. 42a = Bodl. Marsh 537, fol. 204a.
- 12- *Minhāj al-dukkān*, p. 114 = BL Or. 8293, fol. 23a = Bodl. Marsh 537, fol. 190a
- 13- 1 *dirham* = 3.125g
- 14- 1 *mithqāl* = 4.46g
- 15- *Minhāj al-dukkān*, p. 81 = BL Or. 8293, fol. 45b = Bodl. Marsh 537, fol. 205a.
- 16- 1 *mann* = 816.5g
- 17- *Minhāj al-dukkān*, p. 37 = *al-Dustūr al-bīmāristānī*, ed. Sbath 1933, p. 46.
- 18- 1 *raṭl* = 406.25g
- 19- 1 *ūqiyya* = 33.85g
- 20- *Minhāj al-dukkān*, p. 37 = *al-Dustūr al-bīmāristānī*, ed. Sbath 1933, p. 45.
- 21- BL Or. 8293, fol. 56a.
- 22- *Minhāj al-dukkān*, p. 38
- 23- BL Or. 8293, fol. 15a.
- 24- *Minhāj al-dukkān*, p. 100.
- 25- *Minhāj al-dukkān*, p. 120. The dosage is "according to what the doctor thinks best" (*mā yarāhu al-ṭabīb min al-maṣlaḥa*).
- 26- *Minhāj al-dukkān*, p. 90 = BL Or. 8293, fol. 29a = Bodl. Marsh 537, fol. 192b.