

Arab Sources on the Life of Galen

Peter Starr¹

Abstract

This paper contains a summary of the chapter on Galen's life provided by Ibn Abi Usaybi'a. The Galen section shows the impressive range of the material on which a medieval Syrian physician, historian and bibliophile, could draw. Where the versions and fragments of information available to him are otherwise lost, the details he provides are of particular importance. At the same time it is clear that in the East the biography of Galen underwent some curious transformations, just as a large number of spurious works were in circulation. This paper also looks at little-known references to Galen which show his significance for medieval writers.

Keywords. *Ibn Abi Usaybi'a, Galen's life, Greco-Arabic literature.*

Introduction

“All in all,” writes the Arab physician Ibn Abi Usaybi'a, “there are very many stories about Galen, both in the reports and anecdotes scattered through his own books, and in accounts about Galen which have been handed down... [T]here are many stories of treatments he used with his patients, and they show his mastery and skill in the art of medicine... I plan to write a separate book on this subject, mentioning all the accounts in his books and elsewhere, if God wills.”

The Greek physician Claudius Galenos (died AD 200 or 216), also called Galen, was born in Bergama (Pergamon) in AD 129. The city, with its temple and hospital dedicated to the healing god Asklepios,² had already developed as the centre of Greek medicine. Galen's numerous books on medicine were translated into Latin as well as Arabic, and dominated medical theory and practice in Europe and the Middle East until their authority was challenged in the fifteenth and sixteenth centuries.

¹ Çankaya University, Faculty of Arts and Sciences, Department of English Language and Literature, Balgat, Ankara

Just as Arab physicians knew works of Galen which were unknown in the West, they also generally had fuller information about the circumstances of Galen's life. The writer who had the idea, remarkable for a scholar of his time, of writing a biography of Galen from references in the author's works and other accounts, was Muwaffaq ad-Din Ahmad ibn Abi Usaybi'a (died AD 1269), whose family were employed by members of the Ayyubid dynasty of Saladin in Syria. Although it seems that he never completed the separate biography, his one surviving book, a great bio-bibliographical history of medicine called *The Sources of Information on the Classes of the Physicians*,³ contains the longest life and list of works of Galen available in his day (forty pages in the 1965 edition). This chapter brings together and discusses all the information on Galen's life available in thirteenth-century Damascus. It is the comprehensiveness of this biography, and the fact that many of the works on which it relies are lost, which makes Ibn Abi Usaybi'a's account a good place to begin a consideration of Middle Eastern presentations of Galen's life.

2. Ibn Abi Usaybi'a and the Question of Galen's Dates

The method IAU used in the *Classes of Physicians* chapter on Galen is familiar from other Islamic histories. Knowledge is presented as being passed down the generations (the "classes" of the book's title). The author copies paragraphs from his Arabic sources, and he is usually scrupulous in naming them. Occasionally he digresses to discuss a point of interest. Generally IAU makes little attempt to evaluate the accounts which he has collected, but where there are apparent contradictions he may give a judgement.

IAU begins with a question which preoccupied a number of the authors he quotes, namely the date of Galen's life. From an early stage the Arabs knew of the popular belief that Galen was a contemporary of Christ, and no less an authority than Ishaq ibn Hunayn, in his *History of the Physicians*, had claimed that Galen died in AD 88 at the age of eighty-seven.⁴ In citing this work, IAU is using the earliest Arabic chronology of the lives of the physicians, which itself claims to derive from 'Yahya an-Nahwi', John the Grammarian, usually called John Philoponos. IAU himself rejects the legend, and draws his arguments from a section of a lost history by the eleventh-century 'Ubaydallah ibn Gibra'il, written to prove that such an early dating of Galen was impossible.⁵

IAU then launches into an excursus on the contradictions of historians, and, rather surprisingly, he inserts Eusebius' account of the translation of the Septuagint, before returning to the question of Galen's dates. A series of citations from Galen follow, from the *De anatomicis administrationibus*, and the *De libris propriis*, which 'Ubaydallah had used to prove that Galen was not a contemporary of Christ. There is a passage from Galen's *De moribus*, which, although lost in Greek, survives in an Arabic epitome,

mentioning the death of Perennis, and giving the date 516 of Alexander. Then one of Galen's philosophical works, the *Commentary on Plato's Republic*, which again partly survives in Arabic translation, is cited to prove that Galen already knew of monks and nuns, and therefore he must have come some time after Christ.

We can see that, in spite of the impediments faced by the Arab writers, the fact remains that they had access to biographical material on Galen which the western tradition did not. Above all there is the autobiographical information found in works of Galen available in the East, for the Greek doctor was fond of mentioning his own career and successes in the course of discussing medical topics. The Pergamene was not surprisingly proud of his successes in Rome, given that he rose to be the personal physician of emperors Marcus Aurelius, Commodus, and Septimus Severus, and was able to attract large crowds with his lectures and anatomical demonstrations. Here, however, I simply want to draw attention to that mixture of confusions, legends, and possibly also ancient, inherited information, which provided additional material for Arabic literary historians.

3. Sources in Arabic Support a Death Date of AD 216

For the oriental writers Galen died at the age of 87, and this is stated on the authority of a Greek *History of the Physicians* from Alexandria. Fritz Zimmermann made a study of this chronology, and, pointing out that the dates it provides seem to be determined by their theological convenience, suggested that it is was a later, Syriac Christian, pseudepigraph.⁶ The tradition that Galen died at 87 would thus be consigned to legend.

Richard Walzer, however, had an argument in favour of a Greek authorship, and Vivian Nutton, in his "Galen ad multos annos", provides the further argument that there are elements in the *History of the Physicians* which show that its author knew the *Commentary on the Hippocratic Oath*.⁷ As this commentary was not translated into Syriac until the mid-ninth century, one should, after all, follow the tradition back to a Greek source. In the same article Vivian Nutton brings other, and certainly more important, evidence to establish that Galen did indeed at least live into his eighties.

Returning to IAU's chapter on Galen, we have seen that he concluded his discussion of the Greek doctor's dates with a number of extracts from which the date of Galen's birth may be deduced. Prompted by the fact that the last of these mentions Christianity, IAU inserts at this point the other Galenic references to Christ, and to Moses, from a short compilation of such passages made, or made use of, by IAU's teacher's teacher, the physician Ibn al-Mutran ("Son of the Metropolitan"). This author of another lost *History of the Physicians* is but one of a number of Eastern Christians formed in the tradition of Greco-Arabic medicine and science who were interested in Galen's views on the Christian religion, as I will show later.

IAU's account moves on from the question of Galen's dates to give a biographical sketch based on a tenth-century history, Ibn Gulgul's *The Classes of the Physicians*. He writes:

"Ibn Gulgul says: 'Galen was one of the Greek sages who were in the empire of the caesars after Rome was built. His birth and upbringing were in Pergamon, a small city of the cities of Asia, east of Constantiniyya (i.e. Istanbul), an island in Constantiniyya's sea, the people being Rum, i.e. Greeks, Hellenes. It was from there that the Rum called the Goths came and plundered and colonized al-Andalus. Bishop Isidore of Seville said that the city of Pergamon was where there is the prison of the kings, where they would imprison those with whom they were angry.'"

It is interesting to note that Ibn Gulgul, himself from al-Andalus, derives some of his information from the Latin text of Isidore of Seville.

4. Conflicting Accounts of Galen's Death

Here IAU digresses from the text of Ibn Gulgul with a long extract about a well-known caliphal physician's visit to the ruins of Galen's house in Pergamon. This is reliable evidence that the memory of Galen having lived in Pergamon was kept alive in his home town at least until the ninth century. After this, the passage taken from Ibn Gulgul continues:

"The Christian religion arose in the days of Galen. He was told that a man had appeared at the end of the empire of Octavian Caesar in the Holy City who heals those blind from birth, and lepers, and who raises the dead. Galen said: 'It is likely that he did that by divine power.' So he asked if there were any of the man's disciples who remained, and he was told 'yes'. So Galen left Rome and went in the direction of the Holy City. He crossed to Sicily, which was then called [Sicania], but he died there, and his tomb is in Sicily."

The chapter on Galen has, therefore, reached the question of where he died, and in what circumstances. Inserted here is a strange story of the revered physician's attempts to cure himself with a recipe for freezing water, about which IAU comments briefly: "I consider this story about Galen to be invented", although it provides the occasion for a note on whether it is possible to freeze water artificially.

The oriental biographers knew of two different versions of the story of Galen's death, and, characteristically, our author presents them alongside each other. He gives the other version as follows:

"Al-Mubashshir ibn Fatik says: '... [Galen] also travelled to Egypt, and lived there for a while. He saw the medicinal plants there, notably opium in the town of Assuit, one of the regional towns of Upper Egypt. Then he left, travelling towards the Levant, on

the way back to his home country. He fell ill on the way, dying at al-Farama, a town on the Green Sea, one of the most distant regional towns of Egypt.”

IAU finds support for this tradition in a quotation from the *Kitab al-masalik wa-al-mamalik*, a tenth-century geographical work by Istakhri, which knows of a tomb of Galen in al-Farama (the Pelusium of antiquity). Thus on the one hand we have Galen’s death in Sicily in the context of a journey to ask about Christ, and in the other version Galen dies in the course of travels in search of new medical materials. Once again one can see that by the time Muslim authors inherit the biographies of Galen, Christianizing legends have attached themselves to them. Most far-fetched is the information provided by the well-known author al-Bayhaqi, which IAU quotes:

“If there had only been, among the disciples, Paul, the son of Galen’s sister, it would have been enough. Galen sent Paul to Jesus, and made clear his inability to journey to Jesus himself, because of his old age and infirmity. He believed in Jesus, and commanded his sister’s son Paul to do homage to Jesus.”

5. Exaggerated Reverence for Galen

The biography of Galen which we find in these accounts has clearly been distorted, and it is worthwhile considering why this should be. The oriental Christians, at a certain period the main guardians and transmitters of Galenic medicine in the East, had a reverence for Galen which led them to discount some of the Pergamene’s remarks about their religion, and appropriate him as a convert. We have noted this on three occasions: the chronology transmitted by Ishaq ibn Husayn, the account of Galen’s death *en route* to Jerusalem, and the tradition that Paul was Galen’s nephew.

Richard Walzer wrote the monograph *Galen on Jews and Christians*, in which he discusses six passages, scattered in works of Galen in Greek and Arabic.⁸ Walzer includes a chapter on views of the Christian community on Galen, and it is clear that their reverence for him dated from his own lifetime. Theodotos the Leather-worker, according to Eusebios’ *Historia ecclesiastica*, was the head of an early sectarian attempt to reconcile the Christian religion with science. Eusebios, using an anonymous work called *The Little Labyrinth*, writes of this sect:

“Thus, to study Euclid is for some of [the sect] a labour of love; Aristotle and Theophrastos are admired; aye, Galen in like manner by some is even worshipped.”

It is interesting to note that it was Galen’s standing as a philosopher which was admired in this case, for, like other ‘iatrophilosophoi’ physicians of his era, he did not confine his studies to medicine, but wrote influential works on logic and ethics.

We know from his writings that Galen kept an open mind towards new religions and ideas, and this meant that Theodotos and his companions are likely to have had access

to their teacher's lectures, and to have met him. However, their intellectual movement was short-lived. The general opinion of the Church at the time, represented by writers like Hippolytos and Tertullian, was to condemn attempts to reconcile religion and science. As the standing of Christianity in the Greco-Roman world improved, we find numerous later theologians who admired Galen, and particularly the arguments from design in Galen's *De usu partium* were given a monotheistic interpretation.

As we have seen, we find that Galen is fully appropriated by the time of the *History of the Physicians* ascribed to John Philoponos (died cira AD 570), with its legendary chronology in which Galen is made a contemporary of Christ. At this time, and in the early Islamic period, writers with a Syriac (*Suriyani*) background gave the biography of Galen the additions which we have noted. The flowering of Arab and Islamic scholarship clearly brought a more critical approach, and by the time of Ibn al-Mutran, from whom IAU took his compilation of Galenic references to Moses and Christ, some of the oriental Christians knew very well that Galen's usual references to their religion were generally dismissive.

It is interesting to begin to trace back the Syriac and Christian Arab authors' attitudes to Galen, both to find evidence of the legends, and to identify the authors who first distanced themselves from them. So far I have not been able to find many passages to illustrate this development, but in time it may be possible to follow these changes in more detail.

6. Ibn Zur'a's Views on Galen

A late, but important, witness is 'Isa Ibn Zur'a (died AD 1008), one of the last representatives of the Greco-Arabic translation movement in Baghdad.⁹ This man was primarily a philosopher, translating from Syriac into Arabic and writing introductions to the works of Aristotle and his commentators, as well as writing original treatises on philosophical topics, such as his *On the Intellect*, and *The Luminosity of the Planets and the Spheres*. Among his translations, we note that the manuscript Gotha 1906 contains a *Commentary of John the Grammarian on Galen's On the Uses of the Parts of the Body*. We have already seen that the *De usu partium* was used for religious apologetics. Ibn Zur'a also made reworkings of four of the *Summaries of the Alexandrians*, i.e. of compilations of Galen's works which were widely used in the East. The reworkings survive in a Tehran manuscript noted by the Turkish scholar of Arabic literature Prof. Fuat Sezgin.¹⁰

Many Christian Arab translators, including Hunayn ibn Ishaq, who spent his life devotedly tracking down and translating Galen into Arabic, contributed short works in the genre of Christian apologetics. This was to do with the fact that they worked for Muslim patrons, who were often curious to know how their acquaintances would

explain their continued adherence to the old faith, whether Nestorian, Melkite, or, in Ibn Zur'a's case, Jacobite (to use the names current at the time). Ibn Zur'a was a philosopher, and his specific quotation from Galen is from one of the philosophical works. In an apologia written to a Jewish friend, the otherwise unknown mathematician Bishr ibn Finhas, he refers to a passage from *Galen's Summary of the Republic*, in which Christian ethics are praised:

"For Galen," he writes, "... says at the end of the book which he wrote as a summary of Plato's *Republic*, that in the holy law of the people who follow the Messiah there are many righteous people who practice many perfect virtues, and this is not only true of the men among them, but also the women."¹¹

Thus Galen is cited in an apologetic context. What Ibn Zur'a says next, however, shows that he had no delusions about the legends Christianizing Galen:

"I see that (Galen) is amazed by their excellence, while both this man's status as an expert in the sciences is well-known, and his position in stubbornly opposing the two holy laws, are obvious and clear to whoever studies his books, and comes to know what he says about them."

This author can assume knowledge of Galen's true views by this time. It may indeed be the case that the compilation of Galen's passages on Moses and Christ found in Ibn al-Mutran was already in circulation in the tenth century.

7. Use of Galen's *De usu partium* in Apologetics

In the selection of Ibn Zur'a's works given above we saw his translation of *John the Grammarian on Galen's On the Uses of the Parts of the Body*. In a passage soon after the one from the *Letter to Bishr* above, we find the following argument:

"[The Creator's] deeds, which showed us the existence of His essence, were skilful and masterly in a way which necessitates that He has great wisdom. This is attested by what the ancients say on the uses of the parts of (the body of) man, the existence of which would be pointless if they were to deviate at all from their position and order."

What we find here is a recurrence of the use of an argument which derives from Galen, whose status added to its force for authors of the period when Baghdad was a flourishing centre of scientific learning. Galen's argument in *De usu partium*, that the perfection of the body's organs indicated the work of the Demiurge, was adapted to new requirements.

In the previous generation, Yahya ibn 'Adi (died AD 974), who belonged to the same milieu, also uses the argument from *De usu partium* in his theological apologetics. He is seeking to prove the Trinity, and he first establishes that God has the attribute 'Wisdom' from the design to be observed in creation, notably, again, in the parts of the

human body. From this basis he deduces ‘an intellect’, ‘an intellecter’, and ‘the object of the intellect’,¹² a trias also found in the philosophy of Ibn Sina.

It may well be that the debt to Galen of these two apologists went further. They ascribe to the Trinity in their works the attributes of goodness, wisdom, and power. It is possible that their choice of these three was influenced by passages from Galen’s own metaphysics. The following quotation is from *On Medical Experience*, which survives in Arabic translation:

“For the will to arrange everything in the best possible order and not to grudge good things to anybody is a sign of most perfect goodness, as I see it, and therefore He [i.e. the Demiurge] should be celebrated in hymns as good; to find out in what way everything might be most perfectly arranged is evidence of the highest wisdom, and to carry into effect everything that He set out to do is the work of unconquerable power.”¹³

However, the same trias is found in numerous other Greek authors. Another parallelism, this time between Arabics apologetics and chapters two and three of Galen’s *De propriis placitis*, may also have been too widespread to identify as an influence. In one passage Ibn Zur’a enumerates the things about which the human intellect cannot achieve certainty. Among these are the nature of the divine, and how the world was created in time.

The important medieval Arab writer Abu Hayyan at-Tawhidi, an acquaintance of the philosophers mentioned above, praises *De usu partium*, comparing it with a divinely revealed book, and drawing attention to the passage in which divine providence is made responsible for the structure of the eye. In the 103rd *muqabasa*, at-Tawhidi mentions that some have criticised this passage, and pointed out that if the eyes were situated on the nape and in the forehead the same argument for providence could be made.¹⁴

As a final note on this theme, Georges Vajda refers in his article “Galien–Gamaliel” to Judaeo-Arab writers, of a later date, who asserted that Galen was a Jew of the tribe of Judah.¹⁵ Were one to collect all the surviving references in Christian and Jewish literature, one would be able to write a companion to Richard Walzer’s monograph, which could be called “Jews and Christians on Galen”.

8. Choicest Maxims and Best Sayings

IAU has by this point exhausted the material provided by the earlier Arab biographies of Galen. Desiring to relate as much as possible about his subject before ending his chapter with a list of Galen’s books, IAU now includes sayings from two Arabic collections of wise words attributed to Greek authorities. (We find the same pattern of adding sayings from anthologies in the earlier chapters of his book, on Pythagoras, Plato, Aristotle, Hippocrates, and others.)

Al-Mubashshir ibn Fatik's *Choicest Maxims and Best Sayings* is quoted extensively. This is an eleventh-century collection written in Cairo on the basis of works which had been brought to Egypt from Baghdad. It relies in part on the other collection of sayings which is quoted by IAU, Hunayn ibn Ishaq's *Anecdotes of the Philosophers*. A number of the tales which these anthologies contain may have their origins in fact, but in the absence of a context it is often hard to judge. After quoting a passage on the destruction by fire of Galen's library from the lost work *On Driving away Care*, IAU brings the following additional information from the *Choicest Maxims*:

"Al-Mubashshir ibn Fatik says that among the Galen's possessions which were burnt in this fire were the book of Rufus on theriac, and poisons, and treating people who have been poisoned, and the composition of medicines according to the disease and the time. Among the glories which he owned were his books in white silk, and with black silk binding, on which he had spent great sums."

The Choicest Maxims includes an idealized description of Galen's appearance, "dark in colour, with fine features, broad-shoulders, wide hands, long fingers, and beautiful hair... With a straight walk, and showing his teeth when he laughed, he chatted a lot, and was rarely silent, and often spent time with his companions. He traveled often, had a pleasant fragrance, and choice clothes..." There is also the following anecdote about Galen's school days:

"Because of his eagerness for knowledge he would rehearse what the teacher told him on the way, from the time he left (his teacher) until he reached his house. The young men who were with him where he studied would find fault with him and say: 'O you so-and-so, you must give yourself time to enjoy yourself with us and play.' Sometimes he would not answer them because he was occupied with what he was learning, and sometimes he would say to them: 'What causes you to laugh and play?' They would say: 'Our desire to do so'. So he would say: 'And the reason why I do not do so, but prefer knowledge, is my contempt for what you do, and my love of what I do.'"

This passage is presumably an example of later embroidery on Galen's biography, very likely developed from actual statements of Galen.

Our Arab biographer adds to this anecdotal section quotations from Galen's works, as well as from those of other authors, including some lines from a well-known poet in praise of Galen. Of particular interest are the autobiographical fragments taken from Galen's works because the majority of these are from works which the Arabs preserved but which are otherwise lost. Max Meyerhof translated and published these in an article for *Sudhoffs Archiv*.¹⁶

9. IAU's List of Galen's Works

The biographical section of the chapter on Galen ends, and it is followed by a list of the Arabic versions of his writings. This catalogue of Galen's works testifies to the fact that, by the end of the ninth century, the entire range of the physician's works which were studied in the late Alexandrine school had been translated and made available to readers of Syriac and above all Arabic.

IAU's list is largely derived from the *Letter from Hunayn ibn Ishaq on the Books of Galen Which... Have Been Translated, and on Some Which Have not Been Translated*, of which the original is known in two recensions.¹⁷ The later one was written in AD 855-856, but includes additions by Hunayn and a disciple. When we compare the original with the list in 'Uyun al-anba' we find that IAU has copied all the titles, although he omits to mention the translator, or translators, in each case.

IAU also makes use of a second work of Hunayn, the *List of the Books Which Galen Did not Mention in the Index of His Works*. It was originally an appendix made by the ninth-century Arab translator to accompany his Syriac version of the *De libris propriis*, and it is divided into those works which Hunayn judged to be genuine, and those works which were attributed to Galen but which he judged to be spurious.

IAU's chapter closes with a list of thirty-three additional titles known to him as works attributed to Galen, including some very remarkable pseudepigraphal treatises.

10. Conclusion

In reviewing the chapter on Galen's life provided by IAU we have been able to gain an impression of the material on which a medieval Syrian physician, historian and bibliophile, could draw. Where the versions and fragments of information available to him are otherwise lost, the details he provides are of particular importance.

It is clear that in the East the biography of Galen underwent some curious transformations, just as a large number of spurious works were in circulation. However, under the impulse of the flourishing scholarship of the Abbasid dynasty in the 8th-10th centuries, a more critical approach was developed. Some of the historical questions surrounding the material available in Arabic can be answered with reference to developments in the literature of the time.

NOTES

- 2) It is possible to visit the ruins of these buildings, called the Asklepeion, a few kilometers to the west of Bergama town centre. A vivid impression of life there is given in the works of the orator Aelius Aristides (died ad 181), who was obsessed by health and spent many years at the temple of Asklepios.
- 3) Ibn Abi Usaybi'a (IAU), '*Uyun al-anba' fi tabaqat al-atibba'*', edited by Nizar Riza, Dar Maktabat al-Hayat, Beirut, 1965. There was an earlier printed edition (Königsberg, 1884), to which the editor August Müller had to publish extensive corrections. IAU was able to draw on, among other works, Ibn an-Nadim's *Fihrist* and the al-Qifti *Ta'rih al-hukama* (still available in Zawzani's version).
- 4) Franz Rosenthal, "Ishaq b. Hunayn's Ta'rih al-atibba'," *Oriens*, vol. 7, 1954, p. 55-71.
- 5) One might ask why a legend bringing Christ and Galen together should have arisen. The reason is probably that it allowed a convenient contrast between divine and medical healing, with a lesson regarding the superiority of the former.
- 6) Fritz Zimmermann, "The Chronology of Ishaq ibn Hunayn's Tar'ih Al-Atibba'," *Arabica*, vol. 21, no. 3, 1974, p. 324-330.
- 7) Vivian Nutton, "Galen ad multos annos," *Dynamis*, vol. 15, 1995, p. 25-39.
- 8) Richard Walzer, *Galen on Jews and Christians*, London, Oxford University Press, 1949.
- 9) Dimitri Gutas, *Greek Thought, Arabic Culture. The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbasid Society (2nd-4th/8th-10th centuries)*, Routledge, London and New York, 1998.
- 10) Fuat Sezgin, *Geschichte des arabischen Schrifttums*, vol. 3, Leiden, Brill, 1970, p. 147-148.
- 11) Paul Sbath (ed.), *Vingt traités*, Cairo, Friedrich and Co., 1929, p. 19-52.
- 12) Augustin Périer (ed.), *Petits traités apologetiques de Yahja ben 'Adi*, Paris, 1920.
- 13) Galen, *On Medical Experience*, Richard Walzer (ed. and translator), London, Oxford University Press, 1944.
- 14) Abu Hayyan at-Tawhidi, *Al-Muqabasat*, Muhammad Tawfiq Husayn (ed.), Baghdad, Matba'at al-Irshad, 1970.
- 15) Georges Vajda, "Galien-Gamaliel," in *Mélanges Isidore Uvy, Annuaire de l'Institut de Philologie et d'Histoire Orientales et Slaves*, vol. 13, p. 641-652.
- 16) Max Meyerhof, "Autobiographische Bruchstücke Galens aus arabischen Quellen," *Sudhoffs Archiv für Geschichte der Medizin*, vol. 22, 1929, p. 72-86.
- 17) Gotthelf Bergsträsser, "Hunain ibn Ishaq über die syrischen und arabischen Galen-Übersetzungen," *Abhandlungen für die Kunde des Morgenlandes*, vol. 17.2, Leipzig, 1925; and Gotthelf Bergsträsser, "Neue Materialien zu Hunain ibn Ishaqs Galen-Bibliographie," *Abhandlungen für die Kunde des Morgenlandes*