

A 15th Century medico-botanical synonym list (Ibero-Romance-Arabic) in Hebrew characters

Gerrit Bos* and Guido Mensching**

Abstract: In this paper, we discuss an unedited medico-botanical synonym list (Iberoromance-Arabic), copied at the end of the 15th c., that can be found in manuscript Munich, Bayerische Staatsbibliothek 87, and which we believe to be a valuable document both for Romance and Arabic studies and for the history of medicine, including medical translation and lexicography. After making some notes on the characteristics and the history of this kind of lists, we mostly discuss the Iberoromance languages involved. We identify at least three languages: Old Castilian, Old Catalan and one other variety which might be Aragonese, Leonese or Mozarabic. At the end of the paper we provide the commented edition of five lexical entries.

Una lista de sinónimos médico-botánicos (iberorromance-árabe) del siglo XV en caracteres hebraicos

Resumen: Nos ocupamos en este trabajo de una lista de sinónimos médico-botánicos (iberorromance-árabe) no editada, copiada a finales del siglo XV, que se encuentra en Múnich, en el manuscrito 87 de la Biblioteca Estatal de Baviera. La consideramos un documento muy valioso tanto para los estudios sobre lenguas romances y árabe como para la historia de la medicina y la lexicografía y la traducción médicas. Después de apuntar algunos aspectos sobre las características y la historia de este tipo de listas, nos detenemos en lo relacionado con las lenguas iberorromances. Identificamos, al menos, tres de estas lenguas: castellano antiguo, catalán antiguo y otra variedad, que podría ser aragonés, leonés o mozárabe. Por último, ofrecemos la edición comentada de cinco entradas léxicas de este listado.

Key words: medieval lexicography, glossaries, medico-botanical terminology, Old Iberoromance languages, Arabic. **Palabras clave:** lexicografía medieval, glosarios, terminología médico-botánica, lenguas iberorromances antiguas, árabe.

Panace@ 2006; 7 (24): 261-268

1. Introduction

The aim of this paper¹ is to present more extensively an Iberoromance-Arabic medico-botanical synonym list in Hebrew characters, which is preserved in manuscript Munich, Bayerische Staatsbibliothek 87, and which we mentioned briefly in an earlier article.² We are presently working on an edition of this text, which we take to be a valuable lexicographical document of the language(s) of medicine and pharmacology in Medieval Iberia, and relevant for the history of medical translation.

The manuscript in question consists of 428 leaves; it was copied in a Sephardic Rabbinic script by Ishmael Amilio in 1477, probably in Valladolid,³ and contains Hebrew translations of two medical works by the famous philosopher and physician Ibn Sīnā (980-1037), namely of his medical encyclopaedia *Kitāb al-Qānūn (Canon)*⁴ and of his treatise *On Cardiac Remedies*, entitled *Kitāb al-adwiya al-qalbiya*.⁵ The translation of the *Kitāb al-Qānūn* is from the hand of two authors; the first translation is actually an adaptation of an earlier translation by Nathan ha-Me'ati and covers book one and the first section of book two. It was done by Joseph b. Joshua Lorki some time before 1402.⁶ The second translation covering the rest of book two and books three to five was prepared by Nathan ha-Me'ati (of Cento) who finished his translation in the city of Rome in the year 1279.⁷ The translation of the *Kitāb al-adwiya al-qalbiya (On Cardiac*

Remedies) covering fols. 121a-127b was prepared by an anonymous translator under the title סמים לביים. This translation was very popular in Jewish circles especially in the 14th and 15th centuries, in which it was copied eight times;⁸ and sometime around 1485 it was commented upon by the philosopher and translator Baruch ibn Ya'ish, who was probably born in Spain, but lived and died in Italy.⁹ This work is followed on fols. 127b-130a by the synonym list that will be described in the present article, which is in “vernacular”¹⁰ and Arabic. This list is unique since it is the only list contained in this manuscript in addition to the alphabetical description of the simple remedies and their properties, which features in the text itself in chapter thirteen. The list numbers around 785 entries, organized according to the Hebrew alphabet. As to the languages involved, the famous Jewish bibliographer Moritz Steinschneider suggested that the vernacular was perhaps Spanish,¹¹ while according to the recent description of the Munich manuscript in the *Online Catalogue of the Institute for Microfilmed Hebrew Manuscripts* it is Latin. A close scrutiny shows that both opinions are only correct when combined together, since the terms indicated as vernacular are sometimes (Castilian) Spanish and sometimes Latin, but in addition there are also many words that stem from other Iberoromance linguistic varieties.

As an introduction to the text and some of its problems, see the following entry:

* Universität zu Köln (Germany). Address for correspondence: Gerrit.Bos@web.de.

** Freie Universität Berlin (Germany).

Mem 4¹²

מארורייליאש חב אלניל

M'RWYLYY'S HB 'LNYL

In the second line, we transcribe the original Hebrew spelling.¹³ The first string represents a Romance word, whereas the following is the Hebrew transcription of an Arabic term — this is the usual form of the whole list, i.e. the list is organized according to Romance (or often Latin) words. As is a well known fact and can be easily seen from the transcription, the Hebrew spelling does not usually represent vowels, although the letter Aleph (transcribed as ') often represents the letter *a*, whereas waw and yod, apart from their consonantic values, are frequently used for *i/e* and *o/u*, respectively. Thus, the Romance word in the example (M'RWYLYY'S) most probably corresponds to the Spanish word *maravillas* (plural). As a plant name, this word is missing in the *Diccionario español de textos médicos antiguos* (DETEMA), but is mentioned in the *Diccionario de autoridades* (3,495a) with the meaning 'heliotropium minus'. The Arabic term is definitely to be read as *ḥabb al-nīl* (حب النيل), that is 'seed of indigo' (*Indigo tinctoria* L.).¹⁴ Thus, apart from the difficulty to decipher the Romance and Arabic words, another obstacle in this kind of lists is that the meanings of the terms indicated as equivalent do not always match. Here, it seems that the synonymy is due to a similar use of two plants (i.e. for dyeing), cf. the following quotation from John Gerard's *Herball or General Historie of Plantes* (1633), concerning heliotropium minus: "With the small Tornsole they in France doe die linnen rags and clouts into a perfect purple colour, [...]."¹⁵ Fortunately, in the text we are focussing on here such a mismatch is rather rare.

In what follows we will make some brief comments on this type of lists in section 2 within the context of medieval lexicography. In section 3 we will examine the languages used in the text, whereas in section 4 we will provide an exemplary edition of some entries. The article closes with a brief summary and outlook in section 5.

2. Some remarks on medieval medico-botanical synonym lists and related literature

If we roughly review the literature on the history of lexicography, it seems to be a widespread view that, at least in Western Europe, bilingual or even multilingual dictionaries are a phenomenon that appeared in the Humanist/Renaissance period, stimulated by the growing awareness of vernacular languages (Hüllen, 2006: 13) and by "the fact that the humane letters which dominated the education of the period were from the ancient languages" (Adler, 1941). However, when we consider the lexicographic situation in the history of medicine and pharmacology, the situation is quite different: The Latin nomenclature of simples, compound medicines, illnesses etc. was, in itself, of multilingual origin, containing mostly Greek and, later also Arabic words that had been adapted to Medieval Latin, often not only in the shape of one but of several diverging variants. This situation explains the existence of the so called *synonym lists*, in which each entry shows two or more terms to which the same meaning was attributed. One

well known example is the *Alphita*,¹⁶ the earliest manuscripts of which appear in the 12th century, and which mostly reflects the *Materia Medica* of the School of Salerno (cf. Mensching, 1994: 19-22). Although many of the synonyms given there are of Greek origin (plus a small number of words stemming from Arabic and some Old French words; see Mensching, 1994: 20 and 28), this list was probably not perceived as multilingual at that time, because most of the terms were well established in Medieval Latin. A clearer example of a bilingual list is the index to the Latin translation to Ibn Sīnā's *Kitāb al-Qānūn (Canon)* by Gerard of Cremona, where the Arabic words transcribed in Gerard's translation are explained through their Latin equivalents.¹⁷ Finally, we find synonym lists in which Romance languages are involved. With respect to the Iberian Peninsula, one example is the "Sinonima delos nombres delas medecinas griegos e latynos e arauigos" (14th c., ed. Mensching, 1994), in which the two sources just mentioned (the *Alphita* and the Latin index to the *Canon*) were merged, partly translated into Spanish and supplemented by more Spanish synonyms, so as to form a real multilingual kind of dictionary.

Until recently, it could generally be assumed that synonym lists or similar texts that involve Romance are extremely rare, the *Sinonima* being one of the very few examples. However, as the authors have shown in some previous publications (Bos & Mensching, 2001, 2005) there is quite a great number of synonym lists that has escaped the attention of scholars because they are written in Hebrew characters. In Bos & Mensching (2005), we examined six lists of this type, five of which, as far as Romance is concerned, contain lexical material stemming from the Occitan-Catalan area, although the vernacular language had sometimes been wrongly described as Spanish. In what follows we briefly sketch the background of these lists, of which one Iberoromance example is the subject of the present article.¹⁸

During the Middle Ages, when there was no uniform binary system for identifying plants and herbs, the risk of a doctor administering the wrong drug was certainly not imaginary. Such a risk would be especially acute at a time when a doctor would move to and settle in a different country, in a different linguistic environment. Jewish doctors were especially confronted with this problem when several of them emigrated in the wake of the Berber invasions of the Almo-hads and Almoravides into southern Spain in the 11th and 12th centuries to the Christian northern part of Spain and to southern France, from a society where Jews used and understood Arabic next to Hebrew and Romance to a society where they lost their knowledge of Arabic. Because of this shift in languages an urgent need arose for "lexica or glossaries in which technical-medical expressions have been listed alphabetically, especially the names of simple medicines", to use the definition introduced by Steinschneider.¹⁹ Several doctors responded to this need by composing such glossaries, foremost amongst them Shem Tov Ben Isaac of Tortosa (fl. 13th century) who added a double list of synonyms (Hebrew-Arabic-Romance and Romance-Arabic-Hebrew) to his translation of al-Zahrāwī's *Kitāb al-taṣrif*.²⁰ The same Steinschneider

composed a fundamental article in 1867, in which he gave a first survey of the synonym material extant in Hebrew and Latin manuscripts and pointed to the importance of this particular genre for the decipherment of individual plant names in pharmacological fragments.²¹ This article was followed by the publication in 1892 of his “Zur Literatur der ‘Synonyma’,” in which Steinschneider gives a detailed bibliographical survey of the Latin synonym literature and provides us with the mentioned definition of this particular genre. In his *Die hebräischen Übersetzungen des Mittelalters* published in 1893 he provides us with a list of synonym texts extant in Hebrew manuscripts. But these fundamental bibliographical surveys and explicit suggestions to publish some of these glossaries did not result in any notable activity in the scholarly world, except for Immanuel Löw’s *Flora und Fauna der Juden*, especially volume four as it is a *Fundgrube* for material drawn from medieval sources, and a recent concise survey of Hebrew medical glossaries in manuscript, composed by J. P. Rothschild.²²

Thus, in spite of these fundamental bibliographical surveys and in spite of Steinschneider’s explicit suggestions to publish some of these glossaries because of their inherent importance, in particular, the one composed by Shem Ben Isaac of Tortosa, and the one extant in Ms. Florence, Mediceo Laurenziana Or. 17,²³ we do not have any major modern study devoted to this particular genre, let alone text edition. The only exception known to us is the list contained in Ms. Jerusalem, Nat. and Univ. Libr., Heb 8-85, an Arabic-Catalan-Latin synonym list edited by Magdalena Nom de Déu in 1993.²⁴ Despite the great value of this edition itself, it has to be said that the terms figuring there remain uncommented and the identification of the Romance words is only approximate. The use of Catalan in such a list might be surprising at first sight, if we look at the bibliographical literature, that is, mostly, the relevant manuscript catalogues, where the Romance language that appears in these lists is usually classified as Spanish or Italian.²⁵ But, as we showed in Bos & Mensching (2005), this classification is usually wrong, and, instead, the Romance component is most frequently Occitan or Catalan, which suggests that the list edited by Magdalena Nom de Déu is not just an isolated example.²⁶ The six manuscripts that we focus on in the mentioned article have never been adequately described, and, more importantly, have remained unedited up to now. And while – as we just said – some synonym lists have not been classified correctly or not identified, others do not feature at all in the current bibliographical literature. Without much exaggeration one may say that the situation in this particular field of Jewish (and Romance) studies is distressing. It is a situation which sharply contrasts with that in the field of Arabic studies, which can pride itself upon a recent review of the extant material, namely in Manfred Ullmann’s fundamental *Die Medizin im Islam* which was published in 1970. Moreover, part of the Arabic sources containing synonym material is available in critical editions and translations, as, for instance, some of the works composed by Ibn al-Baitār, botanist and pharmacologist born in Malaga towards the end of the twelfth century, namely his pharmaceutical encyclopaedia entitled *al-Jāmi’ li-mufradāt*

al-adwiya wa l-aghdhīya,²⁷ and his commentary on Dioscorides *Materia Medica*,²⁸ and likewise an anonymous commentary on the same work which was recently published by Albert Dietrich under the title *Dioscurides Triumphans*.²⁹ To improve upon this sad record in the field of Jewish (and in part also Romance) studies we are currently editing the glossaries composed by Shem Tov Ben Isaac (see above).³⁰ Since Shem Tov, although of Catalan origin, worked in Southern France, these glossaries mostly contain Occitan terms (see Bos & Mensching, 2001), in conformity with the general trend that we have already mentioned. It seems, in fact, that the use of other Romance languages is rather rare. This makes the list in manuscript Munich 87, to which we return now, even more interesting, as the Romance involved is mostly not Catalan, but other Ibero Romance varieties.

3. Some linguistic notes

In this section, we make some comments on the Romance, Latin and Arabic used in the synonym list at issue.

As we have stated elsewhere one of the basic problems with Hebrew based synonym lists (or Hebrew medical texts in general, see Bos & Mensching, 2000) is to identify the Romance language involved in these texts. In particular, as we have seen in section two, it is often Catalan or Occitan (in the latter case this is due, of course, to the importance of the medical schools of Toulouse and Montpellier), whereas sometimes it is Spanish and sometimes French (see the article by Julia Zwink in the present volume). The identification of the Romance language would not be a problem in a text in Latin spelling, but in a semitic script, without punctuation marks as is the case in our manuscript, the task is not always easy (see Mensching & Savelsberg, 2004; Bos & Mensching, 2005 for discussion). Thus, to take an example from our text, ’WRYNH (Aleph 29), i.e. *orina* or *urina* ‘urine’ could be almost any Romance language (as well as Latin in this case); another example is ’NYŠ *anis* ‘anise’ (Aleph 45). One might think that Romance words deriving from the Latin 1st declension are better indicators, because their ending was lost in Catalan and in Gallo-Romance but preserved as an *-o* in Spanish and should thus be represented as a waw in the Hebrew spelling. In fact, our text shows abundant evidence of such words, but here a further complication arises: the ending waw is also common in Hebrew transcripts as an abbreviated form of the Latin ending *-um*.³¹ Thus, ’PYW (Aleph 44) excludes Occitan or Catalan *api* ‘celery’ (usually spelled ’PY in texts of Occitan/Catalan origin, see Bos & Mensching, 2005: 204-205 as well as SHS1: Kaf 12), but might still represent a Latin reading *apium* besides Spanish *apio*; likewise ’WRYG’NW (Aleph 95) might be read either as Spanish *oregano* or Latin *origanum*. However, the text we are dealing with here regularly shows the ending *-WM*, especially in words that even without this ending are unambiguously Latin, e.g. ’SYṬWM *acetum* ‘vinegar’ (Aleph 7), ’LWM *alum* ‘alum’ (Aleph 162), ’MYGDLWM *amygdalum* ‘almond’ (Aleph 99), PYṬRWLYWM *petroleum* ‘petroleum’ (Pe 37) or PNYQWLWM *foeniculum* ‘fennel’ (Pe 71). We therefore rather tend to interpret words ending in *-W* as

Romance, even if a Latin reading would be possible. Thus, to give some further examples, it seems more probable to us that 'MWMW (Aleph 181) represents Spanish *amomo* (DETEMA: 100b), likewise BYDYLYW (Bet 25) would be *bedelio* (DETEMA: 206a), or G'LB'NW (Gimel 3) is to be read *gálbano* (DETEMA: 762a). But whereas this double reading is often possible in principle (due to the high degree of Latin loan words in medico-botanical terminology), there are also many clear cases that exclude Latin, e.g. 'ZYRW (Aleph 127), which can only be read as Spanish *acero* 'steel' and not as the late Latin *aciarium*; likewise 'YNYLDW (Aleph 147) is Spanish *eneldo* 'dill' (DETEMA: 603b) (not *anetum*); even clearer cases are GWS'NW *gusano* 'worm' (Gimel 34), TRYGW *trigo* 'wheat' (Tet 10), 'WMBRY *hombre* 'man' (Aleph 117), QWL'NTRW *culantro* 'coriander' (Quf 73). Diphthongs are well represented, see the results of Latin short stressed *e* and *o* (*ie/ye; ue*, appearing as YY and W' respectively), as in WYNYTRY (Waw 12) vientre 'stomach', YYDR' *yedra* 'ivy' (Yod 1), 'WYSWS *huesos* 'bones' (Aleph 113), GW'BW *güevo* 'egg'.³² The presence of these diphthongs should be sufficient evidence for excluding some other Iberoromance languages, such as Galician/Portuguese and Catalan. Furthermore, if we look at the evolution of vulgar Latin or Romance *-l̥-* and *-g'l-*, we see that the romance result of these Latin consonant clusters is represented by the letter Gimel, like in 'GW (Aleph 108) 'garlic' or QW'GW (Quf 18) 'rennet', where the letter gimel unequivocally represents the post-alveolar sound [ʃ]; these words can thus clearly be identified as Old Castilian (*ajo*, *cuajo*, pronounced [aʃo], [kwaʃo], from Vulgar Latin / Proto-Romance **aliō*, **kwag'lo*). In all other Iberoromance languages (and also in Gallo-Romance), Latin *-l̥-* and *-g'l-* became [λ], so we should expect spellings like 'LY(Y)W 'garlic' or QW'LY(Y)W for non-Castilian linguistic varieties.

Whereas most of the Romance lexical material in the list can, thus, in fact, be identified as Old Castilian, there is a considerable number of exceptions. The term YŠQWMH M'RYŠ (Aleph 38) represents the Latin *spuma maris* ('pumice stone', see Sin.: 214a), but the first element shows a quf as the third letter and thus neither matches the Latin *spuma* 'foam' nor the Castilian *espuma*. It quite clearly represents *escuma*, which is the Old Catalan or Old Occitan correspondence of Castilian *espuma* (RL, 2: 189a; DECLC, 3: 565a; also cf. SHS1: Het 33. A similar case is YŠPYQ NRDY *espice nardi* (Aleph 153) and 'ŠPYQ SLTYQ' *espice celtica* (Aleph 1245). The first word, *espice* is documented for Old Catalan and Old Occitan (FEW, 12: 172b; RL, 2: 181a; DCVB, 5: 424b) and also appears in other Hebrew-Romance synonym lists from the Catalan-Occitan linguistic area.³³ Other forms that belong to that linguistic area are 'YŠWP *isop* 'hyssop' (Aleph 89) (DECLC, 4: 794b-795a) and 'LBYRQWQ *albercoc* 'apricot' (Aleph 158) (DECLC, 1: 146ab).³⁴ But whereas the latter can only be Catalan, another lexical item, WYŠQWYYT (Waw 17) (for 'something baked, rusk, biscuit, or the like', according to the Arabic equivalent) shows the spelling YY for a diphthong and thus is more probable to be Old Occitan (*bescueit* 'biscuit', but see below and see section 4).³⁵

So far, then, we can describe the text as a Romance/Latin-Arabic synonym list with mostly Castilian and some Catalan and maybe some Occitan elements. Yet, there are still some elements which do not match either Castilian or Catalan/Occitan. First note the term 'LYW 'GRŠT (Aleph 52), literally 'wild garlic'. The second element could easily be identified as Catalan or even Old Castilian *agrest*, 'wild', but the first element neither permits a Castilian reading (*ajo*, see above) nor a Catalan/Occitan reading (like *all*, *ayl*, *alh*). The spelling LY together with the conservation of the final vowel rather suggests yet another linguistic variety of the Iberian Peninsula, such as Leonese or Aragonese (thus a form that might be spelled *allo* in Latin script). This might be confirmed by the conservation of Latin initial F- (see PYG'DW *figado* 'liver', Pe 62; PYYRW *fierro*, Pe 75 'iron'; instead of *higado/hierro*). But whereas this might also be a Castilian archaism in spelling or reflect an earlier state of Castilian, maybe of the manuscript from which the text was copied, there is at least one other case which is rather more clear: In entry Lamed 48 (see section 4) we find LYYT'SYNWŠ for 'endive', that suggests an Aragonese or maybe Leonese reading **leitacinos* (see section 4). Behind this background, the form WYŠQWYYT (*bescueit*) mentioned above is probably not Occitan but also Aragonese, see section 4. The supposedly Catalan elements of the text would merit some further study, since some of them might also be interpreted as Aragonese. For example, BWQ (Bet 8), *boc* 'he-goat' can be Occitan/Catalan but is also documented for Aragonese (DECLC, 2, 15a-17b, see Bos & Mensching, 2005: 187). Another term, GR'NWTH *granota* (Gimel 11), at least in modern times, comprises the whole Catalan area, but extends unto the Alta Ribagorza and still to linguistic zones of transition between Catalan and Aragonese (DECLC, 5: 614a).

These speculations about Leonese or Aragonese elements will have to be checked by examining more material that appears in the list and must remain provisional in the present paper. There is possibly yet another solution, which will, in part, depend on a detailed study of the sources used by the author of the synonym list. Perhaps the author of the list has used earlier manuscripts of works by Arabic botanists of Muslim Iberia. In this case, we could expect Mozarabic material that appears in works like, for example, those of Ibn Bīklārīsh, Ibn al-Bayṭār, or Ibn Luyun?³⁶ In fact, **leitacinos* (see above) is perfectly possible and even probable as a Mozarabic variant (see section 4). Some other elements mentioned above may also may be Mozarabic, see, e.g. the above mentioned 'LWM, YYDR' and 'LBYRQWQ (الْبُرْقُوقُ [aLYuŠ] 'garlic' [plural], see Asín Palacios, 1943: 14, or بِنْدَرَه, i.e. YDRH 'ivy', see Asín Palacios, 1943: 339, أَلْبُرْقُوقُ [LBRQWQ] 'apricot' *albercoc*, see Simonet, 1967: 33-34). As we said, possible sources would have to be checked, see section 4, n° 5, for a first hint that a Mozarabic source may be involved. We will not go any further at this point (but see some speculations in section 5) and rather turn to the Arabic component.

In general the Arabic terminology is the standard terminology as found in the classical medical compendia and pharmacological handbooks. Sometimes, however, we find

unattested terms which seem to be a transcription or adaptation of the Romance term. One example is 'NGYLWT 'sarcocol' (Aleph 19), which should be 'anzarūt in Arabic (cf. VL, 1: 126; DT, 3: 80; M, 4; SHS1, Aleph 40). The letter gimel might indicate Persian 'anġarūt, but the letter lamed undoubtedly points to Catalan *angelot*, which was borrowed from Persian in the course of trade relations with the orient (FEW, 19: 8b-9a) and, according to Corominas (DECLC, 1: 314b) was changed through popular etymology by the influence of ángel 'angel'). The lemma is 'NGYLWTWS, a latinized variant of the Catalan word (that also appears in the Hebrew version of Alphita; cf. Bos & Mensching: 2005: 204) and we cannot be sure if the author really thought that he was using an arabic word or whether he wanted to indicate a Romance correspondence. At least in one other case, we do find a clear adaptation from Romance or Latin into Arabic: the Spanish 'YRB' DYTWNYS (Aleph 114) *yerba de Tūnez / yerua de Tūnez* (Latin *herba tunica*; maybe *Origanum dictamnus* L., *Dictamnus albus* L. or *Peucedanum officinale* L., cf. Sin, 292, and DETEMA, 1: 825a) appears in Arabic as 'SBHTWNYS, to be read as 'ušba Tūnīs. This term is not attested in the literature and seems to have been coined definitely after the Romance or Latin.

In many cases, the synonym list that we are discussing will be helpful for determining the meaning of some Arabic terms of the materia medica. Thus, e.g., the identity of the plant designated by Arabic *tubbāq* (طَبَّاق) is uncertain; according to some it is eupatory (*Agrimonia eupatoria* L.), while according to others it is identical with fleabane (*Inula conyzoides* L.); cf. M, 403; IBF, 1448; DT, 4: 36. The latter hypothesis might not be too far fetched: in our text we find this word transcribed as TB'Q (Aleph 142), as an equivalent of WLYB'RD', without any doubt to be read as Spanish *olivarda* (*Inula viscosa* (L.) Aiton.). In other cases, the Arabic synonym remains enigmatic, such as WSMH (Nun 5). Since the Arabic letter corresponding to *H* is pronounced /t/ under certain circumstances, we might think of a transcription of German *wismuth*, i.e. bismuth. We are not sure about this interpretation, because it figures as a synonym of *nitrum*. However, it has to be taken into account that this mineral was very new, since it had been discovered around 25 years before the date of the Munich manuscript (Basilius Valentinus described some of its uses in 1450; the Swiss scientist Theophrastus Bombastus von Hohenheim (1493-1541) probably better known under his latinized name of Paracelsus, mentioned the latinized variant word "Bisemutum"). In fact, this mineral was confused in early times with other minerals (although usually with tin and lead due to its resemblance to those elements). In addition, the synonymies given here and in medieval synonym lists are, as we already said in section 1, not always exact and in a few cases totally wrong: another example is *escuma maris* 'pumice stone', see above, explained in Arabic as 'SPRG (Aleph 38), which can only be interpreted as Arabic *isfaranġ*, a popular variant for *hibyawn*, i.e. "asparagus" (cf. DT, 2: 108, n. 3).

In a few cases the synonym to the Romance term is not in Arabic, but in Hebrew. One example is ŠPRD' (Gimel 11), which is not Arabic but Hebrew for 'frog, toad (cf. FA, 112)

— the analogous Arabic term is *difdi* ' (ضفدع; cf. L 1795). In another entry we find DBQ in the sense of 'viscous', which is Hebrew (cf. BM, 873; the corresponding Arabic term is لَزَج *lazig*).

4. Exemplary edition of 5 entries

In order to provide a better idea about the nature of the synonym list, we proceed with an exemplary commented edition of some entries.

Waw 17 (fol. 128v) וישקוייט כעך שאמי

(Vern.) WYŠQWYYT; (Arab.) K'K Š'MY (biscuit)

The lemma is a Romance form belonging to the Latin *biscoctus*, showing the lack of final *-o*, which would suggest, at first sight, a Catalan reading (*bescuit*, DECLC, 2: 1020b). However, the spelling with YY indicates a diphthong in the last syllable, which points towards an Old Occitan reading: *bescueit* 'biscuit' (RL, 1: 505b). In fact, a very similar transcription (BYŠQWYYT) appears in SHS1 (Kaf 8), a text of Occitan origin. But it has to be noted that the diphthong can be found in some Iberoromance varieties too, cf. the participle *cueyto* mentioned for Aragonese in Zamora Vicente (1967: 242), and the final vowel often disappeared in this variety; as far as Mozarabic is concerned, this form would also be possible; cf. Zamora Vicente (1967: 29), where the participle *cuít* is mentioned, but it is also said that the diphthongization before the semivowel yod is well attested for Mozarabic; for the loss of final vowels after *-t*, see Zamora Vicente (1967: 30-31).

Arabic *ka'k šāmī* (كعك شامي) means 'something baked (rusk, biscuit, or the like)'; cf. WKAS, 1: 234-5; SHS1, Kaf 8. Accordingly, *ka'k šāmī* means 'something baked (rusk, biscuit, or the like) hailing from Syria'.

Lamed 48 (fol. 128v) לייטאסינוש הנדבא

(Vern.) LYYT'SYNWŠ (Arab.) HNDB'

The Romance term suggests a reading **leitacinos*, which could be an Aragonese, Leonese, Galician/Portuguese or Mozarabic form belonging to the hypothetical Latin plant name **lacticinus*, postulated by, e.g. Corominas in DECLC, V: 176b (see section 3, in particular with respect to Mozarabic). The forms indicated there as Aragonese are more evolved variants (without diphthong and/or palatalization of *t* (see, e.g. Aragonese *lechacinos*). The meaning according to DECLC is *Sonchus levis*. See ibidem for further references. In Lamed 20, the same Romance word appears as LYT'SYNWŠ, with the Arabic synonym TRHŠQWN (طر حشقون), i.e. "dandelion" (*Taraxacum officinale*), a synonym of *hindabā' barrī* (wild chicory); see M: 175; IBF: 1469. This latter variant, LYT'SYNWŠ, where the diphthong is not represented, very closely resembles the form ليطجنس, i.e., LYTĠYNŠ by Ibn Bīklārīsh (Simonet, 1967: 307; DECLC, 5: 176b); for the Arabic letter Gimel in Mozarabic versus the Hebrew letter Samech in our text, see below with respect to entry Pe 30.

Arab. *hindabā* (هندباء) or *hindibā* means ‘chicory, endive’, designating several species of *Chicoraceae*, such as *Cichorium intibus* L. and Var. and *Cichorium endivia* L. and Var.; cf. DT, 2: 114; M: 114; SHS1: Ayin 7.

The Arabic term appears two more times in this synonym list, as a correspondence to ‘YNDYBY’, i.e. Lat. or Romance *endivia* (Aleph 83) and to SYR’Ġ’Š (Samech 17), i.e. Old Spanish *çerrajas* (plural), prob. *Sonchus ciliatus* Lam. or *Sonchus fallax* Wall. (Sin.: 242b, DETEMA, 1: 303a).

Lamed 26 (fol. 128v) ליקטירואילה יתוע
(Vern.) LYQṬYRW’YLH (Arab.) YTW’

LYQṬYRW’YLH represents Castilian *lecheruela* or an equivalent in some other Iberoromance variety, identified as *Euphorbia helioscopia* (SG: 685a),³⁷ *Euphorbia segetalis* L.³⁸ The sequence QṬ might just be a latinizing spelling for [t], so that the word may be Castilian;³⁹ more probably, however it is a Latinizing spelling for -t-, so that the word might correspond to some Navarro-Aragonese variant; see, e.g. the form *literuela* (alavés) quoted by Asín Palacios (1943: 145). As a last alternative, it might represent the archaic state of the Latin nexus -CT- in Mozarabic, that is often preserved, although the C mostly appears as the letter Ḥa; see the transcription لختيروله , i.e. LḤTYRWLH in Ibn Bīklāriš (cod. Leiden, see Simonet, 1967: 291), LḤTYRW’LA (Asín Palacios, 1943: 144). For the first vowel, the Yod in our manuscript versus the Aleph in the latter Mozarabic form might be problematic, but see the vocalised plant name لختيرَة , i.e. LiḤTaYRaH (where the lemma featuring here derives from) in Asín Palacios (1943:152), so a Mozarabic form *lekteruela* or *lexteruela* would be perfectly possible (in addition it must be said that Arabic Alif was probably pronounced as something like *e* in Hispano-Arabic).

The Arabic equivalent confirms the pertinence to the genus *Euphorbia*: Arabic *yattū* (يَتُّوع) designates first of all plants which produce a milky juice, latex, and then the species *Euphorbia*; cf. DT, 4: 153; SHS1: Shin 22. The same Arabic word appears in Aleph 129 as a synonym to ‘YŠWL’, i.e. Lat. *esula* or Span. *ysola*, prob. *Euphorbia pithyusa* L., see Sin.: 293b, and in Tet 30 as a synonym of ṬYṬYM’L, i.e. Cat. *titimal* (genus *Euphorbia*, in particular *Euphorbia helioscopia*, DCVB, 10: 316a).

Qof 47 (fol. 129v) קוראסונסיליי היפואריקון
(Vern.) QWR’SWNSYLYYW; (Arab.)
HYWP’RYQWN

The vernacular term is Castilian *coraçoncillo*, literally ‘little heart’, which, as a plant name, means *Hypericum perforatum* L. (Sin.: 246a), (DETEMA, 1: 401c). The name is due to the form of the leaves (see Dicc. autor.: 591a, *corazoncillo*).

The meaning is confirmed by the Arabic term, which is *hayūfārīqūn* (هيو فار يقون), ‘hypericum’; and it is reconfirmed in entry Aleph 82, where the same Arabic term features as a translation of ‘YWP’RYQWN, i.e. (h)ypericum; the letter Nun instead of final Latin M is frequent here and in other Hebrew medico-botanical texts.

Pe 30 (fol. 129v) פ'וליו סרבונו משכאטמאשיר
(Vern.) PWLYW SYRBWNW; (Arab.) MŠK’ṬM’ŠYR

The Arabic term is misspelled for משכאטמאשיר, i.e. *مشكطرامشير* (*miškiṭrāmašīr*), that is ‘dittany’ (*Origanum dictamnus* L.); cf. DT, 3: 31. The synonymy found here can also be found in Mozarabic sources: a Mozarabic term interpreted by Simonet as *poleyo chervuno* is used as a synonym of *miškiṭrāmašīr* by Ibn Tharīf, Ibn Bayṭār, and Ibn Bīklāriš: *بلايه جربونه/بلايه* (Simonet, 1967: 452); see also Asín Palacios (1943: 234). Note that the spelling BLYH can also be read *poleo*, without diphthong, like in our text. It must also be noted that, since Arabic has no letter for [p], the spelling is with the Arabic letter ba in the forms we have quoted, but Simonet (loc. cit.) also mentions forms with fa (FL’YH / FLYH, FLYW, among others). The term is a Mozarabic version of Med. Lat. *pulegium cervinum* (Alphita, see Sin.: 137, note 12). Latin [k] (spelled *c*) before *e* and *i* usually shows as [t] in Mozarabic, spelled with Gim in the Arabic script, hence Simonet’s transcription as *chervuno*. But, according to Zamora Vicente (1967:39-40), the most typical pronunciation of the sound represented by Gim was dental, so the use of the Hebrew letter Samech in our text may still reflect a Mozarabic variant. Of course the term featuring here could also be read as Castilian *poleo cervuno* (which does not figure neither in DETEMA nor in Sin. however). But note that the Hebrew letter at the beginning of the first element of the term, PZWLYW, is Pe with an overstroke (raphe), indicating the pronunciation [f]. We see no real reason for this unless the author had a Mozarabic form like, e.g. FLYW (see above) as a model.

Summary and outlook

The synonym list that we have been discussing in the preceding sections and which we are planning to edit is an interesting document Jewish and Arabic medicine in medieval Iberia. From a linguistic point of view, apart from Arabic and Latin (which in most cases represent “standard” medicobotanical terms), we have been able to identify Old Castilian and Old Catalan elements and some elements of at least one other Iberoromance variety. It is not clear at this stage, which variety (or varieties) these elements stem from. Do we have to think of an author from Aragón, who, due to geographic and cultural reasons might have had at hand both the Castilian and the Catalan names for plants, animals or the like and only sometimes switched to his native language? Or were the non Castilian elements introduced by a copyist? Since the copy was made in Valladolid, do the few non-Catalan/non Castilian items possibly reflect the Leonese language of the copyist? Or do these elements represent Mozarabic terms that were transcribed from an older source, maybe one of the famous Arabic botanists? For the latter hypothesis we think we have adduced some (admittedly still very few) evidence. We hope to be able to find a more definite answer to these questions after a more thorough scrutiny of this text during our preparation of the edition.

Notes

1. This paper is a preliminary report of a wider project which will aim at editing and commenting upon the manuscript discussed. It is also related to other projects directed by the authors; cf. footnote 30. We thank Nina Riehl and Julia Zwink for their support and layout of this article.
2. For a brief description and discussion of the list cf. Bos & Mensching (2005: 184-192).
3. For the manuscript see Steinschneider (1895).
4. On the Hebrew translations see Rabin (1950); Richler (1982); Ferre (2003).
5. An edition of the Arabic text and Hebrew translations is in preparation.
6. On Joseph Lorki see Steinschneider (1893: 681).
7. For Nathan ha-Me'ati, see Steinschneider (1893: 678-681); Vogelstein & Rieger (1895-1896: 398-400).
8. For the data concerning the manuscripts I thank Benjamin Richler.
9. Cf. entry Zimmels (1971); Steinschneider (1893: 701-702).
10. Hebrew *be-la'az*; note that in Hebrew texts often no principal distinction is made between Romance and Latin, both counting as vernacular; cf. Bos & Mensching (2005: note 2).
11. Steinschneider (1867: 314).
12. In what follows, we will indicate with each entry or word the Hebrew letter and the entry number where it figures in the manuscript (we numbered the entries starting from 1 in each letter).
13. We use a transcription system that has been adapted from the *Encyclopaedia Judaica* for the purposes of our projects mentioned below.
14. Cf. DT, 2: 165; SeSh 1 - Aleph 11.
15. Gerard (1633).
16. So called because of its incipit: "Alphita, i.e. farina hordei". See the editions of Renzi (1852-1859) and Mowat (1878), also cf. Mensching (1994), Bos & Mensching (2005). A modern edition, directed by E. Montero Cartelle at the university of Valladolid is in press.
17. About this index see Mensching (1994: 21-22), some unpublished manuscripts are mentioned there on page 39.
18. The rest of this section was adapted from an unpublished paper presented by the authors at the Wellcome Trust in London (Bos & Mensching 2006); see as well Bos (in press).
19. Steinschneider (1892: 582).
20. Cf. Bos & Mensching (2005).
21. Steinschneider (1867: 314).
22. Rothschild (2001).
23. This list featuring on fols. 68-91 and entitled: השמו הנקראים סינומי שגוי (On the different terms which are called synonyms) is part of a manuscript that was copied in 1462 by Abraham Ben Daniel the physician. The list is an enlarged index to the second book of Ibn Sīnā's *K. al-Qānūn* which contains not less than 1760 entries. Cf. Steinschneider (1893: 839).
24. Magdalena Nom de Déu (1993).
25. Cf. Steinschneider (1867: 314), concerning the list featuring in MS Munich 245, fols 155r-177r; Richler (2001).
26. For Hebrew medical texts (also containing Romance and Latin words) outside the genre of glossaries/synonym lists, see Bos & Mensching (2005) footnote 23.
27. The work was printed for the first time in Cairo 1874 and has been reprinted repeatedly.
28. Cf. A. Dietrich, *Die Dioskurides-Erklärung des Ibn al-Baitar. Ein Beitrag zur arabischen Pflanzensynonymik des Mittelalters*. Göttingen, 1991.
29. Dietrich (1988).
30. We thank the *Deutsche Forschungsgemeinschaft* that has supported this initiative by means of two grants (2001-2004, 2004-2007). The project is directed by the authors of the article who are assisted by Martina Hussein and Frank Savelsberg.
31. See Bos & Mensching (2000: 24-25).
32. Variant of *huevo*, for its occurrence in Old Spanish medical texts see DETEMA (847a-c).
33. See SeSh1, Shin 10: Hebrew ŠBWL T HWDYYT, Arab. SNBL HNDY, o.l. 'ŠPYQ' N'RDY, where the Latin-Romance term appears as 'ŠPYQ NRDY in one manuscript (O). Also cf. Shin 11 for *espis celtica* as well. These forms also appear in Magdalena Nom de Déu (op. cit., p. 23, lines 47-48); note that the transcription *asâfic nardi/celtica* is erroneous. For further comments see SeSh1 in press.
34. See DCVB (1: 428a).
35. See below.
36. See, among others, Zamora Vicente (1985: 19).
37. Also cf. the *Spanish Wikipedia* (<http://es.wikipedia.org/wiki/Euphorbia_heliscopia>).
38. Tardio et al. (2006: 45).
39. Note the regular spelling with Gimel and raphe in LYG Y *leche* 'milk' (Lamed 1).

Bibliography

- BM = Ben Yehuda, E. (1910-1959): *Millon ha-Lashon ha-Ivrit. Thesaurus Totius Hebraicitatis et Veteris et Recentioris*. 17 vols. Berlin, Tel Aviv. Repr. Tel Aviv 1948-1959.
- Bos, G. (in press): "The Creation and Innovation of Medieval Hebrew medical terminology: Shem Tov Ben Isaac, Sefer ha-Shimmush." In: *Festschrift Hans Daiber*.
- Bos, G. & G. Mensching (2000): "Macer Floridus: A Middle Hebrew Fragment with Romance Elements", *The Jewish Quarterly Review*, XCI (1-2): 17-51.
- (2001): "Shem Tov Ben Isaac, Glossary of Botanical Terms, nrs 1-18", *Jewish Quarterly Review*, XCII (1-2): 21-40.
- (2005): "Hebrew Medical Synonym Literature: Romance and Latin Terms and their Identification", *Aleph. Historical Studies in Science & Judaism*, 5: 11-53.
- (2006): «Synonym literature in Hebrew manuscripts and the innovation of a Hebrew medical terminology by Shem Tov Ben Isaac of Tortosa (fl. 13th century) in his translation al-Zahrawi's *K. al-Tasrif*». Talk given at the Wellcome Trust London, 24.1.2006.
- DCVB = Alcover, A., & F. Moll (1980-1985): *Diccionari català-valencià-balear*. 10 vols., 2nd ed. Palma de Mallorca.
- DECLC = Coromines, J. (1980-1991): *Diccionari etimològic i complementari de la llengua catalana*. Barcelona.
- DETEMA = Herrera, M. T. (1996): *Diccionario español de textos médicos antiguos*. 2 Bde. Madrid.
- Dietrich, A. (1991): *Die Dioskurides-Erklärung des Ibn al-Baitar. Ein Beitrag zur arabischen Pflanzensynonymik des Mittelalters*. Göttingen.

- DT = Dietrich, A. (ed.) (1988): *Dioscurides Triumphans. Ein anonym arabischer Kommentar (Ende 12. Jahrh. n. Chr.) zur Materia medica*. Arabischer Text nebst kommentierter deutscher Übersetzung. (Abh. der Akad. der Wiss. in Göttingen, Phil. Hist. Klasse, Dritte Folge, Nr. 172). I-II, Göttingen.
- Ferre, L. (2003): "Avicena Hebraico: La Traducción del Canon de Medicina. The Hebrew translation of Avicenna's Canon", *MEAH* (Sección hebreo) 52: 163-182.
- FEW = Wartburg, W. von (1922 seqq.): *Französisches Etymologisches Wörterbuch*. Bonn, Leipzig, Tübingen, Basilea.
- Gerard, J. (1633): *The Herball or general Historie of Plants*. London [<http://members.aol.com/renfrowcm/gerardp4.html>].
- Hüllen, W. (2006): *English Dictionaries, 800-1700. The Topical Tradition*. Oxford.
- IBF = Ibn al-Baytār (1877-1883): *Traité des simples*. Traduction de Lucien Leclerc, 3 vols. Paris.
- M = Rosner, F. (1995): *Moses Maimonides' Glossary of Drug Names*. Translated and annotated from Max Meyerhof's French edition (Maimonides' Medical Writings 7), Haifa.
- Magdalena Nom de Déu, J. R. (1993): *Un glosario hebraicoaljamiado trilingüe y doce 'arabadin' de origen catalán (siglo xv)* Barcelona.
- Mensching = Mensching, G. (1994): *La Sinonima delos nombres delas medecinas griegos e latynos e arauigos*. Madrid.
- Mensching & Savelsberg 2004 = Mensching, G., & F. Savelsberg (2004): "Reconstrucció de la terminologia mèdica occitanocatalana del s. XIII a través de sinònims en caràcters hebreus" In: *Actes del I congrés per a l'estudi dels jesus en territori de llengua catalana*. Barcelona.
- Mowat = Mowat, J. G. L. (ed.) (1887): *Alphita. A Medico-Botanical Glossary from the Bodleian Manuscript, Selden B. 35*. Oxford (= Anecdota Oxoniensia Medieval and Modern Series, t. 1, pt. 2).
- Rabin, H. (1950): "Toledot Targum Sefer ha-Qanun le-Ivrit", *Melilah* 3-4 (Manchester): 133-147.
- Richler, B. (1982): "The Manuscripts of Avicenna's Kanon in Hebrew Translation: a revised and up-to-date list", *Korot*, 8 (3-4): 145-168.
- Richler, B. (2001): *Hebrew Manuscripts in the Biblioteca Palatina in Parma*. Catalogue. Palaeographical and codicological descriptions: Malachi Beit-Arié. Jerusalem, no. 1539 (= De Rossi 1316).
- Renzi, S. de (ed.) (1852-1859): *Collectio Salernitana*. 5 vols. Napoli.
- RL = Raynouard, F. J. (1970): *Lexique roman: Ou dictionnaire de la langue des troubadours comparée avec les autres langues de l'Europe latine*. Heidelberg.
- Rothschild, J. P. (2001): "Remarques sur la tradition manuscrite du glossaire hébreu-italien du Commentaire de Moïse de Salerne au *Guide des égarés* (en appendice, note sur les glossaires médicaux hébreux; liste de manuscrits hébreux contenant des glossaires)." In: J. Hamesse et D. Jacquart: *Lexiques bilingues dans les domaines philosophique et scientifique (Moyen Âge - Renaissance) (Actes du Colloque international organisé par l'École Pratique des Hautes Études - IVe Section et l'Institut Supérieur de Philosophie de l'Université de Louvain (Paris, 12-14 juin 1997))*. Turnhout, Brepols.
- SHSI = Bos, G., & G. Mensching, in collaboration with F. Savelsberg and M. Hussein (ed.) (in preparation): *Sefer ha-Shimmush*. bk. 29, Shem Tov Ben Isaac medical synonyms (list 1).
- Sin = Mensching, G. (1994): *La Sinonima delos nombres delas medecinas griegos e latynos e arauigos*. Madrid.
- Steinschneider, M. (1867): "Donnolo. Farmakologische Fragmente aus dem 10. Jahrhundert", *Virchows Archiv*, 39: 304-317.
- Steinschneider, M. (1892): "Zur Literatur der 'Synonyma'." In: Pagel: *Chirurgie des Heinrich von Mondeville*. Berlin, p. 582 (English translation: Bos-Mensching).
- Steinschneider, M. (1893): *Die hebräischen Übersetzungen des Mittelalters und die Juden als Dolmetscher*. Berlin. Repr. Graz 1956.
- Steinschneider, M. (1895): *Die hebräischen Handschriften der K. Hof- und Staatsbibliothek in München*. 2nd rev. enlarged ed. Munich.
- Tardio, J.; M. Pardo-de-Santayana & R. Morales (2006): "Ethnobotanical review of wild edible plants in Spain", *Botanical Journal of the Linnean Society*, 152 (1): 27-71 (45).
- Vogelstein, H., & P. Rieger. (1895-1896): *Geschichte der Juden in Rom*. 2 vols. Berlin, vol. 1.
- VL = Vullers, I. A. (1855-1864): *Lexicon Persico-Latinum Etymologicum*. 2 vols. Bon. Repr. Graz 1962.
- WKAS = *Wörterbuch der klassischen arabischen Sprache*. Ed. by Deutsche Morgenländische Gesellschaft. In collaboration with A. Spitaler, revised by Jörg Krämer & Helmut Gätje (From vol. 3 revised by M. Ullmann). Wiesbaden 1957ff.
- Zamora Vicente, A. (1985): *Dialectologia española*. Madrid.
- Zimmels, H. J. (1971): "Ya'ish, Baruch Ben Isaac Ibn." In: Roth, C.: *Encyclopaedia Judaica*. vol. 16.

