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THERE ONCE WAS A FROG: AN EARLY MODERN FROG IN Ms. ROS 77

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Manuscript Rosenthaliana 77 (hereafter, ROS 77) is a Hebrew codex of magico-medical interest copied in northern Italy in 1682. Surprisingly, among its pages the codex preserves desiccated leaves, floral remains, and even a dried frog. While it is a possible (though quite rare) occurrence that a small insect may get caught between the pages of a manuscript book, it is most

^{1.} Amsterdam, Amsterdam University Library, Special Collections, Bibliotheca Rosenthaliana, 77 (microfilm number IMHM F 3653); see Lajb Fuks and Renate G. Fuks-Mansfeld, Hebrew and Judaic Manuscripts in Amsterdam Public Collections, 2 vols., Vol. 1: Catalogue of the Manuscripts of the Bibliotheca Rosenthaliana, University Library of Amsterdam (Leiden: Brill, 1973), 212, Fuks 477a. See also Meyer M. Roest, Catalog der Hebraica und Judaica aus der L. Rosenthalischen Bibliothek, 2 vols., Vol. 2 (Amsterdam, 1875), 1173-74, n. 21; Nehemia Allony and Efraim Kupfer, List of Photocopies in the Institute. Part II: Hebrew Manuscripts in the Libraries of Belgium, Denmark, the Netherlands, Spain and Switzerland (Jerusalem: Institute of Microfilm of Hebrew Manuscripts in the Jewish National and University Library - Rubin Mass, 1964), 44n374. The manuscript has gone almost unnoticed by the scholarly community though it has garnered a few mentions in passing. Moritz Steinschneider refers to it in relation to the Hebrew translations of Gerard de Solo; see Moritz Steinschneider, Die hebräischen Übersetzungen des Mittelalters und die Juden als Dolmetscher (Berlin, 1893), 797. David Kaufmann mentions Avraham Joel Conegliano as a doctor and author of medical works, and refers to the manuscript preserved in Amsterdam; see David Kaufmann, Dr. Israel Conegliano und seine Verdienste um die Republik Venedig bis nach dem Frieden von Carlowitz (Vienna, 1895), 5. The codex is mentioned also in Steven Harvey and Charles H. Manekin, "The Curious Segullat Melakhim by Abraham Avigdor," in Ecriture et réécriture des textes philosophiques médiévaux. Mélanges offerts à C. Sirat, ed. Jacqueline Hamesse and Olga Weijers (Turnhout: Brepols, 2006), 215-52, on 252, and in Giovanni Tomasi and Silvia Tomasi, Ebrei nel Veneto orientale. Conegliano, Ceneda e insediamenti minori (Firenze: Giuntina, 2012), 168n687.

^{2.} Throughout this article, I refer to the desiccated amphibian I discovered in ROS 77 by the generic term "frog." The animal can be certainly classified in the order of anura, but

unlikely that a frog would accidentally have jumped inside a codex and ended up being imprisoned there for centuries. Therefore it is reasonable to suppose that the frog—like the other organic remains in ROS 77—were put inside the book deliberately, either by its seventeenth-century compiler and scribe, the Italian Jewish physician Avraham Joel Conegliano (1665-1745), or by some subsequent reader. What was the ultimate scope of these materials? Were the dried leaves, flowers, and the frog simply ornamental enhancements for the written text, a sort of visual explanation of the materia magica and medica mentioned in the codex? Or were they actual samples to be used during a specific magico-medical praxis?

In what follows, I present my preliminary research on the history of ROS 77, its compiler and scribe, and the frog captured in the manuscript.³ After an overview of the codex and its contents, I present biographical information about Avraham Joel Conegliano, attempting to understand some aspects of the cultural and intellectual milieu in which Jewish physicians operated and transmitted their knowledge in northern Italy at the end of the seventeenth century. Finally, extrapolating from the linguistic content and material features of the codex combined with the historical information on its compiler and scribe, and Jewish and non-Jewish traditions on the magico-medical use of frogs, I speculate on the meaning of the desiccated animal in the manuscript, hypothesizing that we are indeed facing the extraordinarily well-preserved remains of an early modern Italian frog acquired and disposed in the context of an active magico-medical tradition. Specifically, I argue that the finding of the frog and other organic material in the codex proves that medieval and modern magicians and intellectuals not only copied and transmitted magical knowledge, but also that they clearly put it into practice.

MS. ROS 77: STRUCTURE AND CONTENTS

ROS 77 is a low-quality paper codex of medium dimensions, which currently includes ninety-four leaves cut irregularly and filled with a dense and convoluted handwriting in Hebrew, Latin, Italian, and Italo-Romance, as well as in Latin Italian and Italo-Romance in Hebrew letters. Copied in Ceneda in 1682

in this stage of the research I am unable to indicate its exact species. For a hypothesis of identification with the Italian spadefoot toad, see below, 348-50n32.

^{3.} Within my project Jewish Remedia and Secreta in Renaissance Italy, I am working on the commented edition of selected sections from ROS 77 which I regard as representative of Hebrew secreta literature, on which see more below. I wish to express my profound gratitude to the Program in Judaic Studies at Yale University and I Tatti - The Harvard University Center for Italian Renaissance Studies for supporting my project during the academic years 2018-2021.

by Avraham Joel Conegliano, it is a miscellaneous anthology featuring both known and unknown texts.4 Between fols. 1r and 13v, the codex transmits a brief medical text known as Mavo' ha-Ne'arim (The introduction to the young), a Hebrew translation of a Latin medical work produced by the Jewish translator, philosopher, and physician Abraham ben Meshullam Avigdor of Arles at the end of the fourteenth century. Despite its title—which brought scholars to believe it was a translation of the Latin work Introductorium juvenum by the fourteenth-century physician Gerard de Solo-Mavo' ha-Ne'arim is actually Abraham Avigdor's translation of a different work by de Solo, the Libellus de febribus. 5 Between fols. 30r and 80v, ROS 77 includes another known medical text, Abraham Avigdor's Hebrew translation and commentary to the fourth book of ibn Sina (Avicenna), Canon of Medicine.6 The fourth book of the Canon concerns medical conditions and ailments affecting the entire body, including fevers. Conegliano's choice of copying in ROS 77 two famous treatises on fevers may reveal his interest in this specific sub-field of medicine, suggesting that he prepared the manuscript in the context of his medical studies at the University of Padua.7

^{4.} The codex preserves four colophons in Hebrew (fols. *i r, ii r, 26r and 89v) and one in Italian (fol. *i r). On fol. 89v lines 14-19, Conegliano indicates he copied the codex in the second half of 1682. If this information is to be trusted, Conegliano wrote the codex in his youth, possibly in preparation for his enrollment at the University of Padua or during his first years as a student of medicine. According to this interpretation, the Italian colophon, which reads "the great physician and philosopher Avraham Joel Conegliano" (line 21), would have been written at a later stage, once Conegliano became an accomplished physician.

^{5.} For a thorough overview of translations of scientific texts into Hebrew, see Mauro Zonta, "Medieval Hebrew Translations of Philosophical and Scientific Texts: A Chronological Table," in Science in Medieval Jewish Cultures, ed. Gad Freudenthal (Cambridge: Cambridge University Press, 2011), 17-73. For the edition of Mavo' ha-Ne'arim, see Lola Ferre, "La versión hebrea del tratado De febribus de Gerard de Solo," Miscelánea de Estudios Árabes y Hebraicos, Sección Hebreo, no. 45 (1996): 149–83.

^{6.} Fols. 78v, 85r (except for the first line), 85v, and half of 86v were left blank by Conegliano, possibly to be completed at a later time.

^{7.} See Iain M. Lonie, "Fever Pathology in the Sixteenth Century: Tradition and Innovation," Medical History Supplement, no. 1 (1981): 19-44, http://dx.doi.org/10.1017/ S0025727300070046, 20. Accessed November 30, 2020. On the curricula of the University of Padua in the early modern era, see David B. Ruderman, "The Impact of Science on Jewish Culture and Society in Venice (With Special Reference to Jewish Graduates of Padua's Medical School)," in Gli ebrei a Venezia. Secoli XIV-XVIII. Atti del convegno internazionale organizzato dall'Istituto di storia della società e dello Stato veneziano della Fondazione Giorgio Cini, Venezia, Isola di San Giorgio Maggiore, 5-10 giugno 1983 ed. Gaetano Cozzi (Milano: Edizioni Comunità, 1987), 417-48, especially 420-22.

Besides the two known medical texts discussed above, ROS 77 preserves three additional textual units, which to my knowledge are unknown. Two of them belong to the literary genre of synonym lists, that is "lexica or glossaries, in which technical medical terms in different languages are alphabetically arranged."8 The remaining textual unit occupies approximately one sixth of the entire codex and features a collection of remedia and practical recipes, among which is preserved the desiccated frog discussed in this article. Most of the recipes are gathered between fols. 18r and 27r, under the promising title "collections of works that were found and joined together." For its specific content, linguistic features, and the form in which it was assembled and organized, this anthology shall be regarded as an example of Hebrew secreta literature. 10 The great majority of its recipes exhibit a medical character: some

^{8.} From Moritz Steinschneider, "Zur Literatur der 'Synonyma'," quoted in Gerrit Bos and Guido Mensching, "A Medico-Botanical Glossary in Hebrew Characters of Italian Origin," in Die Chirurgie des Heinrich von Mondeville, ed. Julius L. Pagel (Berlin: Hirschwald, 1892), 582. On Hebrew synonymia literature, see idem, "Arabic-Romance Medico-Botanical Glossaries in Hebrew Manuscripts from the Iberian Peninsula and Italy," Aleph 15, no. 1 (2015): 9-61, http://dx.doi.org/10.2979/aleph.15.1.9. Accessed November 30, 2020. With extensive bibliography in 11-13n4; Gerrit Bos, Guido Mensching, and Julia Zwink, ed., Medical Glossaries in the Hebrew Tradition: Shem Tov Ben Isaac, Sefer Almansur: With a Supplement on the Romance and Latin Terminology (Leiden: Brill, 2017), especially 1-2.

^{9.} לקוטות מצאתים, fol. 18r, line 1; with the expression וחברתים, "and joined together," added in smaller cursive characters to the title, on the same line, presumably referring to the fact that he gathered remedies from many different sources and joined them together to form an anthology. The phrasing of the title is incorrect in Hebrew and preludes the many orthographic and grammar mistakes found in the anthology, many of which are influenced by Italian, Conegliano's mother tongue. A few other isolated recipes (fols. *i, 16v, 17, and 28v, lines 22-26), which were presumably copied at a later stage on pages or half-pages left blank in the manuscript, form a compact thematic unit with the magico-medical anthology.

^{10.} Secreta literature in vernacular circulated in manuscript form during the medieval era and was published in printed editions throughout Europe from the sixteenth century onwards; see John Ferguson, Bibliographical Notes on Histories of Inventions and Books of Secrets (London: Holland Press, 1959, 1st collected ed.); William Eamon, Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture (Princeton, N.J.: Princeton University Press, 1994); idem, The Professor of Secrets: Mystery, Medicine, and Alchemy in Renaissance Italy (Washington, D.C.: National Geographic, 2010). On Hebrew books of secrets, see Gerrit Bos, "Hayyim Vital's 'Practical Kabbalah and Alchemy': A 17th Century Book of Secrets," The Journal of Jewish Thought and Philosophy 4 (1994): 55-112; idem, "Moshe Mizrachi on Popular Science in 17th Century Syria-Palestine," Jewish Studies Quarterly 3, no. 3 (1996): 250-79. On Jewish professors of secrets, see Daniel Jütte, The Age of Secrecy: Jews, Christians, and the Economy of Secrets, 1400-1800, trans. Jeremiah Riemer

instruct on how to heal wounds and stop bleedings, some offer solutions against fevers, diarrhoea, haemorrhoids, epilepsy, intestinal and skin diseases, headache, toothache, earache, many different eye diseases, gynaecological and obstetrical concerns, and some even promise to cure sleep disorders. They are chiefly based on the magical manipulation of elements and, occasionally, on simple forms of linguistic magic. 11 While continuing the long and rich tradition of Jewish magic, 12 the magico-medical techniques featured in the anthology find close parallels in non-Jewish magical texts and collections of remedia, thus pointing to the acculturation of Jewish magic—and, more broadly, of Jewish culture—in Renaissance and Baroque Italy. The anthology also gathers cosmetic instructions and recipes for obtaining inks and colors, dyeing garments, and removing spots from clothes, which are less attested to in Jewish sources and are preserved, instead, in medieval and early modern manuals for craftsmen, glassmakers, and apothecaries in Romance vernaculars. 13 The collection of secrets is written in a very ungrammatical Hebrew deeply influenced by Italian and often employs a Latin/Romance terminology—especially

(New Haven: Yale University Press, 2015). I discuss Hebrew books of secrets in a forthcoming publication devoted to the analysis and partial edition of the collection of magico-medical recipes preserved in ROS 77.

- 11. By "linguistic magic" I refer to a set of magical acts that exploit the power of speech, either written or uttered; see Stanley J. Tambiah, "The Magical Power of Words," Man 3, no. 2 (1968): 175-208, http://dx.doi.org/10.2307/2798500. Accessed November 30, 2020.
- 12. For a thorough survey of Jewish magic, see Gideon Bohak, "Prolegomena to the Study of the Jewish Magical Tradition," Currents in Biblical Research 8, no.1 (2009):107-50, http://dx.doi.org/10.1177/1476993X09339445. Accessed November 30, 2020. The practical recipes in ROS 77 find several parallels in Jewish magical texts preserved in both medieval Genizah fragments and European Hebrew codices. Specifically, Liqutot maza'atim preserves traditions documented in two medieval Jewish compendia, Sefer Ha-Nisyonot (The Book of Experiences) and Sefer Ahavat Nashim (The Book of Women's Love), published in, respectively, Joshua O. Leibowitz and Shlomo Marcus, ed., Sefer Hanisyonot: The Book of Medical Experiences Attributed to Abraham Ibn Ezra (Jerusalem, Magnes Press: 1984), and Carmen Caballero-Navas, The Book of Women's Love and Jewish Medieval Medical Literature on Women (London: Routledge, 2004).
- 13. Close parallels to the magico-medical and chemical recipes in ROS 77 are found, for instance, in the fifteenth-century Italian magical codex, Paris, Bibliothèque nationale de France, ital. 1524, published in Florence Gal, Jean-Patrice Boudet, and Laurence Moulinier-Brogi, Vedrai mirabilia. Un libro di magia del Quattrocento (Roma: Viella, 2017), as well as in practical manuals for artists and apothecaries such as the so-called "Libellus of Chicago" from fifteenth-century Venetia, published in Adriano Caffaro and Giuseppe Falanga, Il libellus di Chicago. Un ricettario veneto di arte, artigianato e farmaceutica (secolo XV) (Salerno: ARCI Postiglione, 2006).

for what concerns the materia magica/medica and measure systems—which is usually given in Hebrew letters, but occasionally also in Latin characters. The anthology preserves several comments in the first-person singular, in which the compiler and scribe claims that a certain recipe is tested and efficient, or that he found alternative instructions in another source.¹⁴

AVRAHAM JOEL CONEGLIANO: PHYSICIAN, ILLUSTRATOR, RABBI

The richness of textual traditions merged in ROS 77—and, in particular, in its anthology of secrets—well reflects the sophisticated personality of the compiler and scribe, Avraham Joel Conegliano. Born in Ceneda in 1665, he was the offspring of a prominent Jewish family from northeastern Italy.¹⁵ His great-grandfather, Israel Coneian (1571-1643), was a wealthy merchant and banker in Conegliano and Ceneda (at the time territories under the Republic of Venice), well connected with the Venetian nobility and a leader of the local Jewish community. 16 Avraham Joel Conegliano, though, was born only a year before his grandfather went bankrupt and had to sell the bank in Ceneda. The first of six children, he was presumably raised in dire financial straits, due to the inherited family debts. 17 Nonetheless, he was able to carry out his studies

^{14.} Consider, for instance, ROS 77, fol. 17v, right margin, lines 2-5, where Conegliano specifies that: "This is a writing/ that I am not writing myself/ (but) that I found/ and I wrote it in the language/ (in) which I found (it)"; the note, encircled in a square, probably referred to a cosmetic-chemical recipe, at the end of which the author added a further comment: "And I use to add/ to it viridis iris (i.e. iris green) one ounce, cerusa two ounces, quicksilver one ounce," ibid., lines 7-9.

^{15.} Originally from Asti (Pidemont) and of German rite, the Conegliano (Cunian, Conian, Coneian, Coneglan, Conegliano) family included three main branches: the first settled down in Padua, the second in Conegliano (today Vittorio Veneto), and the third the branch from which Avraham Joel Conegliano descended—in the nearby hamlet of Ceneda; see Tomasi and Tomasi, Ebrei nel Veneto orientale, 129-39; 162-75. Emanuel son of Jeremiah Conian alias Lorenzo Daponte—the famous eighteenth-century librettist of Amadeus Mozart—was also a descendant of the Conegliano family; see ibid., 175.

^{16.} Owner of loan banks in Conegliano and Ceneda and a good friend of the famous scholar and kabbalist Yehudah Aryeh (Leon) Modena (1571–1648), Israel Coneian opened a Talmudic academy in his house, personally funding the associated boarding school; see Federico Luzzatto, "La comunità ebraica di Conegliano Veneto ed i suoi monumenti," La Rassegna Mensile di Israel 22, no. 5 (1956): 72-80; Tomasi and Tomasi, Ebrei nel Veneto, 39; 121; 107-8; 162-65.

^{17.} When Conegliano's sister Rachele was to be married in 1700, not only did their father have to ask for a loan to pay her dowry, but their mother had to guarantee the loan using her own dowry. Similarly, in 1686—the year Avraham Joel graduated from the University of Padua—his mother was forced to pay 1200 ducats and give up her jewels to

at the Universitas Artistarum in Padua, obtaining his doctoral degree in philosophy and medicine in March 1686 and the license to practice medicine in 1714. Considering that the duration of the course at the medical school in Padua was at least five years, Conegliano must have begun his degree around the year 1681, which places the writing of ROS 77 at the beginning of his academic iter. 18 Conegliano must have been an intelligent and committed youth to be able to adjust to and fit in with the new reality of the cosmopolitan Paduan Athenaeum, coming from the provincial Ceneda. 19 On a more practical basis, though, he was aided financially by the prominent Paduan Jewish physician Laudadio Romanin (1648–1703), who had received his doctorate in philosophy and medicine exactly twenty years before him.²⁰ Solidarity between Jewish physicians and students of medicine was a common phenomenon at the University of Padua, where networks between Jewish professionals lasted even after they ended their studies and left the city. 21 Whether Laudadio Romanin was first moved by philanthropic aims or not, however, he requested a refund of the money he had given towards Conegliano's schooling just a few months after his graduation, initiating a litigation with the youth's father, who was forced to pay back the sum of eighty ducats in 1689.²²

pay her husband's debts; see Tomasi and Tomasi, Ebrei nel Veneto, 167-68, especially notes 682 and 683.

- 19. Ruderman, "The Impact of Science on Jewish Culture and Society in Venice," especially 419 and 422-23.
 - 20. Tomasi and Tomasi, Ebrei nel Veneto, 99n391.
- 21. Ruderman, "The Impact of Science on Jewish Culture and Society in Venice," 423 - 24.
- 22. After winning the litigation, Romanin transferred the credit to one of his patients, the noble Pietro Querini, who requested the effective payment in 1689 by suing Conegliano's father; see Tomasi and Tomasi, Ebrei nel Veneto, 99n391.

^{18.} On the University of Padua and the experience of Jewish students there, see Ruderman, "The Impact of Science on Jewish Culture and Society in Venice," 419. In 1686 the same year he graduated—Conegliano was arrested by the Inquisition for selling forbidden books of magic to Christians; see Federico Barbierato, Nella stanza dei circoli. Clavicula Salomonis e libri di magia a Venezia nei secoli XVII e XVIII (Milan: Bonnard, 2002), 309; Jütte, The Age of Secrecy, 89. Federico Barbierato and Daniel Jütte both refer to Conegliano as "Joel Abram Coniano," presumably following the name reported in the Inquisitorial file. Considering that the spelling of the surname Conegliano included the variants "Cunian, Conian, Coneian, and Coneglan" (see Luzzato, "La comunità ebraica," n. 1 on 121), I believe the individual identified by Barbierato was the writer also of ROS 77. On the Jewish commerce of arcana and secrets, see, for instance, the case of Leon Modena, discussed in Jütte, The Age of Secrecy, 49; Mark R. Cohen, The Autobiography of a Seventeenth-Century Venetian Rabbi: Leon Modena's "Life of Judah" (Princeton, N.J.: Princeton University Press, 1988), 162; on the biography and literary production of Modena, see Yaacob Dweck, The Scandal of Kabbalah: Leon Modena, Jewish Mysticism, Early Modern Venice (Princeton, N.J.: Princeton University Press, 2011).

Possibly due to the legal contention into which he had —intentionally or not—dragged his father, Conegliano's relationship with his family worsened and he left Ceneda around the year 1690.²³ He settled down in his maternal hometown Verona, where he soon became a respected physician, rabbi, and intellectual. He participated in at least one Christian-Jewish dispute, during which he responded with an essay to the anti-Judaic writing Saette di Gionata by the priest Luigi Maria Benetelli.²⁴ Before his death in 1745, Conegliano wrote several medical anthologies in Latin and Italian which include descriptions of specific diseases as well as medical cases that he solved.²⁵

Conegliano compiled the magico-medical miscellanea preserved in ROS 77 at the beginning of his academic studies and presumably referred to it also later in his life. The codex shows Conegliano's assimilation to the culture and language of the Republic of Venice, but also his fierce preservation of his own Jewish heritage. Well-versed in both Italian and Hebrew, Conegliano was an active observer and professional of normative Jewish religion and yet he clearly showed some expertise in Jewish esoteric traditions. He did not refrain from exploring non-Jewish bodies of technical knowledge, consulting and copying from books in Latin and Italian vernaculars and adopting the related foreign terminologies. First a student of medicine and then a renowned physician, he built his knowledge on both theoretical medical treatises, which constituted the curricula of early modern universities, and collections of magical remedia and secrets. Like many other Italian Jewish physicians and intellectuals, he participated in a cultural renaissance of Jewish thought with which they attempted to reaffirm their Jewish rabbinic, occult, and kabbalistic learning by integrating it with empirical study.²⁶

^{23.} The sources remain silent on whether Romanin initiated the litigation in accordance with Avraham Joel Conegliano's wishes as part of a scheme of the latter to pursue and fund his medical studies, or alone after entering in conflict with the young graduate, or due to a sudden financial crisis. In her testament of 1713—and, more specifically, according to the first draft written in 1710—Conegliano's mother left Avraham Joel Conegliano only fifty ducats, explicitly stating that he had already left the household twenty years ago and that his siblings—not he, the physician!—took care of her during her illness; see Tomasi and Tomasi, Ebrei nel Veneto, 167n683.

^{24.} Giovanni Bernardo De Rossi, Bibliotheca Judaica antichristiana, qua editi et inediti Judaeorum adversus Christianam religionem libri recensentur (Parma: Ex Regio Typographeo, 1800), 27, entry n. 31.

^{25.} Harry Friedenwald, Jewish Luminaries in Medical History (Baltimore: Johns Hopkins University Press, 1946), 60-61; unfortunately, I was not able to view these manuscripts, which are currently held in a special collection at the National Library of Israel and have not yet been digitized. For the year of the death of Avraham Joel Conegliano, I follow Tomasi and Tomasi, Ebrei nel Veneto, 168.

^{26.} David B. Ruderman, Kabbalah, Magic and Science: The Cultural Universe of a Sixteenth-Century Jewish Physician (Cambridge, Mass.: Harvard University Press, 1988), where the

Conegliano's multi-layered mental world resurfaces in another outstanding manuscript, which educates on the encounter between Jewish and Italian culture and presents a fascinating story of tradition, discovery, and art. The paper codex Ashburnham 200 (hereafter, ASH 200), preserved at the Laurentian Library in Florence, is a work in three volumes —for a total of more than a thousand folia—titled Icones Animalium and illustrated by Conegliano in the seventeenth century.²⁷ It features illustrations of animals —snakes, quadrupeds, birds, cetaceans, fish— as well as monstrous creatures, accompanied by brief descriptions in Latin. Most of the drawings are in ink, but some pictures left uncompleted in the second volume reveal that the illustrator first drew with pencil and only after with ink. On the first folio of the first volume a note written in the same handwriting of the colophon in Italian in ROS 77, fol. *i r, reads: "Dal Dottore celebre Abram Joel Conegliano. Disegnati da lui" ("From the eminent physician Abram Joel Conegliano. Illustrated by him"; see Figs. 1a-b).

While the note suggests that at the time Conegliano was already a wellknown physician, we cannot exclude the possibility that he actually illustrated the manuscript in his youth when he was still in Ceneda, as we have already noted in the case of ROS 77. From my preliminary analysis, Icones Animalium seems deeply indebted to the first illustrated books on natural history, which began to be published in the sixteenth century. More specifically, the section on monstrous creatures in Conegliano's work, which includes approximately twenty folia added in the second volume, seems a copy of a selection of images from the famous work Monstrorum Historia by Ulisse Aldrovandi (1522–1605), published posthumously in 1642 (see Figs. 2a-b). ²⁸ Conegliano's sketches of monstrous creatures carefully follow the order of the woodcut illustrations in Monstrorum Historia. However, the text that accompanies the images in Icones Animalium corresponds to only small portions of the long

author suggests that this effort concealed the psychological need of learned Italian Jews to be culturally and socially accepted in a period of growing anti-Semitism.

^{27.} See Ministero della Pubblica Istruzione, Indici e cataloghi, VIII. I Codici Ashburnhamiani della Biblioteca Mediceo-Laurenziana di Firenze (Rome, 1888), Vol. 1, Fasc. 3, 205-6. ASH 200 has not yet enjoyed the scholarly attention it deserves. Unfortunately, I was not able to view the codex in preparation for this article and my observations are based on the black and white scans of selected folia from the microfilm kindly obtained thanks to the courtesy of the Biblioteca Medicea Laurenziana.

^{28.} Ulisse Aldrovandi, Monstrorum historia. Préface de Jean Céard (Paris: Les Belles Lettres; Torino: Nino Aragno editore, 2002; first published, Bologna, 1642). On the work of Ulisse Aldrovandi, see Giuseppe Olmi and Fulvio Simoni, ed., Ulisse Aldrovandi. Libri e immagini di storia naturale nella prima età moderna (Bologna: Bononia University Press, 2017).



Figure 1a Colophon in Italian; ROS 77, fol. *i r, detail. Reproduced by kind permission of the Syndics of the Bibliotheca Rosenthaliana, Allard Pierson, University of Amsterdam

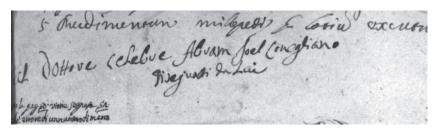


Figure 1b Colophon in Italian; ASH 200, vol. 1, fol. 1r. Reproduced by kind permission of the Syndics of the Biblioteca Medicea Laurenziana.

descriptions in Latin of the births and identifications of monstrous creatures in Aldrovandi's work.²⁹ It is possible that Conegliano worked as an illustrator on commission to sustain himself before obtaining the license in medicine and starting his career as a physician. He might have trained in the art of drawing and illustrating during his medical studies in Padua, as physicians and students of medicine used to copy and illustrate manuscripts pertaining to medicine. Furthermore, many classical medical treatises that still formed the academic library of students of medicine at this time, such as Avicenna's Canon

^{29.} ASH 200, Vol. 2, fol. 159-8v features a brief section from Aldrovandi, Monstrorum historia, 351; fol. 159-9v, a brief section from Aldrovandi, Monstrorum historia, 353.



Figure 2a Monstra Niliaca Parei; ASH 200, vol. 2, fol. 159r (8th folium added), detail. Reproduced by kind permission of the Syndics of the Biblioteca Medicea Laurenziana.



Figure 2b Monstrum Marinum rudimenta habitus Episcopi referens; ASH 200, vol. 2, fol. 159r (10th folium added), detail. Reproduced by kind permission of the Syndics of the Biblioteca Medicea Laurenziana.



Figure 3 Drawing of a supernatural creature (?); ROS 77, fol. 89v, detail. Reproduced by kind permission of the Syndics of the Bibliotheca Rosenthaliana, Allard Pierson, University of Amsterdam.

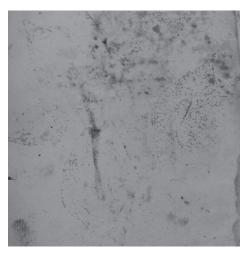


Figure 4 Impression of leaves; ROS 77, fol. 15r, detail. Reproduced by kind permission of the Syndics of the Bibliotheca Rosenthaliana, Allard Pierson, University of Amsterdam.

of Medicine, included excerpts on animals and sometimes even illustrations. What is certain is that *Icones Animalium* well reflects Conegliano's interest for the natural world and its secrets, an interest documented also in ROS 77, which preserves organic remains and even a rough sketch of what seems to be an extraordinary creature of the type found in ASH 200 (see Fig. 3).

ORGANIC MATERIALS IN MS. ROS 77: A SEVENTEENTH-CENTURY ITALIAN FROG

Most of the pages in ROS 77 are heavily stained not only with ink, but also with different liquids and organic materials, thus suggesting a practical use of the book. Specifically, most of the signs left on the folia are impressions of leaves and flowers which were once placed in the codex. On certain pages one can observe the shape of a single leaf, on others of a couple of leaves and, in a few instances, even of an entire bunch of leaves/flowers (see Fig. 4).³⁰ Based on their impression left on the folia, most of the leaves dried in the book were of medium dimensions, rounded or oblong-shaped. The manuscript includes also a few leaves fully preserved in all their materiality. Three small-medium, triangular-shaped leaves welcome the reader at the incipit of the manuscript between fol. *i v and fol. ii r, while a stem with what remains of three pinnatifid medium-small leaves closes the codex between fol. 92v and the endpaper (see Fig. 5). A small flower, possibly baby's breath (Gypsophila), is preserved on fol. 24v. Despite the variegated array of plants and vegetal species indicated as materia medica in the different textual excerpts of the codex, the actual leaves and flowers found in ROS 77 as well as the impressions of other vegetal remains left on the pages seem quite ordinary. Furthermore, their collocation within the manuscript seems unrelated to the content of the text.³¹ These observations, though, do not exclude the possibility that the vegetal material found in the manuscripts had been collected for magico-medical purposes.

The most remarkable organic remain preserved in the manuscript is a frog, which is now part of fol. 21r, placed on the left of the page between lines 12 and 16 (see Fig. 6). Although the small amphibian is squashed almost completely flat on the page—its liquids must have dried throughout the centuries—its entire body is still well recognizable with the backbone, hindlimbs, and toes as well as the left forelimb particularly well preserved. Remarkably, its bluish-greenish color is still evident.³² A pointing finger is placed in the left

^{30.} Impressions of leaves can be found on fols. *ir, 27r, 29v, 43v, 48v, 49r, 62r, 65v, 80v, 88v, 89r, 90r and v, 91v, 92r; impressions of bunches of leaves on fols. 2r, 16r, 50r, 83r; the impression of flowers on fol. 84v.

^{31.} An exception may be represented by the collocation of the small flower (Gypsophila?) on fol. 24v: The plant is placed between lines 28 and 29, in the middle of a recipe for the "suddenly disappeared (?)" (לנאלם פתום) which mentions the "plant rigmar" (עשב ריקמר; line 29).

^{32.} With the legs half stretched, the desiccated anurian is approximately 2.4 cm long. It may be identifiable with the European spadefoot toad (pelobates fuscus)—popularly known also as garlic toad due to the garlic-like smell of the toxic skin secretions it exudes when alarmed—and, specifically, with its subspecies pelobates fuscus insubricus or Italian

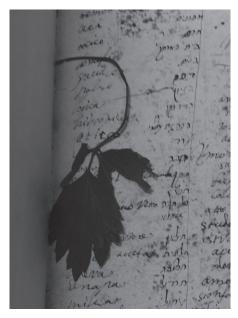


Figure 5 Remains of leaves; ROS 77, fol. 92v, detail. Reproduced by kind permission of the Syndics of the Bibliotheca Rosenthaliana, Allard Pierson, University of Amsterdam.

spadefoot toad. The pelobates fuscus insubricus is endemic to northern Italy, and its historical and contemporary distribution includes also several locations in Venetia, in the provinces of Verona, Padua, and Venice, where Avraham Joel Conegliano and his descendants were active; on the distribution of the pelobates fuscus (insubricus) in Italy, see Franco Andreone, Paolo Eusebio Bergò, Stefano Bovero, and Enrico Gazzaniga, "On the edge of extinction? The spadefoot *Pelobates fuscus* insubricus in the Po Plain, and a glimpse at its conservation biology," Italian Journal of Zoology 71, no. 2 (2004): 63-64, https://doi.org/10.1080/11250 003.2004.9525563. Accessed December 1, 2020. Like the nominal subspecies, the pelobates fuscus insubricus is difficult to see, as it is terrestrial and fossorial throughout the year, and it is observable in epigeal activity almost exclusively during the mating season (end of March-beginning of April), when it becomes aquatic; Franco Andreone and Roberto Piazza, "A bioacoustic study on Pelobates fuscus insubricus (Amphibia, Pelobatidae)," Italian Journal of Zoology 57, no. 4 (1990): 341-49. When heavy rains come in the spring, these toads "magically" appear—usually, in large breeding aggregations—and then disappear within a day or two, but they may skip several years if the proper rains do not come. When they are dug up from the ground, they seem dead until they get wet and then "awaken." Due to this peculiar behaviour and the toxicity of skin secretions in adults, this (sub)species of toad may have been regarded as useful in magico-medical preparations and rituals at the time of Conegliano and the following owners of the codex. Yet the

margin, near the frog, though it is not clear whether it refers to the animal or the text underneath.³³ The body of the frog covers part of a remedy against eye pain and toothache copied in lines 12-14, thus suggesting that the animal was placed in the book after the text of the recipe had already been written. The recipe is apparently unrelated to frogs, as it instructs the user to take pure frankincense, myrrh, and semolina and knead them with albumen, in order to obtain a bandage to place on the wound.³⁴ Likewise, according to my preliminary review of the manuscript, it seems that frogs are not mentioned in the rest of the magico-medical anthology, in contrast to the reference to many other animals and animal parts, for example snails, hare dung, gazelle horn, pig fat. As we shall see, this does not necessarily imply that the frog in ROS 77 was not caught and dried for magico-medical purposes, nor that the pointing finger referred to the text only.

Frogs have enjoyed a great popularity within magical and medical traditions across cultures and time. The intriguing use of burying frogs in little coffins under the floor of churches in late-nineteenth- and early-twentiethcentury Finland is only one of the many examples of how this animal or part of it has been exploited in magical and prophylactic techniques.³⁵ The fact

hypothesis of identification of the desiccated anurian in ROS 77 with an example of pelobates fuscus (insubricus) requires confirmation; a better examination and possibly a high-resolution CT scan of its remains would be instrumental in determining the presence of a "spade" projecting from the inside of each hind foot and the absence of parotid glands, which would be determinant in excluding other genera and species.

- 33. The manuscript preserves the drawing of another manicule on fol. 21v, lines 6-8, which points to two recipes against toothache copied in lines 1-7.
- 34. Although it seems unlikely, a reference to the frog may have been originally transmitted in the portion of text which is now covered by the dried animal.
- 35. For the archaeological findings of the "coffin frogs," see Sonja Hukantaival, "Frogs in Miniature Coffins from Churches in Finland: Folk Magic in Christian Holy Places," Mirator 16, no. 1 (2015): 192-220, https://doi.org/10.1080/17432200.2018.14438 93. Accessed December 1, 2020. For magical and therapeutic uses of frogs in the ancient world, see for instance the use of a frog's tongue in a spell for catching a thief in P(apyri) G(raecae) M(agicae) V.172-212 and in a restraining spell in in PGM X.36-50, for which see Hans Dieter Betz, ed., The Greek Magical Papyri in Translation. Including the Demotic Texts (Chicago: University of Chicago Press, 1986), 104 and 150, respectively. Another restraining spell preserved in PGM XXXVI.231-255 instructs, instead, to cut open a frog and, before stitching it up, to insert in its stomach a lead lamella, which has been previously inscribed with an adjuration and smeared with bat blood; a recipe for contraceptive in PGM XXXVI.320-332 prescribes, among other things, to catch a frog alive and, before releasing it, to put in its mouth bitter vetch seeds, which have been previously steeped in the woman's menstruation and in her genitals; see ibid., respectively, 274–75 and 277. A medieval parallel can be identified in the use of placing the tongue of a frog



Figure 6 Remains of a frog; ROS 77, fol. 21r. Reproduced by kind permission of the Syndics of the Bibliotheca Rosenthaliana, Allard Pierson, University of Amsterdam.

that Jewish law regards amphibians like frogs and toads as impure animals (e.g. Leviticus 11:29; bHullin 127a) has not been a deterrent against their use in

under an onyx stone in a ring to dismiss demons and evil spirits; see Lauri Ockenström, "Demons, Illness, and Spiritual Aids in Natural Magic and Image Magic," in Demons and Illness from Antiquity to the Early-Modern Period, ed. Siam Bhayro and Catherine Rider, (Leiden: Brill, 2017), 291-312, on 299.

magico-medical practices and in the preparation of drugs within Jewish culture.36

More specifically, frogs were often used in Jewish erotic and aggressive magic.³⁷ The medieval Jewish magical compendium known as Sefer Ahavat Nashim (The Book of Women's Love) offers several strategies "to bind a man so that he cannot lie with any other woman besides his wife." One of those instructs the user to "take a frog (צפרדע) and bind it with seven knots, and say over each one: 'may the above-mentioned man be like a single man'; bury all this in the earth and he will be bound all the time it is buried there."38 A much later Jewish recipe for erotic magic instructs users to bury a frog in the earth, leaving it to decompose for a week, so that one will be able to take the animal bones, test them in a vessel of water—those floating are meant for love, those sinking for hate—and use them to touch the chosen victim, either to instill love or hatred.³⁹ A slightly less harmful tradition associated with love magic and involving the use of frog remains concerns the retrieval of information from a sleeping woman, or more rarely from a sleeping man. 40 A medieval version of this use is documented on a Genizah bifolium which instructs:

^{36.} Frogs appear also in Jewish fairy tales, such as in the story of Rabbi Hanina and the frog; see Louis Ginzberg, The Legends of the Jews, trans. Henriette Szold, 7 vols., Vol. 1 (Philadelphia: Jewish Publication Society of America, 1909-38), 118-20; Vered Tohar, "'Rabbi Hanina and the Frog': An Ancient Ashkenazi Story Adapted for Children by Asher Barash," Jerusalem Studies in Jewish Folklore 31 (2018): 19-40.

^{37.} On Jewish erotic magic, see Ortal-Paz Saar, Jewish Love Magic: From Late Antiquity to the Middle Ages (Leiden: Brill, 2017); on Jewish aggressive magic, see Yuval Harari, "If You Wish to Kill a Man: Aggressive Magic and the Defence against it in Ancient Jewish Magic," Jewish Studies 37 (1997):111-42 (Heb.); on Jewish oneiric aggressive magic, a subgenre of the latter, see Alessia Bellusci, "Oneiric Aggressive Magic: Sleep Disorders in Late Antique Jewish Tradition" in Bhayro and Rider, Demons and Illness from Antiquity to the Early-Modern Period, 134-74.

^{38.} Caballero-Navas, The Book of Women's Love, 114; for the Hebrew text, see ibid., 115. The magical procedure is actually more complex, as it requires one to procure also seven colored silk threads and bind them with knots while reciting magical formulae; similarly, the recipe provides instructions to release the victim from the spell, i.e. by burning all the buried material while reciting a rescinding formula.

^{39.} Reginald Campbell Thompson, "The Folklore of Mossoul," Proceedings of the Society of Biblical Archaeology 28 (1906):76-86; 97-109; 29 (1907):165-74; 282-88; and 323-31, where the author discusses, edits, and translates a magical manuscript seen at Mosul at the turn of the twentieth century; for the transcription of the recipe, see ibid., 284, while for the English translation, 287.

^{40.} Recipes for inducing women, usually wives, to speak freely in their sleep are very common in Jewish magic. They were often aimed at satisfying the curiosity or anxiety of

"To test and examine a woman('s conjugal conduct): take the tongue of a frog while it is still alive and let it be and place the tongue between (literally, inside) the breasts of the woman while she sleeps and she will confess everything."41 A later gender-free version of the same recipe, which is transmitted in a manuscript collection of practical remedies authored by the sixteenth-century kabbalist Hayyim Vital, instructs the user to place the tongue of the frog on the clothes of the sleeping person, opposite his heart.⁴²

Turning to Jewish aggressive magic, the slaughter and burial of a frog is documented in a recipe in Judeo-Arabic for "sending fire" preserved on a fourteenth-century Genizah fragment of miscellaneous content.⁴³ The text instructs users to write a spell based on different angelic names on a piece of parchment and put it in the mouth of a frog-the term is indicated in Judeo-Arabic, both in Hebrew (צ'פדע) and Arabic (ضفدع) characters—before stitching

- 41. Cambridge, Cambridge University Library, T-S K 1.112r, left side of the bifolium, lines 9-11 (mostly unpublished). The fragment originally belonged to a magico-medical formulary possibly translated in Hebrew from a foreign language, which also includes a recipe for discovering the cause of a person's insomnia featuring a formula derived from Latin/Italo-Romance, as well as a recipe for causing insomnia based on a Christian/ Anglo-Norman spell which refers to Caspar, Melchior, and Balthazar, the latter published in Katelyn Mesler, "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. Volume One: Studies, ed. Resianne Fontaine and Gad Freudenthal (Lieden: Brill, 2013), 161-218, on 182-83. For similar instructions, see also Cambridge, Cambridge University Library, T-S K 14.33v, lines 5-7 (unpublished): "If you scatter on the bed of the woman frog fat without she knowing it, when she sleeps she will tell you everything she did."
- 42. Jerusalem, The Ben Zvi Institute, 2675 (Moussaieff collection, 176; from now on, Ben Zvi 2675), fol. 59r, published in Hayyim Vital, Sefer ha-Pe'ulot (Jerusalem: 2010) (Heb.), 172; the recipe is translated in Bos, "Hayyim Vital's 'Practical Kabbalah and Alchemy," 72.
- 43. Cambridge, Cambridge University Library, T-S A(dditional) S(eries) 143.64r, lines 15-23. For dating, I follow Gideon Bohak and Klaus Herrmann, "Tefillat Rav Hamnuna Sava: Genizah Fragments and Medieval Manuscripts," in Envisioning Judaism: Studies in Honor of Peter Schäfer on the Occasion of his Seventieth Birthday, ed. Ra'anan S. Boustan et al., 2 vols., Vol. 1 (Tübingen: Mohr Siebeck, 2013), 637-55, on 641. The aggressive magical recipe is discussed in Gideon Bohak, "Magic in the Cemeteries of Late Antique Palestine," in Expressions of Cult in the Southern Levant in the Greco-Roman Period: Manifestations in Text and Material Culture ed. Oren Tal and Zeev Weiss (Turnhout: Brepols, 2017),163-80, on 168.

a jealous husband regarding his wife's conjugal conduct, enabling him to discover whether she cheated on him or stole from him.

it up and burying the animal in or nearby a new grave. 44 A similar procedure is described in a recipe in Judeo-Arabic, aimed at harming an enemy, transmitted in a fifteenth-century Hebrew codex from the Byzantine area, which specifies that to make a victim sick, one should throw a frog (Judeo-Arabic, וצ'פדע) in the river, whereas to kill him, one should bury the animal in an oven. 45 The manuscript preserves an additional recipe for this purpose, which instructs the user to take a "river frog" (צפרדע מן הנהר), slaughter it, and write with its blood magical names together with the personal name and patronymic of the enemy—presumably on a piece of parchment—before burying everything under the chosen victim's threshold. 46 A recipe for killing an enemy with a frog is transmitted also by Hayyim Vital, who prescribes for the user to "take a male frog when your enemy is a man, and a female one when your enemy is a woman; sew up its mouth and eyes and all of its orifices and say: 'As I bind and sew up this frog, so may all the orifices of so-and-so be sewed up and closed.' Throw the frog under the bed, and as it gradually shrinks, so will your enemy until he dies."47 A similar recipe—according to which one should cut the head, the arms, and legs of a frog (צפרדע) and bury the mutilated animal in the house of the hated victim while cursing him—was

^{44.} The recipe includes instructions to release the victim by exhuming and burning the frog. This implies that the animal had to be buried in a place and in a manner so that users could easily unearth it; see Bohak, "Magic in the Cemeteries of Late Antique Palestine," 168. Similarly, if the spell could be reverted, this means that the scope of the magical aggression was not extreme as in other recipes specifically aimed at killing an enemy, on which see below. In the context of aggressive or erotic magic, the instruction of burying a frog (טמור בתיה בקברא\צפרדיע) is documented also on a very fragmented Genizah specimen, i.e. Cambridge, Cambridge University Library, TS AS 142.35v, lines 3-4.

^{45.} New York, Public Library, Hebrew Collection, 190 (from now on, NY 190), 104, lines 6-13. The recipe is reproduced in Gideon Bohak, A Fifteenth-Century Manuscript of Jewish Magic: MS New York Public Library, Heb. 190 (Formerly Sassoon 56). Introduction, Annotated Edition and Facsimile, 2 vols., Vol. 2 (Los Angeles: Cherub Press, 2014) (Heb.), 104, while for the annotated transcription, see Vol. 1, 146.

^{46.} NY 190, 183, lines 29-32. The recipe is reproduced in Bohak, A Fifteenth-Century Manuscript of Jewish Magic, Vol. 2, 183; for the annotated transcription, see Vol. 1, 225. The use of patronymics in Jewish magic is quite rare; for individuals mentioned in Jewish magical texts from the Cairo Genizah either by their patronymic or by both their matronymic and patronymic, see Ortal-Paz Saar, "Success, Protection and Grace: Three Fragments of a Personalized Magical Handbook," Ginzei Qedem 3 (2007): *101-*35, on *126-*27; Gideon Bohak and Ortal-Paz Saar, "Genizah Magical Texts Prepared for or against Named Individuals," Revue des études juives 174, no. 1 (2015): 77-110, https://doi. org/10.2143/REJ.174.1.3082879, on 81–82. Accessed December 1, 2020.

^{47.} Ben Zvi 2675, fol. 69r; Vital, Sefer ha-Pe'ulot, 209; translation according to Bos, "Hayyim Vital's 'Practical Kabbalah and Alchemy," 76.

later published by the Aleppian kabbalist Rav Avraham Shalom Hai Hamuy (1838-86).48

Frogs were also instrumental in capturing the attention of the magician's public in tricks such as the following:

Make a hole in a wall, put a live frog in it, seal it well, leaving a small hole no larger than an eye in it. Draw on the outside of the wall the form of a crow in a way that its eye will be exactly in the place of the hole. Put a burning lamp close to that hole, and when the live frog in the hole sees the lamp it will croak loudly. The listeners, however, will think that it is the crow which has been drawn on the wall that is croaking.⁴⁹

The magical uses of frogs reviewed so far do not seem to apply, though, to the specific frog dried in ROS 77. While we cannot exclude the idea that Avraham Joel Conegliano or the subsequent owners of the codex dabbled in erotic-aggressive magic or in the creation of optical illusions, the specific technique of conservation of the frog—that is, desiccation in a book—makes improbable its use in the above-mentioned practices, which required that the animal be kept alive during at least certain stages of the magical procedure. Similarly, taking into account the practical and medical nature of most of the recipes registered in ROS 77, it seems more likely that medical or cosmetic remedies instructing the burning or maceration of frogs inspired one of the intellectuals who engaged with the codex to include the body of the amphibian within his anthology.⁵⁰ Techniques based on the use of dead frogs or frog remains would have allowed them to catch the animal in advance and preserve it in the manuscript, waiting for the right circumstance to use it in an actual magico-medical praxis.

Different frog remains are listed already in an early pharmacopeia preserved on a tenth to eleventh-century Genizah bifolium which once belonged to a

^{48.} See Nissim Hamawy, "Rabbi Avraham Hamuy (1838-1886) and his place in Modern Jewish Magic" (Ph.D. diss., Tel Aviv University, 2014) (Heb.), 441.

^{49.} Ben Zvi 2675, fol. 66v; Vital, Sefer ha-Pe'ulot, 199; translation according to Bos, "Hayyim Vital's 'Practical Kabbalah and Alchemy," 65. An earlier version of the recipe was published by Leon Modena (1571-1648) in 1594 in his collection of riddles and practical remedies, Sod Yesharim (The secret of the righteous): "For drawing a crow on the paper and make it croak. Take a green frog and put it in a hole in the wall and put in it a little fire. And afterwards, put the paper on which you drew the crow on the hole and the frog will croak and everyone will think that the crow is croaking." Leon Modena, Sod Yesharim (Jerusalem: 1880) (Heb.), 3, no. 11; translation mine. I am currently preparing an annotated edition and English translation of Sod Yesharim.

^{50.} For this same reason, I do not discuss here magico-medical remedies based on the use of living frogs, although they are well documented in the Jewish magical tradition.

magico-medical formulary characterized by several foreign loanwords, especially from Greek. 51 According to this source, the eye of a frog (עין צפרדע) presumably, tied on the user's body in an amulet (עליו, "on him")—is useful against the fear of wolves.⁵² Similarly, the different body parts of a desiccated desert frog (צפרדע מדברית) offer several medical benefits: the big bone of the amphibian seems to be useful in treating arrhythmia, as well as in assisting women to conceive, while an amulet fabricated with frog legs macerated in water seems effective for curing arm or leg sprains.⁵³

Frogs were used also in cosmetic preparations to enhance the volume and health of the hair. Among different recipes for making hair grow, Sefer

^{51.} Cambridge, Cambridge University Library, T-S K 14.15 (unpublished); other fragments that originally belonged to the same magico-medical formulary are, Cambridge University Library, T-S N(ew) S(eries) 322.10, T-S K 1.146, and T-S K 1.157, published in Magische Texte aus der Kairoer Geniza, Texts and Studies in Ancient Judaism 42, 64, 72, ed. Peter Schäfer and Shaul Shaked, 3 vols. (Tübingen: Mohr Siebeck, 1994, 1997, 1999), Vol. 1, 83-132, which I follow for the dating of the fragment; see especially 83. In his reconstruction of substances of animal origin used in the Levant from the medieval era to the present day, Ephraim Lev indicates that frogs are documented only from the sixteenth century onwards and, specifically, in Hayyim Vital's writings and in eighteenth-century Franciscan lists; see Efraim Lev, "Traditional healing with animals (zootherapy): medieval to present-day Levantine practice," Journal of Ethnopharmacology 85, no. 1 (2003): 107-18, http://dx.doi.org/10.1016/S0378-8741(02)00377-X. Accessed December 1, 2020. especially table 2 on 115; idem, "Healing with animals in the Levant from the 10th to the 18th century," Journal of Ethnobiology and Ethnomedicine 2 (2006): 1-9, http://dx.doi. org/10.1186/1746-4269-2-11. Accessed December 1, 2020. table 2 on 5. Yet T-S K 14.15 which can be regarded as a medicinal-magical text rather than a proper medical text of the type examined by Lev-documents a far earlier use of frogs for medicinal-magical purposes.

^{52.} T-S K 14.15r, left side of the bifolium, lines 6-7. Remarkably, some of the remedies that precede and follow the present instruction are based on the use of wolf remains.

^{53. &}quot;A desert frog put to dry: and the big bone which is found in it, (if) it is put in a cauldron, but not boiled, and you shall tie (it) to the heart (literally, on the wall), and it will be silent (from arrythmia); And (if) you pound (the big bone of the frog and put it) in the mouth of a woman, she will conceive (literally, and pound the woman in her mouth); and cut its legs (in) two and throw them in the water and after three days tie them (in an amulet) for the sprain of his arm and leg; and put the candle in the place of the frogs,"T-S K 14.15r, left side of the bifolium, lines 11-14. Due to the complexity of the text, the translation I offer is very tentative. Although the two sources are unrelated from an historical perspective, compare the instruction of putting the frog's bone in a cauldron without boiling it, documented in T-S K 14.15, with a similar procedure transmitted in a popular Sicilian remedy against nosebleed, in Filippo Majorana, "Medicina popolare di Erice (Trapani)," Lares 6, no. 4 (1935): 283-91, on 284.

Ahavat Nashim adds the following: "Another remedy: burn small green frogs (צפרדעים קטנים ירוקים), make a cleanser (from the ashes) and wash the head."54 Similar traditions are transmitted also in early modern Jewish sources which instruct, for instance, to "burn a frog, mix it with olive oil, and smear it on the head" to cure alopecia, or to mix oil of frogs with tortoise fat and almond oil to produce a balsam aimed at growing hair.⁵⁵ The use of frogs for cosmetic purposes and, specifically, for either growing hair or removing hairs is documented also in Italian collections of secrets. For instance, among many recipes for dyeing, growing, and removing hair(s), the so-called Ricettario Galante, an early-sixteenth-century manuscript from northern Italy, transmits a remedy to be used "so that the hairs will not grow back" ("A fare che li peli non rinascano più") which instructs first to fry a frog ("una rana") in a pan and then to preserve the fluid spurted out from the animal during the cooking process in order to apply it on the body after the removal of hairs.⁵⁶

The widespread use of plants, animals, and animal remains in premodern magico-medical practice may explain the finding of organic materials in ROS

^{54.} Caballero-Navas, The Book of Women's Love, 120; for the Hebrew text, see ibid., 121. This recipe becomes particularly remarkable, if we consider the greenish color and small dimension of the frog preserved in ROS 77 and the presence of cosmetic recipes for the hair within the anthology, e.g. on fol. 17v.

^{55.} For the first remedy, which is preserved in New York, Jewish Theological Seminary, 2556, see Bos, "Moshe Mizrachi on Popular Science in 17th Century Syria-Palestine," 275. For the second, see Modena, Sod Yesharim, 9, no. 78: "To grow the hair. Take tortoise fat (literally, force fat), bisa scodelera in a foreign language (שומן כה בי"סה סקודילי"רה בלע"ז), and oil of frogs (שמן צפרדעים), and oil of bitter almonds. And cook everything together and rub it on the hair near the fire in the evening up to three nights, and put on the head a red hat or cloth"; my interpretation of bisa scodelera as "tortoise" is based on Giovanni Battista Melchiori, Vocabolario Bresciano-Italiano, 2 vols., Vol. 1: A – L (Brescia: Franzoni & Co.: 1817), 72. Leon Modena includes in his compendium an additional recipe for preparing an elixir obtained with a burnt frog: "For the one who wets the bed. Cut the place in the cloth on which he urinated and burn it and give him to drink its ashes. Or, give him to drink a burnt frog, a goat and a billy goat (צפרדע עז ותיש שרופים), or hare brain cooked in wine," Modena, Sod Yesharim, 8, no. 68.

^{56.} Bologna, Biblioteca Universitaria, fondo principale, 1352; published in Ricettario galante del principio del secolo XVI, ed. Olindo Guerrini (Bologna: Gaetano Romagnoli, 1883); for the relevant recipe, see 58-59; the Ricettario Galante preserves other remedies for the hair(s) based on the manipulation of amphibian remains—i.e. green lizards ("luserta verde"; "ramarri"); see 43 and 5. On the codex, see also Maria Provvidenza La Valva, "Cosmetica in ottave volgari del tardo Quattrocento," Studi di Filologia Italiana 26 (1968): 311-82, on 323; Meredith K. Ray, Daughters of Alchemy: Women and Scientific Culture in Early Modern Italy (Cambridge, Mass.: Harvard University Press, 2015), 16 and 171n11.

77, showing that early modern Jewish physicians and intellectuals not only collected practical instructions to cure medical conditions and produce elixirs, but also cared to procure some of the required magico-medical ingredients in advance. If that was the case, why did the intellectuals connected with the codex only collect selected specimens, such as the frog? We have already noticed that the manuscript originally included many more vegetal samples, as documented by the impressions of leaves and flowers left on the paper. Furthermore, while certain ingredients such as eggs, lard, and even rabbit hairs could easily be found in a domestic environment or through a quick visit to the nearest marketplace, frogs needed to be caught, thus requiring more effort to secure. 57 Therefore, the users of the codex may have decided to procure the animal in advance: when needed—either for home use or to treat a third party—they would have removed the body of the frog from the book and then prepared it for use, burning, cutting, or mixing it with other ingredients to obtain a potion, an electuary, or a balsam. ⁵⁸ As for what concerns the apparent lack of references to frogs among the ingredients of the magico-medical anthology in ROS 77, it is possible that the collector of the frog intended to use the animal following a remedy not transmitted—or not yet annotated in the notebook. In actual praxis, users would often substitute alternative ingredients for some of the materia magica and medica listed in the written sources. 59

^{57.} If the anurian can be indeed identified with an Italian spadefoot toad, Conegliano or the following owners of ROS 77 would have been able to find it only in very specific conditions, presumably in lowlands in Venetia during the spring, after heavy rains; see my comments above, 348-50n32.

^{58.} While physicians relied on apothecaries and pharmacists for the preparation of therapeutic drugs, they also prepared them themselves and presumably kept samples of drugs for the most recurrent ailments. For a comparison with this practice within medieval Cairo, see Efraim Lev and Leigh Chipman, Medical Prescriptions in the Cambridge Genizah Collections: Practical Medicine and Pharmacology in Medieval Egypt (Leiden: Brill, 2012), 140.

^{59.} In premodern medicine there was often a gap between the drugs mentioned in medical and pharmaceutical treatises and those found in sources documenting practical uses, such as prescriptions; see Lev and Chipman, Medical Prescriptions in the Cambridge Genizah Collections, 153. The same seems true also in the context of Jewish magic, with instructions from literary books of magic documenting a richer and rarer inventory of materia magica than those found in free-formularies or finished products; on the different types of Jewish magical textual sources, see Gideon Bohak, "Reconstructing Jewish Magical Recipe Books from the Cairo Genizah," Ginzei Qedem 1 (2005): 9*-29*; idem, Ancient Jewish Magic: A History (Cambridge: Cambridge University, 2008), 148-226.

The finding of the desiccated frog in ROS 77 puts to rest, once and for all, the claim—often unproductively advanced in the context of the study of Jewish magic—that instructions included in medieval and modern Hebrew manuscripts were not put into practice, merely serving to amuse or keeping alive phantasies. The frog in ROS 77 is an example of archaeological remains of Jewish magical rituals. 60 More precisely, the frog and the surviving leaves in ROS 77 are archaeological remains of magico-medical rituals in fieri, since they teach us about their potential rather than actual goal. After all, these organic remains were never used in the actual praxis, as they still lie intact on the pages of the book after a couple of centuries. The organic specimens have been preserved to us precisely because they were never brewed into a potion nor transformed into an amulet or a magico-medical finished product. The lack of both signs of magico-medical procedures operated on the plants and the frog and of a specific ritual setting for these findings prevents us from understanding their specific magico-medical purpose.⁶¹ Nonetheless, it is clear they were meant to serve a practical purpose and they should be interpreted in the context of the literature and culture of books of scientific knowledge and "how-to" manuals.62

Avraham Joel Conegliano was a keen observer of the secrets of the natural world and deeply interested in drawing, studying, and using plants and animals for restoring health and enhancing life. He clearly wrote ROS 77 for personal use—as a miscellaneous notebook aimed at assisting him in the study and practice of medicine—and the codex probably remained within his family for a couple of generations, possibly passed down to his grandson, the physician Benjamin Conegliano. 63 While it is tempting to regard either Avraham Joel

^{60.} Bohak, "Magic in the Cemeteries of Late Antique Palestine," 163. For other archaeological findings of frogs which might have been used in magical rituals, see the examples and the bibliography provided in ibid., 174.

^{61.} Similarly, the plants and flowers of which today remain only faded impressions in ROS 77 might either have been removed specifically to be used in the production of drugs or magical artifacts, or have simply fallen out the codex throughout the centuries.

^{62.} In the age of the first botanical gardens and when scientists used to exchange organic samples by mail correspondence—on which see Eamon, Science and the Secrets of Nature, 335—the organic specimens in ROS 77 might have been incorporated in the codex also for collecting or study purposes, i.e. either meant to be later added to a floral and/or faunal collection or to be used as models for scientific illustrations.

^{63.} Benjamin Conegliano graduated in medicine and philosophy from the University of Padua in 1766; his degree in medicine is reproduced in Kaufmann, Dr. Israel Conegliano, Appendix III, document 7, p. XII. That Benjamin was keen to preserve the knowledge acquired by his grandfather—and, therefore, that he would have been very interested in

Conegliano himself or one of his descendants as the collector of the frog, this remains fundamentally unknowable to us. What is certain, though, is that one or more early modern individuals, who were connected with ROS 77 and were presumably involved in the practice of medicine, thought the frog and the other organic material worth collecting and keeping.

At a certain point of its life—and perhaps since its very birth—ROS 77 has become an active site of natural knowledge to be studied, experienced, and used, thus documenting the many meanings and uses of magico-medical codices in the early modern world. When leafing through the codex, we are not only confronted with the remains of early modern plants, flowers, and a frog possibly collected in northern Italy, but we are navigating the extremely rich mental world of early modern Jewish Italian physicians and intellectuals, accessing their modalities of gathering, assimilating, organizing, and transmitting scientific knowledge.

keeping ROS 77 for himself—is demonstrated by a manuscript collection of hundreds of medical observations by Avraham Joel that he produced; see Friedenwald, Jewish Luminaries in Medical History, 60. Before becoming part of the University Library, ROS 77 belonged to the outstanding collection of Hebrew manuscripts and early prints of Rav Leeser Rosenthal; see Fuks and Fuks-Mansfeld, Hebrew and Judaic Manuscripts in Amsterdam Public Collections, 212. While it is unlikely that Rosenthal collected flowers and frogs by drying them in the codex or that he engaged in the production of poultices, inks, and cosmetic remedies of the type described in the compendium, the presence of ROS 77 in his core collection points to his interest in medical and occult knowledge and documents the peregrinations and reuse throughout modern Europe not only of a single book, but also of a specific body of knowledge which continued to be produced, transmitted, and put into practice.