
An Early Fragment of Ibn Jazlah's Tabulated Manual

“Taqwīm al-Abdān” from the Cairo Genizah

(T-S Ar.41.137)

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Abstract

Ibn Jazlah was born and raised as a Christian in Karkh (Baghdad) and died in the year 1100. He acquired his medical education in Baghdad, worked at the ‘Aḍuḍi hospital, and was appointed as a registrar and physician for the court at the ‘Abbāsīd capital and later became a court physician of Caliph al-Muqtaḍī. Ibn Jazlah wrote several books on various subjects, mainly on medicine. During the process of reconstructing the medical library of the medieval Jewish practitioners in Cairo, a Genizah fragment of a unique tabular medical book in Arabic was identified as Ibn Jazlah's tabulated manual “Taqwīm al-abdān”, which is most probably part of the earliest known copy of the text. A study of the T-S Ar.41.137 clearly shows that it was an uncompleted draft, and can therefore teach us how the medieval copier worked. The image of the fragment is presented here, as well as its transliteration, translation and analysis.

Introduction

Over the last few years, a multidisciplinary project dealing with the history of medieval medicine based upon the Cairo Genizah collections¹ has been carried out after more than a few publications of these manuscripts had hinted at its potential value.² A few phases of the research, mainly those dealing with medicinal substances,³ practical medicine and its relation to the theoretical,⁴ have already been successfully completed. The next phase of

¹S. C. Reif, *A Jewish Archive from Old Cairo: The History of Cambridge University's Genizah Collection* (Richmond, Surrey, 2000).

²S. D. Goitein, ‘The Medical Profession in the Light of the Cairo Genizah Documents,’ *Hebrew Union College Annual* 34 (1963), pp. 177–194; P. Fenton, ‘The Importance of the Cairo Genizah for the History of Medicine,’ *Medical History* 24 (1980), pp. 347–348; C. Baker, ‘Islamic and Jewish Medicine in the Medieval Mediterranean World: the Genizah Evidence,’ *Journal of the Royal Society of Medicine* 89 (1996), pp. 577–580.

³E. Lev and Z. Amar, ‘Reconstruction of the Inventory of Materia Medica used by Members of the Jewish Community of Medieval Cairo According to Prescriptions Found in the Taylor-Schechter Genizah Collection, Cambridge,’ *Journal of Ethnopharmacology*, 108 (2006), pp. 428–444; E. Lev, ‘Drugs Held and Sold by Pharmacists of the Jewish Community of Medieval (11th–14th centuries) Cairo According to Lists of Materia Medica Found at the Taylor-Schechter Genizah Collection, Cambridge,’ *Journal of Ethnopharmacology*, 110 (2007), pp. 275–293.

⁴E. Lev and Z. Amar, ‘Medieval Materia Medica – Practice vs. Theory – the Case of the Cairo Genizah,’ *Medical History*, 51 (2007), pp. 507–526; E. Lev, ‘Medieval Egyptian Judaeo-Arabic Prescriptions (and Edition of Three Medical Prescriptions),’ *Journal of Royal Asiatic Society*, 18 (2008), pp. 449–464; E. Lev and Z. Amar, *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah* (Leiden, 2008); Z. Amar and E. Lev, ‘The Significance of the Genizah's Medical Documents for the Study of Medieval Mediterranean Trade,’

this research project is the reconstruction of the medical library of Eastern medieval Jewish medical practitioners centred upon the Cairo Genizah collections. The project, which made use of the Isaacs catalogue and the medical books he identified as a starting point,⁵ has so far yielded only a few more identifications of unique early Arab medical books. Some of them have already been published,⁶ while others are still in the process of publication.

In the course of the reconstruction project, an Arabic fragment of a unique tabular medical book was identified as Ibn Jazlah's tabulated manual *Taqwīm al-abdān fī tadbīr al-insān* (The Almanac of Bodily Parts for the Treatment of People). The uniqueness of this fragment is based on a few parameters, the main one being that it seems to be from one of the earliest known manuscript copies of this text. It should be noted that only five fragments, out of approximately 1550 fragments of medical books found in the T-S collection⁷, are from medieval Arabic tabular medical books. Another parameter is that the setting of the tables in our fragment is different from most of the known manuscripts of the book. It seems that T-S Ar.41.137 was a draft that was never completed, giving us some indication of how the medieval copier worked.

a. The Author

Sharf al-Dīn Abū 'Alī Yahyā Ibn 'Isā Ibn Jazlah (d. 1100) was born and raised as a Nestorian Christian named Yūḥannā in Karkh, Baghdad, and later converted to Islam. His medical education was acquired under Sa'īd Ibn Hibat Allāh (1044–1101) at the 'Aḍuḍi hospital and under the influence of his teacher and patron, Mu'tazilī Abū 'Alī ibn al-Walīd. According to Ibn Abī Uṣaybi'a, Ibn Jazlah converted to Islam in 1074, and was appointed as a registrar at the court of 'Abbāsīd caliph in Baghdad where he also practiced medicine. His achievement as a medical practitioner brought him to the attention of Caliph al-Muqtadī (reigned 1075–1094) and he became his court physician.⁸

Ibn Jazlah wrote several books on various subjects. The main ones are: (1) *Taqwīm al-abdān fī tadbīr al-insān* [a therapeutic hand-book]; (2) *Minhāj al-bayān fī mā yasta'miluh al-insān* [consists of an alphabetical list of plants and drugs, simple or compound]; (3) *Faḍā'il al-ṭibb*;

Journal of the Economic and Social History of the Orient, 50 (2007), pp. 524–541; E. Lev, and Z. Amar, 'Fossils of Practical Medical Knowledge from Medieval Cairo,' Journal of Ethnopharmacology, 119 (2008), pp. 24–40.

⁵H. D. Isaacs (with the assistance of C. F. Baker), *Medical and Para-medical Manuscripts in the Cambridge Genizah Collections* (Cambridge, 1994).

⁶L. Chipman and E. Lev, 'Syrup from the Apothecary's shop: A Genizah Fragment Containing one of the Earliest Manuscripts of Minhaj al-dukkan,' Journal of Semitic Studies, 50 (2006), pp. 137–167; E. Lev, L. Chipman, 'A Fragments of Judeo-Arabic Manuscripts of Sābūr Ibn Sahl al-Aqrābādīn al-Ṣaghīr Found in the Taylor-Schechter Cairo Genizah Collection,' Medieval Encounter, 13 (2007), pp. 347–362; E. Lev, L. Chipman, F. Niessen, 'A Hospital Handbook for the Community: Evidence for the Extensive Use of Ibn Abī 'l-Bayān's al-Dustūr al-Bīmāristānī by the Jewish Practitioners of Medieval Cairo,' Journal of Semitic Studies, 53 (2008), pp. 103–118; L. Chipman and E. Lev, 'Take a Lame and Decrepit Hyena. . . . A Genizah Study of Two Additional Fragments of Manuscripts of Sābūr Ibn Sahl al-Aqrābādīn al-Ṣaghīr,' Early Science and Medicine, 13 (2008), pp. 361–383; Y. Serri and E. Lev, 'A Judaeo-Arabic Fragment of Ibn-Biklārish's Kitāb al-Musta'īnī, Part of a Unique 12th Century Tabular Medical Book Found in the Cairo Genizah (T-S Ar.44.218),' in this journal (2010), pp. 407–440.

⁷The most important and biggest Genizah collection; located at Cambridge University Library.

⁸Ibn Abī Uṣaybi'a, 'Uyūn al-'Anbā' fī Ṭabaqāt al-'Aṭibbā' (Beirut, 1965), I, pp. 254–255; Jamāl al-Dīn al-Qifī, *Tārīkh al-Ḥukamā'* (Leipzig, 1903), pp. 365–366; J. S. Graziani, *Arabic Medicine in the Eleventh Century as Represented in the Work of Ibn Jazlah*. (Karachi, 1980), pp. ii, 12–13; J. Vernet, 'Ibn Dgazla', *The Encyclopaedia of Islam*, Second Edition (Leiden, 1971), II, p. 754.

(4) *al-Radd ʿala ʿI-naṣārā*, [a work in praise of Islam and criticising Christianity]; (5) *Mukhtār mukhtaṣar taʾrīkh Baghdādi* [a summary of the work of al-Khṭīb al-Baghdādī].⁹

The most well-known of his medical writings are *al-Minhāj al-bayān* and *Taqwīm al-abdān*, both treatises dedicated to the imperial library of Caliph al-Muqtadī. Ibn Jazlah was considered in his time as a one of the best physicians, mainly thanks to his knowledge of medical theory, wide experience and keen observation.¹⁰ His gastronomic expertise in relation to medicine, which is mainly presented in *al-Minhāj al-bayān*, has been highly appreciated by scholars until the present day.¹¹ His writings were translated, widely circulated, and much quoted in the West with his name spelt as Ben Gesla, Byngezla, and Buhahylyha. Before he died he bequeathed his collection of books to the famous mosque and mausoleum library of al-Imām Abū Hanīfah in the city of Baghdad where he was buried.¹²

b. The Book

Taqwīm al-abdān fī tadbīr al-insān (The Almanac of Bodily Parts for the Treatment of People) is a therapeutic handbook, or tabulated manual, one of the first books published in such form.¹³ This type of tabulated medical book will be dealt with extensively in the discussion. No edition of it exists in a modern European language, but there is a rare Arabic edition.¹⁴ The book was translated into Latin by the Sicilian Jewish physician, Faraj b. Sālīm (Magister Farachī) in 1280, under the title of *Tacuini aegritudinum* (printed at Strasbourg in 1532), a German translation was published in 1533 in Strasbourg by Hans Schotte.

The book consists of 44 tables, divided into 12 columns each (similar to books of astronomical charts). In each column, data regarding one aspect or phase of the medical treatment is given: 1. Name of each disease mentioned in each class. 2. Temperament. 3. Age. 4. Season. 5. The country favourable to the genesis of the disease. 6. Prognosis, safe or grave. 7. Etiology. 8. Symptoms. 9. Emptying (bloodletting, vomiting, clyster). 10. Royal treatment. 11. Simple or easy treatment. 12. General treatment. Each page presents a category of diseases each consisting of eight of the principle species enumerated, all together describing 352 maladies and indicating the appropriate diets for them.¹⁵

According to Vernet the author was apparently inspired by the *Takwīm al-ṣiḥḥa* of Ibn Buṭlān. This synoptic method was later imitated by other authors such as Ibn Biklārish¹⁶

⁹Vernet, Ibn Dgazla.

¹⁰On Ibn Jazlah work in relation to other Arab authors works, see O. de Marco, G. Nebbia and E.M. P. Mazzacane, 'Ibn Jazla et les Connaissances de l'Islam Médiéval en Sciences Naturelles,' *Revue d'Histoire de la Pharmacie*, 26 (1979), pp. 249–258.

¹¹N. Garbutt, 'The Forgotten 'Aabbāsīd Gastronome,' *Journal of the Economic and Social History of the Orient*, 39 (1996), pp. 42–44.

¹²J. Graziani, *Arabic Medicine*, pp. ii–iii; G. Sarton, *Introduction to the History of Science*, (Baltimore, 1931) I, p. 772; C. Brockelmann, *Geschichte der Arabischen Literatur* (Leiden, 1937), I, p. 639, and Supplement, I, pp. 887–888; L. Leclerc, *Histoire de la Médecine Arabe* (Paris, 1876), I, pp. 493–496.

¹³Graziani, *Arabic Medicine*, pp. ii–iii.

¹⁴b. Gazla, *Taqwīm al-Abdan fī Tadbīr al-Insān* (Maṭbāa Rauḍat as-Sām, [1333 A.H] 1915 A.D.).

¹⁵Graziani, *Arabic Medicine*, pp. 53–54.

¹⁶E. Savage-Smith, *Ibn Biklārish in the Arabic Tradition of Synonymatic Texts and Tabular Presentations*, in C. Burnett (ed.), *Ibn Baklārish's Book of Simples – Medical Remedies between Three Faiths in Twelfth-Century Spain* (New York, 2008), pp. 113–131.

and by the anonymous author in Salerno of the mid-12th century, and may also have had an influence on the arrangement of the tables in the *Taḳwīm al-buldān* of Abu 'l-Fidā'.¹⁷

The book contains a general discussion of diseases their causes, symptoms, and medical treatments. Although the basic treatments listed in the book were not original, the tabulated form was of considerable advantage to physicians in emergency cases due to its utilisation of the synoptic method which simplified the location of the maladies and their treatment. The book was also useful for the teaching of medicine. The fifteen vertical sections of Ibn Buṭlān's tabulated book were reduced to eleven vertical columns by Ibn Jazlah in his *Taḳwīm*. He also clarified terms and added more selective prescriptions and therapy in a new way that enabled both the simple practitioner and the layman reader to utilise it. Ibn Jazlah wrote that he consulted the works of the most important Classical and Arabic physicians, however, he used only the most important and necessary information, mainly from al-Majūsi. He knew Ibn Sina's work well, but it seems as though he deliberately did not mention it even once.¹⁸

The main known manuscripts of Ibn Jazlah's *Taḳwīm al-abdān fī tadbīr al-insān* are: **Complete:** 1. British Library Or. 12096. 2. British Library Or. 5862. 3. Browne OR MS P8 (13), University Library Cambridge. **Incomplete:** 1. Wellcome OR. 54. 2. Garrett Collection, Princeton University Library, No. 1099.

In the detailed introduction Ibn Jazlah stresses hygienic measures and strongly recommends using the means of preservation to promote good health. The spiritual and the physical aspects of life are both important for health and human life. He explains that: "one should labour for the present life as he is going to stay for ever on this earth, and for the life to come, as if this were his last days here". He also wrote: "Prudent is the person who takes heed of this fact to make the best of both worlds. He should adorn himself with gaining useful knowledge and his daily living by good health either by its preservation or restoring it through medicine".¹⁹ The introduction ends with a discussion on poisons and their antidotes, explained and justified by the author: "to know about the danger of harmful substances helps one to avoid them". According to Graziani, Ibn Buṭlān's book on Galen-Hunayn's six essentials (non-natural) for the preservation of good health became a model followed by Ibn Jazlah and other medical writers.²⁰

Findings

a. *The Fragment - T-S Ar.41.137*

T-S Ar.41.137 is written in the Arabic Naskhī script, on paper. It is a mutilated bifolium (2 leaves) measuring 25.2 × 33.6 cm. The content includes general management of fevers, hectic and septic fevers, cancer, erysipelas, soft and hard inflammatory swellings and elephantiasis. Simples mentioned include rose-water, pomegranate juice, wheat and barley-water, wine vinegar, violet and almond oil, verjuice-water, chamomile, spinach, endive, purslane and

¹⁷ Vernet, Ibn Dgazla.

¹⁸ Graziani, *Arabic Medicine*, p. 51.

¹⁹ *Ibid*, p. v.

²⁰ *Ibid*, p. iii.

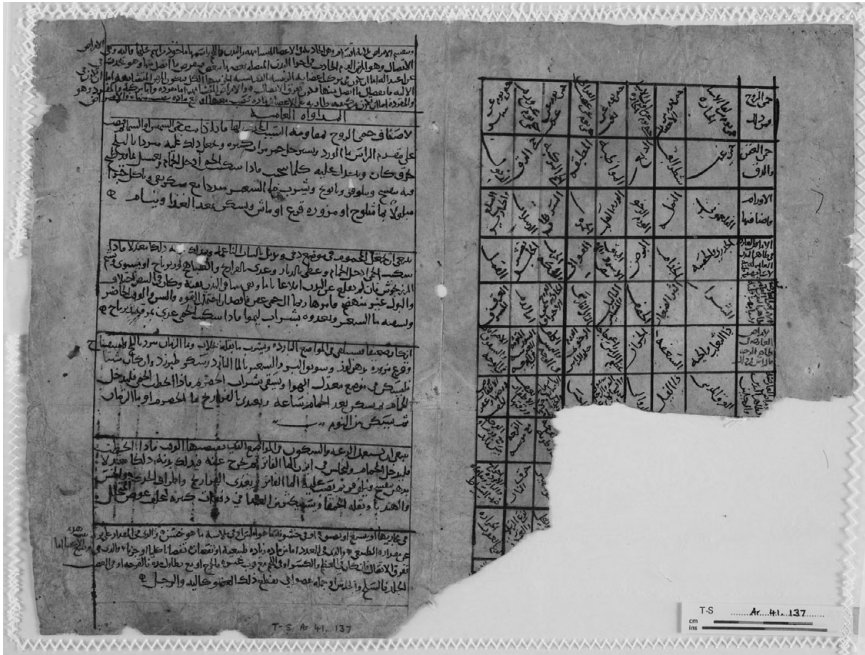


Illustration 1 T-S Ar.41.137 - recto

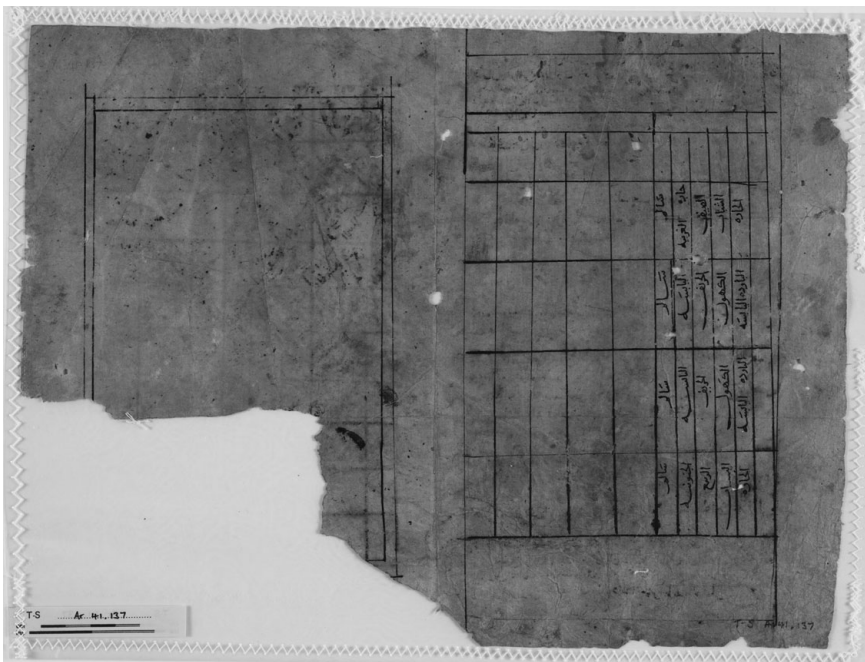


Illustration 2 T-S Ar.41.137 - verso

sweet marjoram. Verso contains part of a table (contents of the book). It was identified and described by Isaacs in his catalogue as: "part of a tabulated work on medicine".²¹

b. Transcription and Description

T-S Ar.41.137 – recto (left side) – transcription²²

1. وتنقسم الأمراض ثلاثة أقسام وهي الحادثة في الأعضاء المتشابهة من البدن واللحم واسمها مأخوذ من اسم محلها واليه وهي
2. الإتصال وهو المرض العام الحادث في أجزء [ء] البدن المتصلة بعضها ببعض فتمرض ما اتصل منها وهو يحدث
3. عن اعتداله إما أن يكون في مركب أعضائه الرئيسية التي نسبة الجزء فيها الكل فيكون المرض المتشابهة وإما
4. الآلية ما يعطل ما اتصل منها فيكون تفرق الإتصال والأمراض المتشابهة إما مفردة وإما مركبة
5. والمفردة إما أن تكون م ن كفة طارية على الأعضاء من مادة تنصب معها أو مع مادة تنصب منها والأمراض
6. المداواة العامة
7. لإضعاف حمى الروح بقاومة التسبب المحدث لها فإذا كانت من حمى الشمس أو السمائم فتصب
8. على مقدم الرأس ماء الورد ويسقى خل خمر مرات كثيرة ويجعل ذلك عليه مبردا بلاتلج
9. يحرق كتان ويترك عليه كلما سخن فإذا سكنت الحمى أدخل الحمام ويغسل بما [ء] قد طبخ
10. فيه بنفسج ونيلوفر وبابونج ويشرب ماء الشعير مبردا مع سكر نقي ويأكل خبزا
11. ميلولا بماء مثلوج أو مزورة قرع أو ماش ويسكن بعد الغذاء وينام
12. ينبغي أن يجعل المحموم في موضع دفيء [ء!] ويدلك بلابنان الناعمة ويدلك منه دلكا معتدلا فإذا
13. سكنت الحمى أدخل الحمام وغطي بلانثار وغذي بلافراريج والهباهج وربوباج أو يشوى ويشم
14. المرزنجوش فإن لم يقلع عن البدن إقلاعا تاما وبقي منها في البدن بقية وكان في النبض اختلاف
15. والبول غير منهضم فأمرها ربما إلى حمى عفن فافضل إن احتملت القوة والسن والوقت الحاضر
16. ويسقيه ماء الشعير ويغذوه بشراب ليمون [ن] فإذا سكنت الحمى عري بمرقد يرتاح
17. إن كان ضعيفا فيستلقي في المواضع الباردة ويشرب ما [ء] بقلة بجلاب وما [ء] الرمان بيرد بلاتلج وأسفيناخ
18. وقرع مزورة بدهن لوز وسويق البر والشعير بلاما [ء] البارد وسكر طبرزد وإن كان شتا [ء]
19. فليسكن في موضع معتدل الهواء [ء] ويسقى شراب الحصرم فإذا انحطت الحمى فليدخل
20. الحمام ويسكن بعد الحمام ساعة ويغذى بلافراريج و ما [ء] الحصرم أو ماء الرمان
21. يستكثر من النوم
22. ينبغي أن يستعمل الدعة والسكون في المواضع التي يقتضيها الوقت فإذا انحطت
23. فليدخل الحمام ولجلس في إبن الما [ء] الفاتر ثم يخرج عنه فيدلك بدنه دلكا معتدلا
24. بدهن بنفسج ونيلوفر ثم يصب عليه الماء الفاتر ويغذى الفراريج وأطراف الجدي والخس
25. والهندبا [ء] وبقلة الحمقا ويستكثر من الغذاء في دفعات كثيرة لتخلف عوض المتخلل
26. في مجاريها أو تتسع أو تضيق أو في خشونة ما هو أملس أو في ملاسة ما هو خشن والذي في المقدار على بد ...
27. عن مقداره الطبيعي والذي في العدد إما من مادة زيادة طبيعية أو نقصان نقصانا كليا أو جزئيا والذي في
28. تفرق الإتصال فإن كان في العظم والكسر أو في اللحم مع قرب غيره بلاجرح أو مع تطاول مرة بلاقرحة أو في العصب
29. الجلد فلاسلخ والخدش أو جملة عضواتي يقطع ذلك العضو كاليد والرجل

²¹Isaacs, Medical, p.32, no. 405.

²²WMS Arabic 418 was helpful with the transcription and the comparing process of the fragment. Sigla: ? = uncertain reading, [] editorial emendation, [. . .] continued.

T-S Ar.41.137 – recto (left side) – translation

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1. The diseases are divided into three divisions, that are harming similar organs of the body and the flash its name (of the disease) is taken according to its location it is (one of these diseases)
 2. the disease of the joint and it is a general disease that harms the parts of the body that are connected together and it causes an illness that (spread) to the connected part and it occurs
 3. in relation to its (body) balance this disease can harm the fundamental parts of the body in which the part is related to the whole (body) and this causes the similar diseases. However
 4. the (الآلية) in which the connected parts (of the body) are affected and this causes damage in the communication. The similar diseases can be either simple or composed
 5. and the simple can be caused due to new situation in each the organs are affected due to material (liquid) that flows from these organs or in them and the diseases (. . .)
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6. general treatment
 7. for the weakening of the fever of the spirit by fighting the specific cause of the disease if the reason is the result of sunstroke or the hot wind, pour
 8. rose water on the forehead let the patient to drink a few cups of grape vinegar cool on snow
 9. burn cotton over the body when it is hot, once the fever is gone, take a bath with water that was infused
 10. with sweet violet, water lily, chamomile, and drink with barley water chilled with pure sugar and eat bread
 11. wet with cold water, or marrow concentrate, or mongo bean and after this meal will fall asleep
 12. a patient with fever should stay in a heated place and be given a tender massage with the soft finger tips, in case
 13. the fever calmed down, enter a bath and then will be covered with a sheet and eat a pullet and roasted meat and inhale
 14. marjoram, in case the fever does not totally leave the body, and still there are symptoms, and the pulse is changing
 15. and the urine is not sound, these point to a putrid fever, it should be better if the patient is strong enough according to his strength, age and timing
 16. drink barley water, and lemon syrup and if the fever calms down, take of his clothing and rest in bed
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17. If one feels weakness, lie down in a cool place and drink concentrate of garden purslane and sweet mixture of rose water and pomegranate water chilled with snow and spinach
 18. marrow concentrate in almond oil with wheat, barley, cold water and sugar, and if it is winter
 19. the patient takes a rest in an open place with fresh air, he drinks syrup of verjuice (vinegar grapes) water, in case the fever is gone, later he enters
 20. the bath, rests an hour and then is fed with pullet cooked with verjuice or pomegranate water
 21. and sleeps a lengthy time
 22. should calm and take a rest in places according to the season (time), when the diseases leave
 23. enter the bath and bathe in a basin of lukewarm water and then will get a gentle massage
 24. with sweet violet oil and water lily and after lukewarm water is spilled on him he should eat pullet and thigh of young goat with lettuce
 25. and endive and garden purslane and eat much as a substitute for what was lost
 26. (. . .) in its vessels or it is enlarged or cramped or either soft object that becomes rough or rough object that becomes soft. The thing (that is related) to the amount . . .
 27. above its normal amount (that exceeds) its natural size. And that (which is related) to the number it is because either the natural substances increases or decreases totally or partially. And that which is (related to)
 28. the separation of (the damage in) their communication this can be found in the bones or in the fraction or in the flesh as a result of a wound or ulcer or a nerve
 29. (if) the skin is (affected) than (it should be) either removed or scraped and (if) the whole organ (is affected) this organ should be cut off, like the hand and like the leg
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T-S Ar.41.137 – recto (right side) - transcription²³

حمى الروح فمن ذلك	حمى يوم مردها الأشياء الحارة	حمى يوم عن الأعصاب	حمى يوم عن تناول الأشياء الحارة	حمى يوم عن تعب	حمى يوم عن عصب القواهي	حمى يوم عن غم	حمى يوم عن ورم	حمى يوم عن سهر
حمى العفن والدق	حمى غب	شطر الغب	الربع	المواظبة	المطابقة	الحمى المركبة	حمى الدق	الدبول
الأورام وأصنافها	اللقموني	التملة	الورم الرخو	الورم الصلب	الجمرة	السرطان	الذبيلات	السلع والخنزير
الأمراض العارضه في ظاهر البدن العارضه لأسباب باطنه	الجذري والحصية	الجنام	البرص	البهق الأسود والأبيض	القواهي	الجرب والحكة	تقشر الجلد	القمل
الأمراض العارضه في ظاهر البدن العارضه لأسباب باطنه	الشرار	البثر الصغار	الحصف والمسامير	الثآليل	النار الفارسي	القروح الحادثه عن الإحترق	أمراض الدم	العرق المسوف
الأمراض العارضه في ظاهر الوجه والرأس فمن ذلك	داء الثعلب والحية	السفة	الحزاز	عظم الرأس واعوجاجه(2)	الورم الرخو تحت جلد الرأس	الكلف والتمش في الوجه	الثؤنة البثور العنسية في الوجه	الإحترقات والسفوف في الوجه
الأمراض العارضه لظاهر البدن والرجلين	العرق المدني	داء الفيل	الدوالي	شقوق اليدين والرجل والسحج الكانن	التاحس	انتفاخ الأصابع وحكنتها	تعقب الأظفار ورقتها	برص الأظفار ورقتها وعقر الخف
الجراحات القروح فمن ذلك	الجراح بانفرا دها]	القرحة بانفرا دها]	القرحة مع وسخها]	القرحة مع الحرارة]	القرحة مع برودة]	[القرحة مع رطوبة]	القرحة مع بيوسه	القرحة مع ورم أو بيس زاند
الجروح وحرق النار وإخراج الأزجة ومداوات ضرب السباط]	القرحة مع تفرق اتصال]	إجراحة العصب وهو المسمى دصنا]	القرحة مع كسرة عظم]	القرح مع وجع]	القرحة الخنثية]	[ال نواصير	حرق النار	إخراج الأزجة والسلا ومداواة ضرب السباط
إنهش الحيوان الذي ... فمن ذلك]	عضة الكلب الكلب]	عضة الاسد والنمر والفهد]	عضة ابن عرس والعضا ية وقملة]	[الافاعي]	[[[???	[لذع والنحل]	لذع الرتيلات والعنكبوت	لذع العقرب الجرارة
			[النسر]					
الألوية القتلاية فمن ذلك]	من حار قتال]	من سقي دوا بارد ل]	من وقرون السنبل]	من سقي الذرايح]	من سقي طرف ذئب لايل]	من سقي عرق الدايه]	من سقي مرارة الافعي والنر والارنب]	من سقي الافيون والشوان والارنب]

²³ Ibid.

T-S Ar.41.137 – recto (right side) – translation

Transitory Fever Result Disturbed Consumption	Transitory Fever Result Swelling Hectic Fever	Transitory Fever Result Worries Compose Fever	Transitory Fever Result Herpes Remittent Fever	Transitory Fever Result Fatigue Continuous Fever	Transitory Fever Result Food Warm Quotidian Fever	Transitory Fever Result Nerve Jaundice take a long time	Transitory Fever Result Food Warm Third Fever (Yellow Fever)	Fever in the Spirits for example Putrid Fever and Hectic Fever
Lipoma and Lymph Nodes	Abcess	Cancer	Erysipelas	Solid Tumour	Soft Tumour	Eczema	Panaris	Tumours Types
Lousy	Xeroderma	Pruritus, Scabies	Herpes	Vitiligo	Chronic leprosy	Leprosy	Variola and Measles	Diseases occurring in the skin of the Reasons
Sweating	Hematologic Diseases	Sores on the incident Combustion	Shingles	Plantar Warts, Warts	Impetigo	Pustule	Hives	Subsoil diseases occurring in the Skin of the reasons
Combustion in Lower	Pustulocystic Lesion	Freckles on the Face and Patches on Skin	Turban Tumour	Skull	Lichen	Ringworm	Alopecia and Ophiasis	Subsoil diseases that appear in the Head and Face
Close Nails and paper Neoplastic Ulcer	Koilonychia	Chilblain	Panaris	Splitting	Varicose	Elephantiasis	Vena Medinensia	Diseases that appear in the hands, feet
Spearhead and palm thorn extraction, treatment for whiplash	Herpes Zoster	Ulcer with Discharge	Ulcer with coldness	Ulcer with fever	Ulcer and its dirt	Strictly ulcer	Strictly wound	Wounds and ulcers
Scorpion sting	Spider bite	Fistulas	Stinking ulcer	Painful ulcer	Ulcer with wounded bone	"wound" of the nerve known as "daṣnā"	Ulcer with ??	Wounds and ulcers, removal of spears and healing of whip's wounds
Whoever was given to drink opium or Hyoscyamus	Whoever was given to drink gall of poisonous snake (Adder, Ter), or leopard	Bee and wasp bite	Scorpion sting?	Snake sting (Adder, Ter)	Bite of mongoose lizard or eagle's louse	Bite of lion, leopard or lynx	Bite of rabies dog	Animal's bites . . . :
Whoever was given to drink opium or Hyoscyamus	Whoever was given to drink gall of poisonous snake (Adder, Ter), or leopard	Whoever was given to drink 'irq al-Daya	Whoever was given to drink the end of deer's tail	Whoever was given to drink Spanish fly (<i>Lytta vesicatoria</i>)	Whoever was given to drink Aconitum or <i>sunbul</i> horns	Whoever was given to drink cold lethal drug	Whoever was given to drink hot lethal drug	Lethal drugs:

T-S Ar.41.137 – verso – transcription

		[اسماء ورقة الاولى]									
		[الامزجة]	الحرارة	الباردة اليابسة	الباردة اليابسة	الحرارة					
		[الاسنان]	الشباب	الكحول	الشباب والصبيبة	الشباب ب					
		[الازمنة]	الصيف	الخريف	الخريف	الربيع ع					
		[البلدان]	حارة الغربية	اليابسة	اليابسة	الجنوة نية					
		[العلامة و الخوف]	سلام	سلام	سلام	سلام					
		[السبب]									
		[العلامة]									
		[الاستفراغ]									
		[التدبير الملوكي]									
		[التدبير السهل الوجود]									

T-S Ar.4I.137 – verso - translation

The name of each disease mentioned in each class									
Treatment for the poor (General treatment)	Treatment for the rich (Royal treatment)	Emptying	Symptom	Cause (Etiology)	Prognosis, safe or grave	Lands (regions)	Season	Age	Temperament
					Safe	Western heat	Summer	Youth	Hot
					Safe	Dry	Autumn	middle age	Cold and dry
					Safe	Dry	Autumn	Youth	Hot
					Safe	Southern	Spring	Youth	Dry

Discussion

Historians of medicine use various types of documents, in most cases complete manuscripts or fragments of medical books. There is no doubt regarding their importance to the field of medical research. However, in this article, the discussion is on the value of a draft of a medical book which was probably made by the copier.

Original drafts of medical books have already been found in the Genizah, the most well known being the drafts of a few of Maimonides' medical books.²⁴ Other fragments representing manuscripts of known medieval medical books,²⁵ some of which are unique early Arab medical books, were also identified.²⁶

In our case, T-S Ar.41.137 is not a draft of an original book, which means that it was not written by the author as part of a book he was in the process of writing. It rather seems to be the draft of a copier, written down in the process of copying Ibn Jazlah's tabulated manual "*Taqwīm al-abdān*", in an attempt to reorganise the data or reformat the book. I suggest that our fragment is one of the earlier known drafts of this book, mainly due to the fact that the vast majority of the Genizah material is dated to the 10th–13th centuries and the known manuscripts of this book in libraries around the world are mainly of the 16th–17th centuries.

In order to analyze this fragment and its importance, the discussion will begin with a short introduction dealing with Arabic tabulated medical books and thereafter the fragment (contents) and its importance as presented below.

I. Arabic Tabulated Medical Books

According to Graziani, tabular books were first used by astronomers in formulating their astronomical tables.²⁷ Interestingly enough, five tabular fragments related to astrology and astronomy were discovered in the T-S Cairo Genizah collection: T-S AS 176.284; T-S AS 180.261; T-S AS 180.263; T-S AS 183.37; T-S AS 184.421.

The didactic tradition of presenting medical knowledge in synoptic tables was mainly used for the rules of dietetics, for the use and synonyms of medicinal substances, and for diseases and their treatment. It is a fascinating phenomenon in the history of Arabic medicine, mainly because tabular medical books are rare and unique. According to Savage-Smith, the origin of synoptic tables is unknown. The first occurrence, however, might be in an Arabic summary of Galen's book on simple drugs which may have been written in Alexandria, first in Greek and later translated into Arabic, and that survived.²⁸ The reason for inventing this system of book composition could have been, according to a note found in one early such manuscript:

²⁴S. M. Stern, Ten Autographs by Maimonides, Fragments of Medical Works, Response, Letters and Prescriptions, in: R. Edelman (ed.) *Corpus Codicum Hebraicorum Medii Aevi* (Copenhagen, 1956). Part I, Vol. III, pp. 12–21.

²⁵E. Lev, Work in Progress – the Research of Medical Knowledge in the Cairo Genizah – Past, Present and Future. in: S. Reif (ed.), *The Written Word Remains – The Archive and the Achievement*, Taylor-Schechter Genizah Research Unit at Cambridge University Library, (Cambridge, 2004), pp. 37–51.

²⁶Chipman and Lev, Syrup; Lev and Chipman, Fragments; Lev, Chipman, and Niessen, Hospital; Chipman and Lev, Take.

²⁷Graziani, *Arabic Medicine*, p. 51.

²⁸Savage-Smith, *Ibn Biklarish*.

“. . . so that the book would be a better abridgement, more worthy of being taken seriously, more attractive to see, easier to read, and not so boring”.²⁹

According to Serri, the original book of Ibn Sina (d. 1039) included tables containing medicinal substances and their uses. However, it seems that, due to their enormous size (16 columns) and their complexity (use of many colours), these tables were not practical and were extracted from the book by the contemporary copier. Serri, in his doctoral dissertation, even reconstructed such a table and hopefully will publish it soon.³⁰ Haddad, while screening 11th century Arabic medical tabular works, mentioned four books (Ibn Jazla – *Kitāb taqwīm al-'abdān*; Ibn Buṭlān – *Kitāb taqwīm al-ṣiḥḥa*; Ibn al-'alā'ī – *Taqwīm al-'adwiya al-mufrada*; al-Tiflīsī – *Taqwīm al-'adwiya*).³¹ According to Graziani, it appears that Abū al-Ḥasan al-Mukhtār Ibn Buṭlān, an important Christian Arab physician of Baghdad, was the originator of using and transferring this system into medical writings, while Ibn Jazlah developed this synoptic method of writing, and the Latin translation of his work later made it notorious.³²

Presented below are the most important Arabic-speaking authors of tabular books:

Ibn Buṭlān, a Christian physician of Baghdad (d. 1066) wrote *Kitāb taqwīm al-ṣiḥḥa [fī quwā al-'aḡhdhiya wa-daf' maḡārrihā]* (The Almanac of Health).³³ Ibn Buṭlān presented 210 plants and animals and 70 other items and procedures useful for maintaining good health in the course of 40 tables.³⁴

Sa'īd Ibn Hibāt Allāh (d. 1101) wrote *Kitāb al-muḡhnī fī tadbīr al-amrāḡ wa-ma'rifat al-'ilāl wa-l-'arāḡ* (al-Ṭibb) (The Ultimate Book on the Treatment of Diseases and the Knowledge of Afflictions and Affections).³⁵

Isma'īl ibn al-Husayn **al-Jurjani** (d. 1136),³⁶ who lived in the province of Khwarazm in Persia, wrote a medical manual, *Manāfi' tibbīyah va ikhlāt kā bayān*³⁷ on the causes and symptoms of diseases (The Quintessence of Medicine).³⁸

'Adnan ibn Nasr **al-'Aynzarbi**,³⁹ a court physician in Fatimid Egypt (d. 1153), wrote *al-Kāfi fī ṣinā'at al-ṭibb* (What is Sufficient for the Medical Art).⁴⁰

²⁹ *Ibid*, pp. 116–117. See a reference to the source in note 3.

³⁰ Y. Serri, Arabic Medical Dictionaries from the Ninth to the Thirteenth Centuries: Their Development, Components and Sources and their Reflection in Ibn Bīklārīsh's and Ibn Al-Suwaydī's Treatises. Ph.D. Thesis submitted to the Senate of Bar-Ilan University (Ramat Gan, Israel, 2007). p. 233.

³¹ F. S. Haddad, 'Tabular Form in Four Arabic Medical Texts from the 11th Century,' *Journal of the International Society for the History of Islamic Medicine* 2 (2002), pp. 53–57.

³² Graziani, Arabic Medicine, p. 51.

³³ al-Qiftī, *Tārīkh*, 298; J. Schacht, "Ibn Ibn Buṭlān", *The Encyclopaedia of Islam*, Second Edition (Leiden, 1971), III, p. 741–743; M. Ullmann, *Die Medizin im Islam* (Leiden, 1970). pp. 157–158.

³⁴ Savage-Smith, Ibn Bīklārīsh.

³⁵ Ibn Abī Uṣaybi'a, 'Uyūn, 340; Ullmann, *Die Medizin*, pp. 160–161.

³⁶ J. Schacht, "Djurdjānī, Ismā'īl." *Encyclopaedia of Islam*, Second Edition (Leiden, 1971), II, p. 603; Ullmann, *Die Medizin*, p. 161.

³⁷ Ismā'īl bin Ḥusain al-Jurjānī. (ed.) *Bār-i cahārum Tarjumah Zakhīrah-i Khvarzamshāhī: Manāfi' Tibbīyah va Ikhlāt kā Bayān* (Lakhnau, 1903).

³⁸ Savage-Smith, Ibn Bīklārīsh.

³⁹ Ullmann, *Die Medizin*, p. 161.

⁴⁰ Savage-Smith, Ibn Bīklārīsh.

Ibn Bīklārīsh al-Isra'īli (12th century) wrote *Kitāb al-musta'imī* (The Book of *Musta'imī*). He included 704 medicinal substances in his tabular treatise.⁴¹

Hubaysh ibn Ibrahim **al-Tifīsī** (12th century),⁴² a prolific medical author, wrote *Kitāb taqwīm al-'adwiya al-mufrada-w-l-aghdhīya* (Almanac of Simple Drugs and Foodstuffs). This work consists of two books, the first covering 730 commonly used medicaments and foodstuffs discussed in tables of 13 columns, and the second listing 880 rare drugs and foodstuffs with suggestions for substitute drugs mentioned in the first book.⁴³

Ibrahim ibn Abi Sa'd ibn Ibrahim al-'Ala'i **al-Maghribi** (late 12th century) wrote a tabular *materia medica* for the Danishmendid dynasty in Anatolia, *Kitāb taqwīm al-adwiya al-mufrada* (Almanac of Simple Drugs) and presented 550 medicinal substances circulated under several titles in synoptic tables.⁴⁴

As mentioned above T-S Ar.4I.137 is one of five fragments of medical tabulated books discovered in the T-S Cairo Genizah collection. The other four are:

1. T-S Ar.11.29 (Medical book: **Sa'īd Ibn Hibāt Allāh's** *al-Mughnī fī al-ṭibb* written in Judaeo-Arabic). This author was one of the teachers of Ibn Jazlah.⁴⁵
2. T-S Ar.38.5 (Contents page of an unidentified medical textbook - tabulated and rubricated, written in Arabic).
3. T-S Ar.44.12 (Unidentified medical book, *Materia medica*, tabulated and circular diagram, written in Arabic).
4. T-S Ar.44.218 (Part of **Ibn Bīklārīsh's** tabulated work, written in Judaeo-Arabic).⁴⁶

2. The Fragment

a. *General Layout in Comparison with other Manuscripts (mainly WMS 418, Browne OR MS P8 (13), British Library Or. 5862 and the edition)*⁴⁷

The first table in our fragment, T-S Ar.4I.137 – verso (right side), consists of 11 rows, each one presenting a group of maladies and containing 8 diseases, totalling 88 maladies. The table is part of the contents page of the book, listing a quarter of the groups of maladies (eleven out of forty-four). It is in fact only half of a more detailed table (consisting of 22 rows) found for example in the WMS 418 (page 2b).

The first seven groups of maladies fully appear in the fragments; the rest were partly reconstructed using WMS 418. The first 11 groups are:

1. Quotidian fever.
2. Putrid fevers
3. Tumours

⁴¹Ullmann, *Die Medizin*, pp. 201, 275; C. Burnett, (ed.), *Medical Remedies Between Three Faiths in Twelfth-Century Spain: Ibn Baklarish's Book of Simples* (New York, 2008); Serri and Lev, *A Judaeo-Arabic*.

⁴²Ullmann, *Die Medizin*, p. 169.

⁴³Ullmann, *Die Medizin*, p. 275.

⁴⁴Savage-Smith, *Ibn Bīklārīsh*.

⁴⁵Vernet, *Ibn Dgazla; Graziani, Arabic Medicine*, pp.12–13.

⁴⁶Serri and Lev, *A Judaeo-Arabic*.

⁴⁷b. Gazla, *Taqwīm*.

4. Skin diseases
5. Skin diseases
6. External diseases of the head and face
7. External diseases of the hand and feet
8. Wounds and ulcers
9. Ulcers and burns
10. Poisonous bites and stings
11. Animal and vegetable poisons

The rows in the (WMS 418 2b) table are similar to other tables in the same manuscripts, and they are written in different colour inks (black and blue for the groups of maladies; and red for the extreme right column – the name of each group of maladies). This arrangement makes it easy to follow the information set in each row from the rows above and below.

It is important to note that the order of the diseases in T-S Ar.41.137 – verso (right side) is different from the setting in WMS 418 – for some unknown reason it is from left to right in each single row (see figure 1).

The 8 diseases of each row are dealt with in detail on another page (for example in WMS 418 – 3b, 4b, 5b, . . .). In our fragment T-S Ar.41.137 there is only an early and unsuccessful attempt to start such a table.

In T-S Ar.41.137 – recto (left side) – there is another table of one column and 8 rows which includes practical matters, mainly relating to holistic medicine, e.g. diet (food and drinks), bath, massage etc. For comparison – in WMS 418 – such tables are found in pages – 4a, 5a, 6a Diseases 1–8 (Fever in the Spirits) can be found in a table in WMS 418 page 3b and are discussed in detail in WMS 418 page 4a. The second group, diseases 9–16 (Putrid Fever and Hectic Fever) can be found in a table in WMS 418 page 4b and are discussed in detail in WMS 418 page 5a- and so on.

It turns out that the table in T-S Ar.41.137 (in relation to WMS 418) has less than half of the details in the table on page 2b, and the left side of the table is half of the table on page 4a.

The table in T-S Ar.41.137 – recto (left side) consists of 7 rows (4–5 written rows each): **Row 1** – Theoretical general knowledge – continue at row 7. This information is written at the top of the page, above and below the table in WMS 418 (see for example 4a). **Row 2** – does not exist in WMS 418 (page 4a) – it is a heading saying “general treatment”. **Rows 3–6** describe the general administration for fevers, mainly “non drugs” treatment such as diet (food and drinks), bath, massage etc. **Row 7** – is the continuation of the theoretical data from Row 1.

b. Main Medical Issues in the Fragments:

Fever and their Treatment in the Arabic Medieval Medicine

Fevers (*ḥummayāt* in Arabic), is a general name for a variety of heat diseases, mainly malaria. Malaria is an infection of the blood by a plasmodium parasite, and is clinically characterised by a periodic fever, anemia; enlargement of the spleen, and various syndromes of organs,

1	2	3	4	5	6	7	8	حمى الروح فمن ذلك
9	10	11	12	13	14	15	16	حمى العفن والدق
17	18	19	20	21	22	23	24	الأورام وأصنافها
25	26	27	28	29	30	31	32	الأمراض العارضة في ظاهر البدن العارضة لأسباب باطنة
33	34	35	36	37	38	39	40	الأمراض العارضة في ظاهر البدن العارضة لأسباب باطنة
41	42	43	44	45	46	47	48	الأمراض العارضة في ظاهر الوجه والرأس فمن ذلك
49	50	51	52	53	54	55	56	الأمراض العارضة لظاهر اليدين والرجلين
57	58	59	60	61	62	63	64	[]
65	66	67	68	69	70	71	72	[]
73	74	75	76	77	78	79	80	[]
81	82	83	84	85	86	87	88	[]

Figure 1 - Numeral Schematic Figure of (T-S Ar.41.137 – recto, right side) [bold figures are missing entries in the fragment]

such as: the brain, liver and kidneys. The severity of the disease depends upon the age, health, and degree of immunity of the patient and the particular species of the plasmodium parasite. Malaria is mainly transmitted by the *Anopheles* mosquito.⁴⁸ It seems to have originated in

⁴⁸M. W. Dols, “Malāryā.” Encyclopaedia of Islam, Second Edition (Leiden, 1971), VI, p. 229.

tropical Africa in prehistoric times, and extended its hold over most of the tropical world and much of the land in the temperate climates. It became endemic in Greece and Italy as early as the 5th century BC, had a deleterious effects on these civilisations, and its symptoms were recorded in the Hippocratic corpus and later medical works.⁴⁹ Malaria existed in most of the regions ruled by Islam and is widely mentioned in Arabic medical literature. However, it seems that the descriptions of fevers in Arabic medicine appear to be greatly dependent on Greco-Roman medical traditions.⁵⁰ Quite a few Arabic medical books were devoted to fevers.⁵¹

Holistic Medicine

Modern holistic medicine is based on the idea of stimulating the natural self healing and self regulating abilities of the human body. It employs various techniques dealing with the soul and the body of patients and is called today alternative, complementary, unconventional, and mainly integrative medicine. It appears that holistic medical techniques were originally part of the medical culture and practice of ancient civilisations around the world, including the Greco-Roman and the Arabic.⁵² Some of the medical techniques that were mentioned in our fragment (diet, massage, inhalation, bath), and presented below, are clear-cut evidence for the holistic medical perspective of Ibn Jazlah in the framework of Arabic medicine.

c. Two Versions of the Same Book?

After an examination of the existing manuscripts of Ibn Jazlah's *Taqwīm al-abdān fī tadbīr al-insān* in various libraries in England, it turns out that there are two different formats of the book:

1. **The First One** is that of large-sized books with content pages consisting of 22 rows as found for example in the Wellcome OR. 54 (WMS 418) (17.8 × 28.5 cm – 53 folios); Browne OR MS P8 (13) (20.5 × 31 cm – 48 folios), University Library Cambridge, and in British Library Or. 5862 (23 × 31 cm – 50 folios). The average length of these books is 50 folios. The only published edition of the book has a similar number of pages (49 folios).⁵³
2. **The Second** is characterised by a smaller size and the content page consists of 11 rows (in fact only half of more detailed table). This is the case of British Library Or. 12096 for example (16.5 × 27 cm – 99 folios). Interestingly enough, the title of this book in the manuscript is "*Tadīr al-amrād wa ma'rīfat al-asbāb wal-a'rād*" and the author's name

⁴⁹W. H. S. Jones, *Malaria and Greek History* (Manchester, 1909).

⁵⁰E. G. Browne, *Arabian Medicine* (Cambridge, 1921), p. 51; Ullmann, *Die Medizin*, pp. 42, 137, 214; P. E. Pormann and E. Savage-Smith, *Medieval Islamic Medicine*, (Cairo, 2007), pp. 56–57; J.D. Latham and H. D. Isaacs (trans. & eds.), *Kitāb al-Hummayāt li-Ishāq ibn Sulaymān al-Isrā'īlī: On fevers*. (Cambridge, 1981); M. Meyerhof, "Alī at-Ṭabarī's "Paradise of Wisdom", one of the oldest Arabic compendiums of medicine," *Isis*, 16 (1931), pp. 6–54; M. Meyerhof, "The "Book of Treasure", an Early Arabic treatise on medicine". *Isis*, 14 (1930), pp. 55–76.

⁵¹G. Bos (trans & ed.), *Ibn Al-Jazzar on Fevers: a Critical Edition of Zād al-Musāfir wa-Qūt al-Hādir* (London, New York, 2000).

⁵²O. Y. Oumeish, "The Philosophical, Cultural, and Historical Aspects of Complementary, Alternative, Unconventional, and Integrative Medicine in the Old World," *Archives of Dermatology* 134 (1998), pp. 1373–1386.

⁵³b. Gazla, *Taqwīm*.

is “Muḥammad ibn Aṣad ibn Buraid al-Khuzā’zi al-Anṣārī” (1551 AD). However, the content is the same as Ibn Jazlah’s *Taqwīm al-abdān fī tadbīr al-insān*. The length of these books is 90 folios. It seems as if this book was copied either from an older version or was even reorganised by a copier and was therefore given a “bookshelf title”, and named after the copier. According to Serikof, in the Arabic medical tradition books were arranged on shelves based on their titles. In many cases, books had “bookshelf titles” beside their original title,⁵⁴ and sometimes these “bookshelf” names could subsequently become a new title of the book.⁵⁵ British Library Or. 12096 might be an example for such an occurrence. According to this argument the book named “*Tadīr al-amrāḍ wa ma’rifat al-asbāb wal-a’rāḍ*” would be shelved under “diseases” in opposition to the original book written by Ibn Jazlah named “*Taqwīm al-abdān fī tadbīr al-insān*” which would have been shelved under “body”.

It should be mentioned that all known manuscripts of the book are of the 16th–17th centuries. Our fragment (T-S Ar.41.137) is 25.2 × 33.6 cm (the folio) – however, the size of the book was (16.8 × 25.2 cm) and is more similar in its appearance and size to British Library Or. 12096. In any case, since the vast majority of fragments in the Cairo Genizah are from the 10th–13th centuries – we can argue that it is the earliest existing fragment.

When we try to analyze why the copier of our fragment changed the layout of the book from the original one, we can only speculate that the copier split the content of each original page into two parts that were written on two different pages in our fragment. This might have been done due to the size of the paper he had in his possession (too small to accommodate 44 rows each). Therefore, the book he copied or reshaped should have been twice as long. We should bear in mind that this is in total contradiction to the main idea of writing tabulated books – the summary of a large volume of information in a low number of pages! There is another rare option, that our fragment was copied from an already smaller sized manuscript of Ibn Jazlah’s *Taqwīm al-abdān fī tadbīr al-insān* – the original master copy for manuscripts such as British Library Or. 12096.

Conclusion

T-S Ar.41.137 clearly shows that the medieval copier of this fragment tried to reorganise the setting of the book but quickly abandoned his work after using it as a model (perhaps unsuccessfully). In this regard, when comparing our fragment with WMS 418, a few differences come immediately to mind:

* The copier split the content of each original page into two parts that were written on two different pages in our fragment.

* It seems as if the copier failed in his mission and left off working in the middle of the third page – probably due to wrong planning of the setting and layout of the book, or to his lack of knowledge and experience in copying a tabulated book (which were very rare).

⁵⁴N. Serikoff, *Beobachtungen Über die Marginalien- und Schnittel in Christlich-Arabischen und Islamischen Büchersammlungen*, (in Press).

⁵⁵Abd al-Laṭīf b. Muḥammad Riyaḍī zādah (died 1667–8), in his *Asmā’ al-Kutub*, (ed.) Muhammad Tūnġi (Cairo, 1978), p. 155, gives a list of similar book titles written by different authors – according to Serikof, due to their “bookshelf” titles (*Ibid*).

Another option is that his attempt to make innovations in the style and the setting of the book had failed.

* The contents page - T-S Ar.41.137 – verso (right side) is written in a different way (opposite) – from left to right!

* In the first and last paragraphs (T-S Ar.41.137 – recto, left side), the copier deleted lines. The copier also added one heading (general treatment) separately in a different row.

* The copier changed the style of the book and shortened its contents. For example, he did not copy prefaces and simplified the contents of the book.

Can these remarks lead us to the assumption or conclusion that our fragment is a draft copy of the book?! We do not have a clue as to how successful he was with his new setting. The answer can only be made if we find another fragment of the book, written with the same hand!

As shown in the discussion, all the substances mentioned in T-S Ar.41.137 by Ibn Jazlah, such as food, drinks, bath liquids, massage oils, perfumes and salves for burns – have had many medical uses throughout history, including treatment for fevers. Some of these uses are practiced until present day by users of traditional medicine in the Middle East.

Appendix

Holistic healing techniques and medicinal substances mentioned in the fragment

All the medicinal substances mentioned in T-S Ar.41.137 are well known and were used for medical purposes since early times. However, in our fragment, they are not used as regular drugs taken internally or used externally, but are all part of a holistic system of healing and recovery. The active materials are inserted into the body through the mouth (food, drink, inhalation), or the skin (bath, massage, sousing).

I present here a short summary of the medicinal uses of these substances as found in the Genizah literary sources (theoretical⁵⁶ as well as practical), other contemporary medical authorities, and traditional medicine. In many cases these sources mention the use of these substances for the treatment of fevers. It seems that in many cases the substances provided a cooling effect and were nutritious enough to fortify the body and help to overcome the disease. Each of these substances is presented according to the medical techniques in which it was used according to our fragments. A short historical introduction to each holistic technique is presented as well (all row numbers relate to T-S Ar.41.137 – recto, left side).

I. Massage

Massage was used as a preventive and practical holistic activity by the ancient Egyptians, Chinese, Greeks and Romans. It was adopted by the Arab physicians and widely practiced in the medieval period by medical practitioners.⁵⁷ A tender massage with the soft finger tips given in a heated place was recommended for a patient suffering from a fever (Row 12). A

⁵⁶It is important to note that the information that comes from prescriptions and lists of materia medica found in the Genizah is original, unique and testified directly to its practical uses in medieval Egypt. Lev and Amar, Fossils. E. Lev and L. Chipman, *Medical Prescriptions in the Cambridge Genizah Collection: Practical Medicine and Pharmacology in Medieval Egypt*, (Leiden, 2012).

⁵⁷Oumeish, *The philosophical*; R. N. Calvert. *The History of Massage: An Illustrated Survey from around the World* (Rochester, Vt., 2002).

gentle massage with sweet violet oil and water lily was also recommended, after a bath in a basin of lukewarm water (Rows 23–24).

Massage Agents

Aromatic substances were used by Arab physicians for drugs, massages, baths and cosmetic agents.⁵⁸

Sweet Violet (Oil) (*Viola odorata*; Violaceae), in Arabic: *banafsaj*⁵⁹

A gentle massage with sweet violet oil after a bath in a basin with lukewarm water was recommended for the feverish patient “when the diseases leave” (Row 22). It was also used as a bath agent (Row 10). Different products of sweet violet figure in two Genizah lists of *materia medica* and in 13 prescriptions were used for swelling (oil), hallucination, diet (flowers), treating the face and the eyes, and as an aphrodisiac (flowers). Sweet violet is mentioned in medical books in recipes for fragrant drinks, for the treatment of headache, pain in the eyes, stomachache, the bites of scorpions and reptiles and haematuria, diarrhoea, abdominal pains, dysuria, and fevers, and also for palpitation, treatment of deafness, earache and throbbing headache, bathtub immersion for fever, and eye diseases.⁶⁰

Dioscorides reports the use of the plant *Ion* to treat epilepsy and throat inflammation.⁶¹ Al-Kindī (9th century) states that the ‘banafsaj’ was used to treat the breathing tracts, intestinal disorders, mumps, toothache, haemorrhoids, and night blindness.⁶² Maimonides (12th century) told the Ayyubid sultan that he recommended rubbing ‘banafsaj oil’ – purified violet oil – on the skin, and it is mentioned as a component in a sleeping drug.⁶³ Violet was said to be a cold and moist drug and a mild purgative. Violet oil was used as protection on “the lips of one who had sucked poison”.⁶⁴ Ibn al-Bayṭār (13th century) notes that the substance was used as a medication for the stomach, cough, eye diseases, pain, fever and to dispel gases.⁶⁵ He also describes violet oil and lists its medicinal uses.⁶⁶ Al-Qazwīnī (13th century) relates that the plant served as a medication for severe eye inflammation and to treat colds and various skin diseases.⁶⁷

From ethno-pharmacological surveys and research work we learn that Yemenite Jews used it medically as an eye dressing for inflammation and sores. It was used internally to treat fever

⁵⁸M. Levey, ‘Ibn Māsawayh and his Treatise on Simple Aromatic Substances,’ *Journal of the History of Medicine and Allied Science*, 6 (1961), pp. 394–410.

⁵⁹A. Issa Bey, *Dictionnaire des Noms des Plantes* (Cairo, 1930), p. 189, no. 18.

⁶⁰Lev and Amar, *Practical*, pp. 299–301.

⁶¹R. T. Gunther (trans.), *The Greek Herbal of Dioscorides* (New York, 1959), IV.122. L. Y. Beck (trans.), *Pedanius Dioscorides of Anazarbus, De Materia Medica* (Hildesheim–Zürich–New York, 2005), IV, 121.

⁶²M. Levey, *The Medical Formulary or the ‘Aqrābādhīn of al-Kindī* (Madison, 1966), nos. 9, 60, 78, 125, 169, 247, no. 47.

⁶³Moshe Ben Maimon (Maimonides), *Medical Responses*, S. Muntner (ed.) (Jerusalem, 1969), p. 5; Moshe Ben Maimon (Maimonides), *Sexual Life (On the Increase of Physical Vigour)*, (S. Muntner, (ed.) (Hebrew, Jerusalem, 1965), 18:1

⁶⁴Moshe Ben Maimon (Maimonides), *Regimen Sanitatis* (ed.) S. Muntner (Hebrew; Jerusalem, 1957), 2:7, 9, 20; 3:4; Moshe Ben Maimon (Maimonides), *Poisons and their Antidotes*, (ed.) S. Muntner (Hebrew, Jerusalem, 1942), p. 97; Ben Maimon, *Aphorisms*, 21:74.

⁶⁵Ibn al-Bayṭār, *Kitāb al-Jāmi‘ li-Mufradāt al-‘Adwiya wa-l-‘Aghdhiya* (Arabic; Cairo, 1874), I, pp. 114–115.

⁶⁶Ibn al-Bayṭār, *Kitāb*, II, p. 107.

⁶⁷al-Qazwīnī, ‘*Ajā‘ib al-Makhlūqāt* (Arabic, Beirut, 1981), p. 242.

and swellings in the body, to regulate the digestive tract, cleanse the stomach, cure jaundice and severe cough, to soothe, and to induce sleep.⁶⁸ Various types of violet, especially sweet violet, were used in Iran to reduce fever, and relieve headache, as a mild purgative, as a medication for constipation, as a soothing drug and to induce perspiration.⁶⁹ The use of this plant is widespread in the East to the present for treating cough.⁷⁰ Sweet violet is used to ease backache in traditional medicine in Israel.⁷¹

Water Lily (*Nymphaea alba*, Nymphaeaceae), in Arabic: *nīlūfar*

A gentle massage with water lily after a bath in a basin with lukewarm water was recommended for the feverish patient "when the diseases leave" (Row 22). It was also used as a bath agent (Row 10). Different kinds of "lotus plants" appear in seven Genizah lists of *materia medica* and in a prescription. It was also mentioned in medical books: as an aphrodisiac, combating wet dreams, as well as eye and skin diseases.⁷²

In his entry 'nymphaia' Dioscorides describes *Nymphaea alba* and notes its uses, such as to treat dysentery, intestinal diseases, illnesses of the spleen, and problems of the urinary bladder.⁷³ According to Maimonides, the 'nīlūfar' is one of the plants that strengthens the appetite and the spirit, and is beneficial for skin diseases. The flower is used as a purgative drug, and the leaves serve as a component in an aphrodisiac preparation.⁷⁴ Al-Qazwīnī reports that the 'nīlūfar' was used as a soporific, to relieve headache, to treat leprosy and baldness, and to inhibit sexual desire.⁷⁵

A powder derived from the root stem of *Nymphaea lotus* serves as a medication for digestive or intestinal problems, and the powder of the crushed seeds is used in the Sudan to treat skin diseases.⁷⁶ Flowers of various types of the white water lily are sold in India where they are used as a medicinal drug, mainly as an astringent, to stop haemorrhages, and as a component in a preparation to reduce fever and cure lung diseases in children.⁷⁷

2. Bath

Bathing in hot, cold and mineral water was widely practiced for pleasure and as a preventive and practical holistic activity by the Greeks and the Romans.⁷⁸ Medical baths using aromatic

⁶⁸Y. Reiani, Medicinal Substances of the Yemenite Jews. Unpublished M.Sc. thesis, The Hebrew University (Hebrew, Jerusalem, 1963), p. 51, no. 123.

⁶⁹D. Hooper, Useful Plants and Drugs of Iran and Iraq. Field Museum of Natural History, Publ. 387. (Chicago, 1937), p. 185; A. al-Rawi and H. L. Chaakravarty, Medicinal Plants of Iraq, Ministry of Agriculture Technology, Bulletin No. 146. (Baghdad, 1964), p. 97.

⁷⁰Levey, Medical, p. 247, no. 47.

⁷¹E. Lev and Z. Amar, Ethnic Medicinal Substances of the Land of Israel (Hebrew, Jerusalem, 2002), p. 162.

⁷²Lev and Amar, Practical, pp. 210–211.

⁷³Gunther, Dioscorides, III, p. 148; Beck, Dioscorides, III, p. 132.

⁷⁴Ben Maimon, Regimen, 2:20; Moshe Ben Maimon (Maimonides), The Medical Aphorisms of Moses Maimonides, eds. F. Rosner and S. Muntner (New York, 1970), 9:106; 13:51; 21:74; Ben Maimon, Sexual, 5:5; 7:1.

⁷⁵Al-Qazwīnī, 'Ajā'ib, p. 261.

⁷⁶J. C. Uphof, Dictionary of Economic Plants (New York, 1968), p. 363.

⁷⁷Hooper, Useful, pp. 144–145.

⁷⁸P. Astrup, P. Bie and H. C. Engell, Salt and Water in Culture and Medicine (Copenhagen, 1995); E. Dvorzetsky, 'Healing Spas in the Land of Israel in Ancient Times: Holy Sites or Popular Healing Sites?,' Jerusalem Studies in Jewish Folklore, 16 (1994), pp. 7–27 (Hebrew).

substances was adopted by the Arabs and widely practiced in the medieval period by patients.⁷⁹ Baths were specifically prescribed by Arab physicians for recuperating from illness,⁸⁰ as demonstrated in our fragment four times. It was recommended as a treatment practiced when “the fever was gone”:

1. “. . . . once the fever is gone, take a bath with water that were infused with sweet violet, water lily, chamomile” (Rows 9–10)
2. “. In case the fever calmed down, enter a bath and then will be covered with a sheet” (Rows 12–13)
3. “. in case the fever is gone, later he enters the bath, rests an hour and then is fed” (Rows 19–20)
4. “.when the disease leaves enter the bath and bathe in basin of lukewarm water” (Rows 22)

Bath Agents

Three bath agents are mentioned in our fragment: sweet violet, water lily, chamomile (Row 10):

Chamomile (*Matricaria aurea*; Asteraceae), in Arabic: *bābūnāʿ*⁸¹

Once a fever resulting from sunstroke or a hot wind is gone, a bath with water that was infused with chamomile and other agents was recommended (Row 10). Chamomile liquid features in one Genizah prescription. It is also mentioned in medical books found in the Genizah in recipes for skin lotions and poultices to heal pustules and remove scabs, to treat hair splitting and falling out, and eye complaints. Eating chicken soup with onion and chickpeas is given as advice to a patient, together with drinking wine and other simples and smearing himself with chamomile oil and nard.⁸²

Ancient Egyptians used the plant in cultic ceremonies and to cure malaria. For the Romans it was a protection against snakebites. Dioscorides describes the species of *Anthemis* and notes their medical uses: to accelerate menstruation, to abort foetuses, to dissolve stones in the urinary tract, to increase urination, to cure infections, and to reduce fever.⁸³ According to the physician Assaf (Assaf ha-Rofe), chamomile serves to cure eye diseases.⁸⁴ Al-Kindī describes the use of the plant in treating haemorrhoids, in settling the liver and stomach, strengthening the limbs, and soothing skin irritations.⁸⁵ According to Maimonides, ‘kamomil’ heats and dries, permeates the skin, and cures the limbs.⁸⁶ Ibn al-Bayṭār states that different varieties of the plant serve to eliminate stones in the urinary tract, treat the gall bladder, strengthen the

⁷⁹Oumeish, *The philosophical*.

⁸⁰Pormann and Savage-Smith, *Medieval*, p. 136.

⁸¹Moshe Ben Maimon (Maimonides), *Un Glossaire de Matière Médicale Composé par Maimonide*, (ed.) M. Meyerhof, *Mémoires Présentées à l’Institut d’Égypte*, 41 (Cairo, 1940), no. 20; Issa, *Dictionnaire*, p. 17, no. 18; 18, no. 108.

⁸²Lev and Amar, *Practical*, pp. 378–379.

⁸³Gunther, *Dioscorides*, III.154; Beck, *Dioscorides*, III, 137.

⁸⁴S. Muntner, ‘Assaph (Harofe) the Physician, ‘Sefer Refuoth’,’ *Korot*, IV (1967–1969), p. 401.

⁸⁵Levey, *Medical*, nos. 6, 8, 32, 36, 37, 47, 51, 55, 60.

⁸⁶Ben Maimon, *Aphorisms*, 23:99.

womb, reduce swellings, accelerate menstruation, and increase urination and sweating.⁸⁷ Ibn al-Bayṭār also says that al-Tamīmī (10th century) noted that it was used to treat eye diseases.⁸⁸ According to the scholar al-Ghazzī (15th-16th century) the plant serves in the treatment of toothache and headaches, and causes vomiting.⁸⁹

The Arabs of Israel use the dried flowers to cure joint diseases and the digestive system, and to reduce high fever. Yemenite Jews used the inflorescence to rinse the mouth, to reduce swellings, to treat infections in the kidneys and liver, to soothe the nerves, to strengthen the mind, to treat headaches, dizziness, and chronic diseases. Moroccan Jews used the plant to reduce high fever, to treat cough and stomach aches, and to increase female fertility. Libyan Jews used it to increase sweating and to treat colds, while Persian Jews took it as a carminative. Tunisian and Algerian Jews, on the other hand, used it to treat stomach worms and stomach problems, spasms, and colds, and to accelerate menstruation . . .⁹⁰

Sweet Violet "Once a fever resulting from sunstroke or a hot wind is gone, take a bath with water that were infused with sweet violet and other bath agents" (Row 10). For more information regarding the plant and its medical uses - see above.

Water Lily "Once a fever resulting from sunstroke or a hot wind is gone, take a bath with water that were infused with water lily and other bath agents" (Row 10). For more information regarding the plant and its medical uses - see above.

3. Pouring on the Forehead

Rose [water] (*Rosa canina*; Rosaceae), in Arabic: *nasrīn*, *ward*⁹¹

Pouring rose water on the forehead was used for "the weakening of the fever of the spirit by fighting the specific cause of the disease if it is the result of sunstroke or a hot wind" (Rows 7-8). It was also used, as in our fragment, as a drink in case a feverish patient "feels weakness" (Row 17).

Different products of rose, mainly water, figure in 14 Genizah lists of *materia medica* and in 57 prescriptions, mainly lincti and ointment. Many fragments of medical books attest to the medicinal uses of rose water, for the treatment of quartan fever, burning black bile and phlegm, headache and giddiness, cold, diarrhoea, melancholia, mania, pain in the eyes and stomach, skin complaints and to stop excess salivation. Flour mixed with rose water is considered a dietetic sweet dish, and are baked together as bread for the treatment of feverish patients.⁹² Rose water is also used as a soft drink.⁹³

⁸⁷ Ibn al-Bayṭār, Kitāb, I, pp. 48-49.

⁸⁸ Ibn al-Bayṭār, Kitāb, I, p. 121.

⁸⁹ S. Hamarneh, 'Medical Plants, Therapy and Ecology in Al-Ghazzi's Book on Agriculture,' *Studies in the History of Medicine*, 2 (1978), pp. 223-263.

⁹⁰ M. Grieve, *A Modern Herbal* (London, 1994), pp. 185-187; Uphof, *Dictionary*, p. 40; al-Rawi and Chaakravarty *Medicinal*, p. 14; Lev and Amar *Practical*, pp. 378-379.

⁹¹ Ben Maimon, *Glossaire*, p. 74, no. 253; Issa, *Dictionnaire*, p. 157, no. 1.

⁹² Lev and Amar, *Practical*, pp. 261-266.

⁹³ Goitein, *Mediterranean*, IV, p. 261

The medicinal use of the dog rose is also described by physicians of the classical period. Dioscorides, for example, describes the medicinal use of a variety of the dog rose to treat stomach disorders, headaches, gynaecological problems, skin diseases, wounds, and the eyes and gums.⁹⁴ Al-Kindī used rose water for neck pustules,⁹⁵ and Maimonides states that a cloth soaked in vinegar, henna, and rose water serves as a compress (dressing) to treat the stings of bees or wasps. Rose oil was used as a general strengthening and as an ingredient in the “great ’iṭrīful” to fortify the heart, to delay old age, and to increase sexual potency.⁹⁶

4. Inhaling

The religious ceremonies of Eastern ancient civilisations such as Egypt, Babylon, India and China included the burning of incense. It seems that the smoke inhaled by the attendants induced calmness and a sense of comfort, and smoke inhalation was also used to treat various maladies including respiratory troubles. Inhalation therapy is the intake of medications (powder, smoke, the vapour of dry, burnt or boiled substances) through the nose or mouth for therapeutic purposes by natural respiration. It was an important therapeutic method in the past, and is still used as an effective treatment for variety of diseases in both modern medicine and traditional medicine. Inhalation of dried medicinal plants, boiled medications and the smoke of some burnt material as treatments of oral, pharyngeal and chest troubles is mentioned in the Ebers and Berlin medical papyri.⁹⁷ Evidence for similar uses were traced in Babylonian, Indian, Greek and Persian medical writings. The Romans constructed public baths in their cities that were supplied with cold and warm water. Steam inhalation was practiced there mainly for respiratory troubles. Galen for example, described the powdered snuff of many medicinal plants and the inhalation of their volatile vapour and smoke for the treatment of nasal and head troubles.⁹⁸ The Arab improved the technique of inhalation therapy with the addition of many medicinal plants and minerals. They also modified the use of public baths for therapeutic purposes by the addition of volatile medicinal plants to the warm water. Patients were submerged to the level of the neck in warm water and covered by a blanket to retain the vapours for inhalation.⁹⁹

Marjoram [sweet] (*Origanum majorana* = *Majorana hortensis*; Lamiaceae), in Arabic: *mardakūsh*, *marzanjūsh*¹⁰⁰

Inhaling marjoram was recommended in case the fever “does not totally leave the body”, the patient took a bath, was covered with a sheet and ate pullet and camel meat (Rows 13–14). Sweet marjoram features in 3 Genizah lists of *materia medica*; a dried plant is mentioned in

⁹⁴ Gunther, Dioscorides, I.123; Beck, Dioscorides, I, 94, 99.

⁹⁵ Levey, Medical, nos. 23,47,60,70,145.

⁹⁶ Ben Maimon, Aphorisms, 21:67, 69; Ben Maimon, Poisons, pp. 111, 125; Ben Maimon, Glossaire, No. 107; Said, Book, I, p. 132.

⁹⁷ H. Kamal, Dictionary of Pharaonic Medicine, Second Edition, (Cairo, 1967).

⁹⁸ C. Singer and A. Underwood, A Short History of Medicine, Second Edition, (Oxford, 1962).

⁹⁹ R. Reynolds, “Baths and Bathing” The Encyclopedia Americana (U.S.A, 1982), Vol. 3, p. 346.

¹⁰⁰ Issa, Dictionnaire, p. 130, no. 2, Ben Maimon, Glossaire, no. 236.

a prescription. Sweet marjoram is mentioned in medical books dealing with eye diseases, fevers, and as emmenagogues and abortifacients.¹⁰¹

Dioscorides states that the plant is used as a cure for dropsy, oedema, inflammations, and excess urination, and to regulate menstruation.¹⁰² He also praises 'marjoram oil' which was brought from Egypt.¹⁰³ The physician Assaf asserts that marjoram cures many illnesses, mainly gynaecological, kidney, and urinary tract disorders.¹⁰⁴ Maimonides cites al-Tamīmī in asserting that it was used to treat anaemia.¹⁰⁵ Al-Qazwīnī writes that sweet marjoram is used as a cure for migraines, headaches, constipation, and paralysis.¹⁰⁶

Marjoram is used by the Arabs of Israel to relieve headache, to cure gum inflammations, and to whiten and strengthen the teeth. It is also used to ease cough, strengthen the heart, cure dizziness, expel worms, and to treat internal inflammations of the stomach, lungs, and liver.¹⁰⁷ Yemenite and Babylonian Jews made a medicinal tea from marjoram leaves to ease labour pains, as a general sedative, to cure heart pains, and reduce body swellings, mainly in the legs. Marjoram was also used as a component in remedies to ease headaches, earache, and stomachache, and to disinfect the female sexual organs.¹⁰⁸

5. Burning

Humans have always admired fire and its power, and it became an ancient form of therapy. Burning or cauterising is a technique indigenous to the pre-Islamic Mediterranean e.g. ancient Egyptians, and ancient Greeks. The Arabs had great faith in the therapeutic values of fire as cauteriser, it was a basic tool in any Arab physician's armory, and is still one of the major components in Arab traditional medicine.¹⁰⁹ Cautery was dealt with in detail in Ibn Sina's *al-Qanun* (10th–11th century) and in the surgical book of the Andalusian physician Abu al-Qasim Khalaf ibn 'Abbas al-Zahrawi (10th–11th century), "*al-Tasrif li-man 'Ajiza 'an al-Ta'alif*".¹¹⁰

Cotton (*Gossypium herbaceum*; Malvaceae), in Arabic: *qutn*¹¹¹

Cotton was burnt over the hot body of a feverish patient (Row 9). Seeds of cotton are mentioned in two Genizah prescriptions and one *materia medica* list. Cotton is also mentioned in medical books, including one that deals with fevers.¹¹²

¹⁰¹Lev and Amar, Practical, pp. 494–495.

¹⁰²Gunther, Dioscorides, III.30; Beck, Dioscorides, III, 39.

¹⁰³Gunther, Dioscorides, I.58.

¹⁰⁴Muntner, Assaph, IV, p. 408.

¹⁰⁵Ben Maimon, Aphorisms, 20:84.

¹⁰⁶Al-Qazwīnī, 'Ajā'ib, p. 262.

¹⁰⁷D. Palevitch, Z. Yaniv, A. Dafni and J. Friedman, Ethnobotanical Survey of the Flora of Israel as a Source for Drugs (Hebrew, Jerusalem, 1985), p. 21; G. M. Crowfoot and L. Baldensperger, From Cedar to Hyssop (London, 1932), p. 78.

¹⁰⁸Reiani, Medicinal, p. 30, no. 64; A. Ben-Ya'akov, The Traditional Medicine of the Babylonian Jews (Hebrew; Jerusalem, 1992), pp. 77, 103, 116, 129.

¹⁰⁹Pormann and Savage-Smith, Medieval, pp. 120–121.

¹¹⁰M. S. Spink and G. L. Lewis, Albucahis, On Surgery and Instruments: A Definitive Edition of the Arabic Text; with English Translation and Commentary (Berkeley and Los Angeles, 1973).

¹¹¹Ben Maimon, Glossaire, no.349.

¹¹²Lev and Amar, Practical, pp. 494–495.

In the Levant cotton has been known since the Hellenistic period. Ibn al-Bayṭār describes the plant and cites al-Rāzī on the use of cottonseed in a preparation to arouse sexual desire, and the leaves to cure coughs in children.¹¹³ Ghazzī notes that the leaves and seeds served for curative purposes.¹¹⁴ According to Dāwud al-Anṭākī (16th century), the plant is a hot and dry drug with an intoxicating flower from which wine “that gladdens the heart” is made. The plant served to regulate the heartbeat, to cure insanity, to reduce swellings, to improve the memory, to prevent diarrhoea, and to treat burns, skin diseases, and haemorrhages.¹¹⁵

In Iraq the roots of the cotton plant were used to accelerate menstruation, the cotton fibres were used for absorbing and for treating wounds, and the oil pressed out from the seeds served to soothe the skin and to produce hand creams and soaps.¹¹⁶

6. Diet – Nutrition

Diet was an important part of medical treatment since early times. Arabic medicine used diet as a curative means, usually preferred over medication and external clinical activity.¹¹⁷ It was a common practice among Arab physicians to try and restore the balance of the body through improving the patient’s diet and lifestyle before using drugs. According to Martin and Waïne, diet change was meant to maintain the balance of the body as part of preventive medicine.¹¹⁸

A. Food

In our fragment, pullets were mentioned three times in the dietetic prescriptions that were part of the medical treatment:

1. “In case the fever calmed down, enter a bath and then will be covered with a sheet and eat a pullet and roasted meat” (Row 13).
2. “eat pullet cooked with verjuice (vinegar grapes) or pomegranate water” (Row 20).
3. “eat pullet and thigh of young goat with lettuce and chicory and garden purslane and eat much” (Row 24).

Pullet, chicken (*Gallus gallus domesticus*; Phasianidae), in Arabic *dajāj*, *dajāja*

Pullets were mentioned in three dishes recommended for feverish patients in our fragment (Rows 13, 20, 24). Chicken figures in one Genizah list of *materia medica* and in two

¹¹³Ibn al-Bayṭār., Kitāb, III, p. 24.

¹¹⁴Hamarneh, Medical, p. 253.

¹¹⁵Daud al-Antaki, Tadhkirat Ula li-’Lbab wa ’l-Jami’ al-’Ujab al-’Ujab (Arabic; Cairo, 1935), p. 260.

¹¹⁶al-Rawi and Chaakravarty, Medicinal, pp. 48–49; compare Uphof, Dictionary, p. 248; Grieve, Modern, p. 228.

¹¹⁷Ullmann, Die Medizin, p. 97; Pormann and Savage-Smith, Medieval, pp. 49, 181.

¹¹⁸M. Marin and D. Waïnes, ‘The Balanced Way: Food for Pleasure and Health in Medieval Islam,’ Manuscripts of the Middle East, 4 (1989), pp. 123–132.

prescriptions including uses such as stopping bleedings. Chicken also served as invalid food for certain diets. Eating chicken soup is also given as advice to a patient.¹¹⁹

In many medieval prescriptions, including a few found in the Cairo Genizah, nutritious instructions are given. For example, one prescription (TS Ar.30.305) recommends a dish of pullet cooked in sour grape-juice (verjuice) and pickled almonds.¹²⁰ Chicken was also mentioned in three recipes out of 12 that were found in a unique Genizah family prescription (T-S NS 223.82–83).¹²¹

Moreover, chicken was an important part of the diet for the members of the Genizah society, as well as for medicine, including diet for the sick.¹²² Maimonides reports that chicken meat and its products are good, healthy food. Chicken in lemon juice served as a purgative.¹²³

As we can see, other kinds of meat such as young goat and camel meat were recommended as well. The other foodstuffs that are mentioned as part of the medical diet are: lettuce, chicory, garden purslane, marrow concentrate, mungo bean and pomegranate water. All these substances are well-known drugs besides being foodstuffs, and some are even mentioned in the prescriptions found in our fragments.

Bread is mentioned in the dietetic instruction one time to be eaten "once the fever is gone" after a bath with chilled sweet drink (Row 10). In a medical book in the Genizah, bread baked with rose water was considered a dietetic sweet dish for the treatment of feverish patients.¹²⁴ Bread was the staple food of many societies in ancient times.¹²⁵ Since then bread-making has progressed to what we know today, but it basically utilises the same principles.

Bread was made in the Middle East and North Africa mainly of wheat and only rarely of barley. The grains were ground and sifted in different ways, made into dough, leavened and then baked. Bread made out of wheat was more popular and a luxury, due to its ability to rise.¹²⁶ Bread-making in the medieval Arab world was still carried out in the home rather than being a commercial occupation.

Endive [Chicory] (*Cichorium intybus*; Asteraceae), in Arabic: *hindabā*¹²⁷

Endive was recommended to be eaten with "pullet and thigh of young goat" and other vegetables such as lettuce and garden purslane, when the fever left (Rows 24–25). Various parts of endive figure in 11 Genizah lists of *materia medica* and in 23 prescriptions: for an

¹¹⁹Lev and Amar, Practical, pp. 141–143.

¹²⁰Lev, Medieval.

¹²¹E. Lev, L. Chipman and F. Neissen, 'Chicken and Chicory are Good for You: A Unique Family Prescription from the Cairo Genizah (T-S NS 223.82–83),' *Jerusalem Studies in Arabic and Islam*, 35 (2008), pp. 335–352.

¹²²S. D. Goitein, *A Mediterranean Society: The Jewish Communities of the Arab world as Portrayed in the Documents of the Cairo Genizah* (Berkeley, 1967–1988), I, pp. 124, 261, II, p. 100, No. 228; III, p. 194, IV, pp. 230–238, 247–250, 422, 433–434, 443, 250.

¹²³F. Rosner, *Medical Encyclopaedia of Moses Maimonides* (New Jersey, 1994), pp. 55–56.

¹²⁴Lev and Amar, Practical, pp. 261–266.

¹²⁵D. Waines, 'Cereals, Bread and Society', *Journal of the Economic and Social History of the Orient*, 30 (1987), pp. 255–285.

¹²⁶E. Ashtor, 'An Essay on the Diet of the Various Classes in the Medieval Levant', in R. Forster and O. Ranum (eds), *Biology of Man in History: Selections from the Annales* (Baltimore, 1975), pp. 125–162, especially pp. 125–126

¹²⁷Ben Maimon, *Glossaire*, no. 114, 285; *Issa Dictionnaire*, p. 48, No. 12

invalid's diet (root); plaster for swelling (seeds); aphrodisiac (seeds); fever (seeds); liver (root peel), weak eyesight and migraine (Maimonides; root peel, T-S Ar.30.286). It also appears in a family recipe (T-S NS 223.82–83, root, syrup and seeds). Endive is also mentioned in other fragments of medical books found in the Genizah to stop salivation. Endive water is an ingredient in a recipe for the treatment of eye complaints such as inversion, and lice of the eyelids and for the treatment of weakness of the liver and bile corruption.¹²⁸

Dioscorides distinguishes between the wild and the cultivated variety, which is called *endive* and was used as a remedy for the stomach, heart, and eyes and for scorpion stings.¹²⁹ According to al-Kindī, endive was used as an ointment for the nose and for treating skin rashes and the stings of scorpions and spiders.¹³⁰ Al-Bīrūnī (11th century) describes the use of 'hindabā': as a component in a drugged drink, of which an overdose could cause death.¹³¹ Maimonides states that chicory seeds are a component in a preparation for foul breath,¹³² and recommends 'hindibā' as the best medicine for curing diseases of the liver and skin diseases.¹³³ Al-Qazwīnī cites Ibn Sīnā describing the use of the plant to treat rheumatism, eye inflammation, white spots in the eye, scorpion or wasp stings, and malaria.¹³⁴ Dāwud al-Anṭākī mentions uses such as curing malaria, fever, headache, jaundice, and problems of the liver, spleen, and kidneys. As a beverage, it strengthens the stomach, reduces swellings, and prevents inflammation of the eyes.¹³⁵

Lettuce (*Lactuca sativa*; Asteraceae), in Arabic: *khass*¹³⁶

Lettuce was recommended to be eaten with "pullet and thigh of young goat" and other vegetables such as endive and garden purslane, when the fever left (Rows 24–25). Lettuce features in two Genizah prescriptions for linctus and ointment. Lettuce is also mentioned in medical books on dentistry, on sex, on dermatology, on poisons, on *materia medica* and pharmacopoeias (jaundice with acute fever and palpitation), in recipes for eye diseases.¹³⁷ Lettuce, together with lemon and milk, are mentioned as used to treat eye diseases in a 12th century Genizah letter.¹³⁸ Juice that was made out of lettuce and its seeds were used for medicine from early times. In traditional medicine, the plant was used to improve the production of mother's milk, to reduce sexual lust, and for the treatment of headache. Oil pressed out of lettuce seeds was used to strengthen the hair and treat hair ailments.¹³⁹

Mungo Bean (*Phaseolus mungo radiatus*; Fabaceae), in Arabic: *mash*¹⁴⁰

Mungo beans were recommended to be eaten with bread once a fever as a result of sunstroke or a hot wind was gone (Rows 10–11).

¹²⁸ Lev and Amar, Practical, pp. 164–165.

¹²⁹ Gunther, Dioscorides, II.132; Beck, Dioscorides, II, 132.

¹³⁰ Levey, Medical, Nos. 42, 52, 54, 173–174.

¹³¹ H. M. Said (ed.), Al-Bīrūnī's Book on Pharmacy and Materia Medica (Karachi, 1973), II, p. 60.

¹³² Ben Maimon, Sexual, 7:1.

¹³³ Ben Maimon, Aphorisms, 9:71, 106; 21:74.

¹³⁴ Al-Qazwīnī, 'Ajā'ib, p. 264.

¹³⁵ Al-Antaki, Tadhkirat, p. 336.

¹³⁶ Issa, Dictionnaire, p. 103. no. 26.

¹³⁷ Lev and Amar, Practical, pp. 437–438.

¹³⁸ S. D. Goitein, Palestinian Jewry in Early Islamic and Crusader Times (Hebrew, Jerusalem 1980), p. 270.

¹³⁹ Lev and Amar, Ethnic, p. 112.

¹⁴⁰ Issa, Dictionnaire, 138, no. 1; 188, no. 18; Said, Book, I, p. 300.

According to al-Baghdadi (13th century), the "mash" does not grow in Egypt, but it can be obtained from pharmacists who import it from the al-Sham region and sell it for curative purposes.¹⁴¹ Al-Kindī relates that the "mash" was a component in an ointment to treat colour stains on the skin, lip swellings, and hemorrhoids.¹⁴² The "mash" was a component in an ointment to remove freckles.¹⁴³ Maimonides also noted that it was considered a cold and dry drug.¹⁴⁴ Daud al-Antaki refers to its medical uses, such as to reduce fever, to stop blood hemorrhages, to cure malaria, sunstroke, and skin diseases, to regulate the kidneys, to strengthen the nerves, to reduce swellings, to stop sweating, to knit fractures, to dispel exhaustion and weakness (by external use).¹⁴⁵

B. Drinks

Almond Oil (*Amygdalus communis*; Rosaceae) *lawz*¹⁴⁶

Almond oil was recommended to be drunk in a cool place while lying down, in case a feverish patient felt weakness (Row 17). Different kinds of almond and its product, including oil, figure in 14 Genizah lists of *materia medica* found in the Genizah and in 27 prescriptions for the treatment of weak eyesight and migraine, for general eye treatment, diet, as an aphrodisiac and a laxative. Almond oil is mentioned as an immersion in the bathtub for the treatment of fever. Bitter almonds were used to treat stones in the bladder, urine retention, and for liver complaints, obstruction of the spleen, ear drops, warts, dysuria, dysmenorrhoea, and hard swelling; as a stomachic and abortifacient when the fetus is dead.¹⁴⁷

Dioscorides notes the *amugdale* and indicated its medicinal uses (seeds, oil and gum) as an emmenagogue, to relieve headaches, cure intestinal wounds, cough, inflammation, sunburn, and skin diseases, to soften the stomach, and eliminate stones.¹⁴⁸ The physician Assaf writes that almond oil fortifies the heart, relieves stress, kidney stones, liver ailments, renal obstructions, impotence, menstruation, and heals the intestines, headaches, general pains, cough, breathing and lungs problems.¹⁴⁹ Maimonides reports on the use of almonds in the context of the diet recommended to the Sultan. Elsewhere almonds and almond oil are mentioned as an emetic and a component in a medicine to purify the blood and to fortify the spirit, as well as being an ingredient of a medicine called the 'greater *'atrifal*' which strengthened the organs and delayed old age.¹⁵⁰ Ibn al-Bayṭār attests that sweet almond oil is also mentioned as a cold and moist drug used as a remedy.¹⁵¹

¹⁴¹ Abd al-Laṭīf al-Baghdādī, *Kitāb al-'Ifāda wa-l-'Iṭibār* (Arabic, London, 1965), p. 68.

¹⁴² Levey, *Medical*, nos. 31, 58, 207.

¹⁴³ Levey, *Medical*, no. 58.

¹⁴⁴ Ben Maimon, *Aphorisms*, 21:73; Ben Maimon, *Glossaire*, no. 210; Ben Maimon, *Aphorisms*, 21:72; Said, *Book*, I, p. 291

¹⁴⁵ al-Antaki, *Tadhkirat*, p. 288.

¹⁴⁶ Issa, *Dictionnaire*, p. 148, no. 15.

¹⁴⁷ Lev and Amar, *Practical*, pp. 91–94.

¹⁴⁸ Gunther, *Dioscorides*, I.176; Beck, *Dioscorides*, I, 33, 123.

¹⁴⁹ Muntner, *Assaph*, IV, p. 399.

¹⁵⁰ Ben Maimon, *Responses*, 4:20; Ben Maimon, *Aphorisms*, 13:44, 51; 20:77; 21:72; Ben Maimon, *Regimen*, 3:4, 9, 11; Ben Maimon, *Poisons*, 130.

¹⁵¹ Ibn al-Bayṭār, *Kitāb*, II, pp. 111–112.

Yemenite Jews used almonds externally to treat haemorrhages, and internally to treat kidney stones, spleen, sore throat, and cough.¹⁵² The Jews of Iraq make extensive use of almond products to treat eye diseases, dysentery, and earache; to relieve birth pains and to increase the production of mother's milk.¹⁵³ In Iran and Iraq ointment made of the nuts is used to treat carbuncles.¹⁵⁴ European traditional medicine uses almond oil as a softening drug, for pain relief, and for alleviating cough.¹⁵⁵

Barley Water (*Hordeum sp.*; Poaceae), in Arabic: *sha'ir*, in Judaeo-Arabic: *se'urim*.

Barley water was recommended to be drunk in case a feverish patient felt weakness, or as part of the recovery process (Row 10, 16, 18). Barley features in two Genizah prescriptions, for the treatment of the lips and to strengthen the gums. It is also mentioned in books found in the Genizah, such as in recipes for women's complaints, menorrhagia, liver diseases; for cosmetics and for topical uses. It was also found in medical books, mainly on fevers, skin diseases, paediatrics, dentistry and poisons.¹⁵⁶

The kernels were used since ancient times to produce beer. The plant was also used for healing, as a diuretic and as a base for ointments. Dioscorides notes that barley was used to treat inflation of the entrails, inflammation, leprosy, the joints, and the abdomen.¹⁵⁷ Al-Kindī writes that barley is used to treat deterioration of the memory, gum and teeth ailments, and slow growth of hair and beard.¹⁵⁸ Ibn al-Bayṭār, citing other sources, states that barley was used for the treatment of inflammation of the throat, fever and the stomach.¹⁵⁹ Yemenite Jews used barley to treat swellings, kidney stones, eye inflammations, headaches, and nerves.¹⁶⁰

Garden Purslane (*Portulaca oleracea*; Portulacaceae), in Arabic: *rijla*, *baqala ḥamqā'*¹⁶¹

Garden purslane was recommended to be drunk in a cool place while lying down, in case a feverish patient felt weakness (Rows 17–18). It was also recommended to be eaten with pullet and other vegetables such as lettuce and endive when the fever was gone (Row 24). Garden purslane figures in four Genizah lists of *materia medica* and in seven prescriptions, such as for dressing bites. It is also mentioned in a medical book in a prescription, including for the treatment of eye complaints as a dermatological potion and for the treatment of jaundice with acute fever and palpitation.¹⁶²

Dioscorides describes the use of the plant *Andrachne* to treat stomach problems.¹⁶³ Other classical physicians such as Hippocrates, Theophrastus, Pliny, and Galen report its use to treat

¹⁵²Reiani, Medicinal, p. 43, No. 98.

¹⁵³Ben-Ya'akov, Traditional, p. 761

¹⁵⁴Hooper, Useful, p. 157.

¹⁵⁵Uphof, Dictionary, p. 33; Grieve, Modern, pp. 21–26.

¹⁵⁶Lev and Amar, Practical, pp. 353–354.

¹⁵⁷Gunther, Dioscorides, II, no. 108; Beck, Dioscorides, II, 86.

¹⁵⁸Levey, Medical, p. 293, no. 168.

¹⁵⁹Ibn al-Bayṭār, Kitāb, III, p. 62.

¹⁶⁰Reiani, Medicinal, p. 26, no. 53.

¹⁶¹Ben Maimon, Glossaire, no. 59; Issa Dictionnaire, 147, no. 10.

¹⁶²Lev and Amar, Practical, pp. 253–255.

¹⁶³Gunther, Dioscorides, II.151; Beck, Dioscorides, II, 124.

diseases of the digestive tract as well as external wounds and burns.¹⁶⁴ According to al-Kindī, the plant was used to treat pustules on the lips, spitting blood, throat pains, and inflammation of the teeth and gums. The seeds are used for rinsing the mouth.¹⁶⁵ Maimonides, described 'laglogot' as a mild and safe medication,¹⁶⁶ as an external medication for erysipelas; he cites al-Tamīmī that the 'laglogot' stops the emission of blood from the intestines.¹⁶⁷ Garden purslane also serves as a component in an internal medication to treat the stings of bees and wasps, and as a medication against poisons.¹⁶⁸ Ibn al-Bayṭār describes its uses, such as for the treatment of stomach problems, stones in the kidney and urinary tract, and causing diarrhoea.¹⁶⁹

Grape (*Vitis vinifera*; Ampelidaceae = Vitaceae).

Various products made out of grapes were used as drugs since early times.

1. Vinegar, in Arabic: *khall khamr*;

Vinegar was recommended to be drunk as part of the effort to treat "fever of the spirit" as the result of "sunstroke or the hot wind" (Row 8). Vinegar figures in one of the Genizah lists of *materia medica* and in five prescriptions, such as for topical application, muscle pains, and swellings. In medical books, vinegar was used for the treatment of toothache and inflammatory swellings, diarrhoea and to strengthen the stomach muscles, to ease tooth extraction, and headache.¹⁷⁰

Vinegar was used as a basis for many remedies in ancient Babylonia.¹⁷¹ Dioscorides notes the medicinal use of grapes to improve the appetite, to relieve stomach pains, and to treat dysentery; he also recommends wine to reduce fever.¹⁷²

Dioscorides used a drug named oxymel, which was made of vinegar, sea salt, honey, and water, for arthritis and epilepsy.¹⁷³ A similar kind of syrup, made of honey and vinegar, was called in Arabic: *sikanjabīn*.¹⁷⁴ According to Maimonides, vinegar was an important component in medications, including for treating attacks of poisonous creatures, in cathartic medicines, and for haemorrhoids. Oxymel was frequently used by Maimonides and physicians of his time.¹⁷⁵

2. Verjuice (vinegar of unripe grapes), in Arabic: *ḥiṣrim*

A syrup made of verjuice water was recommended to be drunk by a feverish patient while "resting in an open place with air supply" (Rows 18–19). Verjuice was also mentioned in a

¹⁶⁴A. Alon (ed.), *Plants and Animals of the Land of Israel: Practical and Illustrated Encyclopedia*, 12 vols. (Hebrew, Tel-Aviv, 1982–1990), X, p. 48.

¹⁶⁵Levey, *Medical*, nos. 88–90, 116, 179, 214.

¹⁶⁶Ben Maimon, *Regimen*, 2:10; Ben Maimon, *Aphorisms*, 20:47; Ben Maimon, *Responses* no. 6; 19(3).

¹⁶⁷Ben Maimon, *Aphorisms*, 9:106; 20:84; 21:84.

¹⁶⁸Ben Maimon, *Poisons*, pp. 124, 150.

¹⁶⁹Ibn al-Bayṭār, *Kitāb*, I, pp. 102–103.

¹⁷⁰Lev and Amar, *Practical*, pp. 176–180.

¹⁷¹Levey, *Medical*, p. 306, No. 207.

¹⁷²Gunther, *Dioscorides*, V, 3; Beck, *Dioscorides*, V, 13.

¹⁷³Gunther, *Dioscorides*, V, 22; Beck, *Dioscorides*, V, 14.

¹⁷⁴Levey, *Medical*, p. 284, no. 149.

¹⁷⁵Ben Maimon, *Poisons*, pp. 102, 105; Ben Maimon, *Regimen*, 3:5, 6; Ben Maimon, *Aphorisms*, 9:77; 21:19–27.

Genizah practical prescription (T-S Ar.30.305) as part of the nutritious instructions: “a dish of pullet cooked in sour grape-juice (verjuice) and pickled almonds”.¹⁷⁶ Both Maimonides and Ibn al-Bayṭār mentioned various medicinal uses of verjuice.¹⁷⁷

Lemon Syrup (*Citrus limon*; Rutaceae), in Arabic: *līmūn*, *sharāb līmūn* (lemon potion)

Drinking lemon syrup was recommended “if the fever calms down” (Row 16).

Lemon figures in eight Genizah lists of *materia medica* and in 12 prescriptions such as for fever, an invalid’s diet, plaster, and lemon syrup.¹⁷⁸ Lettuce, together with lemon and milk, are mentioned as treatment for eye diseases in a 12th century Genizah letter.¹⁷⁹ Lemon, lemon juice, and lemon water were part of the diet of the Genizah society; and lemons were sold in the markets of Fustat.¹⁸⁰

Maimonides attests that lemon juice is used as a mild purgative,¹⁸¹ the peel and the leaves serve as a medication against all poisons,¹⁸² and chicken in lemon juice served as a purgative.¹⁸³

Al-Qazwīnī notes that lemon juice is a “wonderful” medicine against snake poison.¹⁸⁴ Daud al-Anṭākī wrote that the fruit served to treat, among other ailments, headaches and stomach upsets, to cure scars, to make a preparation to counteract poisons, and to stimulate the appetite, as well as to repress excessive appetite. Lemon vinegar is applied in the treatment of skin diseases.¹⁸⁵

In the past, sea travellers and pilgrims, mainly those from Europe, took lemons or lemon juice with them to prevent various diseases such as scurvy.¹⁸⁶ The effectiveness of the medical use of lemons in the past and present derives from the substances it contains such as abundant vitamin C, and its peel and leaves contain oils with disinfectant properties.¹⁸⁷ Yemenite Jews used lemon to reduce fever, to treat colds, and infections of the throat, ears, and eyes.¹⁸⁸ The Jews of Iraq made extensive use of lemon to dissolve kidney stones and to treat skin diseases, nausea, gases, colds, gonorrhoea, and fever.¹⁸⁹ In Iraq the oil of the lemon was used as a stimulating drug and an expectorant, and was designated as a cure for intestinal diseases, while lemon juice served to prevent and treat scurvy, to treat infected throats, joint infections, dysentery, diarrhoea, and urination problems.¹⁹⁰

¹⁷⁶ Lev, Medieval.

¹⁷⁷ Ben Maimon Regimen, 4:14; Ibn al-Bayṭār, Kitāb, II, pp. 22–23.

¹⁷⁸ Lev and Amar, Practical, pp. 200–202.

¹⁷⁹ Goitein, Palestinian, p. 270.

¹⁸⁰ Goitein, Mediterranean, I, p. 151; IV, pp. 230–231; M. Gil, In the Kingdom of Ishmael, 4 Vols. (Jerusalem, 1997), II, pp. 662–663, no. 226; III, p. 293, no. 380; IV, p. 758, no. 526.

¹⁸¹ Ben Maimon, Aphorisms, 3:2; 4:14; Ben Maimon Regimen, 2:9.

¹⁸² Ben Maimon, Poisons, p. 135; Ben Maimon, Aphorisms, 22:45.

¹⁸³ Ben Maimon, Regimen, 1:6.7; Ben Maimon, Aphorisms, 2:2; 9:116; 15:14, 28; 20:19, 20, 22, 58; 22:61. On the importance of chicken soup in medieval medicine according to Maimonides, see: Rosner Encyclopaedia, pp. 55–56.

¹⁸⁴ Al-Qazwīnī, ‘Ajā’ib, p. 233.

¹⁸⁵ Al-Antaki, Tadhkirat, pp. 285–286.

¹⁸⁶ Alon, Plants, XII, p. 126. In detail: Grieve, Modern, pp. 474–476.

¹⁸⁷ P. Tal, Medicinal Plants (Hebrew, Tel-Aviv, 1981), p. 151.

¹⁸⁸ Reiani, Medicinal, no. 29.

¹⁸⁹ Ben-Ya’akov, Traditional, p. 726.

¹⁹⁰ Al-Rawi and Chaakravarty, Medicinal, p. 28; Hooper, Useful, pp. 101–102.

Pomegranate Water (*Punica granatum*; Punicaceae), in Arabic: *rummān*, *jullanār* (flowers)¹⁹¹ Pomegranate water was recommended to be drunk when the feverish patient felt weakness, while "lying down in a cool place" (Row 17). Different products of pomegranate figure in seven Genizah lists of *materia medica* and in nine prescriptions: for urinary complaints and in a medical diet. Pomegranate products are mentioned in medical books in a preparation of medical syrup. It also served as a simple in a gargling and rinsing solution for the treatment of inflammatory conditions of the tongue and gums and loss of teeth. Pomegranate juice is recommended for the treatment of diarrhoea. Sour pomegranate is recommended for the treatment of obstruction, wind, diarrhoea, pleurisy and trembling, and sweet pomegranate is recommended for phlegm, liver complaints, and nerves.¹⁹²

In ancient Babylonian culture, pomegranate flowers were used, among other things, to cure the stomach, ears, eyes, and chest, and to destroy worms.¹⁹³ Even Dioscorides maintained that *Rhoa* was beneficial for the stomach and cured diarrhoea, dysentery, mouth sores, vaginal sores, and earaches.¹⁹⁴ Al-Kindī describes pomegranate flowers used as bandages for the stomach and the liver, to ease spleen pains and scabies, to strengthen the limbs, to treat throat pains, ulcers, and decay in teeth and gums.¹⁹⁵ The Jewish physician Dāwūd Ibn Abī al-Bayān, who lived in Cairo in the Ayyubid period, mentions the use of the 'ḥabb rummān al-shāmī' to slake thirst, to cure stomach aches, and to treat liver diseases.¹⁹⁶

The Palestinian Arabs used pomegranate juice to treat the sick, including children and even babies.¹⁹⁷ The Bedouins in Sinai use the pomegranate to stop diarrhoea.¹⁹⁸ Yemenite Jews made similar use of the fruit, and also used it to soothe stomach pains and to treat the eyes.¹⁹⁹ In Iran and Iraq pomegranate flowers and fruit were used to stop diarrhoea and to treat stomach problems and dysentery.²⁰⁰

Spinach (*Spinacia oleracea*; Amaranthaceae = Chenopodiaceae), in Arabic: *asfīnāj*, *isfānāj*²⁰¹ Concentrate of spinach was recommended to be drunk when the feverish patient felt weakness, while "lying down in a cool place" (Row 17). Spinach figures in three Genizah prescriptions such as for an invalid's diet, for various uses, and was mentioned twice in a family prescription. Spinach is also mentioned in medical books on fevers.²⁰²

¹⁹¹Ben Maimon, Glossaire, nos. 75, 243, 324; Issa, Dictionnaire, p. 151, no. 3.

¹⁹²Lev and Amar, Practical, pp. 248–250.

¹⁹³M. Levey, Chemistry and Chemical Technology in Ancient Mesopotamia (Amsterdam, 1959), pp. 51, 73, 108, 112.

¹⁹⁴Gunther, Dioscorides, I, 151; Beck, Dioscorides, I, 110, 111.

¹⁹⁵Levey, Medical, nos. 36, 38, 42, 55, 59, 77, 86, 91, 102, 211.

¹⁹⁶Dāwūd Ibn Abī al-Bayān, al-Dustūr al-Bīmāristānī (Arabic). In: P. Sbath (ed.), 'Le Formulaire des Hôpitaux d'Ibn Abil Bayan, Médecin du Bimaristan Annacery au Caire au XIIIe siècle,' Bulletin de l'Institut d'Égypte 15 (1932–33): pp. 9–78. p. 42.

¹⁹⁷Crowfoot and Baldensperger, Cedar, p. 111.

¹⁹⁸S. Levey, Medicine, Hygiene and Health among the Sinai Bedouins (Hebrew, Tel-Aviv, 1978), p. 83.

¹⁹⁹Reiani, Medicinal, no. 101.

²⁰⁰Hooper, Useful, p. 160; al-Rawi and Chaakravarty, Medicinal, p. 79.

²⁰¹Issa, Dictionnaire, p. 173, no. 14.

²⁰²Lev and Amar, Practical, pp. 486, 546.

Sugar (*Saccharum officinarum*; Poaceae), in Arabic: *sukkar*²⁰³

Barley water chilled with pure sugar was recommended to be drunk with bread for a feverish patient once the fever is gone (Row 10). When the patient feels weakness, it was recommended to drink cold barley water and sugar (Row 18). Different kinds of sugar figure in 11 Genizah lists of *materia medica* and in 30 prescriptions such as for wind and colic, cleaning or treating the teeth, treating urinary complaints, hallucination, liver problems, fever, cough, swelling, weak eyesight and migraine, as an aphrodisiac and an ingredient and in an invalid's diet. Sugar was an important simple in the Middle Ages, mainly in the Islamic world, and this is attested by several Genizah fragments from medical books, for the treatment of colic and coughs.²⁰⁴

Sugar is mentioned in classical sources. Strabo refers to the honey produced from Indian sugar cane, and Pliny writes about sugar produced in Arabia and India and used as a remedy. Among the medicinal uses of *Sacharon*, Dioscorides lists curing the stomach and intestines and relieving pains in the bladder.²⁰⁵ Al-Kindī describes the use of red sugar in a mixture for a clyster²⁰⁶ and of pure sugar for treating sore throat, in toothpaste, and in ointments and powders for the eyes to cure cataract.²⁰⁷ Maimonides reports the wide use of sugar as a remedy.²⁰⁸ Sugar served as an ingredient of purgatives and was recommended to be eaten with various foods such as almonds and raisins, and taken as a drink to strengthen the lungs.²⁰⁹ In his medical letters to the Ayyubid sultan, Maimonides recommends dipping food in sugar.²¹⁰ Al-Qazwīnī describes medicinal uses such as treating cough and chest pains, improving urine flow and draining mucus in the chest, to improve eyesight, to reduce eye swellings, to strengthen the heart and to cure malaria.²¹¹

Marrow (*Cucurbita moschata*; Cucurbitaceae), in Arabic: *qar'a*

Marrow concentrate was mentioned in two cases as a drink for a patient recovering from fever (Rows 10–11) or when he feels weak (Rows 17–18). From a medical book found in the Genizah we learn that marrow was used for sexual enhancement.²¹²

Snow is mentioned as cooling element (Rows 8, 17). It was very important especially for the treatment of various kinds of fever.²¹³

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²⁰³Ben Maimon, Glossaire, no. 289; Issa, Dictionnaire, p. 159, no. 6.

²⁰⁴Lev and Amar, Practical, pp. 294–296.

²⁰⁵Gunther, Dioscorides, II.104.

²⁰⁶Levey, Medical, nos. 149, 215.

²⁰⁷Levey, Medical, nos. 9, 15–16, 64, 77, 91, 99, 104, 109, 115–117, 157, 175.

²⁰⁸Ben Maimon, Regimen, 2:9; Ben Maimon, Aphorisms, 22:55.

²⁰⁹Ben Maimon, Regimen, 3:2, 4, 11; Ben Maimon, Aphorisms, 13:6; 20:78; 21:69; 22:40.

²¹⁰Ben Maimon, Responses, 4:20.

²¹¹Al-Qazwīnī, 'Ajā'ib, p. 230.

²¹²Lev and Amar Practical, p. 555.

²¹³Z. Amar, 'Like Snow in Summer; A luxury Product in the land of Israel and Syria', *Cathedra*, 102 (2001), pp. 51–62 [Hebrew].

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