

B. Z. Kedar, *Benvenutus Graphus*

Reprint From

4° Bf 99999-21

ZSU2A022517

KOROT

The Israel Journal
of the History of Medicine and Science
Vol. 11 (1995)

THE MAGNES PRESS, THE HEBREW UNIVERSITY, JERUSALEM



3811064

CONTENTS

EDITORIAL

Dr. Max Meyerhof (1874–1945)

Benjamin Z. Kedar

Benvenutus Grapheus of Jerusalem, an Oculist
in the Era of the Crusades

Lola Ferre

The Medical Work of Hunayn ben Ishāq (Johannitius)
in Hebrew Translation

Kenneth Collins

Orthodoxy and Reform: Differing Medical Practices
in a Glasgow Jewish Victorian Family

Leon Sokoloff

Alexis Carrel and the Jews at the Rockefeller
Institute

Tirzah Meacham

Dam Ḥimud — Blood of Desire

Jean-Pierre Bénézet

Les Juifs et la Pharmacie, au Moyen Âge et à la
Renaissance, dans les Pays de l'Europe du Sud

Karl Y. Guggenheim

J. Liebig and the Controversy over the Source
of Muscle Power

Nissim Levy and Cyril Glasman

Napoleon's Physicians in Palestine

STUDENT'S CORNER

Michael V. Shterenshis

A Short History of the Jewish Neurological
School in Russia

ABSTRACT

Zohar Amar

The Use of Cassia Fistula in the Land of Israel
and in Syria during the Middle Ages

HISTORICAL NOTES

Edith Stern

More on Ritual Murder Trials: The Ritual Murder
Charge of Orkut, Greater Hungary, 1764

Anat Peri

A Document from a Mid-Nineteenth Century
Mohelbuch

NOTES AND EVENTS

The Harry Friedenwald Chair of the History
of Medicine

The Israel Society of History of Medicine
and Science (ISHMS)

Meeting Reports
Forthcoming Congresses
Exhibitions

BOOK REVIEWS

BOOK NOTES

OBITUARY

Regina Schoental (1906–1995)

MONUMENTA GERMANIAE
HISTORICA
Bibliothek

BENVENUTUS GRAPHEUS OF JERUSALEM, AN OCULIST IN THE ERA OF THE CRUSADES

by
BENJAMIN Z. KEDAR*

In memoriam Aryeh Feigenbaum

Benvenutus Grapheus of Jerusalem, who lived in the twelfth or thirteenth century, during the existence of the Crusader Kingdom of Jerusalem, is virtually unknown to the historians of that kingdom. His name is not mentioned in the standard works on the Crusades or in the few articles which deal specifically with the medical history of the Kingdom of Jerusalem; only Claude Cahen, in a footnote of his provocative *Orient et Occident au temps des Croisades*, fleetingly mentions "un certain Bienvenu de Jérusalem" who supposedly practiced medicine in Italy, in France, and in the realm of Islam.¹ On the other hand, Benvenutus occupies a central place in the history of medieval ophthalmology. His *Ars probatissima oculorum* survives in twenty-one manuscripts, and there also exist Provençal, Italian, French, and English translations (or adaptations) prepared in medieval times. Printed no less than four times between

- * Professor of Medieval History, Department of History, The Hebrew University of Jerusalem. Earlier versions of this paper were read at the conference on "Le vie del Mediterraneo. Idee, uomini, oggetti (secoli XI-XVI)," Genoa, April 19, 1994, and at the annual colloquium of the Israeli Society for the History of Medicine, Jerusalem, November 23, 1994. I would like to thank Prof. Gabriella Severino of the University of Rome for her generous help.
- 1 Cl. Cahen, *Orient et Occident au temps des Croisades*, Paris 1983, p. 282 n. 32.

BEHAVIORAL ECONOMICS OF A REGULATED MARKET: THE CASE OF THE CITY OF LOS ANGELES

By Gordon A. Krashinsky

University of California, Los Angeles

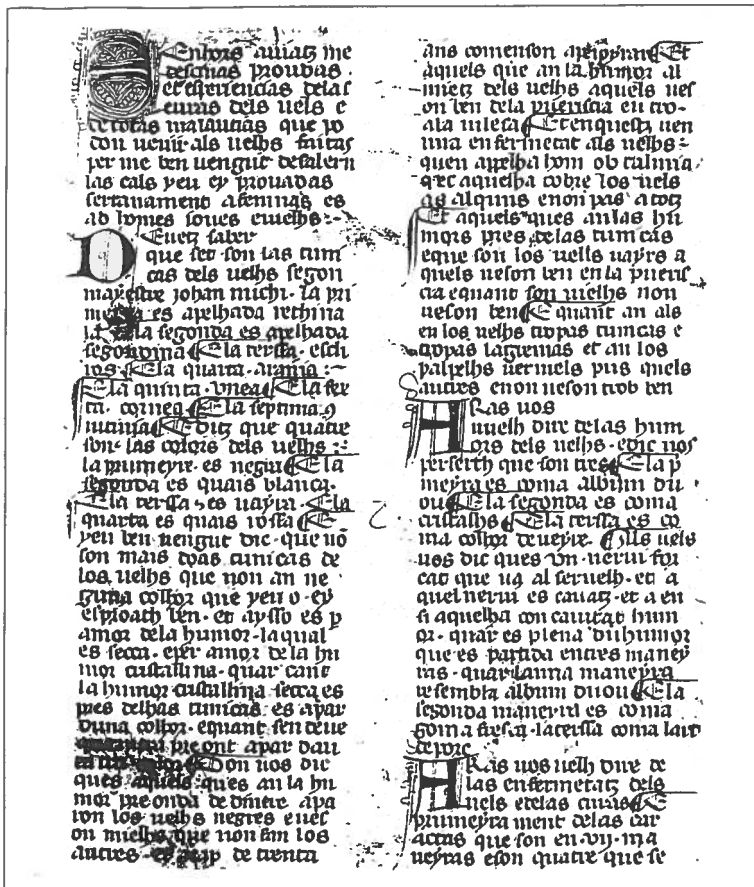
The article examines the behavioral economics of a regulated market, the City of Los Angeles, and the impact of behavioral economics on the design of a regulatory policy. The article begins by discussing the behavioral economics literature on the design of regulatory policy. It then discusses the City of Los Angeles' regulatory policy and the impact of behavioral economics on the design of that policy. The article concludes by discussing the implications of behavioral economics for the design of regulatory policy.

The article examines the behavioral economics of a regulated market, the City of Los Angeles, and the impact of behavioral economics on the design of a regulatory policy. The article begins by discussing the behavioral economics literature on the design of regulatory policy. It then discusses the City of Los Angeles' regulatory policy and the impact of behavioral economics on the design of that policy. The article concludes by discussing the implications of behavioral economics for the design of regulatory policy.

BENVENUTUS GRAPHEUS OF JERUSALEM

1474 and 1549,² the *Ars* remained one of the most influential tracts in its field well into early modern times.³ Scholars interested in the history of ophthalmology, in many cases ophthalmologists themselves, have dealt repeatedly with Benvenutus and his *Ars*; the

- 2 Eighteen Latin manuscripts, four manuscripts containing vernacular adaptations, the four printed editions and part of the relevant secondary literature are listed in D. C. Lindberg, *A Catalogue of Medieval and Renaissance Optical Instruments*, The Pontifical Institute of Mediaeval Studies, Subsidia Mediaevalia, IV, Toronto 1975, pp. 102–105. There exist three other Latin manuscripts: (1) MS IV.339 (in quarto) of the Öffentliche Bibliothek, Hanover, which, on fols. 244v–253v and 279r–284v, presents the larger part of the Latin text, probably transcribed before 1400; see K. Sudhoff, “Ein neues Manuskript des ophthalmologischen Büchleins ‘Ars nova’ des Benevenutus Grapheus de Jerusalem,” *Archiv für Geschichte der Medizin* 1 (1907–8): 384–385; (2) Vat. Pal. lat. 1254, fols. 245r–256v (ca. 1400); (3) Vat. Pal. lat. 1320, fols. 97r–110r (end of 14th century). The latter two manuscripts, which I was able to consult, are described by L. Schuba, *Die medizinischen Handschriften der Codices Palatini Latini in der Vatikanischen Bibliothek*, Wiesbaden 1981, pp. 299–303, 418–421. The Italian adaptation was printed by G. Albertotti, *Volgarizzamento italiano inedito dell’opera oftalmojatrica di Benvenuto tratto da un codice marciano del secolo XV*, Modena 1910. The work that appears under the name of Jacopo Palmerio repeats much of Benvenutus’ text: G. Albertotti, “Il libro delle affezioni oculari di Jacopo Palmerio da Cingoli ed altri scritti di oculistica tratti da un codice del secolo XV di Marco Sinzanogio da Sarnano,” *Memorie della R. Accademia di Scienze, Lettere ed Arti di Modena*, ser. III, vol. VI, *Sezione di Lettere*, Modena 1904. “Lo tractat de Mestre Benangut [?] de les malalties dels ulls,” a work listed in the 1492 inventory of books that belonged to a Majorcan merchant and not identified by the inventory’s recent editor (J. N. Hillgarth, *Readers and Books in Majorca, 1229–1550*, Paris 1991, 2, p. 557), appears to be identical to the Provençal version of Benvenutus’ work, the opening sentence of which speaks of “las curas dels uels e de totes malauties que podon venir als velhs feitas per me Benvengut de Salern.” See H. Teulié (ed.), *Las curas dels uels in Le Compendil pour la douleur et maladie des yeux*, ed. P. Pansier and Ch. Laborde, Paris 1901, p. 101.
- 3 J. Hirschberg, *Geschichte der Augenheilkunde im Mittelalter und in der Neuzeit* [=A. Graefe and T. Saemisch (eds.), *Handbuch der gesamten Augenheilkunde*, 2nd ed., vol. 13], Leipzig 1908, pp. 248–249. For a remedy of Benvenutus contained in a German compilation of ca. 1500, see J. Telle, “Mitteilungen aus dem zwölfbändigen Buch der Medizin zu Heidelberg,” *Sudhoffs Archiv* 52 (1968): 328.



Provençal manuscript of Benvenutus Grapheus' work.
 MS D. II 11, f. 172r. Courtesy Öffentliche Bibliothek der Universität Basel

most prominent were Giuseppe Albertotti of Modena, Julius Hirschberg of Berlin, and Paul Pansier of Avignon, all at the end of the nineteenth or the beginning of the twentieth century, Noè Scalinci of Naples in the 1930s, and Aryeh Feigenbaum of Jerusalem in the 1950s. Though a critical edition of the *Ars* remains a desideratum, no less than thirteen of its manuscripts — ten Latin, one Provençal, one Italian, and one French — were printed between

BENVENUTUS GRAPHEUS OF JERUSALEM

1884 and 1903. The fact that this man, whose impact was so considerable and who has attracted so much scholarly interest, has nevertheless been ignored by "general" historians of the period in which he lived, amounts to still another manifestation of that pervasive malaise of our profession — over-specialization.

At the beginning of his *Ars*, Benvenutus declares that his knowledge is based on the teachings of ancient philosophers and on the experience he gained through prolonged practice in various parts of the world curing patients in regions cold and warm.⁴ Evidence of such itinerant practice is scattered throughout the tract. While Benvenutus was *in partibus barbarie*, he observed Saracen women who cured the scabies of the eye (florid trachoma)⁵ by everting the upper lids and rubbing them with fig leaves until they became full of blood; this cure provides only temporary relief, whereas the method Benvenutus advocates — the excision of the fleshy granulations — cures the disease permanently.⁶ Benvenutus

- 4 *Benevenuti Grassi Hierosolimitani doctoris celeberrimi ac expertissimi de oculis eorumque egritudinibus et curis. Incunabulo Ferrarese dell'anno MCCCCLXXIII*, reprinted by G. Albertotti, Pavia 1897, p. 20. In the absence of a critical edition I refer to this reprint of the incunabulum of 1474, which is more readily available than the editions of the manuscripts. The manuscripts will only be quoted in those cases where their reading differs significantly from that of the incunabulum.
- 5 A. Feigenbaum, "Notes on Ocular Diseases and Their Treatment, Including Surgical Procedures, Contained in the Work of Benevenutus Grapheus Hierosolymitanus, an Eye Practitioner of the 12th Century," *Acta Medica Orientalia* 14 (1955): 79.
- 6 *Benevenuti... de oculis* (cit. n. 4), p. 40. The term *Barbaria*, referring to North Africa, appears under the year 1205 in the *Gesta episcoporum Halberstadensium*, in *MGH SS* 23, p. 119, and under the year 1218 in *Emonis Chronicon* (ibid., p. 482). The abrasion or friction with fig leaves or with an instrument is mentioned by Celsus, Paul of Aegina (a 7th century author from Alexandria), and other classical writers: see E. Savage-Smith, "Hellenistic and Byzantine Ophthalmology: Trachoma and Sequelae," *Dumbarton Oaks Papers* 38 (1984): 173, 178, 181. Rubbing with sugar is recommended by 'Ali b. 'Isa and 'Ammar b. 'Ali al Mawšili, both of the early 11th century: see Hirschberg, *Geschichte* (cit. n. 3), Leipzig 1899, 12, p. 377; 'Ali b. 'Isa, *Erinnerungsbuch für Augenärzte*, trans. J. Hirschberg and J. Lippert, Leipzig 1904, p. 66; 'Ammar b. 'Ali, *Das Buch der Auswahl von den Augenkrankheiten*, trans. J. Hirschberg, J. Lippert and E. Mittwoch, Leipzig 1905, p. 42.

mentions that in Tuscany and in the Marches he cured many sufferers from one variant of phlegm-caused excessive secretion of tears,⁷ while in Sardinia he healed patients who were afflicted by another variant of it.⁸ In Messina he successfully cured a boy whose eye was dangerously injured, and in Lucca he extracted a particle of wheat that had penetrated deep into a man's eye.⁹

Benvenutus specifies the regions in which he found several diseases to be more frequent than elsewhere: in Tuscany, a variety of panniculus, the swelling of the eye's external parts (more often among the young than the old), and inversion of the eyelids; in Calabria, ingrown eyelashes (more often among women than men); among the Saracens of *Barbaria*, scabies of the eye (trachoma); in Rome, inflammation of the eyelids.¹⁰ He also gives the names of certain herbs and afflictions as they are known in different regions.¹¹ For example, the "herba sanctissima" which he calls *cardella*, and which is known to modern botanists as *Sonchus oleraceus* L., the Saracens call *tufefa*;¹² the Greeks, *zucha*;¹³ the Apulians,

7 *Benevenuti... de oculis* (cit. n. 4), p. 38.

8 *Ibid.*, p. 39.

9 *Ibid.*, pp. 51, 57.

10 Tuscany: *ibid.*, pp. 35, 46–47, 48; Calabria: *ibid.*, p. 37; Barbaria: *ibid.*, p. 40; Rome, *ibid.*, p. 46.

11 *Ibid.*, p. 38. See also pp. 31, 46, 58.

12 As the relevant passage in the incunabulum (*ibid.*, p. 38) is marred by corruptions, I refer to the manuscripts, which give better readings. For the Arabic term, the Erfurt MS (late 13th century) as printed by Finzi has *cufefa*: see A. A. Finzi, "Il codice amproniano dell'opera oftalmojatrica di Benvenuto ed il *collirium jerosolimitanum* nella pratica oculare," *Memorie della R. Accademia di Scienze, Lettere ed Arti di Modena*, ser. III, vol. II, *Sezione di Lettere*, Modena, 1899, p. 36. Vat. Pal. lat. 1254, fol. 250v, has *tufefa*, and Vat. Pal. lat. 1320, fol. 103r, *cufeslum*. The 15th-century manuscript of Naples has *tufeta*: see G. Albertotti, "I codici Napoletano, Vaticano e Boncompagni ora Albertotti dell'opera oftalmojatrica di Benvenuto," *Memorie della R. Accademia di Scienze, Lettere ed Arti di Modena*, ser. III, vol. IV, *Sezione di Lettere*, Modena 1902, p. 92. The classical Arabic term for the plant is actually *tifāf*, a word of Berber origin. The pronunciation varies; for instance, in Malta it is pronounced *tfief* (with the variant *tfiefa*), and in southern Tunisia as *tfāf*: see R. Dozy, *Supplément aux dictionnaires arabes*, Leiden 1881, I, p. 147; G. Barbera, *Dizionario maltese-arabo-italiano*, Beirut 1940, p. 1044; G. Boris, *Lexique du parler arabe des Maraziq*, Paris 1958, p. 60.

13 Here the incunabulum gives the best reading. The Greek term is *zochin*: see

carducellum benedictum;¹⁴ the Salernitans, *lactucella*;¹⁵ the Romans, *crispina*;¹⁶ the Tuscans, *citerbita*;¹⁷ and the Sardinians, *laminosa*.¹⁸ This knowledge, too, seems to be based on the personal observations of a traveling practitioner.

Benvenutus' theoretical knowledge appears to have been slim. He mentions Hippocrates and Galen twice, and the physicians of Salerno three times.¹⁹ The only author he quotes verbatim is Johannicius, the Nestorian physician and philosopher Ḥunayn b. Iṣḥāq, who lived in Baghdad between 809 and 877, and who authored the first treatise in Arabic on the treatment of eye diseases.²⁰ Benvenutus repeats the names that Ḥunayn gave to the seven tunics of the eye, specifies the four eye colors Ḥunayn

Du Cange, *Glossarium ad scriptores mediae et infimae Graecitatis*, Paris and Leipzig 1905, 1, col. 472. See also col. 467: *zochos*. I would like to thank my friends David Jacoby and Marianne Jacoby-Gabriel for their help with this and other matters relating to this article.

- 14 Here too the incunabulum gives a satisfactory reading. *Cardo benedetto* (or *santo*) is the Italian term for *Carbenia benedicta* Adams: see A. K. Bedevian, *Illustrated Polyglottic Dictionary of Plant Names*, Cairo 1936, p. 142. See also *Vocabolario degli Accademici della Crusca*, Florence 1881, s.v. *cardo*.
- 15 MS Erfurt, ed. Finzi (cit. n. 12), p. 36. *Lattuga delle lepre* is one of the Italian terms for *Sonchus oleraceus* L.: Bedevian, *Dictionary* (cit. n. 14), p. 558.
- 16 MS Erfurt, ed. Finzi (cit. n. 12), p. 36. *Crespina* is another of the Italian terms for *Sonchus oleraceus* L.: see Bedevian, *Dictionary* (cit. n. 14), p. 558.
- 17 Vat. Pal. lat. 1254, f. 250v. *Cicerbita* is still another Italian name for the plant: see Bedevian, *Dictionary* (cit. n. 14), p. 558.
- 18 MS Erfurt, ed. Finzi (cit. n. 12), p. 36 and Vat. Pal. lat. 1320, fol. 103r: *laminosa*; Vat. Pal. lat. 1254, fol. 250v: *lameosa*; Vat. Pal. lat. 1268, fol. 299v: *lamonía*; Incunabulum, p. 38: *lamivola*.
- 19 Hippocrates and Galen: *Benevenuti... de oculis* (cit. n. 4), pp. 30, 42; "providi medici Salernitani": *ibid.*, pp. 24, 27, 30.
- 20 On Ḥunayn's ophthalmological work see J. Hirschberg, "Über das älteste arabische Lehrbuch der Augenheilkunde," *Sitzungsberichte der K. Preussischen Akademie der Wissenschaften*, 1903, part 2, Berlin 1903, pp. 1080–1094; idem, *Geschichte* (cit. n. 3), 13, pp. 34–37; M. Meyerhof (ed. and trans.), *The Book of the Ten Treatises on the Eye Ascribed to Hunayn ibn Iṣḥāq (809–877 A.D.)*, Cairo 1928. On Ḥunayn's religious polemics see B. Z. Kedar, *Crusade and Mission: European Approaches toward the Muslims*, Princeton 1984, p. 24, and the works cited there.

believed to exist, and gives the latter's names for the three humors of the eye.²¹ Contrary to Hirschberg's belief,²² this usage does not constitute proof that Benvenutus was familiar with Ḥunayn's treatise on eye diseases in the original Arabic. A close reading of Benvenutus' text reveals that he literally quotes a Latin adaptation of Ḥunayn's general introduction to medicine.²³ This adaptation was prepared some time before 1100, possibly by Constantinus Africanus, and served as a basic text of the discipline.²⁴

- 21 "...de quibus tunicis dicit Johannicius quod sunt septem. Et primam vocat retinam, secundam secundinam, tertiam autem scliros, quartam araneam, quintam uueam, sextam corneam, septimam coniunctiuam. Et dicit idem quod colores oculorum sunt iiii. scilicet niger, subalbidus, varius et glaucus." MS Erfurt, ed. Finzi (cit. n. 12), p. 25. Three humors: "Unde primus est ille quem Joanius albugineus, secundus cristallinus, tertius vitreus." Cod. Vat. lat. 5373 (a. 1475), printed by Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), p. 24. The second passage was skipped by the copyist of MS Erfurt, who admits having abridged his model, on which more below.
- 22 Hirschberg, *Geschichte* (cit. n. 3), 13, p. 258. Hirschberg later went so far as to suppose that Benvenutus' tract was originally written in Arabic: *ibid.*, 15/2, Berlin 1918, p. 22.
- 23 "Oculorum tunicae sunt VII et humores III. Prima tunica dicitur retina, altera secundina, tertia scliros, quarta aranea, quinta uvea, sexta cornea, septima coniunctiva; primus humor vitreus, secundus cristallinus, tertius albugineus... Oculorum colores sunt IV: niger, subalbidus, varius et glaucus." G. Maurach (ed.), "Johannicius, *Isagoge ad Techne Galieni*," *Zeitschrift für Wissenschaftsgeschichte [=Sudhoffs Archiv]* 62 (1978): 156. Noè Scalinci presumed that Benvenutus might have acquired knowledge of Ḥunayn's views through some Latin translation or summary of his work without being aware of this text: see N. Scalinci, "Questioni biografiche su Benvenuto Grasso jerosolimitano, medico oculista del XIII secolo," *Atti e Memorie dell'Accademia di Storia Sanitaria*, ser. II, 1 (1935): 199 n. 26; *idem*, "La nosologia e la terapia nell'Ars probatissima oculorum di Benvenuto Grasso, medico oculista salernitano del sec. XIII," *Annali di Ottalmologia e Clinica Oculistica* 64 (1936), p. 6 of the offprint; *idem*, "Le caratteristiche culturali dell'opera di Benvenuto Grasso, medico-oculista salernitano," *Rivista di Storia delle Scienze Mediche e Naturali* 18 (1936): 425. The sentence on the seven tunics also appears, without acknowledging Johannicius' authorship, in the tract of the twelfth-century oculist Zacharias: see P. Pansier (ed.), *Magistri Zacharie Tractatus de passionibus oculorum qui vocatur Sisilacera, id est Secreta secretorum*, *Collectio ophthalmologica veterum auctorum*, 5, Paris 1907, p. 78.
- 24 On the relationship to Ḥunayn and the probable date of the adaptation, see

BENVENUTUS GRAPHEUS OF JERUSALEM

The methods of performing operations which Benvenutus recommends resemble to a considerable extent those propounded by classical and Salernitan authors.²⁵ His operation for removing a cataract, prominently dealt with in the *Ars probatissima oculorum*, is performed only with a needle. This method was described by Aulus Cornelius Celsus in the days of the Emperor Tiberius, and by Paul of Aegina in the seventh century.²⁶ Benvenutus does not appear to be aware of the more efficient method, which employs first a lancet and then a needle, introduced by Arab oculists (probably under Indian influence) in the tenth century.²⁷ Yet Benvenutus' instructions for the seating of the physician and the patient during the operation, and the fact that he does not mention the apparently Western practice of having the physician chew fennel, salt and cumin during the operation and then forcefully exhale toward the patient's eye, may reflect Arab procedure.²⁸

There are some unequivocal proofs of Benvenutus' familiarity with certain Arab terms. The name he uses for trachoma — *scabies oculorum*, itch of the eyes — is, as he states, a direct translation of the Arabic name.²⁹ He uses the term "cataract," employed by the Salernitan physicians, but also mentions the Arabic term twice.³⁰ This term, like the one referring to trachoma, is invariably mutilated in the manuscripts. He introduces his list of synonyms for the "herba sanctissima" with the Arabic name; the same occurs when the list is

U. Weisser, "Noch einmal zur Isagoge des Johannicius: Die Herkunft des lateinischen Lehrtextes," *Zeitschrift für Wissenschaftsgeschichte* [=Sudhoffs Archiv] 70 (1986): 229–235.

25 This point was (rather too) forcibly made by N. Scalinci, "Le operazioni oculari di Benvenuto," *Archivio di Ottalmologia* 38 (1931): pp. 1–48 of the offprint; idem, "Nosologia" (cit. n. 23), pp. 1–47 of the offprint.

26 Scalinci, "Operazioni" (cit. n. 25), pp. 4–13 of the offprint.

27 The two methods are described in detail by A. Feigenbaum, "Early History of Cataract and the Ancient Operation for Cataract," *American Journal of Ophthalmology* 49 (1960): 305–326.

28 Scalinci, "Operazioni" (cit. n. 25), pp. 7–8 of the offprint. For a possible Arabic influence on Benvenutus' cure of *pannus*, see Scalinci, "Questioni" (cit. n. 23), p. 427.

29 *Benevenuti... de oculis* (cit. n. 4), p. 39.

30 *Ibid.*, p. 24.

repeated.³¹ Finally, when he introduces the medicine which he recommends most emphatically, the *pulvis nabetis*, he explains that it is prepared *ex zucharo nabete secundum arabicam linguam*, goes on to give another name by which this kind of sugar is known among the Saracens and Berbers (*zucharum gilbel*), and concludes by saying that “we Christians call it, according to the physicians, *candi alexandrini*.”³² *Zucharum nabet* (some manuscripts have *nabat*) is undoubtedly *sukkar al-nabāt*, the high-grade sugar candy still sold in the Cairene bazaars in the early years of this century.³³

Benvenuto's synonyms for the “herba sanctissima” also recall the habit of Arab botanists (such as the twelfth-century al-Idrisi, better known for his geographical work) of providing lists of synonyms.³⁴ His references to the cures he effected in specific

- 31 See below. One of Benvenuto's recipes includes *azucarut album idest sarcocollam*; *azucarut* is evidently a garbled form of the Arabic word *anzarūt*. Elsewhere Benvenuto says that *arabes vocant talem morsum sitionilharte, et greci cubbadembis, quasi diceretur in lingua latina domina et ancilla*: see MS Erfurt, ed. Finzi (cit. n. 12), pp. 31, 50.
- 32 *Benevenuti... de oculis* (cit. n. 4), p. 35; Vat. Pal. lat. 1254, fol. 249v; Vat. Pal. lat. 1268, fol. 298v; Vat. Pal. lat. 1320, fol. 101v. I have not succeeded in deciphering the Arabic word hidden behind the forms *gilbel*, *gileb*, *gibs*, *gelles*, etc., that appear in the manuscripts.
- 33 The Arabic *nabāt* was first recognized behind Benvenuto's *nabetis* by J. Hirschberg, “Des Rätsels Lösung,” *Mitteilungen zur Geschichte der Medizin und der Naturwissenschaften* 6 (1906): 6–9. On the preparation of this kind of sugar and on the possible origins of its Arabic name, see E. O. von Lippmann, “Über Rübenzucker im Mittelalter” in idem, *Abhandlungen zur Geschichte der Naturwissenschaften*, Leipzig 1913, 2, pp. 255–257; idem, *Geschichte des Zuckers*, 2nd ed., Berlin 1929, pp. 168, 300. On the Arabic word *nabāt*, see Dozy, *Supplément* (cit. n. 12), 2, p. 633. The term was repeatedly used by Ibn Baṭṭūta: see *The Travels of Ibn Baṭṭūta, A.D. 1325–1354*, trans. H. A. R. Gibb, Cambridge 1971, 3, pp. 608, 614, 670, 740, 761. See also M. Meyerhof, “Der Bazaar der Drogen und Wohlgerüche in Kairo,” *Archiv für Wirtschaftsforschung im Orient* 3, 4 (1918): 203.
- 34 M. Meyerhof, “Über die Pharmakologie und Botanik des arabischen Geographen Edrisi,” *Archiv für Geschichte der Mathematik, der Naturwissenschaften und der Technik* 12 (1929): 51; L. Leclerc, “Études historiques et philologiques sur Ebn Beithar,” *Journal asiatique*, 1862: 434, 451. The names of herbs in various languages had already been noted in Late Antiquity, as in the herbal of Pseudo-Apuleius which gives synonyms used by *greci, romani, punici, itali*, etc.: see *Medicina antiqua*.

BENVENUTUS GRAPHEUS OF JERUSALEM

locations, and to the regions in which certain eye diseases were more prevalent — both quite idiosyncratic in the contemporaneous West — recall similar references in the work of ‘Ammār b. ‘Ali al-Mawṣili, one of the most influential books on ophthalmology in the Central Middle Ages.³⁵ In addition, Benvenutus’ statement that in his time he did not find anyone among the Christians who was capable of treating eye patients in an appropriate manner³⁶ may be taken as an oblique reference to the expert oculists of the Arabic-speaking world.

It is typical of Benvenutus’ work that he quotes the view of Johannicius (Hunayn) on the seven tunics of the eye only to repudiate it immediately: “On the contrary, I Benvenutus declare that the tunics of the eye are two. And I prove this by my great practice which I have had and the experiment that I have proved, and especially in anatomy; hence I declare that there are no more than two tunics.”³⁷ Similarly, after relating that the “prudent Salernitan physicians,” following Hippocrates and Galen, use the term “obtalmia,” Benvenutus goes on to say that he calls this disease *tortura tenebrosa*.³⁸ Elsewhere he claims that when Hippocrates, Galen and all the ancient physicians and philosophers commended gum fennel (*gumma feniculi*) as the best remedy for eye diseases, they stressed the value of the herb and not of the gum, thus keeping secret the true source of the medication’s vigor. However, it pleased God that he, Benvenutus, had learned “through his practice and his proven art” what the ancients had concealed, namely that the remedy’s vigor lay in the “sanctissima gumma.”³⁹

Benvenutus has no modesty whatsoever, no trace of scholastic subservience to authorities. Time and again he uses the first person to present emphatically his findings — “I say,” “I call,” “I proved

Libri quatuor medicinae. Codex Vindobonensis 93 der Österreichischen Nationalbibliothek, Graz 1972, fols. 34v, 37v, 39r, 40r, 45rv, 59v, 62r, 83v, 84r.

35 ‘Ammar b. ‘Ali, *Buch der Auswahl* (cit. n. 6), pp. 116, 121, 122, 126, 127, 129.

36 *Benevenuti... de oculis* (cit. n. 4), p. 20.

37 *Ibid.*, p. 21.

38 MS Erfurt, ed. Finzi (cit. n. 12), p. 31.

39 *Benevenuti... de oculis* (cit. n. 4), p. 43.

and found"⁴⁰ — or his medications: "our Jerusalemite collyrium," "our Jerusalemite pills," "our wonderful electuary."⁴¹ He frequently warns his readers to beware of ignorant and stupid physicians,⁴² and boastfully refers to his own vast experience and to the innumerable patients he has successfully treated. He praises the efficacy of his cures — *cura expertissima et virtuosissima, emplastrum gloriosum*⁴³ — and does not forget to inform his readers that he made a lot of money through them.⁴⁴ Benvenutus addresses his readers directly, a device which imbues his tract with a certain liveliness. Indeed, it has been suggested that the considerable differences between the texts of his treatise — the Latin manuscripts appear to have preserved four different redactions⁴⁵ — may reflect a single oral lecture recorded by several students.⁴⁶

Benvenutus' prescriptions contain no ingredients which suggest magic, such as a boy's urine, the liver of a castrated ram, or dry human excrement, which are found in the tract of Master Zacharias, a twelfth-century oculist who claims to have studied at the court of Manuel Comnenus.⁴⁷ Benvenutus does not instruct his readers as to how they might deceive their patients, as Zacharias does.⁴⁸ Indeed,

40 E.g., *ibid.*, pp. 21, 22.

41 *Ibid.*, pp. 29, 38, 54, 55.

42 *Ibid.*, pp. 23, 30, 51, 54.

43 *Ibid.*, pp. 52, 58.

44 *Ibid.*, pp. 30, 37, 57.

45 See the list of incipits and manuscripts in Lindberg, *Catalogue* (cit. n. 2), pp. 102–103.

46 A. M. Berger and T. M. Auracher, *Des Benvenutus Grapheus 'Practica Oculorum.' Beitrag zur Geschichte der Augenheilkunde*, Munich 1884, pp. 10–11; Pansier and Laborde, *Compendil* (cit. n. 2), p. 6; Hirschberg, *Geschichte* (cit. n. 3), 13, p. 250; K. Sudhoff, "Zur Anatomie des Vindicianus. Handschriftenstudie," *Archiv für die Geschichte der Medizin* 8 (1914): 417 n. 2.

47 *Magistri Zacharie Tractatus* (cit. n. 23), pp. 83, 85, 89. The absence of superstitions in Benvenutus' tract has already been noted by A. Feigenbaum, "Correspondence on Benevenutus Grassus," *American Journal of Ophthalmology* 36 (1953): 1635; *idem*, "Notes" (cit. n. 5), pp. 81–82.

48 *Magistri Zachariae Tractatus* (cit. n. 23), pp. 88, 91; see also Pansier's introduction to *Magistri Zacharie Tractatus*, *ibid.*, p. 60; H. Truc and P. Pansier, *Histoire de l'ophtalmologie à l'école de Montpellier du XIIIe au XXe siècle*, Paris 1907, pp. 58–60.

BENVENUTUS GRAPHEUS OF JERUSALEM

several of Benvenutus' treatments appear to have been sound, and modern ophthalmologists have spoken of them with appreciation. In 1897, Giuseppe Albertotti reported that he successfully employed the cure for the lachrymal tumor that had been proposed by Benvenutus; he also praised him for having sought to mature a cataract artificially.⁴⁹ Angelo Attilio Finzi, Albertotti's assistant, who prepared Benvenutus' "Jerusalemite collyrium" in 1898 according to the prescription appearing in the earliest Latin manuscript and administered it to eighteen patients at Modena, reported satisfactory results. He wrote: "I proved its curative action in several cases of granulous conjunctivitis with strong secretion, of subacute conjunctival catarrhs, and also in a few cases of phlyctenular conjunctivitis associated with conjunctival catarrh that had not responded to the most commonly used cures"; in the last-named cases, full recovery was achieved on the eighth to twelfth day of treatment. Finzi concluded that the Jerusalemite collyrium "acts as a good astringent, and is preferable to many other more commonly used astringent collyria on account of its greater tolerance and curative effectiveness."⁵⁰ In 1907, Julius Hirschberg commended Benvenutus for apparently having scraped off and cut out the fleshy granulations of trachoma patients, a procedure Benvenutus arrived at on the basis of his own experience.⁵¹ Noè

49 G. Albertotti, "I codici riccardiano parigino ed ashburnhamiano dell'opera oftalmojatraca di Benvenuto," *Memorie della R. Accademia di Scienze, Lettere ed Arti di Modena*, Ser. III, vol. I, *Sezione di Lettere*, Modena 1897, pp. 4-5; idem, "Considerazioni intorno a Benvenuto ed alla sua opera oftalmojatraca," *Annali di Ottalmologia* 27 (1897): 21-22. On the question of the cataract's artificial maturation see also Scalinci, "Nosologia" (cit. n. 23), pp. 11-12 of the offprint, who underlines the similarity between 'Ali b. 'Isa and Benvenutus in this respect and mentions the possibility that the latter may have been influenced by the former.

50 Finzi, "Il codice amproniano" (cit. n. 12), pp. 12-20.

51 Hirschberg, *Geschichte* (cit. n. 3), 13, pp. 175-176, 253. See also Truc and Pansier, *Histoire* (cit. n. 48), p. 70 and Feigenbaum, "Notes" (cit. n. 5), p. 79. Truc, Pansier, and Feigenbaum, unlike Hirschberg, are certain that Benvenutus recommended the excision of the fleshy granulations, and regard it as prefiguring the procedure adopted in the 19th century. According to Feigenbaum, this was Benvenutus' "most daring and original contribution to ocular therapeutics."

Scalinci, who especially in his earlier works took a dim view of Benvenutus' accomplishments (he once presented Benvenutus as a quack almost totally dependent on the School of Salerno) later praised him for having rediscovered the two lachrymal points, as well as for his original view that the eye has no color whatsoever.⁵² Aryeh Feigenbaum, a student of Hirschberg who practiced ophthalmology in Jerusalem for several decades, wrote in 1955 that the use of embryonic tissue for activating the growth and multiplication of cells, a technique introduced in 1913, had already been practiced by Benvenutus.⁵³ Feigenbaum also lauded the rationality of Benvenutus' therapy and his practice of taking a patient's history.⁵⁴ There were thus good reasons for Benvenutus' fame and for the popularity of his treatise — "the code," as Giuseppe Albertotti put it, "of medieval oculists."⁵⁵

What is known about the life of this traveling practitioner who, fortunately for a sizable number of medieval patients as well as for the probably much smaller number of historians interested in the transmission of practical knowledge in medieval times, took the trouble to put into writing the knowledge he had gathered?

Let me first attempt to delimit the period in which Benvenutus was active. Benvenutus quotes from the Latin adaptation of Hunayn's treatise which goes under the name of Johannicius. The

52 Scalinci, "Questioni" (cit. n. 23), pp. 198–199; idem, "Nosologia" (cit. n. 23), pp. 8–11 of the offprint.

53 A. Feigenbaum, "On the Use of Embryonic Tissue for Therapeutic Purposes, Enhancing Wound Healing, by an Eye Practitioner of the 12th Century — Benevenutus Grapheus Hierosolymitanus," *Acta Medica Orientalia* 14 (1955): 26–29. Cf. *Benevenuti... de oculis* (cit. n. 4), pp. 50–52. While the incunabulum has *germones ovorum*, most manuscripts have *germina*. Unaware of Scalinci's articles, Feigenbaum did not know that the Italian author had made the same observation, though with many reservations: see Scalinci, "Nosologia" (cit. n. 23), pp. 42–43 of the offprint.

54 Feigenbaum, "Notes" (cit. n. 5), pp. 81–82. Despite Benvenutus' general lack of modesty he admits at one point that he failed, despite all efforts, to cure a specific type of cataract: see MS Erfurt, ed. Finzi (cit. n. 12), p. 29.

55 G. Albertotti, "L'opera oftalmojatrica di Benvenuto nei codici, negli incunabuli e nelle edizioni moderne," *Memorie della R. Accademia di Scienze, Lettere ed Arti di Modena*, ser. II, vol. XII, *Sezione di Lettere*, Modena 1896, p. 28.

earliest manuscript of this work dates from the late eleventh century,⁵⁶ which gives a *terminus a quo* around the year 1100.

As for a *terminus ad quem*, it has been noted that Benvenutus is first referred to by Jan Yperman (ca. 1260 — ca. 1330), the Flemish master who wrote his book on surgery in or shortly after 1328.⁵⁷ In fact, Yperman does more than refer to “Meester Benevoud.” In the part of his *Cyurgie* that deals with the eye and its diseases he mentions that name more often than any other;⁵⁸ moreover, a close reading of his text reveals that entire passages in which “Benevoud” goes unmentioned are a literal translation or a close paraphrase of Benvenutus’ *Ars probatissima oculorum*.⁵⁹ Similarly, in 1363 the Montpellier master Guy de Chauliac, in the part of his *Grande chirurgie* that deals with eye diseases, mentions “Bien-venu” thirteen times, more often than all other medieval Latin authors combined.⁶⁰

The earliest Latin manuscript of Benvenutus’ treatise that has survived, now in the Amplonian collection at Erfurt, dates from

56 A. Beccaria, *I codici di medicina del periodo presalernitano (secoli IX, X e XI)*, Rome 1956, pp. 303–304; Weisser, “Herkunft” (cit. n. 24), p. 230.

57 The connection was first pointed out by Ch. Laborde, *Un oculiste du XIIe siècle, Bienvenu de Jérusalem et son oeuvre. Le manuscrit de la bibliothèque de Metz*, Montpellier 1901, p. 8. On Yperman’s life and work see M. Tabanelli, *Jehan Yperman, padre della chirurgia fiamminga*, Florence 1969, pp. 13–36.

58 E. C. van Leersum (ed.), *De “Cyurgie” van Meester Jan Yperman*, Leiden 1912, pp. 70–94; Tabanelli, *Yperman* (cit. n. 57), pp. 137–166. Meester Benevoud (or Bevenoud) is mentioned six times, Avicenna four times, Meester Lancfranc van Meylanen three times, Meester Bruun twice.

59 Compare for example the discussions of the types of panniculus, of the efficacy of the *nabat* powder, and of incurable cataracts: van Leersum, “*Cyurgie*” (cit. n. 58), pp. 78, 80, 89; MS Erfurt, ed. Finzi (cit. n. 12), pp. 32, 34, 29, respectively.

60 E. Nicaise (ed.), *La grande chirurgie de Guy de Chauliac, chirurgien, maistre en médecine de l’Université de Montpellier, composée en l’an 1363*, Paris, 1890, pp. 460–491. Pierre l’Espagnol and Arnaud [de Villanova] are mentioned three times each, Guillaume de Salicet twice, Brun twice, Gordon once. Several non-Western writers are mentioned far more often than Bien-venu: Iesus [‘Isa b. ‘Ali] 43 times, Avicenna 40 times, Alcoati 22 times, etc.

the late thirteenth century.⁶¹ A note at the end of this manuscript reveals that the copyist abridged the text that was before him,⁶² and hence we may assume that Benvenutus' original text had been composed at an earlier date. A similar conclusion has been reached on the basis of the Provençal version of Benvenutus' work. The manuscript dates from the thirteenth or the thirteenth/fourteenth century;⁶³ an analysis of the text has shown, however, that it does not represent the original Provençal adaptation but rather a direct or indirect copy of it.⁶⁴ The earliest manuscripts of Benvenutus' work thus point to a *terminus ad quem* in the vicinity of 1290 or earlier.

Giuseppe Albertotti believed that the words *secundum magistrum Nicolaum*, which appear in the incunabulum of Benvenutus' work but not in any of the manuscripts, refer to Nicolaus Praepositus of the School of Salerno, who wrote in the early twelfth century. Hirschberg went one step further; he considered this Nicolaus to have been Benvenutus' teacher and therefore dated Benvenutus' purported studies at Salerno to ca.

- 61 W. Schum, *Beschreibendes Verzeichniss der Amplonianischen Handschriften-Sammlung zu Erfurt*, Berlin 1887, pp. 451–453. The handwriting of Benvenutus' tractate is said to resemble that of a tractate written in a handsome minuscule of the late 13th century.
- 62 "Et nota quod in transcribendo dimisi multa que se magis prebebant supersticiosa quam ad artem utilia ideo ea tantummodo hic supra scripsi que magis ad artem apparebant valere." MS Erfurt, ed. Finzi (cit. n. 12), p. 52. Indeed, the manuscript does not contain several passages that appear elsewhere.
- 63 This is MS D.II.11 of the Öffentliche Bibliothek der Universität Basel, which the handwritten catalogue of that library dates to ca. 1250–1300. Lindberg, *Catalogue* (cit. n. 2), dates it to the 13th century, and Albertotti, "Opera oftalmojatrica" (cit. n. 55), p. 31, to the 13th/14th.
- 64 This is the conclusion of Henri Teulié, the editor of the Provençal version, in *Compendil* (cit. n. 2), p. 99. Teulié's conclusion was adopted by Giulio Bertoni, one of the few "general" historians to have dealt, however briefly, with the treatise of Benvenutus. Without giving his reasons, Bertoni also supposed that the Provençal version might have represented the state of the treatise about the middle of the 13th century: see G. Bertoni, *Sulle redazioni provenzale e francese della "Practica oculorum" di Benvenuto*, Montpellier 1904, pp. 10, 13 (offprint from *Revue des langues romanes* 47 [1904]).

1150.⁶⁵ Thus, Benvenutus came to be considered a man of the twelfth century.⁶⁶ However, Scalinci argued convincingly that the context in which the words *secundum magistrum Nicolaum* appear in the incunabulum points to Niccolò of Reggio of the late thirteenth and early fourteenth centuries. The full sentence in the incunabulum reads: *Item humor vitreus et christalinus a gummositate cerebri nutriuntur secundum magistrum Nicolaum et anothomiam [sic] artis probatissime oculorum.*⁶⁷ Scalinci argued that this statement is not at all congenial to the writings of Nicolaus Praepositus, who was interested in pharmacology; however, it fits neatly with a statement of Galen as translated by Niccolò of Reggio that the crystalline humor is sustained by the vitreous one, and that this in its turn is sustained by membranes of cerebral provenance. Scalinci tended to regard the sentence in the incunabulum as a late interpolation; in any case, it should not be taken as proving that Benvenutus lived in the twelfth century.⁶⁸ An even stronger case may be made by comparing the sentence in the incunabulum with the parallel sentence in the manuscripts, which reads: *Et dicimus quod humor vitreus et cristallinus nutriuntur a gumositate nervorum, albugineus autem a gumositate cerebri.*⁶⁹ The difference is obvious, and one might argue that the incunabulum radically alters Benvenutus' text in order to bring it in line with Niccolò of Reggio's translation.

65 Albertotti, "Opera oftalmojatrica" (cit. n. 55), p. 76; Hirschberg, *Geschichte* (cit. n. 3), 13, p. 251.

66 See for instance the articles by Feigenbaum, notes 5 and 53 above. Following the same reasoning as Hirschberg, Casey A. Wood, the author of a problematic English translation of the incunabulum's text, assumed that Benvenutus, like his teacher Nicolaus, was born in the 11th century: C. A. Wood, *Benevenutus Grassus of Jerusalem. De oculis eorumque egritudinibus et curis*, Stanford 1929, pp. 15, 18.

67 *Benevenuti... de oculis* (cit. n. 4), p. 23.

68 N. Scalinci, "Chi è il 'Magister Nicolaus' citato nell' 'Ars probata oculorum' di Benvenuto Grafeo, jerosolimitano? (Incunabulo di Ferrara)," *Bollettino dell'Istituto Storico Italiano dell'Arte Sanitaria* 10 (1930): 267-270; idem, "Questioni" (cit. n. 23), pp. 194-196.

69 Vat. Pal. lat. 1268, fol. 291r; Vat. Pal. lat. 1254, fol. 246v; and the MSS printed by Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), pp. 23, 24, 27; idem, "I codici riccardiano, parigino" (cit. n. 49), pp. 16, 17, 60.

Scalinci attempted to place Benvenutus in the mid-thirteenth century, or in its second half. His argument rested mainly on the dates of the earliest manuscripts (which he considered to be of the fourteenth century), the absence of references to Benvenutus in ophthalmological writings which precede those of Jan Yperman, and the progress in knowledge and practice from the treatises of Master David the Armenian and Master Zacharias (which Scalinci dated to the late twelfth or early thirteenth century) to the treatise of Benvenutus. This progress purportedly indicates that Benvenutus wrote at a later date than the others did.⁷⁰ Still, it is possible, even in the Central Middle Ages, that the earliest extant manuscript of a work was copied more than a century after the author's death: for instance, the *De natura luminis* of Thomas Aquinas only survives in fifteenth-century manuscripts.⁷¹ Similarly, the absence of early references to a work does not necessarily preclude the possibility that the work was written long before the first extant reference to it: for instance, Gerard of Nazareth's *De conversatione virorum Dei in Terra Sancta morantium*, first referred to in 1370, was written in the middle years of the twelfth century.⁷² Finally, the assumption that a more sophisticated work must be later than a simpler one is not compelling even in those instances in which it is certain that the

70 Scalinci's views underwent some modification over the years, but he consistently argued that Benvenutus must be considered a man of the 13th century who belonged to the School of Salerno. See N. Scalinci, "Benvenuto Grasso (o Grafeo) e l'oftalmiatria della scuola salernitana," *Rivista di Storia delle Scienze Mediche e Naturali* 22 (1931): 399-416; idem, "Questioni" (cit. n. 23), pp. 191-205, 240-255, 299-313 (at the conclusion of which article Benvenutus is presented as "una espressione meravigliosa dell'ingegno italiano"); idem, "Caratteristiche" (cit. n. 23), pp. 424-428; idem, "La oculistica dei Maestri Salernitani" in *Scritti in onore del prof. P. Capparoni in occasione del XXXo anno di laurea*, Turin 1941, pp. 134-151.

71 Lindberg, *Catalogue* (cit. n. 2), no. 65, p. 36. See also nos. 107, 108, 183, 188, pp. 81, 82, 98, 102.

72 See B. Z. Kedar, "Gerard of Nazareth, a Neglected Twelfth-Century Writer in the Latin East: A Contribution to the Intellectual and Monastic History of the Crusader States," *Dumbarton Oaks Papers* 37 (1983): 55-77, reprinted in B. Z. Kedar, *The Franks in the Levant, 11th to 14th Centuries*, Aldershot 1993, Study IV.

BENVENUTUS GRAPHEUS OF JERUSALEM

respective authors were aware of each other's work, a certainty that in this case is lacking.⁷³

Thus, the attempts to establish Benvenutus' time more precisely on the basis of internal evidence may be deemed unsuccessful, and we remain with a *terminus a quo* of about 1100 and a *terminus ad quem* in the vicinity of 1290 or earlier.

What can be said of Benvenutus' biography? In 1921, the Faculty of Medicine of the University of Montpellier, then celebrating its seventh centennial, placed in its entrance hall two large slabs of white marble, one of which lists "Le Juif Bienvenu Graffaei, de Jérusalem, oculiste" among the first masters of the Faculty of Medicine.⁷⁴ Two pieces of evidence have been adduced to link Benvenutus to Montpellier. The single, fifteenth-century manuscript which gives the French translation of Benvenutus' tract says that it "esté composé et compilé et ordonné à Montpellier."⁷⁵

73 A prerequisite for a comparative study of the works in question is a critical edition of the texts. Scalinci claimed that a comparison of Benvenutus' procedure of removing extraneous substances and the one presented in an anonymous tractate published by Pansier, suggests that the latter served as Benvenutus' model, and that Benvenutus summarized it: see Scalinci, "Operazioni" (cit. n. 25), pp. 38–42; also pp. 8–9, both of the offprint. Once the anonymous tractate is compared not with the text of the incunabulum, as Scalinci did, but with that of some of the manuscript versions of Benvenutus' tractate, the difference between the two texts diminishes: see MS Erfurt, ed. Finzi (cit. n. 12), pp. 47–48; Vat. Pal. lat. 1254, fols. 254v–255r; Vat. Pal. lat. 1268, fol. 309r; Vat. Pal. lat. 1320, fol. 107v. Similarly, Scalinci's observation that with regard to a certain cure Benvenutus uses the term *incidere* and not *inscidere* ("Operazioni," p. 21), is invalidated by the appearance of the verb *inscidere* in the appropriate place in MS Erfurt, ed. Finzi (cit. n. 12), p. 36. Truc and Pansier (*Histoire* [cit. n. 48], pp. 61–62) were certain that the similarity between the tractates of Benvenutus and Master Zacharias, who claims to have studied in the palace of Manuel Comnenus (between 1143 and 1180) proves that Benvenutus, too, lived in the twelfth century...

74 On the inscription see E. Wickersheimer, "La question du judéo-arabisme à Montpellier," *Janus* 31 (1927): 471. For authors believing that Benvenutus stayed at Montpellier see Pansier and Laborde, *Compendil* (cit. n. 2), p. 23; Truc and Pansier, *Histoire* (cit. n. 48), pp. 61–72; Wood, in the introduction to his English translation (cit. n. 66), p. 18; L. Dulieu, *La médecine à Montpellier*, vol. 1: *Le Moyen Age*, Avignon 1975, pp. 112, 147–148, 195.

75 Pansier and Laborde, *Compendil* (cit. n. 2), p. 7.

However, this statement, which has no counterpart in the twenty-two Latin, Provençal and English manuscripts, evidently refers to the French translation, and not the Latin original.⁷⁶ The other testimony purportedly connecting Benvenutus to Montpellier is the remark *Iste liber constat Montispessulani quinque solidos*, which appears in a Latin manuscript of his tract dated to the fourteenth or fifteenth century.⁷⁷ While this sentence proves that the tract was used at Montpellier by the fifteenth century (and possibly earlier), it does not constitute proof of Benvenutus' own presence there.⁷⁸ There is thus a considerable disparity between the fragility of the documentary basis for the Montpellier inscription and the robustness of the stone on which it was engraved.

What of the claim, made on the Montpellier tablet and occasionally repeated in the literature, that Benvenutus was a Jew?⁷⁹ In the fifteenth-century French translation, he is referred to as Bien Venu Raffe, Grasse, or Graffe,⁸⁰ and it has been suggested that *raffe* is derived from *rofé*, the Hebrew word for physician.⁸¹ However,

76 This point has already been made by E. Wickersheimer, *Dictionnaire biographique des médecins en France au Moyen Age*, Paris 1936, 1, p. 85 (note 2 of the entry on *Bienvenu Grapheus*).

77 MS Clm 331. A. M. Berger, who edited this manuscript, dated it to the 14th century: see his letter in *Janus* 2 (1897–98): 290. Lindberg, *Catalogue* (cit. n. 2), p. 103, dates it to the 15th century.

78 Berger, *Janus* (cit. n. 77). See also Wickersheimer, *Dictionnaire* (cit. n. 76), 1, p. 85.

79 For authors considering, with varying degrees of certitude, Benvenutus to have been a Jew or a Jewish convert to Christianity, see S. de Renzi, *Collectio Salernitana*, Naples, 1852, 1, p. 338; Ch. Daremberg, *Histoire des sciences médicales*, Paris, 1870, 1, p. 302; Hirschberg, *Geschichte* (cit. n. 3), 13, p. 251; Wood, in the introduction to his English translation of the text of the *incunabulum* (cit. n. 66), pp. 15–18; Feigenbaum, "On the Use" (cit. n. 53), p. 27. Wood (p. 18) goes so far as to suppose that Benvenutus "was a Hebrew born in Judea some time during the eleventh century, that he read and spoke at least Hebrew, Italian, Provençal, and Arabic... [and that] he settled as scholar and practitioner in Montpellier." Wood's book, the least professional of the works dealing with Benvenutus, appears to have reached a wide audience.

80 Pansier and Laborde, *Compendil* (cit. n. 2), p. 9.

81 See for instance Teulié in *ibid.*, p. 101, n. 2; Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), p. x n. 15; Hirschberg, *Geschichte* (cit. n. 3), 13, p. 251, n. 1.

BENVENUTUS GRAPHEUS OF JERUSALEM

there are no grounds to believe that the word *rofé* was ever pronounced as *raffe* in France or anywhere else.⁸² In addition, a sixteenth-century Latin manuscript of Benvenutus' tract contains a note which states that the tract was translated from Hebrew.⁸³ It is, however, quite impossible to trust this note, as the tractate quotes verbatim the Latin text of Johannicius. If the original tractate had indeed been written in Hebrew, the passage from Johannicius into Hebrew and back into Latin, a metamorphosis that did not occur.⁸⁴ Besides, an author of the twelfth or thirteenth century writing in Hebrew would most likely have drawn on the major ophthalmological work that Ḥunayn b. Iṣḥāq wrote in Arabic⁸⁵ or on the works of later Arabic oculists,⁸⁶ and not on the meager Latin treatise that goes under the name of Johannicius. Benvenutus also uses numerous Christian expressions and invocations,⁸⁷ to the point

82 I would like to thank Professor Moshe Bar-Asher, President of the Academy for the Hebrew Language, for his assurance on this point.

83 Vat. Reg. lat. 373, fol. 63v: "Explicit ars nova Benvenuti de Jerusalem de egritudinibus oculorum e lingua hebraea in latinam translata." See also Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), p. x.

84 For a similar reasoning see Bertoni, *Sulle redazioni* (cit. n. 64), p. 11, note. Bertoni, who was not aware of the quotation from Johannicius, suggested that the *explicit* of Vat. Reg. lat. 373 was added solely because it was known that Benvenutus came from Jerusalem.

85 See note 20 above.

86 The fragments of medical works once preserved in the Cairo Genizah suggest that, in the Central Middle Ages, the ophthalmological treatise of 'Alī b. 'Isā was far more well known than that of Ḥunayn. The Cambridge collections include 61 fragments of 'Alī's *Tadhkirat al kaḥḥalīn* and two fragments of commentaries on them, as against a single fragment of Ḥunayn's *Masā'il fī 'ayn* and nine fragments of his general work on medicine. See H. D. Isaacs and C. F. Baker, *Medical and Para-medical Manuscripts in the Cambridge Genizah Collections*, Cambridge 1994, nos. 74, 77, 78, 82, 89, 109, 119, 136, 268, 277, 283, 301, 320, 336, 345, 416, 418, 419, 437, 455, 457, 472, 489, 491, 510, 532, 549, 563, 569, 577, 583, 593, 596, 610, 626, 629, 630, 634, 635, 714, 735, 736, 737, 738, 740, 901, 902, 910, 920, 921, 950, 952, 963, 972, 981, 1137, 1282, 1317, 1325, 1463, 1464 ('Alī); 543, 881 (commentaries on 'Alī); 171, 182, 232, 402, 447, 717, 773, 864, 890, 914 (Ḥunayn).

87 Even the oldest manuscripts, which bear only a partial testimony to the original text, contain some Christian expressions. MS Erfurt, which

that it has been suggested he was a cleric.⁸⁸ For instance, having summarily rejected various opinions on the site of the origin of tears, he declares with characteristic pomposity, *Nos autem Benvenutus Graphey de Yherusalem cui dominus noster Jesus Christus, a quo omnia bona procedunt, dedit veram experientiam et cognitiones omnium infirmitatum que subveniunt in oculis*, before giving his own view on the subject.⁸⁹

Benvenutus' association with Salerno is based on the fact that in the Provençal version of his text he is presented as *Benvengut de Salern*.⁹⁰ In addition, the Latin text mentions the *medici Salernitani*.⁹¹ From the places mentioned in his tract it would appear that he practiced mostly in various parts of Italy, from Sicily to

contains an abridged version, defines the crucial interval during the cataract operation as a *spatium temporis donec quatuor vel quinques dices pater noster*, tells the physician to make the sign of the cross before rising from the bed, and uses the phrase *nos christiani*: ed. Finzi (cit. n. 12), pp. 27, 34. The Provençal version, which gives only a part of the treatise, evokes at one point the *nom de Jesu Cris*: Pansier and Laborde, *Compendil* (cit. n. 2), p. 112. Vat. Reg. lat. 373, which presents the *explicit* on the purported translation from the Hebrew, has the Christian expressions which already appeared in MS Erfurt; however, in places where, in other late MSS, Christ is invoked, it contains an invocation to the Lord (*dominus*), thus avoiding the term odious to a Jew. Was this manuscript copied for a Jewish oculist? Or was the copyist attempting to render more credible his assertion that the work was translated from the Hebrew?

88 Scalinci, "Questioni" (cit. n. 23), pp. 299–305.

89 Vat. Pal. lat. 1320, fol. 107v. See also Vat. Pal. lat. 1254, fol. 254; Vat. Pal. lat. 1268, fol. 308v; MS Breslau/Wroclaw, ed. A. M. Berger and T. M. Auracher, *Des Benvenutus Grapheus "Practica Oculorum."* Zweites Heft: *Breslauer lateinischer, Baseler provenzalischer Text*, Munich 1886, p. 50; MS Metz, ed. Laborde (cit. n. 57), p. 63. The somewhat different version of MS Ashburnham, ed. Albertotti (cit. n. 49), p. 79, coincides with that of the incunabulum: *Benevenuti... de oculis* (cit. n. 4), p. 55. There are basic similarities between the incunabulum and the last-mentioned MS.

90 *Las curas dels vels... feitas per me Benvengut de Salern.*" Teulié in Pansier and Laborde, *Compendil* (cit. n. 2), p. 101.

91 See note 19 above. On Scalinci's view that Benvenutus' ocular operations, nosology and therapy are basically Salernitan, see the articles quoted in notes 23 and 25 above.

92 See notes 7–10 above. For Lombardy see *Benevenuti... de oculis* (cit. n. 4), p. 58.

BENVENUTUS GRAPHEUS OF JERUSALEM

Lombardy.⁹² It is possible that he was born in Italy. The Latin manuscripts present him as Benvenutus Grapheus, with variants of each of these forms. (An American author, obviously unfamiliar with variations occurring in manuscript traditions, recently assumed that Benvenutus used, in his lifetime, each and every one of these names, or rather aliases, “probably to conceal his identity from former victimized patients” [*sic!*]).⁹³ It seems that only the incunabulum and the French version call him Grassus/Grasse, forms that may be considered as misreadings of Grapheus/Graffeus. A propertied family by the name of Graffeo is known to have lived in Sicily in the late eleventh century,⁹⁴ and Benvenutus’ treatise itself may hold a clue pointing to his Sicilian origin. In two different passages, he gives the names by which the “herba sanctissima” is known in different languages or dialects.⁹⁵ In the first passage, he states that “we” call it *cardella*, in the second — that **the Sicilians** call it by that name.⁹⁶ The herb in question,

93 G. Gorin, *History of Ophthalmology*, Wilmington, Delaware 1982, p. 28.

94 M. Amari, *Storia dei Musulmani di Sicilia*, ed. C. A. Nallino, Catania 1937, 3, pp. 264, 266. The possible connection of “Grapheus” to the Sicilian family Graffeo was suggested by J. L. Pagel, *Einführung in die Geschichte der Medizin*, ed. K. Sudhoff, Berlin 1915, pp. 175–176. (The same author assumed however that “Jerusalem” was a scribe’s error for “Salernum”...) On the other hand, Berger and Auracher, writing at a time when the manuscript tradition was still well-nigh unknown, assumed that Benvenutus’ true name, Grassus, was given a Greek sounding form: see Berger and Auracher, *Beitrag* (cit. n. 46), p. 10.

95 For the first passage see notes 12–18 above. The second passage appears in the incunabulum (*Benevenuti... de oculis* [cit. n. 4], p. 58) and in some manuscripts. Within a single manuscript there may be substantial differences between the parallel forms given in the two passages. For instance, in the first passage MS Erfurt has that the Tuscans call the “herba sanctissima” *tunebita*, and in the second they call it *ritebica*: ed. Finzi (cit. n. 12), pp. 36, 48. The difference may have originated with a careless copyist early in the manuscript tradition, but one should not exclude the possibility that Benvenutus himself referred to synonyms of two variants of the “herba sanctissima.”

96 Here are the parallel forms as they appear in the two passages. MS Erfurt: “we” — *cardella*, the Sicilians — *cardolia* (ed. Finzi [cit. n. 12], pp. 36, 48); Vat. Pal. lat. 1254: “we” — *cardella*, the Sicilians — *cardelia* (fol. 250v, 255r); Vat. Pal. lat. 1320: “we” — *cardela*, the Sicilians — *cardolia* (fol. 103r, 108r); Incunabulum: “we” — *cardella*, the Sicilians — *cardella* (*Benevenuti... de oculis* [cit. n. 4], pp. 38, 58).

Sonchus oleraceus L., is indeed called *kardedda* in the Sicilian dialect.⁹⁷ Consequently, it may well be that Benvenutus' native dialect was Sicilian — or that he wrote his tract with a Sicilian audience in mind.

What about Benvenutus' connection to Jerusalem and to the Levant in general? He calls himself *Benvenutus de Yherusalem*⁹⁸ and presents some of his main medications as Jerusalemite.⁹⁹ Other medications he calls "Alexandrine."¹⁰⁰ Since it was possible to study medicine in Jerusalem at least in the period just before the Battle of Ḥaṭṭin,¹⁰¹ and since a recently discovered account of the Jerusalem Hospital has revealed that a remarkably sophisticated level of medical practice prevailed there,¹⁰² it is conceivable that Benvenutus did in fact gain some of his expertise in Jerusalem before leaving for Italy. On the other hand, it has been argued that Benvenutus may have called his medications "Jerusalemite" and "Alexandrine" merely to enhance their appeal.¹⁰³ A similar motive may be imputed to his self-identification as "Benvenutus of Jerusalem."¹⁰⁴ This reasoning smacks of hypercriticism, since systematic studies of names have demonstrated that, unless a denomination of the type *de N.* had become a fixed hereditary

97 W. Meyer-Lübke, *Romanisches Etymologisches Wörterbuch*, 5th ed., Heidelberg 1972, no. 1687, p. 160.

98 See page 34* above.

99 For his Jerusalemite collyrium and pills see note 41 above. In addition, he prescribes *diaolibanum nostrum ierosolimitanum: Benevenuti... de oculis* (cit. n. 4), p. 31.

100 Ibid., pp. 31, 40.

101 E. Kohlberg and B. Z. Kedar, "A Melkite Physician in Frankish Jerusalem and Ayyubid Damascus: Muwaffaq al-Dīn Ya'qūb b. Siqlāb," *Asian and African Studies* 22 (1988): 116–118, reprinted in Kedar, *Franks* (cit. n. 72), Study XII.

102 The anonymous account was utilized by B. Waldstein-Wartenberg, *Die Vassalen Christi. Kulturgeschichte des Johanniterordens im Mittelalter*, Vienna 1988, pp. 110–118.

103 This possibility was raised by Berger and Auracher, *Beitrag* (cit. n. 46), p. 10.

104 On the possibility that some medieval surnames were deliberately chosen for an expected social or economic advantage, see R. W. Emery, "The Use of the Surname in the Study of Medieval Economic History," *Medievalia et Humanistica* 7 (1952): 45.

BENVENUTUS GRAPHEUS OF JERUSALEM

surname, it usually denoted a direct or indirect connection between the surname's bearer and the place *N.* in question.¹⁰⁵

Feigenbaum, relying on his own prolonged practice in Jerusalem, believed that he had located two passages which reflect Levantine conditions. First, he pointed out that Benvenutus' "obtalmia" — which appeared from the end of August to the end of September, and which Benvenutus believed to result from the variety of fruits people consumed at that time — should be equated with the acute muco-purulent conjunctivitis that appears epidemically in the Levant during the summer, peaking in August and September. In the early part of the present century it was considered by the local population to be caused by the fruits of the season. Second, Benvenutus' observation that women are more frequently afflicted by ingrown eyelashes than men agreed with Feigenbaum's own experience in the Levant.¹⁰⁶ This evidence is, however, inconclusive, as acute muco-purulent conjunctivitis was epidemic in northern Africa, and in medieval times probably also in southern Italy; Benvenutus himself relates that the Salernitan physicians dealt with "obtalmia."¹⁰⁷ Since it is likely that the disease followed similar patterns in areas with similar seasonal temperature variation, one might expect that the peak in prevalence during the summer would be common to the Levant, northern Africa, and southern Italy. Besides, Benvenutus, who specifies so often that a disease is more common in a certain region and who specifically remarks that ingrown eyelashes are more frequent in Calabria than elsewhere,¹⁰⁸ does not state that either "obtalmia" or the skewed gender ratio among persons afflicted by ingrown eyelashes is more common in the Levant.¹⁰⁹

105 R. S. Lopez, "Concerning Surnames and Places of Origin," *Medievalia et Humanistica* 8 (1954): 6–16; B. Z. Kedar, "Toponymic Surnames as Evidence of Origin: Some Medieval Views," *Viator* 4 (1973): 123–129.

106 Feigenbaum, "Notes" (cit. n. 5), pp. 77, 78, discussing *Benevenuti... de oculis* (cit. n. 4), pp. 29, 37.

107 *Ibid.*, p. 30.

108 *Ibid.*, p. 37.

109 I would like to thank Saul C. Merin, professor of ophthalmology at the Hebrew University of Jerusalem, and Piers Mitchell of the Charing Cross & Westminster Medical School of the University of London for answering my queries with regard to Feigenbaum's suggestions.

Still, there are two clues in Benvenutus' treatise which may link him to the Levant. The first is the *zucharum nabet*, which plays a principal role in Benvenutus' stock of drugs¹¹⁰ and for which he gives still another Arabic name, *zucharum gilbel*, in addition to the latinized Arabic term *candi alexandrini*.¹¹¹ As far as I have been able to ascertain, the term *zuccarum nabetis* does not appear in any Occidental source of the twelfth or thirteenth century, but does figure in the customs tariffs of Frankish Acre, which form part of the *Livre des Assises de la Cour des Bourgeois*, probably compiled in that city between 1240 and 1244.¹¹² This list of tariffs, which presumably originated at a date preceding that of the compilation, mentions first *sucre* and then, somewhat later, *sucre nabeth* (or *nabet*), with the customs dues on the latter more than twice as high as on the former.¹¹³ As the term *sucre nabeth* appears here without any explanation, we may assume that it was current in the Frankish Kingdom of Jerusalem and that it was there that Benvenutus encountered it.¹¹⁴

A still more significant clue may be spotted in the passage of the *Ars probatissima oculorum* in which Benvenutus lists the names given in various regions to an affliction caused by the melancholic humor. Having given the names used by Tuscans, Romans, Sicilians and

110 This kind of sugar or the powder derived from it is mentioned nine times: see MS Erfurt, ed. Finzi (cit. n. 12), p. 33 (twice), 34 (three times), 38, 42, 50, 51.

111 See note 32 above.

112 For the date see J. Prawer, *Crusader Institutions*, Oxford 1980, p. 366.

113 "Les droitures dou sucre... si comande la raison c'on det prendre dou C., v. besans de dreiture." "Dou sucre Nabet coumande la raison que l'on doit prendre dou C., xi besanz et v. caroubles de droiture." A. A. Beugnot (ed.), *Livre des Assises de la Cour des Bourgeois*, ch. 242, nos. 15 and 40, in *Recueil des Historiens des Croisades. Lois*, Paris 1843, 2, pp. 174, 176 (MS A).

114 In the early 14th century this type of sugar is mentioned in a Venetian manual as *çucharò naibet* and *çucharò nebec*: see A. Stussi (ed.), *Zibaldone da Canal. Manoscritto mercantile del sec. XIV*, Venice 1967, pp. 57, 66. See in general E. Ashtor, "Levantine Sugar Industry in the Later Middle Ages — An Example of Technological Decline," *Israel Oriental Studies* 7 (1977): 226–280, reprinted in E. Ashtor, *Technology, Industry and Trade: The Levant versus Europe, 1250–1500*, ed. B. Z. Kedar, Aldershot 1992, Study III.

BENVENUTUS GRAPHEUS OF JERUSALEM

Greeks, Benvenutus concludes, according to most manuscripts, by saying that the *ultramarini* ("those beyond the sea," i.e., the inhabitants of the Frankish Levant) and the *francigene* (Frenchmen) call it "the accursed one" (*maledicta*), a designation he considers most appropriate of all.¹¹⁵ If the manuscripts in question give the correct reading of the passage, and it is reasonable to believe that they do,¹¹⁶ we may conclude that Benvenutus not only exhibits an acquaintance with a term used by the Franks of the Crusader Levant, but that he also knows that they were using the same language as the French. In addition, elsewhere he refers to *urtice ultramarine vel ciciliane*.¹¹⁷ Thus, there are reasons to believe that Benvenutus' appellation as *de Jerusalem* was rooted in reality.¹¹⁸

115 The following eleven MSS give the reading *ultramarini et francigene* (or slight variations of it): Vat. Pal. lat. 1254, fol. 252r; Vat. Pal. lat. 1268, fol. 303v; Vat. Pal. lat. 1320, fol. 105r; MS Boncompagni, MS Naples, Vat. lat. 5373, and Vat. Reg. 373: Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), pp. 119–121; MS Breslau/Wroclaw, eds. Berger and Auracher (cit. n. 89), p. 43; MS Riccardiano, ed. Albertotti (cit. n. 49), p. 51; the Italian adaptation: Albertotti, *Volgarizzamento* (cit. n. 2), p. 28; the adaptation by Jacopo Palmerio: Albertotti, "Il libro delle affezioni oculari" (cit. n. 2), p. 34.

116 The following five MSS give the reading *ultramontani et francigene* (or slight variants): MS Erfurt, ed. Finzi (cit. n. 12), p. 41; the two Munich MSS edited by Berger and Auracher, *Beitrag* (cit. n. 46), p. 36; MS Metz, ed. Laborde (cit. n. 57), p. 53; MS Ashburnham, ed. Albertotti (cit. n. 49), p. 74. Also, the incunabulum: *Benevenuti... de oculis* (cit. n. 4), p. 46. In the absence of a critical edition, it would appear that since *ultramontani* and *francigene* are largely synonymous, the first-mentioned reading should be given preference.

117 *Benevenuti... de oculis* (cit. n. 4), p. 43.

118 Albertotti printed from Vat. lat. 5373 a story about a Saracen oculist who succeeded in healing a *frater episcopi Veranensis* whom no other physician had been able to help: Albertotti, "I codici Napoletano, Vaticani" (cit. n. 12), p. 128. In the past, I assumed that the adjective *Veranensis* might refer to Valania in the Principality of Antioch, and that the story related by Benvenutus had taken place in the Frankish Levant: see B. Z. Kedar, "The Subjected Muslims of the Frankish Levant," in *Muslims under Latin Rule, 1100–1300*, ed. J. M. Powell, Princeton 1990, p. 160. An examination of the original (Vat. lat. 5373, fol. 179v) has revealed that the anecdote is an addendum to Benvenutus' treatise and that the crucial word is *Veronensis*.

Unfortunately, even when we accept this appellation at face value, it does not necessarily help us to delimit more closely the time at which Benvenutus was active. His name and language together with his quotations from the Latin tract of "Johannicius," leave little doubt that he was a Latin; the Latins lived in Jerusalem in the days of the First Frankish Kingdom (between 1099 and 1187) and again during the period 1229–1244, when Jerusalem reverted to Frankish rule in the wake of the agreement between Emperor Frederick II and the Egyptian sultan al-Kāmil. During the first of these periods Jerusalem was the capital of the Frankish Kingdom and had a considerable Latin population and an important hospital; at least toward the end of that period it was possible to study medicine there.¹¹⁹ Besides, one Jerusalemite born in that period, the famous William of Tyre, went west to study in the leading schools of France and Italy.¹²⁰ Perhaps Benvenutus also went west to study in Salerno or elsewhere. On the other hand, little is known about Jerusalem in the years 1229–1244; it is certain, however, that its Latin population was much smaller than before 1187 and that its role in the Frankish Kingdom was definitely eclipsed by that of Acre. Of the two periods in question, the first would be thus the more likely period of Benvenutus' life, but this is no more than a likelihood.

Furthermore, it does not necessarily follow that Benvenutus must have lived in Jerusalem during one of these periods, since a surname of the *de Jerusalem* type may denote the origin of the bearer or that of his immediate ancestors. In 1220, there is a citizen of Marseilles by the name of *Durantus de Jerusalem*;¹²¹ and in 1278 a *burgensis ac fidelis venetus* by the name of *Leo de Jerusalem* was robbed on his way from Tripoli to Acre and, five years later, rented a store in Acre's Venetian quarter.¹²² It is impossible, though, to

119 See note 101 above.

120 See R. B. C. Huygens, "Guillaume de Tyr étudiant: un chapitre de son 'Histoire' retrouvé," *Latomus* 21 (1962): 811–829; H. E. Mayer, "Guillaume de Tyr à l'école," *Mémoires de l'Académie des sciences, arts et belles-lettres de Dijon* 127 (1985–86): 257–265.

121 Emery, "Use" (cit. n. 104), p. 49.

122 D. Jacoby, "L'expansion occidentale dans le Levant: les Vénitiens à Acre dans la seconde moitié du treizième siècle," *Journal of Medieval History* 3

BENVENUTUS GRAPHEUS OF JERUSALEM

know whether these two men or rather their ancestors originated in Jerusalem. Similarly, Benvenutus may have originated in Jerusalem or may have inherited his surname from a Jerusalemite ancestor. On the other hand, the name *Grapheus* and the reference to *cardella* allow for the conjecture that Benvenutus, or an ancestor of his, came to Frankish Jerusalem from Sicily.

In sum, the only safe points with regard to Benvenutus' biography are that he lived some time between 1100 and 1290, that he was acquainted with the school of Salerno, that he practiced in various regions of Italy, and that he traveled among the Muslims of Barbary. On balance, there is no reason to doubt that he spent some time in the Frankish Levant. The precise nature of his links with Frankish Jerusalem and with Sicily must remain open, but there can be no doubt that he was a practitioner who traveled widely, crossed the Mediterranean, and left behind a treatise which summarizes the experience he was able to gather

ADDENDUM TO NOTE 2:

Michigan State University Press has announced the publication of Benvenutus Grassus, *The Wonderful Art of the Eye. A Critical Edition of the Middle English Translation of his De probatissima arte oculorum*, ed. L. M. Eldredge.

(1977): 246–247, reprinted in D. Jacoby, *Recherches sur la Méditerranée orientale du XIIe au XVe siècle. Peuples, sociétés, économies*, London 1979, Study VII.

ANALYSIS OF THE DATA

When the data were first analyzed, it was found that the distribution of the number of children per family was highly skewed. The mean number of children per family was 2.1, but the median was 1.0. This indicates that most families have one or two children, but a few have three or more. The distribution of the number of children per family is shown in Figure 1.

The distribution of the number of children per family is shown in Figure 1. The x-axis represents the number of children per family, and the y-axis represents the percentage of families. The distribution is highly skewed to the right, with a peak at one child. The mean number of children per family is 2.1, but the median is 1.0. This indicates that most families have one or two children, but a few have three or more. The distribution of the number of children per family is shown in Figure 1.

CONCLUSIONS

The data show that the number of children per family is highly skewed to the right. The mean number of children per family is 2.1, but the median is 1.0. This indicates that most families have one or two children, but a few have three or more. The distribution of the number of children per family is shown in Figure 1.

תוכן העניינים

מכתבי ד"ר מקס מאירהוף – 50 שנה למותו

אסתי דבורז'צקי
למהות שימושם של "חלוקי אבנים" במרחצאות
המרפא בארץ־ישראל בעת העתיקה

אהרן ארנד
מרשם להריון בכתב־יד משנת 1410

זהר עמר
השימוש בכסית האבוב בארץ־ישראל ובסוריה בימי הביניים

רשימות ומסמכים

מאניה אוסטרובסקי
זיכרונותיה של אחות בארגון "אזע", 1916–1917

פינת הסטודנט

יובל אור
עגבת מול איידס – היבטים היסטוריים וחברתיים

ביקורת ספרים
עלי דייוויד ווד פרנקל, הקמיע העברי, מקרא־רפואי־כללי

תיקון טעות

תדפיס מתוך

קורות

שנתון לתולדות הרפואה ומדעי הטבע

כרך יא (תשנ"ה)