

Jewish Vernacular Medical Knowledge in the Crown of Aragon: MS Munich 291

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ABSTRACT

The Jewish scientific repertoire in the late medieval Crown of Aragon was characterised by the production of medical texts in various languages, drawing on diverse knowledge traditions. It comprised Hebrew translations of the Galenic corpus, mainly from Arabic, as well as renderings of Latin scholastic medical texts. From the thirteenth century onward, Jews also produced translations and transcriptions into Ibero-Romance languages and, at times, composed original treatises. This article examines the role of Catalan and Aragonese within the medical repertoire of Jewish physicians in the Crown of Aragon through an analysis of Cod.hebr. 291, held at the Bavarian State Library in Munich. It presents an edition and translation of thirty-two medical recipes in Catalan written in Hebrew script. Jewish medical writing in the Crown of Aragon operated at the intersection of languages, traditions, and epistemologies. Medical books and recipes not only reflected a fusion of scholarly and popular practices but also navigated the boundaries between medicine and magic. The article highlights how Jewish multilingualism in the Crown of Aragon was embedded in broader patterns of cultural and scientific pluralism and interconnected with other parts of the Mediterranean.

KEYWORDS

Jewish medicine; Crown of Aragon; Jewish physicians; vernacular medical recipes; medieval medicine; medieval magic; medieval Catalan; medieval Aragonese; medieval Castilian; multilingualism; aljamiado in Hebrew script; transmission of medical knowledge; late medieval Iberia



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RESUM

El repertori científic dels jueus a la Corona d'Aragó en època baixmedieval es caracteritzava per la producció de textos mèdics en diverses llengües, basats en tradicions diverses. Inclou traduccions hebrees del corpus galènic, principalment a partir de l'àrab, així com adaptacions de textos mèdics escolàstics en llatí. A partir del segle xiii, els jueus també van produir traduccions i transcripcions a llengües iberoromàniques i, en alguns casos, van redactar tractats originals. Aquest article examina el paper del català i l'aragonès dins el repertori mèdic dels metges jueus a la Corona d'Aragó a partir de l'anàlisi del manuscrit Cod.hebr. 291, conservat a la Bayerische Staatsbibliothek, a Munic. S'hi presenta una edició i traducció de trenta-dos receptes mèdiques escrites en català aljamiat en caràcters hebrees. Els escrits mèdics jueus a la Corona d'Aragó es desplegaven entre una varietat de llengües, tradicions i sistemes de pensament. Els llibres de medicina i les receptes mèdiques reflectien una fusió entre el saber autoritzat i la pràctica popular, i sovint transitaven els límits entre la medicina i la màgia. L'article suggereix que el plurilingüisme jueu s'inscrivía en un horitzó més ampli de pluralisme cultural i científic arreu, i interconnectat amb altres regions del Mediterrani.

PARAULES CLAU

Medicina jueva; Corona d'Aragó; metges jueus; receptes mèdiques vernacles; medicina medieval; màgia medieval; català medieval; aragonès medieval; castellà a la Corona d'Aragó; plurilingüisme medieval; aljamiat en caràcters hebrees; transmissió del coneixement mèdic

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1 Introduction

Jewish physicians in late medieval Iberia received a wide-ranging education. They invested substantial time, money, and effort in studying Arabic and Latin science, read either in their original languages or via translation into Hebrew and Ibero-Romance. Some Jewish physicians were also active translators who turned Arabic and Latin works into Hebrew and Ibero-Romance languages, for use within their communities (Shatzmiller 1994: 22-55; Miller 2000: 45-63; García-Ballester 2001: 424-498). Competing with Christian physicians was a strong practical motive for Jews to engage with Latin and vernacular science. Their expertise, developed through rigorous study, not only benefited their communities but also earned them roles as royal physicians and translators (Romano 1978 and 1991-92).

Jews of Christian Iberia produced medical texts, primarily in Hebrew, but also in Arabic and Ibero-Romance languages. Their scientific repertoire included Hebrew translations of the Galenic corpus in Arabic and of Latin medical scholastics (Freudenthal 2011). From the thirteenth century, Iberian Jews started producing scientific translations from Arabic into Castilian. Translations in Catalan from Latin or Arabic only emerge during the fourteenth century (Faulhaber 2004; Caballero-Navas 2012: 333-335). Apart from translations, Jews also copied Castilian, Catalan, Portuguese, and Aragonese medical texts in Hebrew script. The Ibero-Romance texts were mainly copied during the fifteenth century (Gutwirth 2011: 332).¹ These include medical treatises, recipe collections, medical-botanical lexicons and synonym lists, many of which remain unstudied or understudied.

Since ancient times, a common Jewish practice throughout the Mediterranean was to write down the vernacular and learned languages of the non-Jewish environment using the Hebrew alphabet. Within the Iberian context, Jews wrote texts and documents in Arabic, Latin and different Ibero-Romance languages: Arabic, Latin, Castilian, Catalan, Portuguese, and Aragonese, all in Hebrew script. Only on rare occasions did Jews write Latin or Romance using the Latin script.

A significant part of Jewish medical Iberian literature was copied in Castilian in Hebrew script, starting in the fourteenth century and to a greater extent during the fifteenth century. There are only a handful of medical texts copied in Portuguese in Hebrew characters (Cowley 1972; Strolovitch 2005: 344-350; Cantori 2021: 39-40). The question remains, where did Catalan and Aragonese fit within the linguistic repertoire of Iberian Jewish physicians?

This article delves into Munich, Bavarian State Library Cod.hebr. 291, examining the role of Catalan, Aragonese and Castilian within the medical repertoire of Jewish physicians in the Crown of Aragon. The article includes the edition of thirty-two recipes copied in Catalan in Hebrew script around the end of the fifteenth century.

In assessing what the languages of science in late medieval Jewish Iberia were, two contrasting models of learning and practice are revealed. The first model evolved within the long-standing Judeo-Arabic scientific and philosophical traditions that dominated the entire Mediterranean expanse, from the Levant and further eastern Muslim domains to Muslim Spain, as well as other Iberian and Provençal Jewish communities under Christian rule. The second model evolved in the European universities of the late Middle Ages, comprising scholastic logic, science and medicine

1. The texts written in Ibero-Romance in Hebrew script are also referred to by some Hispanists as *aljamiado* texts.

written in Latin and later in the Ibero-Romance vernaculars. The centre of this model was in the western Mediterranean, with prominent medical schools in Salerno and Montpellier among others. The latter model, alongside Latin and vernacular writing, was increasingly favoured by fifteenth-century Jews (García-Ballester *et al.* 1990; García-Ballester 2001: 424-498). Jewish physicians and scholars gradually adopted Latin cultural models over time (Caballero-Navas 2011a: 333). This sort of 'Hebrew scholasticism', as described by Zonta (2006: 19), was particularly noticeable in the Crown of Aragon, rather than in Castile, also within the medical realm.

The multilingual manuscript testimonies indeed invite a discussion regarding multicultural contacts and medical pluralism in the Crown of Aragon, looking into the sources of inspiration of Jewish medical literature in the Ibero-Romance vernaculars around the fourteenth and the fifteenth centuries.

2 Munich, Bavarian State Library Cod.hebr. 291

Jewish copyists, not unlike Christian copyists, relied on different sources in a variety of languages. I will now delve into a single manuscript (Munich, Bavarian State Library Cod.hebr. 291 [henceforth, Munich hebr. 291]) to demonstrate the contacts between Castilian, Aragonese and Catalan among Jewish physicians of the Crown of Aragon, including its analysis, edition and translation into English.

The Hebrew manuscript held in the Bavarian State Library of Munich is a compilation of fourteen fragments relating to medicine. It was copied mainly in Castilian in Hebrew script, but with clear Aragonese and Catalan influences. Some later marginalia were added. A later hand added in Hebrew on the first folio of the manuscript that it is 'ספר הרפואות עם אותיות עברי ובלשון ספרדי' 'The Book of Medicines with Hebrew letters and in Sephardic tongue', followed by a Latin title *Liber in medicina caractere Hebraico et sermon Hispanico*. This is followed by a title for the book *S'(efer) kav ha-bri'ut* 'Book of the Line of Health'. The Munich Library catalogue defines the language of MS Munich hebr. 291 as Spanish in Hebrew characters, and Ferre (1995: 52) refers to it as 'Judeo-Spanish'. Some of the texts in Castilian, however, have a strong Aragonese imprint. Some recipes were copied in Aragonese, and a few others in Catalan.

The Munich catalogue dates the manuscript to the fifteenth century. However, a paleographic evaluation of the fragments of Ḥunayn ibn Ishāq in the manuscript by Edna Engel (NLI) situates it in the sixteenth century, probably in Italy (Ferre 1995: 52). Based on the paleographic and linguistic characteristics, I suggest that the manuscript was copied by a Jewish physician, originating from one of the thriving Jewish communities of the Crown of Aragon, quite plausibly a Jewish exile who arrived in Italy after the expulsion of 1492. Not ruling out that the manuscript could have been copied before the expulsion, I estimate that this Jewish multilingual physician, possibly in training or before the official certification, copied the manuscript between 1480 and 1520.

At some point, the manuscript was rebound incorrectly. Some folios disappeared, and a pagination with Arabic numerals was added. The correct order of the folios is, hence:

Ff. 1-121, but then 128-135; 146-153; [missing folios]; 154-155; [missing folios]; 123-124; 127; 122; 125-126; 144-145; 136-137; [missing folios]; 138-140; [possibly missing folios]; 141; 142-143 (empty folios); 156-157 (a later hand added a table of contents for some of the recipes).²

2. I follow the numeral foliation of the manuscript that was added after the rebounding of the manuscript, with some

To restore the original order of the manuscript, I have used the helpful copyist's catchwords at the bottom of some of the pages, indicating the first words of the following page. The practice of placing a catchword was meant precisely to help the scribe maintain continuity and avoid copying errors, ensuring that pages were in the correct order when the manuscript was assembled. All the same, the folios were misplaced upon binding, probably at a later phase.

The manuscript consists of some known medical works, such as treatises by Galen and Galenic treatises translated into Castilian from the Arabic versions produced by Ḥunayn ibn Ishāq and his son Ishāq ibn Ḥunayn (ff. 7r-10r; 31v-47r).³ Some Arabic terms are preserved within the Castilian translations in Hebrew script (e.g. ff. 70v-72v).

In the manuscript, there are fragments of Theodoric Borgognoni's *Chirurgia* (ff. 47r-53v), as well as another work, *El libro que fabla de cuestiones de Tadic* 'The book that deals with the questions of Theodoric'. It takes the form of questions, such as: *Dime que es una cabeça* 'Tell me what a head is', or *Dime agora de los mienbros* 'Tell me now about the organs'. Answers often begin with: *Pues me responde* 'then he responds to me' or *digote* 'I tell you'. The definitions are not verbatim quotations of Borgognoni (Steinschneider 1895: 152-153). *The Book of Theodoric's Questions* is a practical guide to studying Theodoric's *Chirurgia*, probably in preparation for official exams that surgeons and barbers had to pass.⁴ As the medical certification process became official in Aragon,⁵ more practical handbooks in the format of questions and answers circulated in the region.⁶ Borgognoni's thirteenth-century work kept influencing Christian and Jewish physicians into the fifteenth century.

Many of the works in the manuscript include recipes, and the manuscript also contains a large separate collection of recipes (ff. 122r-154v). The recipes are mainly in Castilian, Aragonese, and occasionally in Hebrew, copied by the same hand, supporting the hypothesis that its copyist originates from the Crown of Aragon. There is a mixture between learned works of renowned Graeco-Arabic Galenic texts as well as Latin authorities, next to recipes of diverse sources and themes, including popular remedies for domestic use in the vernacular languages. A later hand added some recipes, among which there are thirty-two in Catalan (ff. 144-145; 136-137; 141r; see edition below). Many aspects of daily life were included in recipe collections of the time. Some recipes prescribe magical remedies or offer practical domestic medicine and self-help.⁷ Other treat healing domestic animals, producing cosmetics, or formulating dyes. These were often combined with medical prescriptions for common or more complicated human diseases, or to maintain health. For example, the copyist of MS Munich hebr. 291 included prescriptions in Catalan (with Castilian

disorders and missing pages. Later hands also added some recipes to the first folios of the manuscript, therefore, there are some discrepancies from the foliation division of the National Library of Israel (NLI) catalogue <https://tinyurl.com/c95cymzh>. In the scanning by the Bavarian State Library of Munich, there is a further mixture in the order of the pages presented <https://mdz-nbn-resolving.de/details:bsb00117567>. The correct order of the folios, which I propose, thus refines Steinschneider's description (1895: 152-154).

3. On Jewish Galenism and Arabic culture, see García Ballester-Vázquez de Benito 1990; On the Galenism that underlies medieval medical literature of both Arabic and Latin traditions, and consequently, Hebrew medical writing within both frameworks, see Caballero Navas 2024.

4. I wish to thank Lluís Cifuentes for his insights on the profile of the manuscript holder.

5. On the difficulties of Jews in the certification process, see Luis García Ballester *et al.* 1989: 26-28; McVaugh 2002 [1993]: 95-101.

6. An example of the question-and-answer format is the aforementioned fragment in Castilian in Hebrew script on Al-Zaharawi's *Kitāb al-taṣrīf* (Munich, Bavarian State Library, Cod. hebr. 280, ff. 257r-261v; Steinschneider 1895: 139). A similar question and answer format was used by horse veterinarians (Cat. *menescal*) (Cifuentes-Ferragud 1999).

7. Recipes for domestic use or self-help circulated during that time at the Crown of Aragon (Cifuentes 2013: 159-161). The Joanot Valero's recipes concerned the medical risks of a professional dyer (Cifuentes-Córdoba de la Llave 2011: 56).

and Aragonese influences) for colouring hair and making it blonde (*rosos*) or black (ff. 137v; 136v), or for making a blue (*azur*) dye (f. 136v).

2.1 Aragonese-Castilian-Catalan contacts⁸

Most susceptible for language mixture in the textual production of late medieval Iberia is medical literature, particularly the genre of medical recipes. Christian *receptaria* of the time also attest to the mixture of Catalan, Aragonese and Castilian.⁹ Such is the case of the Aragoneseisms and Castilianisms in the Catalan medical and dyeing recipes of Joanot Valero from fifteenth-century Valencia (Cifuentes-Córdoba 2011: 56-62), or the Catalan version of Lanfranc's *Chirurgia magna* (Cifuentes 2001: 114). Both texts include, to some degree, the mixing of Catalan and Castilian/Aragonese. Valero was of Aragonese origin and copied Catalan texts (Cifuentes-Córdoba 2011: 57-58), while Lanfranc seems to have had an apprentice in Barcelona of Castilian origin who copied the texts (Cifuentes 2001: 114-117). A similar example is that of the medical recipes of Joan Llopis (fifteenth century), who had some family ties in Castile (Cifuentes 2016: 132).

To be sure, the continuum between the different Ibero-Romance dialects and languages was still very fluid, and their distinction was unstable and blurred, even during the fifteenth century. Still, the Aragonese imprint in the manuscript is well present. Clear Catalan forms, however, appear only in the thirty-two recipes added by a later hand. These recipes are edited and commented upon below.

The Munich manuscript opens with eighteen recipes, fourteen of which begin with the Aragonese preposition *pora* (פורה *porh*) 'for' (*Pora mordedura de can* 'For a dog bite; *Pora la fistula que se faze en el lagrimal del ojo*, 'For the fistula that occurs in the lacrimal of the eye', f. 3r). This format repeats in different parts of the manuscript. The Aragonese noun *cremadura* (קרימאדורה *qeremadurh*, f. 4r)¹⁰ 'burn' is used, but two recipes prior to that, there is the Castilian form *quemadura* (קימאדורה *qym'durh*, f. 3v) 'burn'. There are also clear Aragonese forms, such as *clamado* (קלאמאדור *ql'm'dw*, f. 6r) 'called (m. sg.)' (cf. Cast. *llamado*). The preservation of the historical initial *f*- might certainly be attributed to Old Castilian; however, for a late fifteenth-century text, these are more probably due to an Aragonese influence. Among the multiple examples of initial *f*- in the manuscript are in forms of the verb *fazer* 'to do' (*faze* פאזי *p'zy*, *faz* פאז *p'z*, f. 3r); *fasta* (פאשטה *p'sth*, f. 3r) 'until'; or *ferrido* (פירידור *fyrydw*, f. 6r) 'hurt'.

Catalan-Aragonese components appear within the Castilian recipes. For example, the Aragonese forms of the past participle *feitos* (פייטורש *pyytwš*, f. 140v) 'done (m. pl.)'; *feita* (פייטה *pyyth*, f. 140v) 'done (f. sg.)', (cf. Old Cat. *feit* > *fer*; Old Cast. *fecho* > *hecho*); or the Catalan-Aragonese forms *juyvert* (גואיברירט *gw'ybyrt*, f. 140v) 'parsley' (cf. Cast. *perexil*); *sucre* (סוכרי *swkry*, f. 140v) 'sugar' (cf. Cast. *azúcar*); *camas* (קאמש *qmasš*, f. 140v) 'legs' (cf. Cast. *piernas*; however, *cama* for 'leg' is also documented in Old Castilian). There is also an example of a Catalan lexeme and Catalan plural morphology: *groques* (גרוקיש *grwqesš*, f. 140v) 'yellow (f. pl.)' (cf. Cat. *groc*; Cast. *amarillo*).¹¹ There

8. Parts of the examples in this section appear, with a few modifications and corrections, in my earlier work: Baum 2018: 53-55.

9. I have used the following abbreviations: Arabic (Ar.), Aragonese (Arag.), Castilian (Cast.), Catalan (Cat.), Italian (It.), Latin (Lat.), Occitan (Oc.). The grammatical gender and number of nouns and adjectives are abbreviated as follows: masculine (m.), feminine (f.), singular (sg.), plural (pl.)

10. Some non-Hebrew words were vocalized in the manuscript using the Hebrew vocalization system. In the linguistic examples, the vocalization is marked as follows: *qamas*, *patah* = *a* (with or without a following *aleph*); *sere*, *segol* (short and long) = *e*; *holam* (short and long) = *o*; *šuruq* (short or long) = *u*; *hiriq* (short or long) = *i*; *schwa* = *ə*.

11. Latorre (2012: 215 §9) also registers the form *groggo* in Spanish-Aragonese speech in the area of Valencia.

are also some other Catalan lexemes, such as *natura* (נטורה *nṭwrh*, f. 29r) 'nature' (cf. Cast. *naturaleza*);¹² and *mija* (= *mija*, מיגא *myġ*, f. 64v) 'half (f. sg.)' (cf. Cast. *media*).

Scrutinizing the Catalan recipes within the collection of medical recipes (ff. 144r-145v; 136r-137v; 141r), the passage between the different languages seems natural and recurrent. At times, the folio begins in Catalan and continues in Castilian. Some recipes are followed by Hebrew ones. The Catalan exhibits certain Eastern Catalan dialectal traits, such as the variation in the feminine plural morpheme, appearing sometimes as *-as* and sometimes as *-es*. Within the Catalan recipes, many Castilian words appear. In addition, one of the recipes seems rather to be in Castilian with some Catalan words (Munich hebr. 291, f. 137v:19-22, Catalan in bold):

Aheret [Heb.] la-birtud del gallo **pren** un gallo viejo e **fes'**l buen bullir con **aygua ix'al** e aquell **brou** da-lo a **beure** a **lo om febros** e cessar **li'**a¹³ la **b febre**

'Other (recipe), the virtue of the rooster: take an old rooster and boil it well with water. Take it out, and of that broth give it to drink to the feverish man, and the fever will stop.'

Another recipe begins and ends in Castilian. It includes the expression *e sia* 'and it should be', which might have triggered the switch (Munich hebr. 291, 138r:19-25):

... una poca cominos rostigos, unos pocos **cendra** de sarmientos, III onças e **sia** **todt bolli(t) en VI** libras de **aygua ... bollida ap cendra des** saramientos, **fa** bellos los cabellos ...

'... a bit of rustic cumin, some ash of vine shoots - III ounces; and it all should be boiled in VI pounds of water ... boiled with ash of vine shoots makes the hair beautiful ...'.

In the Catalan medical recipes, there are also some Castilian syntagms, such as *carne con carne* 'flesh to flesh' (קון קארני קארני *q' rny qwn q' rny*, f. 144v:2); *como menos* (קומו מינוס *qwmw mynuś*, f. 144v:4) 'as little as' (cf. Cat. *com menys*). In one case, the Catalan word *ase* (אשׁ *'asē* f. 144r:12) is interpreted in Castilian in the marginalia *alias asno* (אשׁנו *'asnu*), which is the Castilian translation for 'donkey'.

The code-mixing within the Catalan text includes lexical borrowings from Castilian. These differ in the lexeme from Catalan, e. g.: *cuello* (קואילייו *qw'ylyyw*, f. 136v:17) 'neck' (cf. Cat. *coll*); *peligro* (פיליגררו *pylygrw*, f. 136v:16) 'danger' (cf. Cat. *perill*); *peligroso* (פיליגררושׁו *pylygrwśw*, f. 136v:15) 'dangerous' (cf. Cat. *perillós*); *dentro* (דינטרו *dynṭrw*, f. 137r:5) 'inside' (cf. Cat. *dintre*); *lugares* (לוגארישׁ *hwg'ryś*, f. 136v:11) 'places' (cf. Cat. *llocs*); *cierbo* (סירבו *sayarbo* f. 144r:16) 'deer' (cf. Cast. *ciervo*, Cat. *cérvol*); *ojos* (אוגושׁ *wġwś*, f. 145v:10) 'eyes' (cf. Cat. *ulls*).

In other cases, the Castilian morphology is the indicator for code-mixing or hybridization. For example, Castilian plural morpheme *-es*, *-s* (cf. Cat. *-s*): *birtudes* (בירטוטישׁ *byrtwtyś*, f. 136v:3); *birtutes* (בירטודישׁ *wyrtwdyś*, f. 141r:8) 'virtues', cf. Cast. *virtudes*, Cat. *virtuts*); or Castilian m. sg. marker *-o* (or *-e*) vs. Cat. *Ø*: *balsamo* (באלשאמו *b'ls'mw*, f. 136v:15) 'balsam' (cf. Cat. *balsam*); *braço* (בראשו *bɔraśo* f. 144v:1) 'arm' (cf. Cast. *brazo*, Cat. *braç*); *grano* (גראנו *gr'nw*, f. 137r:24) 'grain' (cf. Cat. *grà*); *verde* (וירדי *werde*, f. 136v:18) 'green' (cf. Cat. *vert*); and an example in the plural, *cabellos* (קאביליושׁ *q'bylywś*; קאבילייושׁ *q'bylyywś*, f. 136v:4; 137v:16) 'hairs' (cf. Cat. *cabells*). There

12. *Natura* 'nature' is also attested in many medieval documents in Castilian from Aragon and from other parts of Spain. See '*natura*' (309 cases, last documentation: 1411), in the *Diccionario del castellano del siglo xv en la Corona de Aragón (DiCCA XV)*. See also the *Corpus diacrónico del español (CORDE)*, with 12,640 cases in 1145 documents. However, the *CORDE* includes many Aragonese documents as well.

13. Cessar li'a] = *li cessará*.

are also examples of the Castilian adverbial *mente* instead of Cat. *ment: laugera mente* (לאבגירה מינטי) *l'bg'yrh mynty*, f. 137r:7) 'slightly' (cf. Cat. *laugerament*; Cast. *ligeramente*).

There are also some hybrid forms, such as: *remollo* (רימוליוו *rymwlyyw*, f. 137v:5) 'soak' (cf. Cat. *remull*, Cast. *remojo*); *borte* (בורטי *burty*, f. 137v:1) 'bastard, wild' (cf. Cat. *bort*, *bord*), Cast. *borde*; in the DETEMA the form *remoio* is documented). These cases resemble Aragonese solutions of the time, however, they are not registered in the historical corpora and dictionaries of Castilian, Catalan or Aragonese that I have consulted (*CORDE*; *DiCCA XV*; *DARA-Medieval*; *Faraudo*; *Vocabulario de comercio medieval*; Cejador y Frauca 1996; *DEMeI*).

The recipes in the manuscript manifest learned and popular traditions of the time in the Crown of Aragon. The texts and recipes of the manuscript were copied in various languages: Castilian (with some Aragonese features), Catalan (with some eastern dialectal features), Hebrew, and some Arabic terms also appear. It might have served a multilingual Jewish physician in training, from one of the thriving Jewish communities of Aragon, probably shortly before or after the expulsion.

These testimonies of Castilian-Aragonese-Catalan code-mixing, code-switching and hybrid forms suggest that probably prior to their expulsion in 1492, the Jews of the Crown of Aragon were already exposed to Castilian, at least among some of the Jewish elite circles. The same is true regarding the Jews of Portugal, in whose writings there are notable Castilian influences.

2.2 *Learned and popular magic and medicine*

Learned and folk medieval medicine intertwined with magical practices. Incantations, amulets, potions, angels' names, magical symbols and other magical remedies formed part of medieval Iberian medicine, among both Christians and Jews.¹⁴ The continuum between medicine and magic is documented among the Jews of late medieval Spain. In thirteenth- and fourteenth-century Catalonia, magic is also attested within Jewish learned and rabbinical circles (Davidson 2004: 101-168).

Within the collection of medical recipes in MS Munich hebr. 291, I identified thirty-two Catalan recipes. Apart from Catalan glosses and isolated medical ingredients, these Catalan recipes are the only preserved medical texts written in Catalan in Hebrew characters. I will now describe the medical recipes in terms of the continuum between high and low medical cultures among Jews of the Crown of Aragon. I have already suggested that a Jewish physician in or from the Crown of Aragon copied the medical texts and recipes of the manuscript around the time of the expulsion, probably in Italy. He compiled the recipes from a variety of sources.

One recipe in MS Munich hebr. 291 prescribes the use of 'an ounce of human blood and a half (ounce) of a mummy (*mumia*)' for poultices and fractures (f. 141v:19-20). Mummies and other preserved and fresh human remains were considered medicinal substances commonly used and consumed in medieval medicine. Evidence of other Jewish magical practices is found in a different source from the fourteenth century. The Hebrew 'Book of Cures' cites a much-corrupted Old Catalan incantation in Hebrew characters, mentioning Elijah (Saint Petersburg, National Library of Russia, MS Firkovitch I Heb-338, f. 7:1).¹⁵

Several recipes in the Munich manuscript focus on women's health, including increasing milk production (f. 144v) and eliminating dead fetuses (f. 141r). Additionally, there are ointments for ulcers, plagues and pandemics (ff. 136v, 137r), recipes for dyeing (ff. 136v, 137v), colour preparation

14. Regarding magic with the Jewish circles of late medieval Spain, see Gutwirth 1989b: 86-88.

15. Blasco 2011.

(f. 136v-137r), and practical domestic remedies. Some of the folios between these recipes went missing before the rebinding. Indeed, the catchword at the bottom of f. 137v reads *Per a fer* 'For making'. While the same hand continues in f. 138r, it opens with a Hebrew recipe לחולי העיניים 'For illness of the eyes'. This recipe is followed by a recipe with a Hebrew title: לשכחה או תרדמה 'For forgetting or falling asleep', but the recipe itself is in Castilian in Hebrew characters. Folios 138-140 contain mainly recipes in Aragonese for different medicines, ointments, electuaries and purging instructions against plagues and fistulas; stomach aches; children's worms; and swollen legs, among others. The recipes in f. 141r seem to be extracted from a different source type. The five recipes there have a clear magical orientation. The following folios ff. 141v-143v were left empty, possibly with the intention of inserting more recipes from that same source, or others.

Some recipes mention local masters, such as *Maestre* 'Master' Modo (f. 136r:15) and Master Samuel (f. 145v:15). The recipe collection quote from unfamiliar authorities, such as *Manencos*[?] (מנינקוש *mnyngwš*) the physician and *Mazer* (מזאזיר *m'z'z'yr*) the physician (f. 119v). It also mentions a 'fine and good' enema (קרישטיל *qrys'tyl cristel*, f. 118v) by R. Yehuda ben Tabril (ר' יהודה בן תבריל) (Steinschneider 1895: 153).

In general, the prescriptions share common interests with the recipes in the Crown of Aragon, such as the Catalan *Receptari de Micer Johan* 'Recipes Book of Micer Johan' from 1466 (Moliné 1914). Joanot Valero's *Receptari* (Valencia, 1497-1501) also mixes medical recipes and popular remedies with dyeing instructions, particularly relevant to domestic self-help for professional dyers (Cifuentes-Córdoba 2011: 52-56; 69-134).¹⁶ Another comparable medical treatise of the time is the thirteenth-century *Thesaurus pauperum* 'Treasure of the Poor' by Petrus Hispanus (Pedro Hispano), which circulated among Iberian Jews, as attested by a fourteenth-century version in Castilian in Hebrew script (Porto, Municipal Library of Porto MS M-FA-14).¹⁷

Among the fever medications in MS Munich hebr. 291, a few recipes quote incantations. The following recipe contains an amulet with many misspellings, and which can be read as follows (f. 145r:9-16):

Contra fabres¹⁸ escriu *iv* albaranes de aquestos e met-ne un a cada corno¹⁹ del lit e no-aya tudada nenguna **ibi sesiderunt qui operantor ibi que tantem iniquitatem e[x] pulisi sutem nec potuerunt estares que tantum fiunt belum siter aveset et pera atmodum oleram er/ed varum/vadam sicum deficient.**²⁰

The patient is instructed to do the following: 'Against fevers write *iv* notes of these and put one of them in each corner of the bed, and there won't be any harm.' I was able to reconstruct the continuing first part as broken Latin from the Vulgate translation of Psalms 35:13 (Psalms 36:13 according to the Jewish canon): *Ibi ceciderunt qui operantur iniquitatem; expulsi sunt, nec potuerunt*

16. Cifuentes (2013: 159-161) suggests that the title of *Micer* (or *Misser*) is an indication for a jurist or a notary, who took interest in this kind of domestic medicine.

17. Soares de Carvalho Mendes 1999.

18. Contra fabres] Heb. קונטרס פאָבֶרֶשׁ *contra fabres*.

19. Corno] probably should be read *cornó*, an undocumented variant possibly of the rare Cat. *corn* 'corner'.

20. In Hebrew characters, f. 145r:9-16: [אי]בי שישדרונט קי אופיראנטור איבי קי טאנטים איניקיטאטים אי[ק] ש'וטים ניק/ניק פוטו אירונט אישטאריס/אישטאריס קי טאנטום פיאונט בילום שיטיר אבישט איט פירה אטמודום אוליראם איר וארומ/ואדום שיקום דיפסיאנט

stare 'There are the workers of iniquity fallen; they are thrust down, and are not able to rise'.²¹ The last part, possibly also from a sacred text, was impossible to decipher.²²

Amulets of this type were common in medieval Iberia. Latin spells, for example, were interlaced within Catalan recipes (Cifuentes-Córdoba 2011: 59). Curing and other magical purposes were often performed using psalms, by Christians in Latin, and by Jews in Hebrew (Barkai 2011: 88-97; Caballero-Navas 2011b). Nevertheless, the Jewish use of Latin psalms for charms is remarkable. Hebrew psalms or Kabbalistic verses would fit here perfectly. Actually, Hebrew psalms are cited in another incantation in the manuscript. This incantation is quoted in a recipe within the 'Book of Galen and Hippocrates', copied in the same manuscript in Castilian in Hebrew characters. The Castilian recipe for measuring the degree of vigor of the head (MS Munich hebr. 291, f. 43r) prescribes drinking a daily potion along with reciting a series of psalms in Hebrew (Psalms 118:1, 16, 17; 33:18; 90:13; 3:10). It requires saying the following prayer (אוראסיון *'ur:šywn = oración*):

ימין יי' רוממה ימין יי' עושה חיל לא אמות כי אחיה ואספר מעשי יה הודו ליי' כי טוב כי לעולם חסדו הנה עין יי' אל
יראיו למיחלים לחסדו שובה יי' עד מתי והנחם על עבדיך שמע יי' וחנני יי' היה עוזר לי איאישטו לידה קון וינו
פריאו או קליאינטי

[Psalms 118: 16] *Yemin YY' romemah; Yemin YY' 'oseh hayil.* [Psalms 118: 17] *Lo 'mut ki 'ehyeh; wa-'asapper ma 'asey YAH.* [Psalms 118: 1; 29; Psalms 136: 1] *Hodu le-YY' ki tob ki le-'olam hasdo.* [Psalms 33: 18] *Hinneh 'eyn YY' 'el yere'aw la-meyahlim le-hasdo.* [Psalms 90: 13] *Šubah YY' 'ad matay we-hinahem 'al 'abadeka.* [Psalms 30: 11 (10)]²³ *Sema 'YY' we-ħaneni; YY' heye 'ozer li. e-esto le-da con vino frío o caliente*

These are a series of psalms, here used as incantations, similarly to the quoted Latin incantations above:

[Psalms 118: 16] The right hand of the LORD is exalted, the right hand of the LORD does valiantly!
[Psalms 118: 17] I shall not die, but I shall live, and recount the deeds of the LORD. [Psalms 118: 1; 29;
Psalms 136: 1] O give thanks to the LORD, for he is good; [Psalms 33: 18] Behold, the eye of the LORD
is on those who fear him, on those who hope in his steadfast love. [Psalms 90: 13] Return, O LORD!
How long? Have pity on thy servants! [Psalms 30: 11 (10)] Hear, O LORD, and be gracious to me! O
LORD, be thou my helper! *And this goes well with cold or warm wine.*'

Another recipe for kidney stones instructs the patient to draw or mention a cross, while reciting a magical formula, probably Latin in origin (in bold, MS Munich hebr. 291, f. 145r:17-19): *Contra rinions que port ap si coset o senyet sobre los renions **su[ll]am bili cam lucem tua** [\fes a sole creu **a bili cam creu**]/* 'Against kidneys, which brings little bodies or [...] over the kidneys ... [*your light*] \[...] a cross [...] a cross/.²⁴ For protection against illness, late medieval domestic medicine demonstrated the practice of drawing a cross, such as in recipes by the Valencian Joanot Valero (Cifuentes-Córdoba 2011: 206 (recipe n. 75); 208 (recipes n. 78-79), etc.). Another recipe for molar pain also contains an obscure part with a Latin-like garb (f. 141v: 13-18). These recipes hint at common and popular magical traditions.

21. I wish to thank Cyril Aslanov for his help with the decipherment.

22. Que tantum fiunt ... deficient] might be read as the following (incomprehensible Latin): *que tantum fiunt bellum super abyssos et pera [cat.] admodum olivas olivarum sicut deficient.*

23. According to the Jewish canon, the verse is Psalms 30: 11, but in Christian canon this is Psalms 30: 10.

24. In Hebrew characters, f. 145r: 17-19: שול[יי]ם בילי קם לוצים טואה| פיש אה שולי קריב אה בילי קם קריב.

In the process of shifting from written to spoken forms, and from Latin to Hebrew script, the magical formulae were corrupted. The original Latin spelling was lost, retaining only the Latin-like remnants of the verses. To ensure incantation efficacy, copyists, Jews included, attempted to reproduce the Latin text. This practice reflects a common belief in the magical power of words in their original language (Mesler 2011: 180-181).

Taking into account the said above, the possible profile of the copyist, or the owner, and the general context (*Sitz im Leben*) in which MS Munich hebr. 291 was written, seems to have the following characteristics:

1. The manuscript is multilingual (Castilian, Catalan, Hebrew, and some Aragonese traits) and the Catalan in the manuscript has some eastern characteristics.
2. The manuscript, from the end of fifteenth- or early sixteenth century, contains both learned medical writing, as well as recipes of popular medicine and recipes for domestic use. Some of the works in the manuscript contain 'professional' recipe collections. Similar to the recipes of Joanot Valero or Micer Johan, some of these recipes could have been meant for domestic use or as a self-help guide.
3. The existence of the *Book of Questions* (based on Borgognoni's *Chirurgia*), and other examples in MS Munich hebr. 291, may suggest that the copyist was a Jewish physician, perhaps preparing himself for the exam, or in the process of training.

Although with a certain ambivalence, incantations also formed part of learned medicine, in the works of the prestigious medical schools of the time. Incantations were included in renowned medieval works, such as Theodoric Borgognoni's *Chirurgia*, Petrus Hispanus's 'Treasure of the Poor', Bernard de Gordon's 'Lily of Medicine' (1305) and Gerard de Solo's 'On the Ninth of Almansor' (c. 1344). For example, for protection against or for curing epilepsy, these and other Latin medieval works recommended a ritual, which included exorcism. It prescribes wearing a parchment inscribed with or reciting the names of the 'Three Magi' alongside verses from the gospels. All the works just mentioned were translated into Hebrew between the fourteenth and the fifteenth centuries. Some of the Hebrew translations were made by Jews of Spain, others were copied and read by Sephardic Jews (Mesler 2011).

3 Multilingualism and medical pluralism

The Munich manuscript demonstrates a multilingual medical world among Jewish physicians of the Crown of Aragon. In practice and theory, both Christian Latin scholastic medicine and the Graeco-Arabic corpus inspired Jewish Iberian medicine, in the Crown of Aragon but also in Castile and Portugal. The manuscripts imply the coexistence of parallel medical systems on which Jews built their medical knowledge.²⁵ This sort of medical pluralism characterised the multilingual compilations held by Jewish physicians.

Another example of the multilingual and multicultural nature of Jewish physicians and pharmacologists in the Crown of Aragon is a compilation of pharmaceutical and medical works in Paris, National Library of France, MS BNF hebr. 1082. Five languages are used in this manuscript: Hebrew, Arabic, Latin, Aragonese and some Catalan/Occitan terms. It was copied mainly in

25. On medical pluralism in Spain, see García Ballester (1994) and López Terrada (2009).

Hebrew script by a single copyist, mentioning Huesca (Aragon) and the years around 1349 in its astronomical tables (f. 4). Later marginalia are mainly in Hebrew script, even though some are in Latin (MS BNF hebr. 1082, ff. 39r-39v) and Arabic scripts (f. 7r). Many Hebrew and Judeo-Arabic recipes reference known Arab scholars. The copyist also included a Judeo-Arabic pharmacopeia by a local Jewish Aragonese physician, Moshe Ibn Ardut of Huesca. It also includes a Hebrew translation of the famous pharmacological guide, *Antidotarium de Nicolai* (ff. 35r-38r; 47v-62r; 63v-85r). Its table of contents is ordered according to the name of the medicine in Latin in Hebrew script.²⁶ However, numerous pharmaceutical ingredients and concrete references within the Hebrew translation are Catalan (such as *letuga* 'lettuce' (cf. Cast. *lechuga*), *nitre* 'nitre' (cf. Cast. *nitro*), and *càmfora* 'camphor' (this form is also documented in Cast. [CORDE], even if more common forms in CORDE are *alcanfor*, *canfora*). Some forms can be read as both Castilian and Catalan, such as *ortiga* 'urtica' and *agrimonia* 'agrimònia'. Other Occitan and different Romance influences within the medical-botanical vocabulary of the Hebrew translation of the *Antidotarium* should be thoroughly studied. In addition, I have identified the fragment on ff. 38v-39r as the first folio of an unknown translation in Aragonese in Hebrew script of the same *Antidotarium de Nicolai*, added by a later copyist on the empty folios after the table of contents of the Hebrew translation (ff. 38v-39r).²⁷

Manuscripts and texts passed from one Jewish reader to another, from one physician to another, adding their own notes and recipes in the marginalia in a variety of languages and themes. Jewish physicians and pharmacists used a variety of written and oral sources, and added their own popular and learned recipes. At times, such as in the case of the physicians who owned MSS Munich hebr. 291 and BNF hebr. 1082, among others, the multilingual characteristics come together with a diversity of sources that also reflect a certain degree of medical pluralism.

The bookshelf of Iberian Jews consisted of literary and scientific works in Hebrew, Ibero-Romance vernaculars, Arabic, Judeo-Arabic and Latin. Jews navigated between different languages, ideologies, and scientific systems. They moved across the Graeco-Arabic corpora and the Latinate scholastic and university corpora, incorporating Galenic and Hippocratic medicine, as well as newer contributions of the European medical schools of the time. The texts primarily reflect the tastes of learned circles. Still, local and regional trends, both popular and learned, arise from the texts, often transcending communal religious divisions. Medicine read and practised by Jews blended the esoteric, popular and authoritative, crossing between medicine, alchemy and magic. Hence, I suggest that late medieval Jewish multilingualism in the Crown of Aragon was accompanied by a degree of cultural and scientific pluralism.

The multilingual education of Jewish scholars, which included expertise in Arabic science (whether transmitted in Arabic, Judeo-Arabic, or through Hebrew translations) and in Latin scholastic sources, enabled them to serve as highly sought-after physicians, translators, courtiers, and diplomats (Romano 1978 and 1991-92; Assis 1996: 38-40).

4 A Mediterranean angle

Jews frequently moved between the Iberian kingdoms, Provence, Languedoc, and the Italian peninsula. Jewish writings from the thirteenth to the fifteenth centuries demonstrate extensive cultural and economic contacts throughout these regions and beyond in the Western Mediterranean

26. The folios of this work are again disordered, and the correct order is 35r-38r; 47v-62r; 63v-85r, as commented in the National Library of Israel (NLI) catalogue for Hebrew manuscripts.

27. I will offer a transcription of the fragment in a forthcoming work.

area. Textual transmission of medical texts also manifests the exchange of knowledge through diverse intellectual and trade networks.

Catalan and Aragonese Jews also had strong ties to the Italian peninsula. Catalan/Occitan, Castilian, Latin and Italian glosses can be found in the marginalia of an unedited fourteenth-century copy of Ibn Sīnā's *Qānūn* (second book) in Arabic in Hebrew script (Munich, Bavarian State Library Cod.hebr. 206/ Cod.arab. 973). Latin is written with Hebrew and Latin scripts. Some comments in the margins are in Hebrew and Arabic in Hebrew script. Some Arabic glosses were added in Arabic script. For instance, next to the paragraph on תפאה [Ar. *ufāh*] 'apples' (f. 102v), the marginalia add Catalan/Occitan equivalent glosses: in the singular פומא *pwm* = *poma*; [מ]אסאנא *m's'n* = *[m]açana* (Cat. sg. *maçana*; Oc. *massana*), and in the Catalan plural (pl.) פומיש *pwmys* = *pomes* 'apples' (cf. Oc. pl. *pomas*). Next to המאם [Ar. *hamām*] 'pigeon' (f. 50v), the marginalia add the plural the forms for 'pigeons' פלומיש *plwmus* = Cast. *palomos*; קולומיש *qwlwmus* = Cat./Oc. *coloms*; קולומבי לטי' *(lty' qwlbnby = Lati(n) columb(i)ni* (cf. Lat. nominative case, masculine, plural *columbini*), etc. Italian terms are also glossed, e. g., next to the Arabic term שער [*šā r*] 'hair' (f. 100v) in the text, the marginalia add קאפילא *q'pyl'* = It. *cappella*; and the plural קאביליש *q'bylus* = Cast. *cabellos* and קאפילי *q'pyly* = It. *cappelli* 'hairs'.

MS Munich hebr. 291, with its Castilian-Aragonese-Catalan traits, also carry some paleographic hints which point to late fifteenth or early sixteenth-century Italy (Ferre 1995: 52). Hence, as I have suggested above, this manuscript was likely copied by a Jew exiled from the Crown of Aragon, who arrived in Italy. Another example for the contacts between Catalan and Italian in the Jewish context is an Italian compendium of Aesop's fables, to which ten alchemical recipes in Catalan in Hebrew script were added (Cambridge, Harvard University, Houghton Library, MS Type 479).²⁸ It will be noted that there are other examples of the circulation of texts from the Catalan realms, used by Jews in Italy. Such are fragments of philosophical definitions from the works of Ramon Llull and Petrus Thomae (MS Vat. ebr. 375), which demonstrate a linguistic continuum between Castilian and Catalan (Baum 2018). The manuscript contains mainly medical works, including fragments of Hebrew-script works with Italian terminology, and it was possibly used by a Jewish physician who arrived in Italy around the expulsion and owned the manuscript (Baum 2020; 2021). These examples hint at the breadth of Jewish intellectual contacts between Catalan- and Italian-speaking regions.

Indeed, Jewish communities in Italy and the Crown of Aragon exchanged books and texts through extensive networks (Gutwirth 2013). Naples and Sicily formed part of the Crown of Aragon's Mediterranean empire, and therefore were central to Jews' migratory and travelling routes during the late Middle Ages. The Italian peninsula also served as a natural refuge for Jewish exiles from the Crown of Aragon, fostering significant exchanges between Sephardic and Italian Jews post-expulsion.

5 Edition of Munich, the Bavarian State Library, MS Cod.hebr. 291

Below is an edition of the thirty-two Catalan medical recipes in the Bavarian State Library of Munich, MS Munich hebr. 291, ff. 136-137; 141r; 144-145. The edition of the text is divided into the reproduction of the Hebrew-letter text, the transcription and critical edition with comparison to other sources, if relevant, and an English translation.

²⁸ Gutwirth 2021.

The folio numbers are according to those appearing in the manuscript, added later in a posterior binding. The order of the folios was mixed during the second rebinding. The correct order of this fragment is ff. 144-145; 136-137; 141r, according to the catchword appearing at the bottom of some of the pages. My edition relies on the scanned version of the manuscript, available via the National Library of Israel.²⁹ The scanning by the Bavarian Library of Munich disordered the pages yet again.³⁰ Unfortunately, I was not able to consult the original manuscript. The manuscript may bear a few more readable catchwords at the bottom of additional pages. The edition does not include the Hebrew and Aragonese recipes appearing in ff. 138-140.

5.1 Editorial criteria

I have interfered in the texts as little as possible. I have also tried to represent the visual appearance of the manuscript as closely as possible. Hence, I have tried to maintain the spaces between the rows and parts of the sentences. In order to facilitate the translation's reading, I have preferred a consecutive form of translation, wherein the rows of the original fragment are separated by a | sign. The English translation is quite literal, to maintain the original language as much as possible.³¹

The purpose of the transcription into Latin characters is to reflect the rendition of the Catalan text in Hebrew script without making it unreadable. Some evident mistakes by the copyist that could confuse the reader are corrected in the edition, followed by an explanatory footnote. In other cases, I have preferred to maintain the original "errors" while commenting on them in the footnotes.

Graphic signs used in this edition:

- * **[abcd]** Square brackets mark doubtful readings. When the reading is even less clear, a question mark is added: **abcd[?]**.
- * **(abcd)** Parentheses include some interpretative proposals lacking in the text, including elaboration of abbreviations. In the English translation, these are used for additions that improve the sense of the text.
- * Additions in the manuscript above the line are inserted between **\abcd/** and below the line between **/abcd**
- * Hebrew elements are marked with *italics*.
- * † A *locus desperandus* sign is used when a corrupted passage defeats my attempts at conjectural emendation. It is marked with an obelus before and after the passage.

Forms that are exceptional for medieval Catalan, or that might cause confusion are indicated in the footnotes. I include among these Catalan forms with initial *h-*, wherein the Hebrew-letter version does not represent the *h-* in any way. No accents are added. Capital letters are added according to modern Catalan. The Hebrew-letter text generally lacks punctuation marks; hence, all punctuation signs are my addition. The Hebrew manuscripts, like other medieval Iberian manuscripts, commonly agglutinate words, or misdivide them. The agglutinated words are separated by the interpunct sign (·).

29. National Library of Israel (NLI) catalogue <https://tinyurl.com/e95cymzh>.

30. Bavarian State Library of Munich <https://mdz-nbn-resolving.de/details:bsb00117567>.

31. When the word in the original translation is divided between two rows, it is translated in the first row where it appeared. Thus the word: *al|cança*, divided between 1:7 and 1:8, is translated as 'reach' in row 1:7 in the English translation.

Some concrete remarks regarding the transcription of the consonants:

The sound [g] is transcribed as *g* before *a*, *o*, *u*, and *gu* before *e* and *i*. In a similar way [k] was transcribed a *c* before *a*, *o*, *u* and *qu* before *e* and *i*. When followed by a diphthong [wa], [wo] or [we] these are transcribed as *qua*, *qüe*, *qüi*, *quo*, *gua*, *güe*, *güi*, *guo*. This is according to Catalan (both modern and medieval) orthography. Since the use of the apostrophe (or *rafe*) with *gimel* and *peh* is not systematic and is attested only in some of the texts, I have interpreted it either as *g*, *p* or rather *j*, *f*, according to the context. *Beth* (ב [b]) and consonantal *waw* (ו [v]), are transcribed as *b* and *v*, respectively.

Samekh is transcribed as *c* (before *e*, *i*) and *ç* (before *a*, *o*, *u*). *Shin* is generally transcribed by *s* (equivalent to *s* and intervocalic *-ss-* in medieval Catalan). However, note that in an intervocalic position *shin* could also bear the value of [z]. In some cases, the value of [ʃ] (in Catalan *x*) is evident. Thus, שיש is transcribed *axí* [aʃi] "like this, such".

The Hebrew script does not allow digraphs. Therefore, the Catalan *rr*, *ll* were written by a single Hebrew letter. The *-rr-* (vibrant [r]) as well as the simple *r* [r] are both represented by Hebrew *resh* (ר): when in Catalan one would expect *rr*, our transcription will so render it. The sound *ll* ([ʎ]) is generally represented in Hebrew letters by a *lamed* (transcribed with *l*).

As for the transcription of vowels, when the *mater lectionis* is lacking, I have generally assumed the use of the vowel *a* between the consonants. The conjunction word is transcribed as *e*, according to the prevailing form in medieval Catalan texts. Final ם-, ם-, םם-, are all transcribed as *-a*. A small number of examples are vocalized. While the vocalization is clearly marked in the reproduction of the Hebrew text, upon transcribing I have used a simplified system: *qamaṣ*, *pataḥ* = *a* (with or without a following *aleph*); *šere*, *segol* (short and long) = *e*; *ḥolam* (short or long) = *o*; *šuruq* (short or long) = *u*; *hiriq* (short or long) = *i*; *schwa* = *e*; where to my judgement the *schwa* is mute this is not transcribed. In the explicative footnotes, however, all the *schwas* are elaborated and transcribed as *ə*.

The transcription of the Hebrew components (in italics) is based on the transcription system of Post-Biblical Hebrew of the *Encyclopedia of Hebrew Language and Linguistics*.³² Except for particular cases, these transcription criteria follow to great extent the work of Magdalena and Lleal (1995: 87-92). Thus, the (non-Hebrew) transcription follows the following lines:

Consonants

Heb. letter	Transcription	IPA equivalent
ב	b	b, v, β
ג	g (before a, o, u), gu (before e,i); j	g; dʒ, ʒ
י	j (before a, o, u), g (before e,i)	dʒ, ʒ
ד	d	d
ו (וּ)	v	v
ז	z	z
ט	t	t

32. According to this system, *qamaṣ-pataḥ* (a) and *šere-segol* (e) are not distinguished. No macrons or breves are used. Vocalic *schwa* is transcribed by *e*. Prefixed prepositions, definite articles and *waw* are separated from their following words by hyphens.

י	y	y
ל	l	l; ʎ
ל, ליי	ll	ʎ
מ	m	m
נ	n	n
ס	c (before e, i), ç (before a, o, u and final position)	s; ʃ [ts]
פ	p, f	p, f
פ	f	f
ק	qu (before e,i), c (before a, o, u)	k
ר	r; rr	r; r
ש	s, x	s, z, ʃ

Vowels

Heb. letter	Transcription	IPA equivalent
No mater lectionis	a; sometimes e	a; e, ə, ε
א	a; sometimes e	a; e, ə, ε
ה	in final position a	a
ו	o; u	o; u
או	o; u	o; u
י	e; i	e; i
אי	e; i	e; i

Diphthongs

Heb. letter	Transcription	IPA equivalent
וא	ua	wa
אי	ue	we
אב, יב, וב	au, iu, eu	aw, iw, ew

5.2 Edition of the Catalan recipes in Munich, The Bavarian State Library, Cod.hebr. 291, ff. 144-145; 136-137; 141r

ENGLISH TRANSLATION - MEDICAL RECIPES	TRANSCRIPTION	TEXT
[144r]	[144r]	[144r]
1- Regimen for a woman's head(ache) or	1- Regiment ³³ per·a cap de dona o per·a cap	1- רגִימֶנט פִּירָה קֶאפּ דִּי דוֹנָה אוּ פִּירָה קֶאפּ
2- a man's head(ache): first keep away	2- de om primerament gart·se	2- דִּי אוֹם פִּרִימִירָאמֵינֶט גָּאָרְטֶשִׁי
3- from any displeasure, if possible, listen to the sound of the [magpie bird]; eat	3- de tot desplacer si·pot oiga brogit de guerse/gerse. ³⁴ . Menj[e]	3- דִּי טוֹט דִּישְׁפִּלאזִיר שִׁיפּוֹט אוּיִגָּא בְּרוּגִיט דִּי גִירְשִׁי/גִירְשִׁי מִינְגְּ[י]
4- partly cooked ram's head. Eat breakfast in the morning; dine	4- cap de molto par(t) cuit, dinar·se de mati, sopar	4- קֶאפּ דִּי מוֹלְטוּ פֶּר קוּיֶט דִּינָאָרְשִׁי דִּי מֶאֶטִי שׁוֹפָאָר
5- in the evening. Daily, drink wine - well moderately, not	5- de be[sp]re. Jorne beu·lo vi be·tenprat ni masa	5- דִּי בֵּי[שְׁפֶ]רִי גֹרְנִי בֵּיבְלוֹ וּוִי בֵּיטִינְפֶּרָאֶט נִי מֶאֶשָׁה
6- too blended, nor too strong; keep away from women; you can eat	6- amerat ni masa fort. Gar·se de dona. Pot menjar	6- אָמִירָאֶט נִי מֶאֶשָׁה פֹּרְט גֶּאָרְשִׁי דִּי דוֹנָה פּוֹט מִינְגָּאָר
7- some chicken or hen from time to time; keep away from any furry (animal).	7- algun poll o alguna gallina gar·se de tot pel·agut ³⁵	7- אֶלְגוֹן פּוֹלִי אוּ אֶלְגוֹנָה גֶּאֶלִינָה גֶּאָרְשִׁי דִּי טוֹט פִּילָאָגוֹט
8- and from legume and [with or before] anything of garlic or	8- e de legum e [ab·o·ans] de todas cosas de[fa] d'allo	8- אִי דִּי לִיגוֹם אִי אָבִיאנְשֶׁ/אָבִיאנְשֶׁ דִּי טוֹטֶאשׁ קוֹשׁשׁ דִּי[א] דֶּאֶלִי אוּ

33. The lack of *mater lectionis* generally renders an *a* vowel. The lack of *mater lectionis* or an *aleph* also consistently renders *e*, *a*, or *ε*.

34. Gerse/guerse] Heb. גִּירְשִׁי/גִּירְשִׁי *gerəše/gerəše*, seems to refer to the bird *garsa*. Note that some Balearic dialects (Palma, Manacor, Pollença) this is pronounced [járse], see DCVB, *garsa*.

35. Pel-agut] Heb. פִּילָאָגוֹט *pyl' gut*, refers to a kind of animals with long hairs or fur *pèl agut*. This is also documented in Micer Johan, see Moliné (1914: 327): (*pel agut*); p. 328 (*pell agut*) which one should avoid eating when the urine has a dark colour.

9- fish. Give one dinier of [aloe] or more at night;	9- pex, de ³⁶ un diner de-ase[uy]er ³⁷ o-mes de par de-bespre	9- פיש די און דינער דײַאשי[נ]יר אומיש די פאר דיבִישפֿרי
9.a \or rather, it shall be prepared[?]	9.a alias si[g]a per parada	9.a. אליאש שי[ג]ה פיר פאראדה
10- On the day that you will give him the [aloe], don't give him and from	10- en lo jorne que li daras el-ase[u]er [n]o li-n dones-e-de	10- אין לו גורני קי לי דאראש אילאשינר [נ]ו לין דונשידי
11- the medicine. First, he should take <i>ii</i> or <i>iii</i> times.	11- la medicina primera se-n-tomara <i>ii</i> o <i>iii</i> b[e]zes	11- לא מײַדיסינה פֿרימרה שינטומארה ב' או ג' בזיש
12- For gout pains: take the marrow of a donkey; a	12- Per ·a p ³⁸ mal de poagra pren moll de ase, una	12- פירה פ מאל די פואגרה פרין מוליי דײַאשי אונה
12.a Otherwise [known as] <i>asno</i> 'donkey'	12.a alias asno ³⁹	12.a. אליאש אָשנו
13- fine bowl and it should be melted and cooked	13- bona escudella e-sia fos e-cuit	13- בונה אישקודילייה אישיאה פֿוש איקויט
14- on the fire. [Take ...] pounds of marrow	14- ap foc [pren] [a-dins] lib[ras(?)] de meollo una lib[ra]	14- אף פֿוק [פריין] [אדינ]ש ל[י]בר[יש] די מיאוליו אונה ליב[רה]
14.a For gout pains take a pill	14.a per-a mal de puagra pren pilor	14.a פירה מאל די פואגרה פריין פילור[?]
14.b pills [for arthetica] ⁴⁰ not	14.b piloras artetcas no	14.b פלֶוראש ארטיטקאש נו
14.c each morning and [press it]	14.c cada maniana e e-prestarla[?]	14.c ג. קאדה מאניאנה אי [איפרישטארלה]
14.d no matter how bad it is	14.d tant-es lo mal	14.d טאנטיש לו מאל
15- of lard of a [vulture], which shouldn't be salted, <i>i</i> ounce	15- de sagi de boltor que no sia salat, <i>i</i> unça	15- די שאגי די בולטור קי נו שיאה שאלאט א אונסה

36. De] Imperative of *dar*.

37. Ase[uy]er] Heb. אַשׁי[נ]יר *ʾaše[ne]yr*. What seems to be a *nun* might have been badly copied from *bet*. The original word could have been *aseuer* or *asever* = *aceuer*, *acèver*.

38. P] a copying mistake.

39. Asno] Heb. אָשנו *ʾašnu*, with final *-u*, read: *asnu*.

40. The term seems to refer to *arthetica*, the gout of the articulations.

16- of marrow of a deer, <i>i</i> ounce of the fat of a snake, <i>i</i>	16- de moll de cierbo, <i>i</i> unça de grex de serpye, <i>i</i>	-16 די מוליי די סִרְבוּ א' אונסה די גֵּרִיש די שִׁרְפֵי א
17- ounce of ruta oil. <i>i</i> ounce of goose oil,	17- unça de oli de-ruda <i>i</i> unça de oli de \o/ques,	-17 אונסה די אולי דירודה א' אונסה די אולי די א/אִקִּישׁ
18- <i>i</i> ounce galium aparine's ⁴¹ oil - all should be melted and	18- <i>i</i> unça de oli de rabosa - sia tot no fos e m	-18 א' אונסה די אולי די ראבישה שיאה טוט צו פוש אי מ
19- blended into unguent with a new wax.	19- mesclat sia fet unguent ap cera noba	-19 מישקלט שיאה פוט אונגינט אף סירה נובה
20- Regimen for the patient to be	20- Regiment ⁴² per-a lo pacient estiga	-20 רִגִּימֶנְט פירה לו פאסיאנט אישטיגה
21- under the rays of the sun in a place	21- a-la raja del sol en lloc	-21 אלא ראגא דיל שול אין ליוק
22- that does not give him air. If you cannot have sun, in	22- que no li don ayre sino podeu aber s[o]l sia en	-22 קי נו לי דין איירי שינו פודיב אביר ש[ו]ל שיאה אין
23- a well-covered room, it should be anointed in the fire	23- canbra be tapada sia untat al foc o	-23 קאנברה בי טאפאדה שיאה אונטאט אל פוק או
24- or in the sun the leg should be wrapped. Make it	24- al sol sia enbolicat la cama o lo fe[u]	-24 אל שול שיאה אינבוליקאט לא קאמא או לו פי[ב]
[144v]	[144v]	[144v]
1- also in the arm, with the skin of [desalted] vulture ⁴³ so that it would be	1- [e]n-lo braso ⁴⁴ ab-la piel de boltor desalat vagi c	-1 א[נ]לו בראשו אָבְלָא פייל די בולטור דישאלאט ואגִי ק
2- flesh to flesh in a unity from one hour to another. Keep away	2- carne con carne sia unitat de ora a ora. Gar-se	-2 קארני קון קארני שיאה אונטאט די אורה אה אורה גארשי

41. The term *rabosa* may refer to other types of galium plants.

42. The lack of a *mater lectionis* or the use of an *aleph* render *e*, *a*, or *ε*.

43. Since the previous reference to the vulture also speaks of salt, I understand *desalat* as 'without salt'. However, the vulture could also be understood to be without wings *alas*. The whole recipe is far from being clear.

44. Braso] Heb. בְּרָאשׁוֹ *bərašo* = Cast. *brazo*, Cat. *braç*

3- from any furry (animal) and any legume. Every week take	3- de to\[t]/ pel-agut e de tot legum. Todas semanas prenga	-3 די טו/ט\ [ט] פֿילאגוט אי די טוט ליגום טוטאש שימאנאש פֿרינגה
4- v [ɔf] imperial pills and it should use as less as	4- piloras [de] viii, enperialas, ⁴⁵ e sian usa como menos	-4 פֿילוראש [די] ה' אַינפֿיריאַלש אי שיאָן אושא קומו מינוש
5- you can with the woman - all of this so that there won't be any pains, [only for	5- pora con la dona, tot aço porque lo ma[l] no-[aiga(?)] sino	-5 פורה קון לא דונא טוט אסו פירקי לו מא[ל] נואי[א.א] שינו
6- v years(?)], and from here on, give [this] remedy.	6- v anyos e nomes de-aqu[i] aban dau aque(st) ⁴⁶ remei	-6 ה' אניווש אי נומיש דִיאַק[י] אבאן דאב אקי רִמֵי
7- For a bad colour of the face, that that is, inflated liver,	7- A·mala color de cara sò ço es fege ⁴⁷ inflat	-7 אמאלא קולור די קארה שו סו איש פֿיגי אינפלאט
8- [lungs] or other vetches; take <i>i</i>	8- o [lleus] ⁴⁸ o otras venas. Pren <i>i</i>	-8 או לִיבֶש או אלטראש וינאש פֿרין א'
9- ounce of steel filings and put it in a soak of	9- unça de limaya ⁴⁹ de azer e t met lo e(n) remoll en	-9 אונסא די לִמַיאַי די אזיר אי ט מיטלו אי רִמוליי אין
10- good white vinegar in the dew for <i>i</i> night and the next day	10- bon vinagre blanche a-la serena <i>i</i> nit e lo sen dema	-10 בון וינאגרי בלנקי אלא שִׁרְיִנָה א' נִיט אי לו שִׁין דִימא
11- wash it with the water until the water turn-out	11- t/de renta-l tante ab-aygua fins que l-aygua ixca ⁵⁰	-11 ש רִנְטאַל טאַנט אַבִיגואַה פֿינש קי לאייגואה אישקא
12- clear. Drain it well from the water and dry it	12- clara. Escolau-lo be de la aygua e exuga-l	-12 קלארה אישקולאבלו בִי די לא אייגואה אי אישוגאל

45. Enperiales] Heb. אַינפֿיריאַלש 'enepyrialis' = Cast. imperiales (Cat. imperial). This refers to *píldoras imperiales* that were believed to purge and cure many diseases.

46. Aque(st)] Heb. אקי 'qy' = probably and abbreviation for *aquest* or *aquell*.

47. Fegc] = *fetge*.

48. Lleus] Heb. לִיבֶש 'lleus' 'lungs'.

49. Limaya] = *llimalla*.

50. Isca/isca] Heb. אִשְׁקָ 'jšq'.

13- well from the water and then blend it with honey with no foam	13- be dela aygua en apres mescla-y ap mel escumada	-13 בי די לה איגואה אין אפריש מישקלאיי אף מיל אישקומדה
14- as much as needed and give to the patient a	14- per·sufisit ⁵¹ e dau al pasie\n/te ⁵² una	-14 פי[ר] שופישיט אי דאב אל פאשיאי/נטי אונה
15- spoon each each morning until it is healed.	15- cullareta tost tots matins fins que si(a) garit en	-15 קוליאריטה טושמ טוטש מאטינש פינש קי שי גאריט אין
16- Then <i>i</i> ounce can serve you as another antidote.	16- apres <i>i</i> ç unça po(t)s fer de altra triaca	-16 אפריש א ס אונסא פוש פיר די אלטרה טריאקה
17- For multiplying the milk of the woman: take	17- Per·a multiplicar la let a·la·dona: pren	-17 פירה מולט טיפליקאר לא ליט אלאדונה פריין
18- anise; grain of fennel; a grain of lettuce;	18- mata falluga, ⁵³ gra de fenollo, ⁵⁴ gra lletuga,	-18 מאטא פאלייגה גרה די פינוליו גרה לייטוגה
19- long pepper, white pepper, caraway - [from each an ounce].	19- pebre llonc, ⁵⁵ p pebre blanc·e, alcarabuya, ⁵⁶ an)a onces. ⁵⁷	-19 פיברי לייונק פ פיברי בלנקי אלקאראבויה אן[ם] אונס
20- Also put crystal, white coral - <i>ii</i> drams <i>and</i>	20- Se·mis cristal, coral blanque: <i>ii</i> dra[k]mes <i>et</i>	-20 שימיש קרישטאל קוראל בלנקי ב' דר[ק] מיש אט
21- <i>let it be made into powder</i> [...] [Lat.] ⁵⁸ with all kinds of food	21- <i>fiat pul(v)is amitarum</i> ⁵⁹ ap tote\s/ quantes viandes	-21 פיאַת פוליש אמיטארום ⁶⁰ אף טוטי/ש קאנטיש ויאנדיש
22- that he shall eat each morning and evening; drink it with water	22- menjara tots matins e bespres, bega ab·aygua	-22 מינ'גארה טוטש מאטינש אי בישפריש ביגה אביגואה

51. Sufisit] Heb. שופישיט *swfyšyt* = *suficit* = *sufficient*.

52. Pasie\n/te] = *paciente*.

53. Mata falluga] = Cat. *matafaluga*.

54. Fenollo] = Cat. *fenoll*; Arg, Cast. *fenollo* (Mod. Sp. *hinojo*).

55. Llonc] = *llong*.

56. Alcarabuya] Heb. אלקראבויה *lqr bwy* = Cast. *alcaravea*, *alcarabia*, *alcarahueya*; Cat. *alcaravia*, *alcaruya*, *alcarulla* 'caraway', from Arabic *al-karawīya*.

57. An[a] onces] Heb. seems to include a copying correction. This first word seems to have been corrected from אָנָם *'anad* to אָנָד *'anad* or vice versa. This might stand for *ana*, *anna*, a medical term indicating an equal quantity for each one of the ingredients. This, however, would require a singular *onça*, *unça* 'ounce', and not the plural as in this case (*onces*).

58. Rows 20-21 contain Latin: *et fiat pul(v)is amitarum*.

59. Amitarum] Heb. אמיטארום *'myt'rw*, unclear, might refer to Lat. *amia* 'aunt', in the genitive pl.

60. Alternative reading: Heb. אמיטארום *'myt'rw*.

23- or with syrup from [this] powder.	23- o ab·axarop de aqu[e]s(t) pols.	-23 או אבאשארופ די אק[י]ש פולש
24- For molars' ache: take blue cupidone with the	24- Per·a dolor de caxals pren serverina ab·la	-24 פירה דולור די קאשאלש פרינ שירוריינה אַבלאַ
[145r]	[145r]	[145r]
1- root of salvia or absinthe and a leaf of citron and a leaf	1- rael salvia o donzel e fulla de ponzil e fulla	-1 ראיל שלוואה או דונְזיל אי פולייא די פונְזיל אי פולייא
2- of olive tree - all broken into pieces. Put it all for boiling it with	2- de olivera tot cascat e met lo a·bullir tot ap	-2 די אוליוֹרה טוט קשקט אי מיט לו אבוליר טוט אף
3- strong vinegar and once it is boiled take it out of the fire	3- vinagre fort e com sia bullit tira·l del foc	-3 וינגרי פורט אי קום שיאה בולייט טיראל דיל פֿוק
4- and you will put inside a bit of hot rose water.	4- [e] ⁶¹ ·metras·i ⁶² un poc de aygua [r]os calen ⁶³ en	-4 אַימְטִיראַש אַי און פוק די אייגואה [ר]וש קאלין אַין
5- Then wash there where the colour is, and	5- apres rentau alla on es la color e	-5 אפריש דינטאב אלייא און איש לא קלור אַי
6- take it some of the leafs and put some of it over the	6- pren t̄ de les fullas e posau vos·ne sobre [l]es	-6 פריין לִי די ליש פֿולייאש אי פושב וושני שוברי [ל]יש
7- [gingivas] at the part where the ache is - all of it	7- eygibas ⁶⁴ en aquella par(t) on es lo mal t̄ tot	-7 אַיגִיבַש אין אקילייא פאר און איש לו מל טוט טוט
8- should be lukewarm and it will take out your pain.	8- sia tebeo ⁶⁵ e lebar te·a ⁶⁶ la dolor	-8 שיאה טִיבֵאוּ אי ליבאר טיאה לא דולור

61. E] The Hebrew script reads: אַימְטִיראַש 'aymṭeraš, wherein the first part should be read *ai*. This, however, seems to be a punctuation error of the copyist.

62. I] = *hi*.

63. Calen] = *calent*.

64. Eygibas] Heb. אַיגִיבַש 'eygyibas, could possibly be a variant or a copying mistake for *genives*.

65. Tebeo] Heb. טִיבֵאוּ *tebeò* = Cast. *tíbio* (Cat. *tebò*).

66. Lebar·te·a] = *llevar-te a* for *llevarà*.

9- Against fevers ⁶⁷ write <i>iv</i>	9- Contra fabres ⁶⁸ escriu <i>iv</i> al	9- קונטרה פֿאַבֿריש אישקריב ד' אל
10- notes of these	10- baranes ⁶⁹ de aquestos	10- באראניש די אקישטוש
11- and put one of it in each corner of the bed and there won't be any	11- e-met-ne un a cada corno del lit e no-aya tudada	11- אימיטני און אה קאדה קורנו דיל ליט אי נוייא טוֹדֶרֶה/טוֹדֶדֶה
12- harm. 'There are the workers	12- nenguna <i>ibi</i> ceciderunt qui operantur <i>ibi</i>	12- נינגונה איבי שישדרונט קי אופיראנטור איבי
13- of iniquity fallen; they are thrust down,	13- <i>que tantem iniquitatem e[<i>x</i>]pulisunt nec</i>	13- קי-טאנטים אינקיטאטים אי[ק]ש פולישו שוטים גיק/גיק
14- and are not able to rise' [Lat.]	14- <i>potuerunt estare</i> ⁷⁰ † <i>que tantum fiunt belum</i>	14- פוטו אירונט אישטאריס/אישטארדיס קי טאנטום פֿיאונט בילום
15- [...] [Lat.]	15- <i>siter aveset et pera atmodum oleram er/ed</i>	15- שיטיר אבישט איט פֿירה אטמודום אוליראם איר
16- [...] deficient] [Lat.]	16- <i>varum/vadum sicum deficient</i> † ⁷¹	16- וארום/אדום שיקום דיפֿיסיאנט ⁷²
17- Against kidneys ' (disease), which brings little bodies	17- Contra rinions que port ap si coset	17- קונטרה ריניוינש קי פורט אף שי קושיט
18- or [...] over the	18- o senyet sobre los	18- או שינייט שוברי לוש
19- kidneys. [... <i>your light</i> (?)] [Lat.]	19- renions † <i>su[ll]am bili cam lucem tua</i> † ⁷³	19- ריניונש שול[יי]ם בילי קם לוצים טואה ⁷⁴

67. In the manuscript ⁶⁸fab⁶⁸res.

68. Contra fabres] Heb. פֿאַבֿריש קונטרה *qwntrh pa⁶⁸bəriš (contra⁶⁸fā⁶⁸bres) = contra febres.*

69. Al baranes] = *albaranes*.

70. Ibi ... estare] I have amended here the quote in broken Latin from Psalms 35:1. This is equivalent to Psalms 36:13 (according to the Jewish canon). In the Hebrew script reads: *ibi sesiderunt qui operantur ibi que tantem iniquitatem e[*x*]pulisunt nec potuerunt estare*.

71. Que tantum fiunt ... deficient] This is broken Latin, hard to decipher.

72. Rows 145v: 12-16 are in corrupted Latin.

73. Rows 19-20 seem to contain corrupted Latin.

74. Rows 145v: 19-20 are in corrupted Latin.

19.a make [...] a cross [...] [Lat.] a cross ⁷⁵	19.a †fes a sole creu a <i>bili cam</i> creu †	19. א פיש אה שולי קריב אה בילי קם קריב
20- For breaking an iron stick: take <i>ii</i> parts	20- Per·a trencar una barra de ferro pren <i>ii</i> par	20- פירה טרינקאר אונה בארא די פירו. פריין ב' פאר
21- of scorched silver and one	21- tes de argen <i>sofie</i> soflamat e una	21- טיש די ארגין שוליי שופלאמאט אי אונה
22- of potassium nitrate a another another of sal ammoniac,	22- de sal petra e <i>altra</i> altra de sal armoniac	22- די שאל פיטרה אי אלטרה אלטרה די שאל ארמוניאק
23- and make of it all a powder and mix it, all of it. And	23- e fes de tot polvora e mescla-la † lo tot e	23- אי פיש די טוט פולוורה אי מישקלאלא ל' לו טונו אי
24- from this powder put some [around] the iron and	24- de equesta polvora posau-ne/poseu-ne en torne de lo ferro e	24- די איקישטה פולוורה פושבני/פושבני אין טורני די לו פירו אי
25- it will break and it all will be cut (into pieces).	25- ronpera-l e segar l·a ⁷⁶ a tota	25- רונפראל/רונפדאל אי שיגאר/שיגאד לא אה טוטה
[145v]	[145v]	[145v]
1- For stopping the blood: put the	1- Per·a estancar sengre ⁷⁷ posa-li lo	1- פירה אישטאנקאר שינגרי פושאלי לו
2- finger above in the [forehead]	2- dit desus en·la front	2- דיט דיטש אינלה פרונט
3- and tell him these <i>iii</i> [names(?): <i>art mart</i>	3- e·digas-li aquestes <i>iii</i> [nomense <i>arde art mart</i>	3- אידיגאשלי אקישטיש ג' נומינשי ארדי ארט מארט
4- <i>espart</i>] [Lat.] - this should be put is (around) [the neck of the hand].	4- <i>espart</i>] ⁷⁸ axo es de meter col·o·ma ⁷⁹	4- אישפארט אשו איש די מיטיר קולומא
5- For scrofula purging the head and against	5- Per·a porcelyanas purgar lo cape ⁸⁰ e·contra	5- פירה פורסיליאנאש פורגאר לו קאפי איקונטרה

75. The prescription probably transcribes writing a cross over the text.

76. L·a] = *l'ha* (segar l'ha = li segarà).

77. Sengre] Heb. שינגרי *syngry*, copying mistake = Cast. *sangre*.

78. Nomense ... *espart*] Heb. מארט אישפארט *noməynše 'arəṭ ma 'rəṭ 'ešəparəṭ*. This seems like an incantation in broken Latin.

79. Col·o·ma] Heb. קולומא *qoloma*. This might stand for *coll o mà*: açò *és de metre (al) coll o mà* to indicate that the charm should be located on the neck or the hand.

80. Cape] = *cap*. Regarding the addition of a paragodic vowel.

6- paralysis: take ginger, pyrethrum and	6- paralis pren ginegebre, pelitere e	6- פאַראַליש פּרין גינגיברי פּליטרי אי
7- white hellebore, a bit of dainthus and macis flower	7- elebor blanc ⁸¹ . e un poc de calavels, ⁸² e folr ⁸³ de maces	7- אליבור בלנקי און פוק די קאלאַוילש אי פולור די מאסיש
8- and make powder of it all and put some in your nose.	8- e fes de tot polvora e metreu un poc en lo nas	8- אי פיש די טוט פולוורה אימיתריב און פוק אין לו נאש
9- Putting some of it will set free the rheumatism in the nose	9- e posar en e fara gitar la b reuma per lo nas	9- אי פושאר אין אי פארה גיטאר לה ב ריקמה פיר לונאש
10- and the eyes.	10- o per los ojos :	10- או פיר לוש אוגוש
11- For tertian fever: take the herb of the acestoa menor, ⁸⁴	11- Per·a qaddahat šelišit pren la erba ⁸⁵ a[c]etosa menor	11- פירה קדחת שלשית פרין לא אירבה א[ס] יטושה מינור
12- which has the form of trefoil, and make water out of it	12- que a ⁸⁶ .manera de trebol e fes ne aigua	12- קי איש אמאנירה די טריבול ⁸⁷ אי פישני אַיגואַה
13- and from this water give to the patient to drink	13 e de aquesta aigua dona ab a beure [al] paciente	13- אי די אקישטה אַיגואַה דונה אב אַביבּר [אל] פאסיאנטי
14- before he convulses, for <i>iii</i> times and it will heal.	14- ans ⁸⁸ que li vinga la secio ⁸⁹ per <i>iii</i> vegades e sanara	14- אַנש קי לי וינגה לה שיקי פּר ג' ויגאדיש אי שאנרה
15- This is from Master Samuel.	15- Aço es de mestre Samuel	15- אשו איש די מאישטרי שמואל
16- For woun wounds, or ulcers or eruptions	16- Per·a nafs nafras o plagas o exiduras,	16- פירה נאפש נאפראש או פלאגאש או אישידוראש

81. Elebor blanc] = *el-lèbor blanc*.

82. Calavels] Heb. קאַלאַוילש *qalaweləš* = *clavells*.

83. Flor] Heb. פּולור *fulwr*, copying mistake for *flor*.

84. *Acestoa menor* is a kind of sorrel. It is mentioned in some Spanish sources. See Martín-Valverde 1995: 435-438.

85. Erba] = *herba*.

86. A] = *ha*.

87. Trebol] was corrected in the manuscript by the copyist.

88. Ans] in Hebrew script אַנש *anəše* (*anse*), wherein a copying might have occurred in the punctuation.

89. Secio] Heb. שיקי *šesiv* = *cessió accessió*.

17- take from an herb resembling marrubium ⁹⁰ -	pren de una yerba que senble ⁹¹ ma rubi ventos, ⁹²	17- פריין די אונה יירבה קי שינבלי מא רוב וינטוש
18- and [it is possible that] some call it white nettle - and pinch[?] it,	18- e pot ⁹³ e alguns lo dien ortiga morta, e pica-la	18- אי פוט אי אלגונש לו דיאין אורטיגה מורטה אי פיקאלה
19- and put it over the wound and continue doing so <i>iii</i> or <i>iv</i>	19- e posa la sobre lo mal e continuat(s)-n-i ⁹⁴ <i>iii</i> o <i>iv</i>	19- אי פושא לא שוברי לו מאל אי קונטינואטן ג' או ד'
20- times a day, and it will heal.	20- begades al dia e sanera	20- ביגאדיש אל דיאה אי [ש]אנירה
21- Against angina pains in a specific place	21- Contra mal de esquientia ⁹⁵ en lloc co[rd]at.	21- קונטרה מאל די אשקנינטיאה אין לייוק קו[רד]אט
22- take rims or strings (of a fabric) and	22- q ⁹⁶ Pren simolses o cordas e li	22- ק פריין שימולשיש או קורדאש אי לי
23- tie firmly the humerus of the thighs over the	23- ga-l-en ⁹⁷ ferme los braones ⁹⁸ de la[s-c]uxas ⁹⁹ sobre los	23- גאלין פירמי לוש בראוניש די לא[שק]ושש שוברי לוש
24- knees and it will be cured. ¹⁰⁰	24- genollos ¹⁰¹ e guara	24- גינוליוש אי גוארה
25- For tinea against the disease of	25- pora la tinya contra mal del	25- פורה לה טינייה קונטרה מאל דיל

90. In the manuscript *ma rubi ventos* = *manrubí ventós*, an herb of the *marrubium* genus. I couldn't locate the exact species in non-Catalan references.

91. Senble] = *sembla*.

92. Ma rubi ventos] = *manrubí ventós*, an herb of the *marrubium* genus. I couldn't locate the exact species in non-Catalan references.

93. Pot] Heb. פוט *pwṭ*. This might be a copying mistake, either abbreviating *potser*, or instead of *poc* or *pocs*.

94. Continuat(s)-n-i] Heb. קונטינואטן *qonəṭinu 'aṭəni*. Final *ni* stants for *n'hi*.

95. Esquientia] Heb. אשקנינטיאה *'ešəqyenyənəṭi 'h* = *esquinància*, *esquinència*.

96. Q] copying mistake.

97. Li ga-li-en] = *lliga-li-n*.

98. Braones] = *braons*. This refers to the part of a horse's anterior legs between the scapula and the knee, known as the humerus. See Faraudo, *braó*.

99. Cuxas] = *cuxes*.

100. This recipe refers to horses.

101. Genollos] = Aragonese *genollos*, *genoyllos* (Cat. *ginolls*, Cast. *rodillas*).

[136r]	[136r]	[136r]
1- Against sickness of the organ or of the feminine	1- Contra mal de menbere ¹⁰² o de natura	1- קונטרה מאל די מינְבֵּר או די נאטורה
2- genitals; ¹⁰³ some itches ¹⁰⁴	2- de muller unas men	2- די מולייר אונאש מינ
3- in the form of a tumor. Wash the contusion with	3- jances ¹⁰⁵ a manera de cancer llava lo mal ap	3- גאַנסיש אמאנירה די קאנסיר לייאבא לו מאל אף
4- a well soaked white vinegar and take nib sugar	4- vinagre blanc e be amerat e pren sucre candi	4- וינאגרי בלאַנקי ביי אַמיראט אי פּרין סוקרי קאַנדי
5- and white lead - the same measure from the first as from the second and with[?] some	5- e bla\ n/quet tante de u com de altere e ab-unos	5- אי בלא/נֶקִיט טאַנטי די או קום די אַלְטֵירי אי אבונוש
6- strings[?]; put put it on and if the nib sugar is not	6- filos posa posa li-n e si el sucre candi no-t	6- פֵּילוֹש פּוּשא פּוּשא לִין אַי שי איל סוקרי קאַנדי נוט
7- enough for you to [stop it] - put on it a bit of alum and	7- basta a-dejar ¹⁰⁶ met i ¹⁰⁷ un poc de alum usant-[e]	7- באשטה אדיגאר מיט אי און פוק די אלום אושאַנט [י]
8- this way it will be cured.	8- de aço guarira	8- די אסו גוארירה
9- For the sickness of the mouth: take the bark/peel of the boxwood ¹⁰⁸	9- Per a mal de bocage pren escorsa de bogia	9- פירה מאל די בוקאגי פּרין אישקורשא די בוגיאה

102. Menbere] Heb. מִינְבֵּר *menabere* = *membre*.

103. Natura] Here 'nature' refers to the reproductive organs, or genitals, especially of women.

104. While *menjança* generally refers to lice and the itches it causes, it seems that in this manuscript *menjança* also carries a similar value to Catalan *menjadura* (both from the same root), to refer to a kind of infection which eats or corrodes the meat.

105. Men jances] = *menjances*, see *infra* note 108.

106. Dejar] Heb. דִּיגָר *dyg' r*. This might be Arg. or Cast. *dejar* (Cat. *deixar*, *lleixar* 'leave, stop'), however this verb does not perfectly fit here either. An alternative option is a copying mistake for *denejar*, Old Cat. 'to clean'.

107. I] = *hi*.

108. *Bogia* is a kind of plant. The peel of bogia is also registered in the Receptari de Micer Johan, see *Vocabulario de comercio medieval*. It seems to refer to *boix*, *buxus sempervirens* 'boxwood'. See Ustuell 1996: 247. This plant might also be related to the plant bugiot of the species *thesium divaricatum* or *clematis flammula*. See *bogia* in the DCVB and Farauo, and also *bugia*, *bugiot* in the DCVB.

10- and verdigris and alum and a bit of sugar dough, ¹⁰⁹	10- e verded ¹¹⁰ e alom ¹¹¹ e un poc de alfeni	-10 אי וַיִּרְדֵּד אי אַלוֹם אי און פּוֹק די אַלְפִינִי
11- which should be made into powder and put it in the mouth and put	11- e sia fet polvora e met li-n en la boca e meta	-11 אי שיאה פֿיט פּוֹלוֹרָה אי מיט לִין אין לאַ בּוֹקָא אי מיטה
12- vinegar in there and wash it with it in the mouth and then take vinegar	12- i ¹¹² vinagre e lave-se-n ¹¹³ la boca en apres pren vinagre	-12 אי וינאגרי אי לאַבישין לאַ בּוֹקָא אין אפּריש פּרין וינאגרי
13- and honey. Dissolve the aforementioned powders, wash	13- e mel, destenpra les ditas polvoras lau-se-n ¹¹⁴	-13 אי מיל אי דישינפּרה ליש דיטאש פּוֹלוֹרָאש ל[א]בשין
14- the mouth with it or clean it with a small stick with fabric and [textile(?)].	14- la boca o-frega lo-i [ab-un] bastonet ap drap-e-v[ellet(?)] ¹¹⁵	-14 לאַ בּוֹקָא אופּריגה לואי אבון בשטוניט אף דראפּיוויליי/דראפּיווילט[?]
15- This is of Master Modo	15- aço [de]l maestre Modo	-15 אסו [די]ל מאַשטרי מודו
16- For constant fever: using the oval recipient give him to drink,	16- Per·a qaddahat temidü da-li a-beure ab-un ou	-16 פּירָה קדחת תמידית דאלי אביברי אבון אוב
17- of the powder of the thyme and do so doing	17- dela polvora del-epetimi ¹¹⁶ e fes-li-n fer	-17 דיילה פּוֹלוֹרָה דילאַפּיטימי אי פּיִיש־לִין פּיר
18- so has a great benefit.	18- li-a gran profit	-18 ליאה גראן פּרוּפּיט
19- The nutmegs are good for people who	19- Les nouse noscadas ¹¹⁷ son bonas a-presonas que	-19 ליש נובְּשִי נושקאדאש שון בונאש אפּרישונאש קי

109. The *alfeni* or *alfanic* is a sugar paste with oil and sweet almonds. See the DCVB.

110. Verded] Heb. וַיִּרְדֵּד *weraded* = *verdet*.

111. Alom] Heb. אַלוֹם *'alom* = *alum*.

112. I] = *hi*.

113. Lave-se-n] Heb. לאַבישין *l byšyn* = *llau-se'n*; *llava-se'n* (from the verb *llavar*).

114. Lau-se-n] Heb. ל[א]בשין *l['] bšyn* = *llau-se'n*; *llava-se'n*.

115. Vellet] could possibly refer to *velet*, a small *vel* 'veil'.

116. Epitimi] Heb. אפּיטימי *pytymy (apitimi)* = *epitimi*.

117. Nouse noscadas] Heb. נובְּשִי נושקאדאש *nobəše nosqadas* = Old Cat. *nous noscades* = *nous moscades*.

20- have (bad) speech. ¹¹⁸ They should eat it and hot	20- tenen lo parlar, que la menja e q que tin	-20 טינין לו פארלאר קי לא מינגא אי ק קי טינ
21- hold it in their mouth as well. They should through it with	21- la t[i]nga en la boca axi metex, e els-i ¹¹⁹ que lan[s]en	-21 לא טונגה אין ¹²⁰ לא בוקא אשי מיטיש אי אלשי קי לאנ[ש]ין
22- water into the mouth so that the whole time it would be moving.	22- aygua per la boca ço es que-tot m temse ¹²¹ {me}	-22 אייגואה פיר לא בוקא סו איש קי טוט מ טימשי [מי]
23- Moreover, it is also good for curing rheumatism. For giving	23- [..]nejan ¹²² e igual mente a-currar reuma, [do] ¹²³ dona	-23 [..]ניגאן אי אגואל מינטי אקוראר ריבמא די דונה
24- power to the to the kidneys ii others should be eaten,	24- poder a-las a-los reniones sen menjan ü otros que	-24 פודיר אלאש אלוש ריניוניש שין מינגאן בי אוטריש קי
[136v]	[136v]	[136v]
1- before and until the passing of ü hours	1- ans·e fasta ¹²⁴ la s obra ab·las las ü oras	-1 אנשי/אנשי פאשטא לא ש אבְּרָה אבְּלֵאש לאש ב אורש
2- before, and it will make it [erupt] no more, and strongly.	abans·e ¹²⁵ per·le·a fer mes que no [borla] ¹²⁶ e fort [m]en	-2 אבְּאָנְש פִּיר לִיאָה פִּיר מִיש קִינוּ בורלא/ביורלא אי פֹּרְטָ [מ]ין
3- And it has many other good virtues.	3- e moltes altres bones birtutes que·a en	-3 אי מולטיש אלטריש בוניש בירטוטיש קיאה אין
4- For making the hairs black:	4- si Per fer los cabellos negres	-4 שי פִּיר פִּיר לוש קאביליוש נגריש

118. The word after *parlar* 'speech' seems to have been omitted by the copyist. This might also stand for a kind of speech paralysis.

119. Els-i] Heb. אלשי *lšy* = probably *els hi*.

120. [אין] seems to be corrected from איל *el*.

121. Tot m temse] probably = *tostemps*.

122. [..]nejan] probably = *menejan* (from the verb *menejar*).

123. Do] Copying mistake, writing the beginning of the word twice.

124. Fasta] Heb. פאשטא seems to be Arg. or Cast. *fasta* (= Sp. *hasta*).

125. Abans] in Hebrew script אבְּאָנְש *abanase*, wherein a copying mistake must have occurred in the punctuation.

126. Borla] Heb. בורלא *burla* ('*borla, burla*) or ביורלא *byurla* ('*byorla, byurla*). It could possibly be related to the verb *brullar* 'to burn' or *brollar* 'come up, spring up, emerge, erupt'.

5- (Take) wall germander ¹²⁷ - make sodium hypochlorite out of it	5- beltronica menor fer-ne lo-seu/lexiu	5- בילטרוניקה מינור פִּירני לו שיב/לישיב
6- and wash the head with it. Another way: take <i>ii</i>	6- e lave-se-n ¹²⁸ lo cap altra manera pren <i>ii</i>	6- אי לאבישין לו קאפ אלטרה מאנירה פִּרין ב
7- ounces and a half of litharge and <i>iii</i> ounces of	7- unças e-mija de litreger ¹²⁹ e <i>iii</i> unças de	7- אונסאש אימיגה די לִיטְרֵיגֵר אי ג' אונסאש די
8- lime, which has already been ready for a month.	8- calcina biba que aya un mes que-sia feta	8- קאָלְסִינָה בִּיבָה קי אייא אין מיש קי שיאיה פִּיטָה
9- This should all be passed through the sieve and take water	9- e sia pasat per sedaç ¹³⁰ tot e preneu <i>aigua</i>	9- אי שיאה פִּאשט פִּיר שִׂידָאס טוט אי פִּריניב איגואה
10- water and knead it so that it will be in the form of	10- aygua e pasta lo en manera que sia	10- איגואה אי פִּאשטא ב לו אין מאנירה קי שיאה
11- unguent and anoint it with in the (relevant) places, [up to	11- unguen ¹³¹ e unte-se-n ap los lugares [fiasta ¹³²	11- אונגין אי אונטישין אָף לוש לוגאריש פִּיאשטא
12- the front hair(?)].	12- la-coua(?)] ¹³³	12- לאקובה
13- For times of epidemic anoint the	13- Per-a tems de pidemya unta-los	13- פִּירה טִימָש די פִּידמִיא אונטאלוש
14- [...]	14- basillos ¹³⁴	14- באשילִייוש
15- of the balsam oil and there will be no danger of	15- del oli del balsamo e-no-sera peligroso de	15- דיל אולי דיל באלשאמו אינושירה פִּיליגרושו די
16- inflammation, and even if there is - there won't be any danger	16- granolas e si-n-a no aura ¹³⁵ peligro e [s] ¹³⁶	16- גִּראַנוֹלָאש אי שינאה נו אברה פִּיליגרו אי [ס]

127. In the manuscript, Heb. בילטרוניקה מינור *bylṭrunyqh mynwr* (*beltronica menor*). This a Castilian form for the flower also known as *teucrium chamaedrys*, 'wall germander' (Cat. *betònica*; *betrònica*; *bentrònica*).

128. Lave-se-n] Heb. לאבישין *l'byšyn = llau-se'n; llava-se'n* (from the verb *llavar*).

129. Litreger] Heb. לִיטְרֵיגֵר *liṭreger = litargiri*.

130. Sedaç] = *sedàs*. *Sedaç* is documented both in the DCVB and Farauo.

131. Unguen] Heb. אונגין *wngyn = ungüent*.

132. Fiasta] seems to stand for Cast. *fasta*, Sp. *hasta*.

133. Coua] seems to refer to *cua*, possibly the front part of the hair.

134. Basillos] Heb. באשילִייוש *bašilyyos*, unclear meaning. It could possibly be related to the *basillar*, the sphenoid bone in the skull. See DETEMA, *basillar*, *hueso pasilar*, *basilar*.

135. Aura] Heb. אברה *brh*, could also be read *abra* = Cast. *habrá*.

136. S] Copying mistake.

17- Hang it over the neck. The oil reservoir is a delicate stone	17- penja-l al cuello cresolita es pedra fina	17- פינגאל אל קואילייו קרישוליטה איש פידרה פינה
18- and has the colour of oil - clear green.	18- e a color de oli verde denegat	18- אי אה קולור די אולי וירדי דיניגאט
19- For making a azure take <i>ii</i> ounces of gum arabic ¹³⁷	19- Per fer azur ¹³⁸ pren <i>ii</i> unças de goma arabica	19- פיר פיר אזור פריין ב' אונסאש די גומא ארביקה
20- and <i>ii</i> ounces of tragacanth gum and <i>ii</i>	20- e <i>ii</i> unças de goma derega(n)t ¹³⁹ e <i>ii</i>	20- אי ב' אונסאש די גומא דירגאט אי ב'
21- ounces of Greek pitch and <i>ii</i> ounces of pitch, ¹⁴⁰	21- unças de pega griga ¹⁴¹ e <i>ii</i> unças de pega	21- אונסאש די פיגה גריגה אי ב' אונסאש די פיגה
22- and of all of this make a powder, and then take <i>ii</i> oun(ces)	22- e de tot fes-ne polvora en apres pren <i>ii</i> un(ças)	22- אי די טוט פישני פולוורה אין אפריש פריין ב' אונ
23- of new wax and make dough of it all. Then take a new pot and put water inside	23- de cera noba e fes de tot una pasta en apres pren una caçola noba e·met i ¹⁴² aigua	23- די סירה נובה איפיש די טוט אונה פאשטה אין אפריש פריין אונה קאסולה נובה אימיט אי איגואה
[137r]	[137r]	[137r]
1- and put it on the fire, which should be simple and good	1- e met·la sobre lo foc que sia sinpele ¹⁴³ e bo	1- אי מיטלא סוברי לו פוק קי שיאה שינפלי אי בו
2- and take the stone of the azure and make it into prime	2- e pren la pedra del azur e fes-ne polvora	2- אי פריין לא פידרה דיל אזור אי פישני פולוורה
3- powder and mix this powder with the	3- prima e·mescla aquesta polvora ab·la	3- פרימא אי מישקלא אקישטה פולוורה אפלה

137. Gum arabic, also known as *acacia gum*.

138. Azur] Heb. זָזֹר *zwr* = *atzur*. The *atzur* is both the 'azure' blue colour, and the mineral from which this blue colour is made of, see in Farauo, under *atzur*.

139. Derega(n)t] = *dragant*, *dregant*.

140. Pitch, resin.

141. Griga] Heb. גְּרִיגָה *grigah* = *grega*. *Pega grega* refers to 'Greek pitch; rosin'.

142. I] = *hi*.

143. Sinpele] Heb. שִׁנְפֵלִי *sinapele* = *simple*.

4- dough that you have prepared, and then put it	4- pasta que es feta feta en apres met-o ¹⁴⁴	-4 פאשטה קי איש פיטה פיטה אין אפריש מיטא
5- all inside the pot in the water.	5- tot den[t]ro de la caçola dentro l-aygua	-5 טוט דינטרו די לא קאסולה דינ[ט]רו לאייגואה
6- When it has boiled and you see the colour, with a fine spoon	6- e com bollera ¹⁴⁵ e beras ¹⁴⁶ la color [ab·una] cullera	-6 אי קום בולייירה אי ביראש לא קולור אבונא קולייירה
7- shake it gently and take it off the fire	7- laugera mente lo menau e alsau lo del foc	-7 לאבגירה מינטי לו מינאב אי אלשאב לו דיל פוק
8- so that you won't lose the colour. This requires	8- en guisa que no perdes la color lo qua qual es	-8 אין גישא קי נו פירדיש לא קולור לו קאא קואל איש
9- great strength, but with great skill you will take it out	9- gran quant pro a gran sabiesa o ¹⁴⁷ trauras	-9 גראן גואנט פרו אה גראן שאקיישה או טראבראש
10- and put put it in bowls neatly.	10- e metras metrias o en greales netamen	-10 אי מיטראש מיטריאש או אין גריאליש ניטמין
11- Here it is where you will dry it and make a powder of it.	11- e aqui o·u ¹⁴⁸ secaras e fer·n·i·as ¹⁴⁹ polvoras	-11 אי אקי אוב שיקארשא אי פירניאש פולווראש
12- Unguent of half confection - purifies and	12- Ugne(n)te¹⁵⁰ de mija confecio¹⁵¹ mundifica e	-12 אוגניטי די מיגא קונפיסיו מונ דיפיקה אי
13- dries and	13- deseca e en	-13 די שיקא אי אין
14- heals any ulcer: take <i>i</i> pound of turpentine ¹⁵²	14- carna ¹⁵³ tota plaga pren <i>i</i> libra de trementina	-14 קארנא/קאדנא טוטה פלגא פריין א' ליברה די טרימיניטינה

144. Met-o] Heb. מיטאו *myt'w* = *met-ho*.

145. Bollira] Heb. בולייירה *bolyyerah* = *bullirà*.

146. Beras] = Cast. *verás*.

147. O] = *ho*.

148. O·u] = probably *on ho* [u] 'where it'.

149. Fer·n·i·as] = *fer n'ias* for *en ferias* 'you will make of it'.

150. Ugne(n)te] Heb. אוגניטי *'wgnyt* = *unguente* (copying mistake, Cat. *ungüent*, Cast. *ungüento*; *ungüente* is also documented).

151. Confecio] = *confecció*.

152. Turpentine] *trementina* in the manuscript.

153. En carna] Heb. אין קארנא *'yn q' rən* = *encarna*.

15- of abies alba ¹⁵⁴ ; <i>iii</i> ounces of rose oil; <i>iii</i> ounces	15- de vet <i>iii</i> unças de oli rosat, <i>iii</i> unças	-15 די ויט ג' אונסאש די אולי רושאט ג' אונסאש
16- and a half of white wax; i ounce of mastic;	16- e-mija de cera blanca, i unça de mastic,	-16 אימיגא די סירה בלנא א' אונסא די מאשטיק
17- <i>i</i> ounce of incense and make an unguent skill-	17- <i>i</i> unça de ensense ¹⁵⁵ e fes ungue(n)te ¹⁵⁶ destra	-17 א' אונסא די אינשינשי איפיש אונגיטי דִישְׁטֵרָא
18- fully.	18- m mente	-18 [מ] מינטי
19- <i>Other</i> , the virtue of the rooster: take an old rooster	19- 'Aheret la-birtud del gallo pren un gallo	-19 אַהַרַת לבירטוד דיל גאליו פּרין און גאליו
20- and boil it well with	20- viejo e fes-l buen bullir con	-20 ויאִיגו אי פישל בואין בוליייר קון
21- water. Take it out, and give of that broth to drink	21- aygua ix-al e aquell-brou ¹⁵⁷ [da-lo] a-beure a-lo	-21 אייגואה אישאל אי אקילִבְרוֹב דאלו אביברי אלו
22- to the feverish man, and the fever will stop. Even	22- om febros e sesar li·a ¹⁵⁸ la b febre encara ¹⁵⁹	-22 אום פִיברוש אי שישאר ליאה לא ב פִיברי אַנְקָאָרָה
23- if he would still have pleurisy, ¹⁶⁰ boil it for him with	23- que sia mal de costat; fes li bullir ap	-23 קי שיאה מאל די קושטאט פִיש לי בוליייר אף
24- water and also put into it the collards and the grain of	24- aygua e-sian i-mesa[s] berças ¹⁶¹ e grano de	-24 אייגוא אישיאן אימישא[ש] בירסאש אי גראנו די

154. Abiest alba] is the silver fir or European silver fir.

155. Ensense] = *encens* 'incense'

156. Ungue(n)te] = *unguente*, this was probably copied from a manuscript where the <n> were written with a ligature in Latin script.

157. Aquell-brou] Heb. אקילִבְרוֹב *qylibərob* (*aqueli-brou*), punctuation mistake.

158. Sesar li·a] = *li cessarà*.

159. The lack of a *mater lectionis* or the use of an *aleph* render *e*, *a*, or *ε*.

160. In the manuscript, *mal de costat*, literally 'side ache'. This refers to 'pleurisy, pneumonia', see in Farauto, *mal de costat*, and DCVB, *costat*.

161. Berças] Heb. בירסאש *byrs* 'š = Arg., Cast. *berzas* (vs. Cat. *Brassica oleracea*, *col*).

[137v]	[137v]	[137v]
1- the [rose balsam], ¹⁶² which is similar to crocus nudiflorus; and	1- papagai que son semeente de çafran borte ¹⁶³ e	1- פאפאגאי קי שון שימאינטי די סאפראן בורטי אי
2- polypody and it all should be well cooked and	2- polipodi e sia be cozido tot - e-de aquel brou	2- פולפודי אי שיאה בי קוזידו טוט אידי אקיל ברוב
3- give to the man with the pleurisy ¹⁶⁴ to drink from that broth and	3- dau a·beure alq om que·a·de el de costat e	3- דאב אביברי אלק אום קיאדי איל די קושטאט אי
4- cure the feverish man. Once you have boiled the rooster	4- sana·l al om febros com·ayas bullit lo gallo	4- שאנאל אל אום פברוש קומאייאש בולייט לו גאליי
5- roast it with the broth and leave it to soak for one night and	5- estiga ab·lo brou una nis nit en remollo ¹⁶⁵ en	5- אישטיגה אָבלו ברוב אונה ניש ניט אין רימוליי אין
6- then you will give it (to the patient) to drink.	6- apres dar lo·as a·beure	6- אפריש דאר לואש אביברי
7- For tinea disease take the skin of an ox, [with]	7- Per·a mal de tinya pren una piel ¹⁶⁶ de bou a[l]	7- פירה מאל די טיניאַ פרין אונה פיייל די בוב א[ל]
8- the same quantity of honey, and <i>iii</i> diniers of pepper,	8- altre tante de mel e <i>iii</i> din[e]s de pebre	8- אלטרי טאנטי די מול/מיל אי ג' דינ[י]ש די פיברי
9- and <i>ii</i> diniers of verdigris, and make of it all an unguent	9- e <i>ii</i> dines de verdet e fes·ne de todo ungue(n)te	9- אי ב' דיניש די וירדיט אי פישני די טודו אונגיטי
10- and anoint all of the ulcers and it will be cured[?] within <i>vi</i> ða	10- e unta les plagues e sera g[a]r[i]t ¹⁶⁷ per <i>vi</i> X ði	10- אי אונטא ליש פלאגאש אי שירה ג[א]ר[י]ט פיר ו' X די

162. In the manuscript the recipe refers to the *papagai*. This may refer to various herbs or flowers, mainly the *amaranthus tricolor*, and the *impatiens balsamina*. The latter seems more similar to *crocus nudiflorus*, so I have opted for this option.

163. Borte] = Cat. *bort*, bord, Cast. *borde*. Documented in Cat. *çafran bort* (*bord*), to describe different kinds of crocus as well as other genus and 'bastard saffron, safflower', see DCVB, *safrà*. See also Faraudo *safrà bord*.

164. Literally: to the man with the side [ache] (*el de costat*). See comment above.

165. Remollo] = Cat. *remull*; Cast. *remojo*.

166. Piel] Heb. פֵּייל *fiel* (copying mistake).

167. G[a]r[i]t = *guarir*.

11- days.	11- dias	11- דיאש
12- For a paralyzed/sunken beast: ¹⁶⁸ take cumin and	12- Per·a bestia ayguada ¹⁶⁹ pren comines ¹⁷⁰ e	12- פירה בישטיאה אייגואדה פרינ קומיניש אי
13- excrement of pigeons and [poke (the beast?)] and it will be well	13- fenta ¹⁷¹ de colom[e]s·e i ¹⁷² picau e sia be	13- פִּינְטָה דִּי קוֹלֹמְשִׁי אִי פִּיקָאב אִי שִׂיָּאָה בִּי
14- boiled and strain it and give (the beast) to drink from it and	14- bullit e colau·o ¹⁷³ e da·lo·y [a] beure e·sera	14- בולייט אי קולאבאו אידאלויי א[.]. ביברי אישירה
15- the beast will be cured.	15- garida la bestia	15- גארידה לא בישטיא
16- For making the hairs blonde: take	16- Per·a fer rosos ¹⁷⁴ los cabellos pren sal	16- פירה פיר רושויש לויש קאבילייזש פרינ שאל
17- niter; <i>ii</i> ounces and vitriol <i>ii</i> ø	17- miter ¹⁷⁵ <i>ii</i> unças [e] bidrion ¹⁷⁶ <i>ii</i> ø	17- מיטיר ב' אונסאש [א] בידריאון [ן] ב'אז
18- <i>iii</i> ounces crocus nudiflorus and a bit of licorice,	18- <i>iii</i> unças çaf\r/an borte un poc regalicia	18- ג' אונסאש סאפ/ר\אן בורטי און פוק ריגאליסיאה
19- a bit of rustic cumin, some ash	19- una poca cominos rostigos unos pocos cendra	19- אונה פוקה קומינוש רושטיגוש אונוש פוקוש סינדרה
20- of vine shoots - <i>iii</i> ounces; and it all should	20- de sar mientos <i>iii</i> unças e sia tod	20- די שאר מיאינטוש ג' אונסאש אי שיאה טוד
21- be boiled in <i>vi</i> pounds of water and turn it	21- t bolli(t) ¹⁷⁷ en <i>vi</i> libras de aygua e torn·i ¹⁷⁸	21- ט בולִיִּיר אין ו' ליבראש דִּי אִיִּיגָאָה אִי טורני

168. The term *bístia aigüada* is documented in Mallorca, for a beast who is paralyzed, see DCVB, under *aigüat*.

169. The term *bístia aigüada* is documented in Mallorca, see DCVB, *aigüat*.

170. Comines] Cat. *comins*; Cast. *cominos*.

171. Fenta] = probably *fenta* 'excrement'.

172. I] = *hi*.

173. O] = *ho*.

174. Rosos] = *rossos*.

175. Sal miter] = *salmître* 'niter'.

176. Bidrion] Cat. *vidriol*; Cast. *vitriolo* 'vitriol'.

177. Bolli(t)] Heb. בולִיִּיר *bolayir* = *bullir* copying mistake for *bullit*.

178. I] = *hi*.

22- to half. This should be put under the sun; and	22- a-la meitat e sia mes al sol e sia	22- אלה מייטאט אי שיאה מיש אל שול אי שיאה
23- the head would be combed with the sodium hypochlorite; also the	23- pentinat lo cap ab-la lexiu mas re[ga]llicia	23- פינטינאט לו קאף אבלא ל'שייב מאש רי[גא]ליסיאה
24- boiled licorice with ash of vine shoots makes the	24- bollida ap cendra des sarmientos fa-bellos	24- בולידה אף סינדרה די'ש שארמיאינטוש פֿאבילי'וש
25- hairs beautiful.	25- los cabellos	25- לוש קבילי'וש
26- For making	26- per-a fer	26- פירה פֿיר

[138r-140v] [Opens with a Hebrew recipe להולי העיניים 'For eyes illness', which does not continue the previous page in 137v]. followed by a recipe with a Hebrew title לשכחה או תרדמה, 'For forgetting or falling asleep', but the recipe continues in Castilian, followed by other recipes in Aragonese and Castilian].

[141r]	[141r]	[141r]
1- If it is desired that on that day the unguent would be well dry and	1- Si vol-se que lo dia que-l-on(guent) ¹⁷⁹ sia be secatiu i	1- שי וולשי קי לו דיאה קילון שיאה בי שיקאטיב אי
2- very clear, put in white lead - this way	2- que sia be blanque met-i blanquet aixi	2- קישיאה בי בלאנקי מיטי בלאנקיט אישי
3- it will be a good (day).	3- sera bo	3- שירה בו
4- The myrrh is good if you make powder out of it and	4- La mirra es bona si-en fas polvora e en	4- לה מירה איש בונה שיאין פֿאש פולוורה אי אין
4.a ready/ promptly	4.a presto	4.a פרישטו
5- you give it to drink to a woman who has	5- donas a beure a una dona que tinga	5- דונאש אביברי אה אונה דונה קי טינגה
6- a dead infant inside her belly in order to make its way out.	6- infante mort [dinse] lo ventre fer-l(o)-via lansar.	6- אינפאנטי מורט [דינ]שי לו וינטרי פירלויאה לאנשאר

179. Que-l-on(guent)] Heb. קילון *qylwn*, wherein *onguent*, *unguent* seems to be abbreviated into *on*.

7- Moreover, it is good against worms; it is good against	7- Mas es bona contra cuques es bona contra	7- מאש איש בונה קונטרה קוקיש איש בונה קונטרה
8- cronique cough, and it has many other virtues	8- tos vella e a ¹⁸⁰ moltas altres virtudes que	8- טוש ויילינא אי אה מולטאש אלטריש וירטודיש קי
9- for its own right.	9- a en·s[i]	9- אה אינש[י]
10- If it is desired that on that day the unguent would serve as a good resolution,	10- Si vol·se que lo dia que·l·un(guent) ¹⁸¹ sia be resoltiu ¹⁸²	10- שי וולשי קילו דיאה קילון שיאה בי רישולטיב ¹⁸³
11- mix with it a powder of iris - once	11- mescla i ¹⁸⁴ polvora de ireos ¹⁸⁵ com	11- מישקלא אי פולוורה די אַיריאוש קום
12- it is ready then you want to make the troches.	12- es acabat de fer com bole[s] ¹⁸⁶ fer l[o]s trociscos	12- איש אַקאבאט די פֿיר קום בול[ש] פֿיר ל[ו]ש טרוסישקוש
13- Confiture for molars' ache: Take ginger:	13- Confit per·a dolor de·caxales ¹⁸⁷ pren gengibre/gengebre:	13- קונפֿיט פירה דולור דיקאשאַלש פֿרין גי[נ]גיברי
14- two drams, turpeths: equal quantity,	14- dracmas dues, turbit: una par(t),	14- דראקמאש דואיש טורביט אונה פאר
15- clove: equal quantity, cardamom: equal quantity, spikenard:	15- girofle: una par(t), cardemoni: ¹⁸⁸ una par(t), espic nardi: ¹⁸⁹	15- גירופלי אונה פאר קארדמונה אונה פאר אשפיק נרדי
16- half a quantity, sugar; <i>ii</i> drams against [feeling]	16- mija par(t), sucre: dracmas <i>ii</i> contra sentir [omi]	16- מיגא פאר שוקרי דראקמרש ב' קונט/ר\ה שינטיר [אומי]

180. A] = *ha*.

181. Que·l·un(guent)] Heb. קילון *qylwn*, wherein *onguent*, *ungüent* seems to be abbreviated into un.

182. Resoltiu] = *resoluiiu*, in a medical context a *resoluiiu* is a medicine intended to promote the resolution of haemorrhages and inflammation, see DCVB, *resoluiiu*.

183. Could also be read דישולטיב.

184. I] = *hi*.

185. Ireos] = *iris*. The form *yreos* is documented in Cifuentes 2004: 532, see also in the Catalan-Latin glossary *idem.*, 616, 625.

186. Boles] Heb. בול[ש] *boles* = *vulles*.

187. Caxales] Heb. קאשאַלש *q'saleš* = *caixals*, *queixals*. Here the *lamed* is punctuated with *tsere* while a *shwa* would be more expected.

188. Cardemoni] = *cardamoni*, *cardamom* 'cardamom'.

189. Espic nardi] = *espignard*. *Aspic nardi* or *espig nardi* is registered in some medical-botanical synonym lists in Hebrew manuscript, also from the area of Catalonia. See Bos-Mensing 2005: 264.

17- [<i>all and... and</i>] [Lat.] give (to the patient) to [drink(?)]	17- <i>nia et fiat letuariam et dau a-[beure]¹⁹⁰ s</i>	17- ניצה איט פיאט ליטואריאם איט דאב אבואירי ש
18- [...] [Lat.]	18- † <i>recma[m] comede/ comere/ comeda de ficcio letuam/letuari(?)</i> † ¹⁹¹	18- ריקמ[ם] קומידי/קומירי/קומידה די פיקסיאו ליטואם/ליטוארי(?)
19- For a tear/fracture in the poultices and a recipe	19- Per·a ruptura en·los enplastros e recepta	19- פירה רופטורה אינלוש אינפלאשטרוש אי ריסיפטה
20- for the fracture[?]: it is good <i>i</i> o(unce) of the blood	20- de la ruptura: es bona <i>i</i> u'(nça) de sangre de	20- די לה רופטורה איש בונה א' או' די שאנגרי די
21- of a man and a half of a mummy. ¹⁹²	21- ome e·mija de mumia	21- אומי אימיגא די מומיאה
22- Unguent for a fine [vinegar]: first the fat (of)	22- Unguento de [ans] ¹⁹³ agre fi primeramen seu	22- אונגינטי בי/די אנש אגרי פי פרימיראמין שיב
23- a lamb, over a billy-goat's-tooth: ¹⁹⁴ <i>ii</i> o(unces), pitch:	23- be, sobre dent de cabro: <i>ii</i> u'(nces) pregunta:	23- בי שוברי דינט די קברו ב' או' פיגונטה
24- <i>ii</i> o(unces), nuts: <i>iv</i> ounces, ¹⁹⁵ <i>vii</i> rose oil: <i>i</i> ounce; winter cherry half o(unce) ¹⁹⁶	24- <i>ii</i> u'(nces), nuez: <i>iv</i> ·unces, <i>vii</i> ¹⁹⁷ oli rosat: <i>i</i> u'(nça) alica ¹⁹⁸ mija u'(nça)	24- ב' או' נואיז דאונסיש ז' אולי רושאט א' או' אליקה מיגא או'

190. A-beure] Heb. אבואירי *abueri*, possibly a copying mistake for *a beure*.

191. Rows 16-18 seems to contain corrupted Latin, which I couldn't decipher. The last part could also be read as partly Castilian: *de-c(a)ma comer-e de ficcio letuam/letuari*

192. Mummy, refers to a corpse.

193. The context would require *vi, vinagre*; however, Heb. is אנש 'nš (*ans*). This looks like a copying mistake. This could also stand for badly copied אונסש *unças*, missing also the quantity beforehand. In any case, this recipe seems to be corrupted.

194. Billy-goat's-tooth] Cat. *dent de cabró*, might refer to a kind of plant, similar to the *dent de lleó, dent de bou, dent de ca* etc. However, I couldn't identify such a plant.

195. The copyist seems to have left out the ingredient.

196. The following page, 141r, begins with unrelated recipes. These begin with the Hebrew word אחרת, the equivalent of *otro* 'another [item]', and then the recipes are in Castilian and Aragonese in Hebrew script.

197. *Vii*] the number seems redundant.

198. Alica] might refer to *alicacabi*, a plant of the type of *physalis alkekengi* (bladder cherry, winter cherry etc.).

6 Works Cited

- Assis, Yom-Tov. 1996. 'Jewish Physicians and Medicine in Medieval Spain', in *Medicine and Medical Ethics in Medieval and Early Modern Spain: An Intercultural Approach*, ed. by Samuel S. Kottel and Luis García-Ballester, 33-49 (Jerusalem: Magnes Press)
- Barkai, Ron. 1989. 'L'ús dels Salms en la màgia jueva de l'edat mitjana i el Renaixement: El *Llibre Shimush Tehilim*', trans. by Eduard Feliu, in *Curs: La Càbala* (Barcelona: Fundació Caixa de Catalunya), pp. 17-57
- Baum, Ilil. 2018. 'A Hebrew-Letter Fragment in Mixed Castilian-Catalan from Around the Time of the Expulsion and Its Implications for the Emergence of Judeo-Spanish', in *Caminos de leche y miel: Jubilee Volume in Honor of Michael Studemund-Halévy*, vol. 2: *Language and Literature*, ed. by David M. Bunis, Ivana Vučina Simović and Corinna Deppner (Barcelona: Tirocinio), pp. 46-63 <<https://tirocinio.com/caminos-de-leche-y-miel/>>
- Baum, Ilil. 2020. 'Jewish Lullism around the Expulsion: Spanish-Catalan Fragment in Hebrew Characters from Ramon Llull's *Introductorium Magnae Artis Generalis*', *Jewish Quarterly Review*, 110.3: 553-573 <<https://doi.org/10.1353/jqr.2020.0020>>
- Baum, Ilil. 2021. 'Traces of Jewish Scotism among Late Medieval Catalan Jews: A Catalan Translation in Hebrew Script of *De Distinctione Predicamentorum* by Petrus Thomae', *Medieval Encounters*, 26: 543-577 <<https://doi.org/10.1163/15700674-12340088>>
- Blasco Orellana, Meritxell. 2011. 'Magia médica o medicina mágica en los manuscritos hebreos medievales', *El Prezente: Studies in Sephardic Culture*, 5: 35-54 <<https://go.uv.es/1sFsT1p>>
- Bos, Gerrit; Mensching, Guido. 2006. 'A 15th Century Medico-botanical Synonym List (Ibero-Romance-Arabic) in Hebrew Characters', *Panacea*, 7.24: 261-268 <<https://go.uv.es/8pcoH4t>>
- Caballero-Navas, Carmen. 2011a. 'Medicine Among Medieval Jews', in *Science in Medieval Jewish Cultures*, ed. by Gad Freudenthal (Cambridge: Cambridge University Press), pp. 329-335 <<https://doi.org/10.1017/CBO9780511976575.021>>
- Caballero-Navas, Carmen. 2011b. 'El saber y la práctica de la magia en el judaísmo hispano medieval', *Clío & Crimen: Revista del Centro de Historia del Crimen de Durango*, 8: 88-97 <<https://go.uv.es/u300yRR>>
- Caballero-Navas, Carmen. 2012. 'Las lenguas científicas de las comunidades judías catalanas en la baja edad media', in *El Saber i les llengües vernacles a l'època de Llull i Eiximenis*, ed. by Lola Badia et al. (Barcelona: Publicacions de l'Abadia de Montserrat), pp. 333-341 <<https://go.uv.es/XNQN4r2>>
- Caballero-Navas, Carmen. 2024. 'Galen's Legacy in Jewish and Muslim Medical Traditions in Europe', in *The Oxford Handbook of Galen*, ed. by Peter Singer and Ralph Rosen (Oxford: Oxford Academic), pp. 623-642 <<https://doi.org/10.1093/oxfordhb/9780190913687.013.27>>
- Cantori, Valentina. 2017. *Il 'Necessario' di Samuel Esperel trascritto da Yosef Catelan: Edizione e commento linguistico del codice Vat. ebr. 372* (unpublished doctoral thesis, University of Macerata and Hebrew University of Jerusalem) <<https://hdl.handle.net/11393/239197>>
- Cantori, Valentina. 2021. 'Um texto médico em língua portuguesa e grafia hebraica: O neseçario (MS Vat. ebr. 372)', *Cadernos de Língua e Literatura Hebraica*, 19: 37-69 <<https://revistas.usp.br/cilh/article/view/189186>>

- Cejador y Frauca, Julio. 1996. *Vocabulario medieval castellano* (Hildesheim: Georg Olms Verlag)
- Cifuentes, Lluís (ed.) 2004. 'Libre d'Albumesar de simples medicines', in *Arnaldi de Villanova Opera Medica Omnia*, vol. 17: *Translatio libri Albuzale de medicinis*, ed. by M.R. McVaugh et al. (Barcelona: Universitat de Barcelona; Fundació Noguera), pp. 449-548 <<https://go.uv.es/5XPoiET>>
- Cifuentes, Lluís. 2001. 'Las traducciones catalanas y castellanas de la *Chirurgia magna* de Lanfranco de Milán: un ejemplo de intercomunicación cultural y científica a finales de la Edad Media', in *Essays on Medieval Translation in the Iberian Peninsula* (Castelló: Publicacions de la Universitat Jaume I), pp. 95-128
- Cifuentes, Lluís. 2013. 'El manuscrit del receptari de Misser Johan', in *La Corona catalanoaragonesa, l'Islam i el món mediterrani: estudis d'història medieval en homenatge a la Doctora Maria Teresa Ferrer i Mallol*, ed. by Josefina Mutgé i Vives, Roser Salicrú i Lluch, and Carles Vela i Aulesa (Barcelona: CSIC-Institució Milà i Fontanals), pp. 157-169
- Cifuentes, Lluís. 2016. 'El receptari mèdic baixmedieval i renaixentista: un gènere vernacle', in *Els manuscrits, el saber i les lletres a la Corona d'Aragó, 1250-1500*, ed. by Lola Badia et al., pp. 103-160 (Barcelona: Publicacions de l'Abadia de Montserrat)
- Cifuentes, Lluís; Córdoba de la Llave, Ricardo. 2011. *Tintorería y medicina en la Valencia del siglo XV: el manual de Joanot Valero* (Madrid: CSIC) <<https://doi.org/10.2307/21938154>>
- Cifuentes, Lluís; Ferragud, Carmel. 1999. 'El *Libre de la Menescalia* de Manuel Dies: de espejo de caballeros a manual de albéitares', *Asclepio*, 51.1: 93-127 <<https://doi.org/10.3989/asclepio.1999.v51.i1>>
- CORDE: *Corpus diacrónico del español* (Madrid: Real Academia Española) <<http://corpus.rae.es/cordenet.html>>
- CICA: *Corpus informatitzat del català antic*, ed. by Joan Torruella, Manel Pérez Saldanya and Josep Martines <<http://www.cica.cat/>>
- Cowley, Arthur Ernest. 1927. 'The *Magna Chirurgia* of Guy de Chauliac', in *Essays in History Presented to Reginald Lane Poole*, ed. by H.W.C. David, pp. 1-4 (Oxford: Clarendon Press) <<https://go.uv.es/Uyq5Ooa>>
- DTCA: *Diccionari de textos catalans antics* (Barcelona: Centre de Documentació Ramon Llull; Universitat de Barcelona; Fundació Carulla) <<http://www.ub.edu/diccionari-dtca/>>
- Davidson, Hannah. 2004. *Perceptions of Medicine and Magic Within the Jewish Community of Catalonia in the 13th and 14th Centuries* (unpublished doctoral thesis, The Hebrew University Jerusalem)
- DARA-Medieval: *Documentos medievales aragoneses desde los condados a Fernando II* (Zaragoza: Gobierno de Aragón) <<https://dara.aragon.es/opac/doma/>>
- DCVB: *Diccionari català-valencià-balear* (Palma: Institució Francesc de Borja Moll; Barcelona: Institut d'Estudis Catalans) <<https://devb.iec.cat>>
- DETEMA: María Teresa Herrera (ed.). 1996. *Diccionario español de textos médicos antiguos* (Madrid: Arco/Libros)
- DiCCA-XV: *Diccionario del castellano del siglo xv en la Corona de Aragón*, ed. by Coloma Lleal (Barcelona: Universitat de Barcelona) <<http://ghcl.ub.edu/diccxv/home/index/myLanguage:es>>

- DEMel: Rafael Arnold; Jutta Langenbacher-Liebrott (ed.). 2022-. *Diccionario del español medieval electrónico* (Rostock: Universität Rostock; Paderborn: Universität Paderborn) <<https://demel.uni-rostock.de>>
- Faraudo: *Vocabulari de la llengua catalana medieval de Lluís Faraudo de Saint-Germain: una selecció*, ed. by Germà Colón Domènech *et al.* (Barcelona: Institut d'Estudis Catalans) <<https://www.iec.cat/faraudo/default.asp#Top>>
- Faulhaber, Charles B. 2004. 'Semitica Iberica: Translations from Hebrew and Arabic into the medieval Romance vernaculars of the Iberian Peninsula', *Bulletin of Spanish Studies*, 81.7-8: 873-896 <<https://doi.org/10.1080/1475382042000297754>>
- Feliu, Eduard. 2006-07. 'Les traduccions hebrees del *Regiment de sanitat* d'Arnau de Vilanova', *Tamid*, 5: 45-141 <<https://doi.org/10.2436/20.1006.01.13>>
- Ferre, Lola. 1995. 'The Medical Work of Hunayn ben Ishaq (Johannitius) in Hebrew Translation', *Korot*, 11: 42-53 <<https://go.uv.es/TqxcirY>>
- Freudenthal, Gad. 2011. 'Arabic and Latin Cultures as Resources for the Hebrew Translation Movement: Comparative Considerations, Both Quantitative and Qualitative', in *Science in Medieval Jewish Cultures*, ed. by Gad Freudenthal (Cambridge: Cambridge University Press), pp. 74-105 <<https://doi.org/10.1017/CBO9780511976575.006>>
- García-Ballester, Luis. 1994. 'A Marginal Learned Medical World: Jewish, Muslim and Christian Medical Practitioners, and the Use of Arabic Medical Sources in Late Medieval Spain', in *Practical Medicine from Salerno to the Black Death*, ed. by Luis García-Ballester *et al.* (Cambridge: Cambridge University Press) pp. 353-394
- García-Ballester, Luis. 2001. *La búsqueda de la salud: sanadores y enfermos en la España medieval* (Barcelona: Península)
- García-Ballester, Luis; Ferre, Lola; Feliu, Eduard. 1990. 'Jewish Appreciation of Fourteenth-century Scholastic Medicine', *Osiris*, 6: 85-117 <<http://www.jstor.org/stable/301782>>
- García-Ballester, Luis; McVaugh, Michael R.; Rubio, Agustín. 1989. *Medical Licensing and Learning in Fourteenth-century Valencia* (Philadelphia: American Philosophical Society)
- García-Ballester, Luis; Vázquez de Benito, María Concepción. 1990. 'Los médicos judíos castellanos del siglo XIV y el galenismo árabe: *Libro de medicina castellana regia*, c. 1312', *Asclepio*, 42.1: 119-147 <<https://doi.org/10.3989/asclepio.1990.v42.1.572>>
- Goltz, Dietlinde (ed.). 1976. *Mittelalterliche Pharmazie und Medizin dargestellt an Geschichte und Inhalt des Antidotarium Nicolai: Mit einem Nachdruck der Druckfassung von 1471* (Stuttgart: Wissenschaftliche Verlagsgesellschaft)
- Gutwirth, Eleazar. 1989. 'Casta, classe i màgia; bruixes i amulets entre els jueus espanyols del segle XV', in *Curs: La Càbala* (Barcelona: Fundació Caixa de Catalunya), pp. 86-88
- Gutwirth, Eleazar. 2011. 'History, Language, and the Sciences in Medieval Spain', in *Science in Medieval Jewish Cultures*, ed. by Gad Freudenthal (Cambridge: Cambridge University Press), pp. 511-525 <<https://doi.org/10.1017/CBO9780511976575.029>>
- Gutwirth, Eleazar. 2013. 'Tendencias en la cultura judeocatalana medieval', in *Temps i Espais de la Girona Jueva*, ed. by Silvia Planas Marcé (Girona: Patronat del Call de Girona), pp. 145-156 <<https://go.uv.es/igJUTbk>>

- Gutwirth, Eleazar. 2021. 'Alchemy and Armaments: On an Aljamiado Fragment in a Houghton MS', *Sefarad*, 81.1: 69-88 <<https://doi.org/10.3989/sefarad.021-004>>
- Kopf, Lothar. 1955. 'The Le'azim (Foreign Words) in the Sha'ar Hashshamayim of Gershon ben Shelomo', *Tarbiz*, 24 (Tevet): 150-166 <<http://www.jstor.org/stable/23586208>>
- Latorre, Javier Giralt. 2012. 'El catalán en la Franja de Aragón: una aproximación histórico-lingüística', *Archivo de Filología Aragonesa*, 68: 39-74 <<https://go.uv.es/PY6MZIe>>
- López Terrada, María Luz. 2009. 'Medical Pluralism in the Iberian Kingdoms: The Control of Extra-Academic Practitioners in Valencia', *Medical History*, 29: 7-25 <<https://go.uv.es/iBJGZK9>>
- Martín Martín, Carmen; Valverde, José Luis. 1995. *La farmacia en la América colonial: el arte de preparar medicamentos* (Granada: Universidad de Granada)
- McVaugh, Michael R. 2002 [1993]. *Medicine Before the Plague: Practitioners and Their Patients in the Crown of Aragon, 1285-1345* (Cambridge: Cambridge University Press) <<https://doi.org/10.1017/S0025727300059627>>
- Mesler, Katelyn. 2011. 'The Three Magi and Other Christian Motifs in Medieval Hebrew Medical Incantations: A Study in the Limits of Faithful Translation', in *Latin-into-Hebrew: Texts and Studies*, vol. 1: *Studies* (Leiden: Brill), pp. 161-218 <https://doi.org/10.1163/9789004252868_012>
- Miller, Elaine R. 2000. *Jewish Multiglossia: The Use of Hebrew, Arabic, and Castilian in Medieval Spain* (Newark, DE: Juan de la Cuesta) <<https://go.uv.es/892KTGu>>
- Moliné i Brasés, Ernest. 1914. 'Receptari de Micer Johan, 1466', *Boletín de la Real Academia de Buenas Letras de Barcelona*, 7.54: 321-336, and 7.55: 407-440 <<https://go.uv.es/moD4OFO>>, <<https://go.uv.es/Y4bpctv>>
- Romano, David. 1978. 'Judíos escribanos y trujamanes de árabe en la Corona de Aragón (Reinados de Jaime I a Jaime II)', *Sefarad*, 38.1: 71-105
- Romano, David. 1991-92. 'Hispanojudíos traductores del árabe', *Boletín de la Real Academia de Buenas Letras de Barcelona*, 43: 211-232 <<https://go.uv.es/gWYLO6Y>>
- Soares de Carvalho Mendes, Maria Adélia (ed.). 1999. 'Pedro Hispano, Tesoro de los Proves: Versão em Judeu Castelhana Aljamiado (século xv)', *Mediaevalia: Textos e Estudos*, 15-16: 1-195 <<https://go.uv.es/xXAqCm5>>
- Shtatzmiller, Joseph. 1994. *Jews, Medicine, and Medieval Society* (Berkeley: University of California Press)
- Steinschneider, Moritz. 1895. *Die hebräischen Handschriften der k. Hof-und Staatsbibliothek in Muenchen* (Munich: In Commission der Palm'schen Hofbuchhandlung) <<https://go.uv.es/K9cLC9v>>
- Ustuell i Torrent, Josep M. 1996. 'Contribució al coneixement odontològic en la Catalunya de l'edat mitjana', *Gimbernat*, 25: 241-251 <<https://go.uv.es/BoLBvZn>>
- Vocabulario de Comercio Medieval- Legado Gual Camarena*. 1968-. (Murcia: Universidad de Murcia) <<http://www.um.es/lexico-comercio-medieval>>
- Zonta, Mauro. 2006. *Hebrew Scholasticism in the Fifteenth Century: A History and Source Book* (Dordrecht: Springer) <<https://doi.org/10.1007/1-4020-3716-3>>