

LANGUAGE PASSIVITY IN THE MEDICAL ARABIC AND JUDAEO-ARABIC PRESCRIPTIONS OF THE CAIRO GENIZAH

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Abstract

A new study of the medical fragments at the T-S Genizah collection has revealed 141 practical prescriptions. These are written in most cases in Arabic script (92) and the minority of them in Hebrew letters, i.e. Judaeo-Arabic (47), one text in Hebrew and one in Judaeo-Persian. Most of the prescriptions were written on one page, usually on one side of a sheet of paper (very rarely vellum). The texts in Arabic have a special technical language which uses verbs intensively in the passive voice (hence LP 'Language Passivity') instead of the normal 'pure imperative'. This method of expression raises many questions about the reason for this formulation and about the alternative possibilities which exist in these prescriptions alongside LP. The following article surveys the LP types, makes some orthographical remarks that shed light on LP, singles out other substitutes for LP in the medical prescriptions in comparison with other medical formularies in the Arabic of the Middle Ages. Finally, it tries to show, that from a merely linguistic phenomenon one can draw conclusions regarding other historical aspects, such as hints about the connection 'physician-patient-pharmacist' and the way to differentiate between normal theoretical medical texts and the pure practical medical prescriptions.

Historical Background

Over a thousand years ago, the Jewish community of Cairo (Fusṭāt) was one of the most important centres of Jewry in the world, particularly in the East. The community was a centre of considerable social, economic, and religious activity. The Palestinian Jews of Fusṭāt worshipped in the Ben Ezra synagogue and one of the rooms in their synagogue was utilized as a 'Genizah', or depository, from about the tenth to the nineteenth century. Almost every piece of writing that passed through its members' hands, on vellum or paper, printed or manuscript, early or late, scholarly research or children's

writing exercises was consigned to the Genizah. Its extraordinary preservation for this long period against the ravages of time and decay was due to the exceptionally dry climate of Egypt. By the nineteenth century the fragments slowly began to reach the hands of private collectors and soon after that different academic institutes and libraries assembled their own collections. The main collection is the Taylor-Schechter (T-S) collection at Cambridge University library (150,000 items).¹ The Genizah's many collections have been studied since 1898.² Much research focusing on a wide variety of matters has yielded a wealth of articles and books. Among the main fields that have been studied are various religious and biblical subjects, Jewish law, education, poetry, social life, trade and communal organization.

Medical texts in the Genizah have been studied only as part of other subjects such as the different professional classes of the Jewish community in Old Cairo. A number of scholars have dealt with this topic, such as Goitein,³ Dietrich,⁴ Fenton,⁵ Cohen,⁶ Baker⁷ and Isaacs.⁸ In addition, the medical profession has been studied in works on the Genizah in general, and on the life of the Jewish communities and societies in the Mediterranean in particular.⁹ Medicine as a subject in the Genizah has been given due attention only in the last few years, with the publication of a catalogue of medical and para-medical manuscripts in the Cambridge Genizah collection by Isaacs and Baker.¹⁰ Short descriptions are given of 1,616 fragments; however,

¹ B. Richler, *Guide to Hebrew Manuscript Collections* (Jerusalem 1994), 60–4.

² S.C. Reif, *A Jewish Archive from Old Cairo* (Surrey 2000), 1–22.

³ S.D. Goitein, 'The Medical Profession in the Light of the Cairo Genizah Documents', *Hebrew Union College Annual* 34 (1963), 177–94; S.D. Goitein, *A Mediterranean Society: the Jewish Communities of the Arab world as Portrayed in the Documents of the Cairo Genizah* (Berkeley, Los Angeles, London, 1967–88).

⁴ A. Dietrich, *Zum Drogenhandel im islamischen Agypten* (Heidelberg 1954).

⁵ P. Fenton, 'The Importance of the Cairo Genizah for the History of Medicine', *Medical History* 24 (1980), 347–8.

⁶ M.R. Cohen, 'The Burdensome Life of a Jewish Physician and Communal Leader: A Geniza Fragment from the *Alliance Israélite Universelle* Collection', *Jerusalem Studies in Arabic and Islam* 16 (1993), 125–36.

⁷ C.F. Baker, 'Islamic and Jewish Medicine in the Medieval Mediterranean World: the Genizah Evidence', *Journal of the Royal Society of Medicine* 89 (1996), 577–80.

⁸ H.D. Isaacs, 'The Impact of Western Medicine on Muslim Physicians and their Writing in the 17th Century', *Bulletin of the British Association of Orientalists* 11 (1979–80), 52–7; H.D. Isaacs, 'A Medieval Arab Medical Certificate', *Medical History* 35 (1991), 250–7.

⁹ Goitein, *A Mediterranean* II, 240–72.

¹⁰ H.D. Isaacs (with the assistance of Colin F. Baker). *Medical and Para-medical Manuscripts in the Cambridge Genizah Collection* (Cambridge 1994).

the book hardly discusses or analyses the evidence. Recent catalogues and further research on the T-S collection have provided information on more than 180 fragments referring to medicine in general and *materia medica* in particular.¹¹ Our research project is based mainly on the T-S Genizah collection at Cambridge, since all other collections are much smaller and some have not yet been catalogued. To date, no specialist catalogue of medical materials in the other Genizah collections has been published.¹²

The literature on medicine in medieval Muslim countries in general¹³ and in Egypt¹⁴ in particular is vast but it mainly discusses theory, not practice.

So far, sifting through Genizah fragments has yielded the names of more than fifty physicians.¹⁵ That a large number of Jews engaged in the medical profession in Egypt and other Muslim territories emerges from other historical sources as well, mainly the books by medieval biographers and historians of medicine such as Ibn Abī ʿUṣaybiʿa and Ibn al-Qifṭī.¹⁶ The former mentions more than fifteen Jewish practitioners he met or knew of in Cairo in his time and be-

¹¹ E. Lev and L. Chipman, *Isaacs' catalogue 'Medical and Para-medical Manuscript in the Cambridge Genizah Collection' — New edition* (Oxford forthcoming); F. Niessen and E. Lev, 'Addenda to Isaacs Catalogue "Medical and Para-medical Manuscript in the Cambridge Genizah Collection Together with the Edition of Two Medical Documents T-S 12.33 and T-S NS 297.56"', *Hebrew Union College Annual* 77 (2008), 131–65.

¹² Catalogues of medical fragments in the Mosseri (Cambridge) and John Rylands (Manchester) collections will soon be published.

¹³ T. Arnold and A. Guillaume, *Legacy of Islam* (Oxford 1965); D. Campbell, *Arabian Medicine and its Influence on the Middle Ages* (Amsterdam 1926); L.I. Conrad, 'Arab-Islamic Medicine', in W.F. Bynum and R. Porter (eds), *Companion Encyclopedia of the History of Medicine*. Vol. I, (London 1993); E.T. Hermann, 'Early Arabian Medicine', *Bulletin of the Medical Library Association* 25 (1936–7), 113–17; M. Levey, *Early Arabic Pharmacology* (Leiden 1973); E. Savage-Smith, 'Medicine', in R. Rashed (ed.), *Encyclopedia of the History of Arabic Sciences* (London and New-York 1996). Vol III, 903–62; M. Ullmann, *Islamic Medicine* (Edinburgh 1978); E. Savage-Smith, 'Tibb', *EI*, X, 452–60; P.E. Pormann and E. Savage-Smith, *Medieval Islamic Medicine* (Washington 2007).

¹⁴ M.W. Dols (trans.), and A.S. Gamal, (ed.) *Medieval Islamic Medicine, Ibn Ridwān's Treatise on the Prevention of Bodily Ills in Egypt* (Berkeley, Los Angeles, London 1984).

¹⁵ E. 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), 37–51.

¹⁶ Ibn Abī ʿUṣaybiʿa, 1965. 'Uyūn al-Anbā', fī *Ṭabaqāt al-Aṭibbā'*, Dār Maktab Hayāt. Beirut. (Arabic); Ibn al-Qifṭī, 1903, *Tarīkh al-ḥukamā'*. J. Lippert, (ed.). (Leipzig).

fore. The gap between the numbers of Jewish physicians mentioned in the historiographic literature and in the Genizah documents emphasises the importance and advantages of the Genizah as a primary source.

Most of the fifty Jewish physicians found to date in the fragments lived and practised medicine in Cairo, with a few in Alexandria and other smaller cities in Egypt, between the eleventh and the thirteenth century. Their titles (all signifying 'doctor'), according to the Genizah fragments, were *al-mutaṭabbib*, *al-ṭabīb*, *ḥakīm* and *ḥa-rōfē*. For some of them we even have information on their specialization: eye doctors, a wound specialist and a physician who worked in a hospital.

Anyone wishing to study and assess realistically the medical aspects of Mediterranean society in the Middle Ages has no choice but to check authentic, practical knowledge, mainly that which can be extracted from the prescriptions found in the Cairo Genizah. Such information uniquely and exclusively enables us to understand properly the practical medicine in that period.¹⁷

Medical treatment usually began with a patient visiting a physician in his clinic, continued with the latter writing a prescription, which was subsequently made up by a pharmacist in his pharmacy. In other cases, the physician saw patients in a rented room at the back of the pharmacy.¹⁸ The prescription stage is usually missing from historical records for various reasons: in some cases, the physician made up the formula himself so that no prescription existed, but in most cases, there was presumably no reason to keep the prescriptions, and they were torn up or thrown away. However, we were fortunately able to trace 141 prescriptions among other documents.

The most important and interesting information regarding practical medicine is undoubtedly to be found in the prescriptions, as they reflect the medical reality that actually existed. A unique aspect of the information that emerges from the prescriptions is their originality.¹⁹

In most cases, they are written in Arabic script (92) and Arabic written in Hebrew script (Judaeo-Arabic) (47)²⁰; very rarely Hebrew

¹⁷ E. Lev and Z. Amar, 'Practice Versus Theory: Medieval *Materia Medica* According to the Cairo Genizah', *Medical History* 51 (2007), 507–26; E. Lev and Z. Amar, *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah* (Leiden 2008).

¹⁸ Isaacs, *Medical*, xii–xvi.

¹⁹ E. Lev and Z. Amar, "'Fossils' of Practical Medical Knowledge from Medieval Cairo", *Journal of Ethnopharmacology* 119 (2008), 24–40.

²⁰ E. Lev, 'Medieval Egyptian Judaeo-Arabic Prescriptions (and Edition of Three Medical Prescriptions)', *Journal of Royal Asiatic Society* 18 (2008), 449–64.

(1) or Judaeo-Persian (1) is found. In a few cases, the prescription is written in Judaeo-Arabic but the benedictions that open and close it are written in Arabic script. A few prescriptions were copied identically, others with slight changes, from famous books such as *Minhāj al-dukkān*²¹ or *Dustūr al-Bimāristānī*.²²

Most of the prescriptions were written on one page, usually on one side of a sheet of paper (very rarely vellum). Prescriptions were often written on reused paper (at times in the margin or in between the lines of other documents or even books).

Linguistic Introduction

Linguistically, one of the most prominent features which at first glance appears in the medical prescriptions written in Arabic and Judaeo-Arabic of the Genizah is the very frequent usage of passive verbs.²³ Those verbs have actually the indirect semantic role of the imperative, yet they are not morphologically imperative but in most of the cases in the passive voice of the imperfect (*mudāri' majhūl*), normally in the third person, e.g. יסחק אלגומיע ויצאיה אליה [Everything should be ground and added] or in Arabic letters يغلى الجميع ويصفى على خمسة دراهم تمر هندي ويصفى ثانيا ويمرس على اوقيتين شراب سكنجين [everything should be boiled and strained over five dirhams of tamarind and strained again and macerated with two *ūqiyyas* of fumitory syrup and oxymel syrup and should be used].²⁴ Therefore those prescriptions have in fact a sense of command, a sort of imperative mood, and in most cases are not in the pure imperative form that is used either in literary Arabic or in the Arabic dialects. This essay tries to determine what we can define as 'Language Passivity' (hence LP) in those prescriptions by reviewing the types of passive usage in them. It is worth mentioning that the Language of Passivity has been superseded or, at least, restricted in Early Middle Arabic.²⁵

²¹ Abū 'l-Muna Dawūd b. Abī Naṣr Kohēn al-Aṭṭār al-Isrā'īlī, *Minhāj al-Dukkān*. (Cairo, Bulaq 1940). (Arabic).

²² Daūd Ibn Abī al-Bayān, *al-Dustūr al-Bimāristānī* (Arabic), in Paul 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*, 1932–3, 15: 9–78.

²³ Passive usage is a known phenomenon in Biblical Hebrew as well as in Classical Arabic; however the use is not intensive and prominent.

²⁴ T-S AS 155.277 verso (A)-line 4.

²⁵ See Joshua Blau, *A Handbook of Early Middle Arabic*. (Jerusalem 2002), 37, §36: 'In living speech the internal passive has been superseded or, at least, restricted

Arguments

In this article it is intended to define the exact and cardinal meaning of LP in the Arabic and Judaeo-Arabic medical prescriptions of the Cairo Genizah and their range, and by doing so to try and provide some possible answers to the following questions:

- Is LP the sole method for expressing the imperative mood in Judaeo-Arabic medical prescriptions in the Cairo Genizah?
- Is LP found in other Arabic medical texts in the parallel medieval period or is it merely a Judaeo-Arabic mode of expression?
- Are there any other genres in Middle Arabic which resemble the medical prescriptions of the time or can we talk about an exclusive 'doctors' language' or perhaps a unique pharmacological language in the triangular relationship of doctor-patient-chemist?
- What are the reasons for using LP, and can one actually talk about motives for its use?
- Can the LP way of writing medical prescriptions cast light indirectly on the medical life of the Jewish or perhaps Arab doctors of the early Middle Ages?

The LP types of the prescriptions

The medical prescriptions in Arabic from the Genizah collection contain a high rate of passive verbs in the first stem *fa'al*, yet in the formulation of *-u-a-* in the prefix tenses of the imperfect.²⁶ Thus we find verbs such as *ישרב*, *יכד*, *יסחק*, *ישרב* [should be taken, ground, and drunk]²⁷ and *ינقع*, *יילמש*, *יחלט*, *ייעجن* [should be soaked, placed, combined and kneaded].²⁸ Infrequently verbs in other conjugation

(ASP §47). Therefore, on the one hand, reflexive verbal items may be used instead of the internal passive — and, on the other hand, pseudo-correct passive forms occur, as *تجد* instead of classical *توجد* "it will be found". See also Richard Gottheil and William H. Worrell, *Fragments from the Cairo Genizah in the Freer Collection*. (New York 1927), 44–57, letter 9 lacks passive verbs.

²⁶ See Jan Retsö, *The Finite Passive Voice in Modern Arabic Dialects*. (Göteborg 1983), 21–2: 'According to the common view, the "passive" in HA [=High Arabic] is formed by an interior vowel sequence opposed to another sequence in the "active" verb. The same type of morphological opposition is found in many Indo-European languages and is there called *apophony*, "Ablaut" (AP). The term apophony has indeed been suggested for Semitic languages, and will be used here as a designation for this type of morpheme. This apophonic forms vary in different forms of Arabic. In HA, it is characterized by the vowel sequence *-u-i-* in the suffix tense (the perfect) and *-u-a-* in the prefix tenses (the imperfect)'.

²⁷ See for example Or. 1081.J39 Prescription (recto)-JA.

²⁸ T-S Ar.41.81 [on cloth].

types are found, e.g. *يوقف، يلقي، يستعمل، يحجب، يضاف، يُتناول*, *يجفف* [should be...] and rarely *يبتلع* [to be swallowed].²⁹ As mentioned above, most of the cases include verbs in the third person, a linguistic device which creates vagueness. In most cases, even if the noun is feminine, this type of obscurity prevails as in *يسحق الأدوية* [the medicines should be ground].³⁰ Unusual is the usage of a substitute formula instead of the LP formulation. Thus we find *يتم* before the infinitive, which also tends to be used in the first stem, e.g. *يتم طين* [earth should be put].³¹ Very rarely is there a correlation between the verb and the gender of the subject, e.g. *عصارة دار صيني تسحق وتعجن* [cinnamon juice should be ground and kneaded].³² This tendency is also found after what one can call 'semantically generalizing particles' as *ألغميعة* [all of], e.g. *يسحق ويضاف ألغميعة أليه* [all should be ground and added].³³ Hardly ever does one ever find sentences which start in the singular and continue in the plural such as *وتعجن ويحجب* [all should be ground].³⁴ This can be regarded as a rare phenomenon in the prescriptions, which directly represents mediaeval Judaeo-Arabic grammar and is influenced by vernacular speech.³⁵

The prescriptions comprise a list of less than one hundred verbs, the majority of them, as mentioned, in the LP formulation. From all the entries, the verb which appears the most and decisively is the LP form *يؤخذ*³⁶ which semantically denotes an imperative mode, 'take', whereas literally it could be translated as 'should be taken'. Ten verbs appear extensively in the prescriptions:

يسحق يستعمل يدق، يصفى، يضاف، يجعل، يحجب، يطبخ، يعجن، يُتناول، ينقع
[ground, used, crushed, strained, added, put, made into pills, cooked, kneaded, taken and soaked],

all of them³⁷ in LP formulation, i.e. in passive forms in the third person, yet there is no obvious order of verb appearance. Anyhow, the LP formulation *يؤخذ* may appear several times in one prescription.³⁸

²⁹ See for example T-S Ar.42.67 recto.

³⁰ T-S NS 297.17.

³¹ T-S Ar.40.141r:[blank verso]-line 6.

³² T-S Ar.41.125-line 4.

³³ Or. 1081.J39 Prescription (recto)-line 4.

³⁴ TS 8J 14.3, lines 8–9.

³⁵ See Blau, *A Grammar of Mediaeval Arabic*, p. 134, §191.

³⁶ See Blau, *A Grammar of Mediaeval Arabic*, p. 83, §95, p. 85, §99.

³⁷ [To be ground, used, pounded, strained, added, put, soaked, taken, kneaded, cooked, and formed into pills].

³⁸ See for example NS 164.88 and T-S Ar. 39.451 verso.

Seldom is the normal formulation of LP infringed. The infraction tends to be in the conversion of the imperfect to the perfect, yet the verb remains in the passive and in the third person, e.g. *لُقِعَ* [macerated].³⁹ Sometimes there is disorder in the appearance of the verbs, such as a passive verb in the perfect followed by a passive verb in the imperfect or vice versa, as in *وعجن ويصفي* [kneaded and stained].⁴⁰ In this specific sequence one might assume that the first action, that is to say the kneading, was done before, but one is not sure whether it was really like that, since in one prescription the particle *قد* is found before a formula of a passive perfect verb such as *بما قد اغلي* [in water in which fresh fennel had already been boiled]⁴¹. The instance of *ويصفي ويبلع* [formed into pills and swallowed]⁴² might be explained in a different way, as the verb 'to swallow' has to appear semantically in a vague manner in the passive form, since the doctor cannot order the chemist to swallow the remedy.

Another infraction of the LP is the infrequent appearance of active verbs in the medical prescriptions both in intransitive and transitive verbs, when a noun appears after the verb. Thus one finds *حتى يبقى* [until a quarter remains]⁴³ or *الى ان يبقى الثلث* [until a third remains]⁴⁴ and *مما يقوي المعدة* [which strengthens the stomach].⁴⁵ Intransitive verbs are never used in LP, such as *صار* or *عاد*, e.g. *חחתי יציר עלי* [until it reaches (the desired) consistency]⁴⁶. Some verbs in the fifth and seventh stem have a semantically reflexive meaning, but they appear in the prescriptions in a morphologically active form, e.g. *حتى يتعقد* [until it thickens].⁴⁷ It is not clear in the case of some verbs whether they are active or have the LP formula, as for example *יצברע* [to be dyed].⁴⁸

³⁹ T-S 12.33 recto only-line 11.

⁴⁰ T-S Ar. 41.71. verso only-line 7.

⁴¹ T-S NS J38-line 6.

⁴² T-S Ar. 41.72-lines 3–4.

⁴³ T-S Ar. 41.71. verso only-line 6.

⁴⁴ TS Ar. 39.274 recto only.

⁴⁵ T-S Ar. 39.451 verso-line 12.

⁴⁶ T-S 12.33 recto only-line 9.

⁴⁷ T-S Ar. 30.99-line 6, verso only. See also Jan Retsö, *The Finite Passive Voice in Modern Arabic Dialects*. (Göteborg 1983), pp. 28–30: 'The *maōhūl* forms are not the only means possessed by HA for use in the passive construction. Although denied by many great authorities on Arabic grammar, it is quite clear that the verbal forms with a *t-* *n-* prefix are used in passive constructions from the earliest periods of HA until the present day.'

⁴⁸ T-S Ar. 42.15.

Some medical prescriptions of the Cairo Genizah use *mansūb* in an LP formulation, as for example ינמע בעד אלדק instead of ינמע בעד יאן*אן. [Should be mixed after being ground].⁴⁹

Some interesting features of structures are the use of *maf'ūl mutlaq* after the passive verb in LP, e.g. or ויצרב צרב [to be hit strongly].⁵⁰ These patterns appear only in prescriptions written in Arabic with Hebrew letters. Only in texts written in Arabic letters do we find LP structures which are followed by فاعل, e.g. يدق ما يحتاج [should be pounded, what needs to be pounded].⁵¹

Worth mentioning is the phenomenon that LP verbs successively tend to appear with changeable prepositions, especially in the case of the LP verb يخرج [literally: should be taken out] which can appear with various prepositions, as the following examples show: ويخرج عليه [to be dissolved into it],⁵² ويخرج فيه [literally: to be taken in it],⁵³ and ويخرج عنه⁵⁴ [and pour it out]. However, the translation of those variants does not differ significantly.

The passivity appears not only in the above morphological form, but also in the passive participle in almost all of the medical prescriptions, as follows:

מנווע אלאעגם	[cleaned of stones] ⁵⁵
מנווע אלאקממע	[cleaned of thorns] ⁵⁶
מתרוע הרעוה	[skinned of froth] ⁵⁷
סקר בלאצ מסחוק	[powdered white sugar] ⁵⁸

In the examples above, as in most of the collected data, the passive participle is also in the first stem. The entries serve as a substitute for attributes, a form which avoids from the usage of نعت سببي.⁵⁹ The

⁴⁹ T-S 43.338-line 10. Compare Joshua Blau, *A Grammar of Mediaeval Judaeo-Arabic*, p. 180, §270: "כחש דבר במדוכה": דק שי מן מדק.

⁵⁰ T-S Ar.30.16.

⁵¹ See T-S Ar.42.152 Prescriptions II-line 5 and T-S Ar.39.458 recto only-lines 7–8.

⁵² T-S Ar. 41.72-line 4.

⁵³ T-S Ar. 41.71. verso only-line 9.

⁵⁴ T-S Ar.39.458 recto only-lines 10–11.

⁵⁵ Or. 1081.J39 Prescription (recto)-line 6.

⁵⁶ Or. 1081.J39 Prescription (recto).

⁵⁷ T-S Ar.42.67 recto-line 4.

⁵⁸ T-S Ar.40.87, line 11.

⁵⁹ See Joshua Blau. *A Grammar of Mediaeval Judeo-Arabic* (Jerusalem 1961, rep. 1995), p. 137, footnote 40.

prescriptions include expressions like *עסל מנוזע אלרגה* [honey skinned of froth]⁶⁰ instead of writing *עסל רגותה מנוזעה*.*

Yet, the passive participle appears sometimes in the plural and even in the dual form, a device which is never used in the normal LP type of verb in the prescriptions. Thus we find forms such as a long list of materials, which follows after the passive participle in the plural form, as in the list of materials in T-S NS 327.97-line 6 which is prefaced by *מגסולין* [washed], or in the long list of T-S Ar. 30.99 verso only 1-line 4, which is followed by the passive participle *מסלוקין* [boiled (pl.)], or: *יִּוּחַד מִן הַהֵלִיג הַכַּבִּלִי וְהַצֵּפֶר הַמְּזוּעָאן* [to be taken: cleaned chebulic and yellow myrobalam].⁶¹ Note that dual forms are usually not normative in practical medical Genizah fragments.

While some prescriptions lack even one verb, a large number of prescriptions exhibit the phenomenon of double verbs relating to the same materials which appear before, for example *יִדַק וְיִסַחֵק* [to be pounded and ground]⁶² or *וְיִטְבַּח וְיִצְפֶּה* [to be strained and cooked].⁶³ It sometimes happens that the LP relates to a continuing description, e.g. *יִגְלֵי וְיִרְפַּע בְּיָאָא* [should be boiled and put in a vessel].⁶⁴ Rarely one finds even a trio of verbs one after the other, as for example: *יִגְלֵי וְיִצְפֶּה וְיִמְרַס בְּרִיחָאן* [should be boiled and strained and macerated in basil]⁶⁵ or even a four verbs, such as: *יִסַחֵק וְיִעְבֵּן וְיִחַבֵּב וְיִבְלַע* [to be ground, kneaded, formed into pills and swallowed].⁶⁶

Orthographical Remarks

Various remarks can be made regarding the orthography and spelling of LP. In one Judaeo-Arabic prescription an inverted comma is found in the LP verb, thus *וְיִוּחַד* = *וְיִוּחַד*.⁶⁷ The usage of this orthographical sign can be regarded here as unnecessary since the comma, which denotes an abbreviated word, replaces here only one letter. Another

⁶⁰ T-S AS 148.22 Prescription (recto)-line 4.

⁶¹ T-S Ar.42.67 recto-line 2.

⁶² T-S AS 148.22 Prescription (recto)-line 4.

⁶³ T-S NS J38-line 4.

⁶⁴ T-S NS J34?-line 4.

⁶⁵ T-S NS 306.76 recto -line 4.

⁶⁶ T-S Ar.42.189 Prescription (recto)-line 3. In many prescriptions one can find only one verb relating to a long list of materials, e.g. Or. 1081.J39 Prescription (recto)-line 2, whereas various lists do not have any verb at all, though mentioning a vast number of materials without relating or describing the specific action. Such prescriptions do not include verbs at the beginning, for example, T-S Ar.43.338 II Two Pres lines 1-11 or T-S Ar. 34.239 recto only lines 1-6.

⁶⁷ TS Ar. 30.65-line 16.

orthographical sign which is used in order to emphasize LP is the literary Arabic vowel pointing of *damma*⁶⁸ –*u-a-* in the prefix tenses of the imperfect, hence וִיִּקְטַע, וִיִּחַוְאוּל, וִיִּקְטַע [cooked; that have already been macerated; used]⁶⁹ or يُخַלַּطُ الْاَدْوِيَةَ [the medicines should be mixed].⁷⁰ In a very rare usage of the pure imperative instead of LP one finds inverted commas which actually serve as a partition before the intervening object or after it, thus, צִיר'הם, וְצִיר'ה, [make them; make it; put it out!].⁷¹ This fragment was lately identified and described as a quasimedical-magical prescription for the establishment of the celestial sphere (إقامة الفلك). Hebrew vowel letters are seldom found in the prescriptions to mark the LP, e.g. וִיעַמַל; וִיעַמַל [should be done].⁷²

Several spelling errors are found in Judaeo-Arabic medical prescriptions that are written in Hebrew letters, such as in the verb יַחַח [to grind], and not as in the prescriptions with Arabic letters يَطْحَن.⁷³ Another frequent spelling error in the Judaeo-Arabic prescriptions with Hebrew letters is יַחַח [to pound] mirroring يَسْحَق.⁷⁴

Metathesis exists in the Judaeo-Arabic medical prescriptions rarely as in אַבְטַכָּה instead of אַבְטַכָּה [cook it!].⁷⁵

Variations exist in the *hamza* orthography of LP in Arabic letters. Thus we find يَصْفَا alongside the correct orthography of يَصْفِي [strained] and يَسْقَا versus يَسْقَى e.g. يَسْقَا مِنْهُ بِشْرَابٍ عَتِيقٍ [should be drunk with an old fragrant wine].⁷⁶ With regard to the Arabic texts in Hebrew letters, there are LP forms of יִגְלִי [to be boiled] and יַצְפִּי [to be strained] besides the passives יִגְלָה and יַצְפֵּא.⁷⁷ In a depilatory prescription for hairy women, the Cairo Genizah contains LP forms in negation, such as לֹא יִטְפָּא [was not extinguished].⁷⁸ In general, negation forms are rare in the medical prescriptions under discussion.

⁶⁸ Compare Moshe Gil, *Documents of the Jewish Pious Foundations from the Cairo Geniza* (Leiden 1976), p. 442f. This document 132 contains sometimes the pointing of *damma* and some other times not, e.g. קָבַץ versus וְקָל.

⁶⁹ T-S 12.33 recto only, lines 8+11+14.

⁷⁰ T-S Ar.41.81 [on cloth]-line 6.

⁷¹ TS 8J? 14.3-lines 10!11!12!.

⁷² T-S AS 169.297, lines 3 and 8. See Joshua Blau, *A Grammar of Mediaeval Judaeo-Arabic*, pp. 21–2, §7.

⁷³ See for example T-S K25. 116 Prescriptions, recto only-line 7.

⁷⁴ See T-S Ar.30.16 and NS 151.52.

⁷⁵ TS 8J? 14.3 9-line 15.

⁷⁶ T-S Ar. 39.451 verso-line 15. See Joshua Blau, *A Grammar of Mediaeval Judaeo-Arabic*, pp. 24–5, §10.

⁷⁷ T-S Ar. 30.305.

⁷⁸ T-S Ar.11.22. The correct High Arabic form should be *lam yutfā* and not *lam yutfā*.

General Remarks

Numerous prescriptions in Arabic from the Genizah begin typographically so that the verb is the first word in a new line in the written text itself.⁷⁹ Thus we find for example in T-S Ar.42.189 Prescription (recto), that line 8 opens with the verb ويجمع [collected], and line 10 with the verb ويستعمل [used].⁸⁰ One can explain this phenomenon by supposing that the physician was attempting to explain to the chemist as clearly as possible the sequence of actions needed to implement the prescription. Several prescriptions open with a verb in a formula of greetings which appear above typographically, e.g. يؤخذ على بركاتة وعونه [to be taken with His blessings and help].⁸¹

Substitutes of LP

Most of the texts of medical prescriptions from the Cairo Genizah that supply substitutes for the LP structure are written in Arabic with Hebrew letters.

The first type of substitute is the use of pure imperative forms instead of using the normal LP formulation.⁸² Worth mentioning is the remarkable phenomenon that those prescriptions which use an alternative to the LP system once, do it several times in the same text. Therefore, we find in T-S NS 265.62 the following imperative forms:

וצוב, אועלהם, אלתי תכוד, כוד, דוק ואוכל, ואענינה, וחבבה, ושרב, דוק ואוכל,
ואעון, ואעל, ואסקיה, ואענוה, וכול

[pour; put them; that take; take; pound and sieve; and knead it; make it into pills; drink; pound and sieve; knead; put into; make him drink; and knead it; and eat!].

The second substitute in the medical prescriptions is unusual and reminds us of Modern Hebrew usage. Instead of using the LP model or its alternative, the imperative, we sometimes find normal imperfect forms, such as ותגפספסם, ותטיוה [and dry them; and put sand on it!].⁸³

⁷⁹ Even though this phenomenon is known in Classical Arabic, it is rarely found in texts that have a dialectal character.

⁸⁰ See also T-S Ar. 39.451 verso, lines 7–10 and TS Ar. 30.65, lines 12–13.

⁸¹ T-S Ar.42.189 Prescription (recto)-line 1.

⁸² The medieval doctor, Assāf ha-Rofé, in his book *Séfer Assāf ha-Rofé*, which was written in Hebrew, uses in most of his medical prescriptions pure imperative forms, i.e. קח and not יקח or תקח. See S. Muntner, 'Séfer Assāf ha-Rofé', *Korot* (1965, III, VII, VIII), pp. 706–16 (in Hebrew).

⁸³ See TS 8J? 14.3 9–lines 9+11.

The third kind of substitution may be 'a polite form of address',⁸⁴ which involves the use of the jussive in the apodosis of a conditional sentence. This method of expression is in the third person but in the active:

فان أراد أن يصبغه أسود فليأخذ جوز [and if he wants to dye it black, let him take a nut]⁸⁵ instead of *فليؤخذ جوز*.

The Question of LP in Some Other Medieval Arabic Medical Prescriptions

Al-Aṣma'ī (eighth century CE), in his book describing various flowers, plants and trees, makes extensive use of the LP formula يُقال [it is said].⁸⁶

In the *Medical Formulary* or *Aqrābādihīn* of al-Kindī⁸⁷ from the ninth century CE, we see that most of the prescriptions tend to open with the verb يؤخذ [to be taken] as in the Genizah medical prescriptions in Arabic, e.g. تؤخذ بعد الدق والنخل يؤخذ [should be taken-should be taken after pounding and sieving].⁸⁸ Sometimes a list of several medical materials appears after this verb, without any other verbs.⁸⁹ The LP of al-Kindī differs from that of the Genizah prescriptions in following the grammar of literary Arabic with regard to the dual. Where the Genizah's LP ignores the dual, al-Kindī preserves it as follows:

ملح سحي ودم الاخوين من كل واحد جز يسحقان ويحلان بالحرير ويعجننا⁹⁰ بما
[dough salt – one part, dragon's blood – one part. Both are pulverized
and sieved with a silk cloth. Both are kneaded with water]⁹¹

As in the Genizah's medical formulary, al-Kindī's prescriptions use the alternative to LP, the pure imperative, e.g.: بالي خذ كف بع

⁸⁴ Compare Geoffrey Khan, *Arabic and Administrative Documents in the Cambridge Genizah Collections* (Cambridge 1993), p. 441 on T-S Ar. 40.41, line 1: يطلق ذلك 'Let that be granted'.

⁸⁵ Ar. 40. 66.

⁸⁶ al-Aṣma'ī, Abū Ṣa'īd. *Kitāb al-Nabāʾ*. (Cairo 1972). (Arabic). The aim of this book is not to survey prescriptions and medicaments.

⁸⁷ See Martin Levey, *The Medical Formulary or Aqrābādihīn of Al-Kindī* (Madison, Milwaukee 1966).

⁸⁸ Ibid, pp. 35, 45, 67.

⁸⁹ See for example pp. 41–3.

⁹⁰ In this case we can see an example of the dual form of the verb which is not normative as in Classical Arabic.

⁹¹ Ibid., pp. 101, 109. al-Kindī preserves the dual also regarding the *nā'ib fā'il*, e.g. يوضع في الفم قطران [two drops should be put in the mouth].

[take a handful of decayed dung].⁹² He uses also the substitute form of addressing the reader of the prescription in the active in the second person, e.g.: تاخذ رمانة حلوة ورمانة حامضة فتعصرهما [You should take a sweet and sour pomegranate and extract both of them].⁹³

Ibn Sinā (980–1037 CE) in his book *al-Qānūn*⁹⁴ makes extensive use of the LP structure. In the prescriptions (صفة) there, we find a usage of the LP verb يؤخذ, e.g.:

يؤخذ السكبينج، والمقل - يؤخذ خرق الحمام البري نصف درهم، فيشرب بهول
الأطفال، فيدر... أو يؤخذ خرق الفأر.⁹⁵

[(Those) should be taken: sagapenum, bdellium... should be taken also a part of a half a dirham of a wild pigeon and it should be drunk with childrens' urine... or a part of the faeces of a mouse should be taken].

Ibn Sinā varies his style sometimes from the normal LP formula by giving other medical prescriptions (صفة) which begin with أن, e.g.: أن يشرب من بزر الفاقلة على مثقال [and drink one *mithqāl* of lesser cardamon].⁹⁶ It is noteworthy that when the author turns to 'treatment' (علاج), he tends to use language that lacks the LP structure and rarely varies from the structure that uses أن.⁹⁷

Ibn Ridwān of the eleventh century CE, in his translation of Galen's *Qāṭirīūn*, regarding medical transcriptions, makes abundant use of the style of sentence that begins in Arabic with أن قد ينبغي or قد ينبغي [you should], e.g.:

قد ينبغي ان تثبت أولا في راس الكتف السليم الباقي على حاله⁹⁸

⁹² Ibid., p. 45.

⁹³ Ibid., p. 183.

⁹⁴ See Ibn Sinā, Abū 'Alī al-Ḥusayn. *Al-Qanūn fī al-Ṭibb*. V.2 (Beirut 1993). (Arabic).

⁹⁵ Ibid., pp. 1572–3.

⁹⁶ Ibid., pp. 1577–8.

⁹⁷ See for example p. 849.

⁹⁸ Malcolm Lyons, *Corpus Medicorum Supplementum Orientale: Galeni*. (Berlin 1963), p. 102. See also 'Obadyāh b. Abraham b. Moses Maimonides, *The Treatise of the Pool (Al-Maqāla al-Haw'iyya)*. Paul Fenton (ed.). (London 1981): the grandson of Maimonides uses أعلم several times [you should know, literally: know!] in the imperative. As a substitute, yet rarely, he uses the structure أول ما ينبغي لك [First thing that you should do]. An extensive usage of ينبغي is found also in M.C. Lyons, *Kitāb Tadbīr al-Amrād al-Ḥadda li-Buqrāt (Hippocrates: Regimen in Acute Diseases)*. (Cambridge 1966), pp. IX, 8–9, 29–30. Lyons believes, that the original author of the book was 'Īsā bīn Yaḥyā. The text does not show LP structures. Lyons, as an editor of another book of Hippocrates, *Kitāb Buqrāt fī Ḥabl 'alā Ḥabl (Hippocrates:*

This sentence is translated into English as follows:

'You must⁹⁹ first take careful note of the elevation of the sound acromion process'.

Ibn Riḍwān uses the LP formulation infrequently and it seems that he imitates the passive voice that appears in the Greek source.¹⁰⁰ This type of style expresses politeness, and it substitutes for the semantic imperative, whether the LP model or pure imperative.

Maimonides (1138–1204 CE), in his book which includes two articles about coitus,¹⁰¹ uses the LP structure widely when referring to medical prescriptions. When the text is descriptive, e.g. when he describes problems of sexual intercourse, it lacks the LP structure. In his medical prescriptions, Maimonides also tends to begin with the LP verb يؤخذ, e.g.:

On Superfoetation). (Cambridge 1968), Page II, says: 'This Arabic version is of interest as exemplifying the work of a translator probably earlier, and certainly of less ability, than those, such as Hunain b. Ishāq, Ishāq b. Hunain and Hubaish, who made translation a science'. This source uses يبغي extensively for describing diseases. While referring to medicaments, e.g. p. 23, he uses the pure imperative forms, in a medical prescription given to strengthen women after giving birth:

واصنع لها شبيارا من تين أسود ونظرون وثوم وكمون من كل واحد جزء واسحقهما جيدا واعجنها بشراب أبيض واصنع من ذلك شبيارا أو اخذ من قشور الحنظل! واسحقه نعما واعجن ذلك بشراب واصنع من ذلك شبيارا بصوف وشعر أرنب ومرها أن تحمله.

['Make her a suppository of black figs, nitre, garlic and cumin, one part of each: grind them thoroughly, knead them with white wine and make a suppository of them; alternatively, take colocynth skins, grind them well, knead them with wine, make a suppository of them with wool and hare's fur and order the woman to apply it']. Yet, in p. 24, he varies his style, when he prescribes a treatment for women who have womb pains, by addressing the doctor in the imperative second person:

وتصنع لها شبيارا وذلك أن تأخذ نظرون وكمون وتين اسود من كل واحد جزء وتدقها دقا نعما وتعجنها بشراب.

['You should also make her a suppository: take nitre, cumin and black figs, one part of each, bruise them very fine and knead them with wine'].

See also Lyons, the editor of *Kitāb Buqrāt al-Mārūf bi-Qāṭirūn ay Hānūt al-Ṭabīb* (*Hippocrates: In the Surgery*). (Cambridge 1968), p. 18: أما الأعضاء المنهكة فاردد: لها من الموضع الصحيح شيء كثير ثم اربطها ['As for emaciated limbs, you should bring back to them a considerable amount of the sound parts and then bandage them']. Here we can see that the translation from Greek into Arabic uses, after أما in the predicate, the pure imperative form. This is not a mere prescription book, but a source that describes diseases. In another book which Lyons edited, *Kitāb Buqrāt fi al-Amrād al-Bilādiyya* (*Hippocrates: On Endemic Diseases [Airs, Waters and Places]*) (Cambridge 1969), we witness a language pure of LP formulations.

⁹⁹ A better translation would be: 'You should...' or 'It is appropriate'.

¹⁰⁰ Ibid, p. 171.

¹⁰¹ See Kroner H. *Ein Beitrag zur Geschichte der Medizin des XII. Jahrhunderts an der Hand zweier medizinischer Abhandlungen des Maimonides*. (Berlin 1906).

יוכ'ד' מן בוזר אלראויאנג' ובוזר אלבארנו'בויה ויחבב כאלבנדק וימסך פי אלפם
לילא כאן או נהארא¹⁰²

[man nimmt¹⁰³ von Fenchelsamen und Melissasamen und macht eine Pille gleich einer Haselnuss und haelt (sie) im Munde, mag es Nacht oder Tag sein.];

or:

לטו'ך' אכ'ר יוכ'ד' אדמגה אלעצאפיר אלד'כראן ואנפחת אלארנוב ואנפחת אלעזאל
ואנפחת אלכ'יל ואנפחת אלג'מאל אלערביה אג'זא סוא ידק אלג'מיע נאעמא ויעגן
נאעמא ויעגן בדהן אלונבק וילאך' אלקאן ומוצ'ע אלכליה¹⁰⁴

[Eine andere Salbe: man nimmt Hirn der maennlichen sperlinge, Kaeselab der Hasen und der Gazellen und der Pferde und der arabischen Kameele!, zu gleichen Teilen; es wird das Ganze sehr fein zerreiben und geknetet mit Jasminoel und es wird gesalbt der Teil unter den Hueften und die Stelle der Niere].

The Jewish chemist Cohen al-'Aṭṭār (twelfth century CE), uses all the styles to express the semantic imperative in his book *Minhāj ad-Dukkān*. He can express it by the LP, by addressing the reader in the active in the second person and by the imperative. Some of these have complicated verb forms that require the use of pointing. The author uses also the *manṣūb* in the passive, especially with the formula *أَنْ يُؤْخَذَ* at the beginning of some prescriptions. This usage is unique to al-'Aṭṭār. A good example of a text which contains all those varieties would be:

- passive *manṣūb* formula
أَنْ يُؤْخَذَ مِنَ السُّكَّرِ النَّقِيِّ عَشْرَةَ ارطال
[ten *ratl* of pure sugar should be taken]
- a mainly pure imperative sequence
وأعدده إلى الدست ثانياً\فروقه وصيه من خرقة صوف
[make it gentle and strain it in a woollen cloth and put it back into the pot]
- a mainly LP sequence
وينقع في اربعة امثاله ما عذب يوم وليله ويطبخ ويمرس بنار لينة
[soak in four times its [quantity] of sweet water for a day and a night; then cook and macerate over a gentle fire]¹⁰⁵

¹⁰² Ibid, p. 5, prescription N.

¹⁰³ Note that the German text does not translate the verbs as imperative or passive.

¹⁰⁴ Ibid, p. 6, prescription T.

¹⁰⁵ See Leigh N. Chipman and Efraim Lev, 'Syrups from the Apothecary's

Unlike other physicians, we find in the formulary of Ibn Abī 'l-Bayān from the thirteenth century, in his book *al-Dustūr al-Bīmāristānī*,¹⁰⁶ that the preface of most of the prescriptions is in the active voice, while the prescription itself is written in LP. The preface itself is a description of the diseases for which the described medicine is made:

دواء يجعل على عضه الكلب الكلب يؤخذ ثوم وبصل من كل واحد عشرة دراهم
يدقان الى ان يعودا كالمرهم ...

[a medication administered against the bite of a dog, rabies:
Garlic and onion should be taken each of them ten dirhams; they
should be pounded until they become like an ointment ...]

Is There Any Connection Between Medical Prescriptions and Cooking Recipes?

While reading Maimonides in Arabic in his book on coitus, one notices that the recipes for increasing sexual desire, which are in Hebrew, rather resemble his medical prescriptions in Arabic. Yet, those 'semi-culinary' recipes present more flexible patterns, as Maimonides can use יוקח in Hebrew [literally: to be taken] instead of תקח. This form resembles the LP Arabic form of يؤخذ e.g.:

יוקח ביצי התרנגולה ג' אונק'

[Man nehme¹⁰⁷ Henneneier 3 Unzen]

Versus:

תקח ד' בצלים ותצלם בתנור עד שיתבשלו¹⁰⁸

[Man nehme vier Zwiebeln und brate sie im Ofen bis sie durchgebraten sind]

Maimonides uses various styles in those recipes and can sometimes use the address form in the second person, instead of using active verbs, and also the LP structure, in one recipe, e.g.:

הורעונים וישרם במי הארוקא עד שיהיו כדי שיסוד קליפתם ויוקח ממנו חלק...¹⁰⁹

[Man nehme Erbsen und weich sie in Erucewasser solange, bis ihre Schale sich loest, und nehme davon ein Teil...]

Shop: a Genizah Fragment Containing one of the Earliest Manuscripts of *minhāj al-Dukkān*, *Journal of Semitic Studies*, 51:1(2006), pp. 144, 151.

¹⁰⁶ Paul Sbath, *Le Formulaire des Hôpitaux d'Ibn Abil Bayan* (Cairo 1933).

¹⁰⁷ Ibid., p. 55,c: Here we see the subjunctive in German. Compare:[man nimmt], *ibid.*, p. 6.

¹⁰⁸ Ibid., p. 22, VI. c4.

¹⁰⁹ Ibid., p. 23, VII, b.

Having discovered that Maimonides used in his 'semi-culinary' recipes a variety of styles to express the semantic imperative, we investigated whether other cookbooks from the Middle Ages display the same patterns. An anonymous writer from the thirteenth century CE, who gives us numerous recipes from the Maghreb and Andalusia, was one of the sources investigated.¹¹⁰

In this source also a mixture of various styles is found to express the semantic imperative. Most of the book uses LP formulations, e.g.:

صنعة تعرف بالخشيشية: "يؤخذ من اللحم السمين العنق... ويقطع دقيقاً، ويجعل في قدر مع ماء بصلة."¹¹¹

[a dish called *Ḥashīshīyya*: the [following components] should be taken: a fatty flesh out of the [animal's] neck...it should be cut into small pieces and put in a pot of onion water]

Also when the anonymous author indicates explicitly that the so-called 'recipes' can be used as a 'medical prescription' (صفة), LP language is found, e.g.

صفة ماء العسل: يؤخذ رطل من العسل، ويضاف إلى خمسة أرتال من الماء، ويطبخ حتى يذهب الماء، ويبقى العسل

[a recipe for honey water: a ratl of honey should be taken and added to five ratls of water; it should be cooked until the water evaporates and the honey remains]

Yet, we occasionally find that the author uses intact recipes, with the address form in the active imperfect, as for example:

¹¹⁰ Anonymous, *Kitāb al-Ṭabīkh fī al-Maghrib wa l-Andalus fī 'Asr al-Muwahhidīn* (Madrid 1961–2). See also Elizabeth R. MacGil, *An Example of a Primary Source: This Booke! Of Sovereigne! Medicines!*, in Bart K Holland, *Prospecting for Drugs in Ancient and Medieval European Texts: A Scientific Approach*. (Amsterdam 1996), pp. 39–40:

'*This Booke of Sovereigne Medicines* (ca. 1570) is a collection of medical recipes which survives in five manuscripts copies. ...The remedies are presented in an orderly way with marginal titles and heading above the text... The style of treatments reflects the Benedictine Custom.'

In page 45, we find this text, which merely uses morphological imperatives in English:

'Dropsy.

Take half a handfull! [Old English] of sentuery, a handfull of wormwood, a handfull of Annyseedes!, and seeth them altogether in a pottell of running water vntil the half be consumed! streyne it! Drink it euery euening! morning bloud warme'.

¹¹¹ *Ibid.*, p. 104.

تأخذ قدراً نظيفاً... وتجعلها على النار

[take a clean pot ... and put it on the fire]

Another source from Andalusia that provides us with culinary recipes from the mid thirteenth century is al-Tajībī's cookbook.¹¹² This book, like the former one, shows the same patterns of expressing the semantic imperative, i.e. LP formulations, besides pure imperatives, e.g.:

يطحن السميد الطيب (LP)¹¹³

[a good semolina should be ground]

Versus:

تأخذ من الباذنجان قدر ما تريد وتقرشه وتقطعه مدوراً وتجعل عليه ملحاً¹¹⁴

(Addressing in the active imperative in the second person)

[you should take a desired portion of eggplants and peel them and cut them into rounded pieces and put salt on it]

When al-Tajībī prescribes 'semi-culinary' recipes, i.e. recipes which serve also for medical purposes, he turns to the LP structure:

غاسول ينقي الأيدي ويذهب الروائح الدسمة: يؤخذ أربعة مثاقيل من قرنفل¹¹⁵

[a soap which cleans the hands and removes fatty smells: four *mithqāls* of cloves should be taken].

Conclusions

As was seen, the prevailing language of the medical prescriptions in Arabic from the Cairo Genizah is a 'technical language'¹¹⁶ which uses verbs which have semantically the meaning of the imperative, but morphologically have the structure of the passive form of the imperfect tense in the third person. In the minority of the texts, the existence of a variety of other modes of expressing the semantic imperative was also attested. The language of the medical texts which

¹¹² al-Tajībī, Ibn Razīn. *Faḍālat al-Khuwān fī Ṭayyibāt al-Ta'ām wa' l-Akwān*². (Beirut 1984).

¹¹³ Ibid., p. 79, recipe 28.

¹¹⁴ Ibid., p. 234, recipe 18.

¹¹⁵ Ibid., p. 279, recipe 17.

¹¹⁶ Compare D.R. Langslow, *Medical Latin in the Roman Empire* (Oxford 2002), p. 6, 1.2.1: 'Technical Language and Technical Vocabulary: I have spoken thus far of technical *language*, and deliberately so. Some linguists have emphasized that, if we are to use the label "technical language" sensibly, we should characterize a technical variety at all levels of the grammar, and not just as a special lexicon'.

were translated by Arabs from Greek sources and do not serve as pure medical prescriptions, do not manifest the LP formula which so much characterizes our medical formulary, since they use other modes of address, especially the active voice. Yet, texts of Arab physicians, whether Muslims, Christians or Jews, do not differ significantly¹¹⁷ from the Genizah medical prescriptions in regard to LP when they prescribe, though when they describe diseases, they turn to a more active language which also obliges the use of active verbs and accusatives. Although the frequency of using the LP formulation in Arabic in the Genizah prescriptions is higher, texts written in Judaeo-Arabic with Hebrew letters tend more towards the pure imperative comparison with other medical prescriptions written in Arabic letters.¹¹⁸

In this article, we have found a linguistic similarity between the medical usage of LP and the culinary recipes, especially those that are termed as *صفة*, i.e. recipes that serve simultaneously not only as tasty dishes, but also offer medical benefits, such as dishes that strengthen sexual desire.

What are the reasons for using the LP formulation so much in both the Genizah formulary and the other medical prescriptions written in Arabic in the early Middle Ages?

There are several possible answers to this question.

Firstly, the use of the passive in the medical formularies probably is a polite form of address; 'you should do it' and not 'do it'.

Secondly, the variant ways of expressing the imperative are introduced to avoid monotony of style.

¹¹⁷ See I. Friedlander, *Der Sprachgebrauch des Maimonides: ein lexikalischer und grammatischer Beitrag* (Frankfurt 1902), p. IX: 'Wir wissen, dass schon in sehr fruher Zeit das Arabische den Juden zur Umgangs- und Muttersprache geworden war, dass aber das Hebraeische selbst in den guenstigsten Zeiten nicht die Grenzen einer wenn auch ziemlich weit verbreiteten Gelehrtensprache ueberschritt'. Compare also Kees Versteegh, *The Arabic Language* (Edinburgh 1988), p. 121: 'We do not know when the colloquial language of the Jews became Arabic, but it must have been rather early. The first literary works written in Arabic by Jews date from the period after the year 1000; the majority of them have been found in the Cairo Geniza'.

¹¹⁸ S.D. Goitein, *A Mediterranean Society*. (Berkeley 1999), p. 18: 'Still, the Arabic of the Geniza records may be considered a special language. It was written in a script other than that of classical Arabic by persons who had not absorbed the Qur'an, the holy book of Islam, from childhood. This made for a language less governed by traditional Arabic grammar and vocabulary. The Genizah papers reflect the living language, and they constitute, in their great variety of styles and local idioms, a first-rate source for the history of the Arabic language'.

A third reason for using more LP than imperatives might be the complexity of the conjunction of the Arabic verb in the imperative, which sometimes obliges pointing in *damma* or *shadda*, as seen in some medical prescriptions of the Genizah.

A fourth reason may be as follows: the doctor writes the prescription to the chemist, yet some of the actions mentioned in the formulary address the patient and not the pharmacist. The physician guides the chemist how to prepare the formulary. It is the physician who instructs the patient to swallow the medicine, so the LP plays here a role in preventing misunderstanding. This is why the medical prescription is written in the third person on the one hand and in the passive on the other.

The fourth reason mentioned above reinforces the view that in most cases the medical prescriptions of the Genizah written in Arabic involve a triangular relationship viz., the physician-the patient-the chemist: thus, we need a direct imperative in the physician-pharmacist relationship and an indirect imperative in the physician-chemist-patient relationship. If the medical texts had only the double form of address, i.e. physician-pharmacist or physician-physician (for example: information about diseases or instructions in a book or a notebook), then the direct (or 'pure') imperative could be used. Therefore, it has to be asked whether those prescriptions written in Arabic with Hebrew letters, which use the proper imperatives, are in a fact notebooks and not medical prescriptions. Overall, it can be assumed that the texts of medical prescriptions in Arabic from the Genizah do not differ much from the existing Arab style of the era under review. Hence remarks, such as Goitein's, that there is no evidence of Jewish hospitals in Egypt at the time can be understood and it may therefore be assumed that the Jewish doctors tried to use the same technical language and style as their Arab counterparts.¹¹⁹ Thus, it can be seen how a purely linguistic phenomenon, such as the use of LP formulations, serves indirectly to help us understand better the professional aspect of the practice of medicine in eastern Mediterranean society in the Middle Ages.

¹¹⁹ Ibid, pp. 141–2: 'No reference to a Jewish hospital has been found thus far in the Genizah material. This is somewhat surprising, for both the Genizah records and Arabic sources mention many Jewish doctors working in what could be called government hospitals, namely, those established by Muslim rulers; there are no Genizah references, however, to Jewish patients making use of the Muslim hospitals. ... Physicians treated indigent patients at no charge — provided the sick could make their way to the physicians. Both Maimonides and his great-great-grandson David b. Joshua gave medical advice and help to poor persons with whom they had dealings in their capacity as heads of the Jews.'

A Sample of a Prescription

Two recipes and advice on the special diet to be taken by an invalid; the first recipe begins with a *basmalah*. The text is written in *naskhī* script on one stained leaf of paper (27.1 x 19.1 cm); 15 lines; verso is blank. There is a frequent use of LP in the text. (Selective examples of LP type appears in bold>).

T-S Ar. 42.189 Prescription (recto)

1. بسم الله الرحمن الرحيم يؤخذ على بركته وعونه
2. يارج فيفرا مثقال غاريقون من العراقي وراوند صيني من كل واحد درهم
3. انيسون وكثيرا بيضا ومقل ازرق ومحمودة من كل واحد دانق يسحق ويعجن ويحبب
4. ويبلع في نصف توق في السحر على حمية متقدمة ينسب عند الصبح عاقد
5. على ... هليلج كابلي منزوع وهليلج اصفر منزوع من كل واحد اربعة دراهم لسان
6. ثور شامي وعرق سوس وقشر هندبا من كل واحد ثلاثة دراهم بزر رازيانج درهم
7. مصفي على أوقية سكر بياض ...
8. ويجمع منه على شراب ورد وبزر ريحان
9. للغدا اسفيداج جز لحم خروف أو دجاجة
10. ويستعمل في نصف فانه الشربة بعينه
11. ويعدل في جميع رياح الشتا وحر صيفية يؤخذ يارج ثلاثة دراهم اسطوخودس
12. وغاريقون و هليلج كابلي واصفر منزوعين من كل واحد درهم ويشرب وكثيرا
13. بيضا من كل واحد نصف درهم ويسحق ويعجن ويحبب ويبلع في ثلاثة ليالي
- متوالية في كل شهر
14. الخير يكون من الله

T-S Ar. 42.189 Prescription (recto) Translation:

1. In the name of God, the Merciful, the Compassionate. It should be taken with His blessing and help.
2. Hiera picra, one *mithqāl*; Iraqi agaric and Chinese rhubarb, of each one *dirham*;
3. Aniseed and white tragacanth and blue bdellium and scammony, of each one *dāniq*; grind, knead and form into pills;
4. Swallow in half a *tawq* at daybreak with advanced diet correlated in the morning...
5. ... cleaned chebulic myrobalan and cleaned yellow myrobalan, of each three *dirhams*;

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6. borage and liquorice and endive peel, of each three *dirhams*; fennel seed, one *dirham*;
7. strained over one *ūqiyya* of white sugar ...
8. and mix some of it with rose syrup and basil seed.
9. For lunch: ceruse: one part, lamb or chicken
10. and use in half, and that is the soup itself
11. and balance in all the winter winds and in the summer heat; take hiera, three *dirhams*, lavender
12. and agaric and chebulic and yellow myrobalan, both cleaned, of each one *dirham* and it should be drunk and white
13. tragacanth, of each half a *dirham*. It should be ground and kneaded and formed into pills and swallowed on three consecutive nights in each month.
14. Good is from God.¹²⁰

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