

Articella Studies



**Texts and Interpretations in
Medieval and Renaissance Medical Teaching**

number 2

THE *ARTICELLA* IN THE EARLY PRESS

c.1476-1534

Jon Arrizabalaga

1998

Cambridge Wellcome Unit
for the History of Medicine

CSIC Barcelona
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Jon Arrizabalaga

*Departamento de Historia de la Ciencia
CSIC (Institución "Milà i Fontanals")
Egipciaques, 15
08001 Barcelona (Spain)*

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CSIC Barcelona
Department of History of Science

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1. INTRODUCTION: FROM MANUSCRIPT TO PRINT

The invention of a workable founding instrument to produce types allowed Johann Gutenberg to develop around the 1440s a businesslike system to print written texts by means of separately cast and combinable characters, namely the printing press. This system was then perceived as an effective means to make the process of copying manuscripts cheaper and quicker. The earliest printers indeed confined themselves to reproducing works that had for centuries circulated as manuscript codices, the details of presentation of which they tried to copy. Like many machine-made things, the new texts were ugly, if undeniably cheap, and on one or the other count were sometimes seen as not being real books.¹

Nevertheless, from its original home in the Rhine Valley, the press quickly spread in the 1460s and particularly the 1470s to Italy, Paris, the Low Countries, Central and Northern Germany, Eastern Europe, the Iberian kingdoms, the rest of France, England, and the remainder of Europe. This argues that indeed the commercial possibilities of cheap texts were being realized in big print runs and a buying market. It need not now be emphasized how important such a change was for the spread of knowledge in all fields; but we should avoid giving the press a unique responsibility for everything that happened in European intellectual history in the fifteenth and sixteenth centuries. Undoubtedly, manuscripts continued to play a far from negligible role for the transmission of knowledge in Europe long time after the arrival of the press, particularly in those disciplines later institutionalized.²

The collection of medical works traditionally known as the *Articella* showed a remarkable capacity to survive as a textbook in the university classroom, being an essential tool for medical teaching from the thirteenth century until well on into the sixteenth century. The history of the printed *Articella* plainly shows that a volume with such attributes has its publishing success guaranteed: during the almost six decades which elapsed from its *editio princeps* (c. 1476) to its last edition (1534), this medical collection enjoyed a flourishing life being printed no less than eighteen times. This study is a first approach to the fortunes of the *Articella* in the early European press. I will focus upon the major changes in both contents and format that this collection experienced during this relatively short period of its long life, and I will try to make sense of why it suddenly stopped being printed in the 1530s.³ However, the

¹ On the world of the printed book in late fifteenth- and early sixteenth-century Europe, see among others, Rudolph Hirsch, *Printing, selling and reading, 1450-1550* (2nd ed., Wiesbaden: Otto Harrassowitz, 1974); Armando Petrucci, *Libri, editori e pubblico nell'Europa moderna. Guida storica e critica* (Roma-Bari: Laterza, 1977); Elisabeth L. Eisenstein, *The printing press as an agent of change. Communications and cultural transformations in early-modern Europe*, 2 vols. (Cambridge: Cambridge Univ. Press, 1979); Sandra L. Hindman, ed., *Printing the written world. The social history of books circa 1450-1520* (Ithaca-London: Cornell Univ. Press, 1991); Roger Chartier, *Libros, lecturas y lectores en la Edad Moderna* (Madrid: Alianza, 1993); as well as the bibliography quoted in these works. On the vigorous debate promoted by Eisenstein's work, see Robert S. Westmann, "On communication and cultural change", *Isis*, 71 (3), 1980, 474-7; Peter F. McNally, ed., *The advent of printing: Historians of science respond to Elisabeth Eisenstein's "The printing press as an agent of change"* (Montreal: McGill Univ., 1987), among others. Applied to very restricted topics but still very useful are José M. Madurell and Jorge Rubió y Balaguer, *Documentos para la historia de la imprenta y librería en Barcelona (1474-1553)* (Barcelona: Gremio de editores, de librerías y de maestros impresores, 1955); Martin Lowry, *The world of Aldus Manutius. Business and scholarship in Renaissance Venice* (Oxford: Blackwell, 1979).

² See, for instance, the cases of alchemy, natural magic and arts in William Eamon, *Science and the secrets of nature. Books of secrets in medieval and early modern culture* (Princeton: Princeton Univ. Press, 1994).

³ In this study I am not concerned with a seemingly English edition of the *Articella* which was published in London in 1612 under the title *Enchiridion medicum...* It is clear that this edition was responding to entirely

hugeness of the topic prevents me from dealing with other significant issues related to it, such as the actual circulation of the printed *Articella* editions all over Europe, its uses for the purposes of medical teaching and practice in different European contexts, and the economical significance of the printed *Articella* business in the earliest printed book market.

2. THE "EARLY PRESS"

Although bibliophiles commonly make the year 1500 the major chronological watershed in early printed books (separating *incunabula* from later books) this has little meaning in historical terms. What is important is the period of transition from manuscript to print. For our purposes this period was approximately between 1470 and 1530. It is not until the 1470s that university medicine and natural philosophy become visible products of the European presses and an active part of the university book market. At the other end of the period, it was only by 1530 that the bulk of the ancient and medieval intellectual heritage (ancient and Byzantine Greek, Latin and Arabic) had been published in Latin at least once. By then too Greek versions were becoming more frequent as the hellenists pursued their ideals, and a great deal of vernacular texts were printed. Important landmarks in this process were Pliny's *Historia naturalis* (Latin edition of 1469), the Latin edition of the *Canon* of Avicenna (1473), the *Materia medica* of Dioscorides (1478; Greek edition 1499), the works of Plato (1484/5; Greek 1513), those of Galen (1490; Greek 1525) of Aristotle (1482; Greek 1495-7) and the *Corpus Hippocraticum* (1525; Greek 1526).

Clearly the intellectual orientation of the scholars of the period was towards ancient and medieval authority, which was increasingly seen as Greek. Within medicine the number of books published during the lifetimes of their authors was accordingly very small until the 1490s, when it rose suddenly. After this date living authors seem to have gradually realized the huge opportunities which presses offered for diffusion of their studies, and found publishers ready to finance their printing, although they do not seem to have surpassed the number of dead authors until the second half of the sixteenth century. From Stillwell's repertory we can tentatively conclude that none of the six medical works printed before 1470 was written by an identifiable living author; only 10 authors out of 95 (= 10.5%) during the decade 1470-79; 3 out of 69 (= 4.3%) during the decade 1480-89; and 24 out of 61 (= 39%) during the decade 1490-99.⁴

different historical circumstances. See Peter Krivatsy, *A Catalogue of Seventeenth-Century Printed Books in the National Library of Medicine* (Bethesda: U.S. Dept. of Health and Human Services, 1989), #12113.

⁴ Jon Arrizabalaga, Luis García-Ballester, and José Luis Gil-Aristu, "Del manuscrito al primitivo impreso: la labor editora de Francesc Argilagues (fl. ca. 1470-1508) en el renacimiento médico italiano". *Asclepio*, 43 (1), 1991, 3-49: p. 11. For a quite exhaustive account of early printed editions of medical and natural philosophical works, see in combination Arnold C. Klebs, *Incunabula scientifica et medica* [1938] (facs. repr., Hildesheim: G. Olms, 1963) [henceforth, Klebs]; Margaret B. Stillwell, *The Awakening Interest in Science during the First Century of Printing, 1450-1550. An annotated Checklist of First Editions viewed from the Angle of their Subject Content. Astronomy - Mathematics - Medicine - Natural Science - Physics - Technology* (New York: The Bibliographical Society of America, 1970) [henceforth, Stillwell]. On the medical and philosophico-natural book in the early printing press, see also Luis García Ballester, "La nueva industria del libro médico y el renacer del humanismo médico latino", in Manuel Fernández-Alvarez et al., *La cultura del renaixement. Homenatge al Pare Miquel Batllori* (Bellaterra: Universitat Autònoma de Barcelona [Monografies Manuscrits, I], 1993), 111-128: pp. 120-121; Eamon, *Science and the secrets of nature*; José Pardo-Tomás, "La producción impresa de libros científicos en la Corona de Aragón (1475-1600)", in

3. THE ARTICELLA

By the name of *Articella* we mean a medical collection of short treatises "conveying the rudiments of Hippocratic and Galenic medicine to serve as a basic curriculum" that was brought together by twelfth- and early thirteenth-century Salernitan authors who also "established the practice of teaching by commentary on these texts".⁵ The core of this collection was gradually fixed around the Hippocratic *Aphorismi* and *Prognostica*, Galen's *Tegni* (*Ars medica*, *Ars parva*, *Microtegni*), the *Isagoge* of Johannitius, two semiological writings (*De urinis* of Theophilus, and *De pulsibus* attributed to Philaretus), and the Hippocratic *De regimine acutorum morborum*.

This core was later supplemented with a variety of works from various origins, among them other Hippocratic and Galenic writings, pieces of Avicenna's *Canon* and collections of aphorisms by Mesue, Arnau de Vilanova and others. Galen's commentaries on the above mentioned Hippocratic works, and 'Ali Ibn-Ridwan's commentary on Galen's *Tegni* were not initially a part of the *Articella*, but they were included in about one third of the extant manuscripts by the second half of the thirteenth century, and this proportion did not stop rising in the successive centuries.⁶

According to Tiziana Pesenti, the name *Articella* sprang up in the Veneto during the second half of the fourteenth century and first appeared at the medical faculties of Padua, Pavia and Bologna during the early fifteenth century. Yet this designation originally referred to the Hippocratic *Aphorismi* with Galen's comments, with which only the *Articella* in use at the Italian universities began. The "Italian" *Articella* included, in this order: the Hippocratic *Aphorismi* with Galen's commentary, Galen's *Tegni* with 'Ali Ibn-Ridwan's commentary, and the Hippocratic *Prognostica* and *De regimine acutorum morborum* with Galen's commentaries. However, it did not incorporate the triad *Isagoge - De urinis - De pulsibus* with which this collection began in other manuscript traditions, including the Salernitan one. Among these traditions Pesenti points to the tradition of the *Ars commentata*, which included this triad along with the whole set of Hippocratic and Galenic works included in the "Italian"

Esteban Sarasa & Eliseo Serrano, eds., *La Corona de Aragón y el Mediterráneo (siglos XV y XVI)* (Zaragoza: Institución "Fernando el Católico, 1995), pp. 231-66.

⁵ Nancy Siraisi, *Medieval and early renaissance medicine. An introduction to knowledge and practice* (Chicago-London: The Univ. of Chicago Press, 1990), pp. 58, 71.

⁶ Fernando Salmón, "Sources for a Galenic visual theory in the late thirteenth century", *Sudhoffs Archiv*, 80 (2), 1996, 167-83. On the *Articella* and its dissemination see, among others, Paul Oskar Kristeller, *Studi sulla Scuola salernitana* (Naples: Istituto Italiano per gli Studi Filosofici, 1986); Gerhard Baader, "Articella", in *Lexikon des Mittelalters* (München-Zürich: Artemis, 1980-), vol. I, cols. 1069-70; Nancy G. Siraisi, *Taddeo Alderotti and his pupils. Two generations of Italian medical learning* (Princeton: Princeton Univ. Press, 1981), pp. 96-107; Siraisi, *Avicenna in Renaissance Italy. The Canon and medical teaching in Italian universities after 1500* (Princeton: Princeton Univ. Press, 1987), particularly pp. 49, 132-3; Luis Garcia-Ballester "Arnau de Vilanova (c. 1240-1311) y la reforma de los estudios médicos en Montpellier (1309): el Hipócrates latino y la introducción del nuevo Galeno", *Dynamis*, 2, 1982, 97-158; pp. 99-102; Per-Gunnar Ottosson, *Scholastic Medicine and Philosophy: A study of Commentaries on Galen's Tegni (ca. 1300-1450)* (Naples: Bibliopolis, 1982), particularly pp. 28-34; Tiziana Pesenti, "Editoria medica tra Quattro e Cinquecento: L'Articella e il Fasciculus medicine", in Ezio Riondato, ed., *Trattati scientifici nel Veneto fra il XV e XVI secolo* (Venice: Università Internazionale dell'Arte, 1985), pp. 1-28; Pesenti, "Arti e medicina: la formazione del curriculum medico", in L. Gargan-Oronzo Limone, ed., *Luoghi e metodi di insegnamento nell'Italia medioevale (secoli XII-XIV)* (Galatina: Congedo, 1989), pp. 155-77; Arrizabalaga, Garcia-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso".

Articella, and that of the *Ars medicine* which presents a similar pattern except for the fact that the Hippocratic and Galenic writings are not accompanied by their commentaries.⁷

4. PRINTED EDITIONS, PRINTERS AND PUBLISHERS

The *Articella* enjoyed a notable editorial *fortuna* during the early-press period, and was printed with surprising regularity throughout it. Its eighteen editions average out over its publishing history at about one edition every three years. No two editions were, in the event, more than eight years apart before its sudden demise. Six of them were printed before the end of the fifteenth century (c. 1476, 1483, 1487, 1491, 1493, and 1500), and the remaining twelve during the first third of the sixteenth century (1502, 1505, 1506, 1507, 1510, 1513, 1515, 1519, 1523, 1525, 1527, and 1534) (see TABLE 1).⁸

But the geographical spread was far less even than the chronological. The presses of only four cities printed all the *Articella* editions: Padua, Venice, Pavia and Lyons. Here again the distribution was uneven, for there was only one Paduan (c. 1476) edition and two Pavian (1506, 1510). Half the entire number of editions were printed in Venice (nine editions: 1483, 1487, 1491, 1493, 1500, 1502, 1507, 1513, 1523) and a third of them in Lyons (six editions: 1505, 1515, 1519, 1525, 1527, 1534). The differences are even more marked when we realize that the press was a latecomer to Lyons and that its earliest *Articella* was not printed until 1505; thereafter it produced comfortably more editions than Venice.⁹ An equally dramatic change is in format, for all the fifteenth-century editions were in secundo, but most sixteenth-century editions were octavos (all except that in secundo of 1513, and those in quarto of 1523 and 1527). This was accompanied by a general move away from the two-column format, less convenient on the smaller page.

Nine of these editions (among them the six incunabula ones) followed the pattern of the *Ars commentata*, nine that of the *Ars medicine*, and none the "Italian" one. But, curiously enough, the Italian designation *Articella* prevailed over the *Ars medicine* and the *Ars*

⁷ Tiziana Pesenti, "Le *Articelle* di Daniele di Marsilio Santasofia (+ 1410), professore di medicina", *Studi Petrarqueschi*, 7, 1990, 48-92; Pesenti, "Articella dagli incunabuli ai manoscritti: origini e vicende di un titolo", *Mercurius in Trivio. Studi di bibliografia e di biblioteconomia per Alfredo Serrai nel 60° compleanno (20 novembre 1992)* (Roma: Bulzoni, 1993), pp. 129-45. Whether the *Ars medicine* represents a French canon while the *Ars commentata* a German one as Pesenti has claimed, is to the best of my knowledge an open question still to be substantiated. See Cornelius O'Boyle, *Medical teaching at the university of Paris, ca. 1200-1400. Scholars and texts in the classroom* [paper presented at the First Meeting of the *Articella* Steering Committee (Cambridge, December 1994)].

⁸ For the printed editions of the *Articella*, see *Gesamtkatalog der Wiegendrucke* (2nd ed., Stuttgart: Hiersemann / New York: Kraus, 1968-) (henceforth, GW), vol. II, cols. 751-756 (# 2678-2683); *Index Aureliensis. Catalogus librorum sedecimo saeculo impressorum* (Aurellae Aquensis: Index Aureliensis Foundation, 1962-) (henceforth, IA), vol. II, pp. 299-300 (# 109.132-109.140). The IA omitted three editions, namely those of 1502, 1505, and 1506. For that of 1502, see Richard J. Durling, *A Catalogue of Sixteenth Century Printed Books in the National Library of Medicine* (Bethesda: U.S. Department of Health, Education, and Welfare, 1967), pp. 40-1 (# 325). For the edition of 1506, see *A catalogue of printed books in the Wellcome Historical Medical Library. I. Books printed before 1641* (London: The Wellcome Historical Medical Library, 1962), p. 26 (#495). For the description of the edition of 1505, see Ludwig Choulant, *Handbuch der Bücherkunde für die ältere Medizin...* (Leipzig: L. Voss, 1841), p. 400. I have been able to see original or microfilm copies of all the eighteen editions except that of 1505 of which there is no extant copy to the best of my knowledge.

⁹ Hirsch, *Printing, selling and reading*, pp. 110-2; Lowry, *The world of Aldus Manutius*, pp. 14, 155-6, 273, 284, 303.

commentata, perhaps as a result of the fact that most printed editions of this collection issued from Italy where this name was widespread. It first "contaminated" them in the 1480s, when the editor Francesc Argilagues introduced it at the colophon of its second printed edition (Venice, 1483). This name first appeared on the frontispiece in the fourth, fifth and seventh editions (Venice, 1491, 1493 and 1500) and seems to have become entirely standardized after 1510.¹⁰

In most cases, each printer was in charge of a single edition of the *Articella*; only in three cases did the same printer undertake a second edition, namely the brothers Johannes and Gregorius de Gregoriis (Venice, 1500 and 1502), Jacob de Burgofranco (Pavia, 1506 and 1510) and Jacobus Myt (Lyons, 1519 and 1527). On the other hand, the printer also acted as his own publisher in eleven cases, while in the remainder he relied on the financial help of a publisher in partnership with him; a trend which seems to have been reinforced during the sixteenth century, and outside Venice. This was the case for the two Pavian editions (printed by Jacob de Burgofranco at the charge of (*impensis*) Bartholomeus de Morandis), and for four of the six Lyons ones (Johannes de la Place for Bartholomeus Troth, Jacobus Myt for Constantinus Fradin, and Antonius de Ry and Johannes Moylin for Jacobus q. Francisci de Giunta). By contrast, there was only one such Venetian edition, namely that of 1493 (printed by Bonetus Locatellus for Octavianus Scotus). On the other hand, only Jacobus q. Francisci de Giunta was involved as a publisher of two editions of the *Articella* (Lyons, 1525 and 1534), although the heirs of *Articella* publisher Octavianus Scotus (Venice, 1492) also turned to publish and printed the *Articella* in Venice in 1523.¹¹

Let us frame all these basic features in the context of the earliest European press. Well over eighty percent of the editions of the *Articella*, a text designed for university teaching, were produced by non-university towns, rather than by the presses of the towns that housed the prestigious medical schools. Why should this have been so? The answer seems to lie in the nature of the printing and publishing business. The universities must have represented a major market, but Padua, Ferrara or Bologna were not far from Venice, and most of the journey from Lyons to Montpellier would have been down the Rhône, so we can guess that transport costs were not prohibitive. What was important was the nature of book production. On the one hand the early press was marked by changes in technology and scholarship to supply an increasingly demanding market. On the other, printing and publishing was a savagely competitive business and often unscrupulous.¹² The early printing houses on average enjoyed

¹⁰ Pesenti, "Articella dagli incunabuli ai manoscritti".

¹¹ For the printers of the *Articella* settled in Italy, see Mario E. Cosenza, *Biographical and Bibliographical Dictionary of the Italian Printers and of Foreign Printers in Italy from the Introduction of the Art of Printing into Italy to 1800* (Boston: G.K. Hall & Co., 1968), pp. 291-2, 360, 364-5, 439, 469-70, 491-2, 508-9, 567-8, 623-4. For the active periods of the printers of the *Articella* before the end of the fifteenth century, see Konrad Haebler, *Typenrepertorium der Wiegendrucke*, 5 vols. (Halle A.S.-Leipzig-New York: R. Haupt - O. Harrassowitz, 1905-1924), vol. II, pp. 69, 108, 131, 134, 136, 142, 157, 159, 172, 185, 201, 202. For the sixteenth-century Italian printers, see Fernanda Ascarelli, *La tipografia cinquecentesca italiana* (Florence: Sansoni Antiquariato, 1953), pp. 90, 96, 168, 170, 171, 173, 174, 180, 184. For the printing activities of Jacob de Burgofranco at Pavia, see Anna Giulia Cavagna, *Libri e tipografi a Pavia nel Cinquecento. Note per la storia dell'Università e della cultura* (Milan: Istituto Editoriale Cisalpino - La Goliardica, 1981), pp. 174-87, *passim*. For the Lyonsese printers, see Julien and Jean Baudrier, *Bibliographie Lyonnaise*, 13 vols. (Lyons-Paris-Lille, 1895-1950): vol. I, p. 141; vol. VI, pp. 77-223, 483; vol. VIII, pp. 409-42; vol. XI, pp. 90, 112-38, 531-2; vol. XII, pp. 362-401. On François Fradin, see Anatole Claudin, *Histoire de l'imprimerie en France au XVe et au XVIe siècle*, 5 vols. (Paris, 1900-1914) (facs. repr., Nendeln: Kraus-Thomson, 1971), vol. IV, pp. 329-36, 522; vol. V, p. 188.

¹² Arrizabalaga, Garcia-Ballester and Gil-Aristu, "Del manuscrito al primitivo impreso", p. 4.

only a brief life. Some such reason might be thought to lie behind the fact that most of the printers of the *Articella* did not go on to print a second edition, but in fact only the printer of the first edition went out of business soon after. He is thought to have been Nicolaus Petri of Haarlem, and he printed the *Articella* in about 1476. Records are found of his activities in Padua in 1476 and in Vicenza between 1475 and 1477, but nothing thereafter. However, his business partner in the Vicenza period, Hermann Liechtenstein of Cologne, was the printer of the second edition of the *Articella* in Venice in 1483. We can guess that Liechtenstein had gained some experience of the market for the textbook and saw that a better edition would be a viable business proposition.¹³

Certainly from a scholar's viewpoint a corrected edition was badly needed. The edition of c.1476 is eccentric when compared to the standard text adopted by later editions and seems to have been based on a corrupt manuscript. University doctors would have been able to compare Petri's edition with manuscript versions of the *Articella*, many of which were very carefully written. The second edition had an editor, Francesc Argilagues, and it is more than convention when he tells the reader that the first edition was full of mistakes and misprints, so that "most passages remained corrupted and spoiled rather than corrected" so that "neither sense nor opinion could be obtained from them".¹⁴ Argilagues condemned Petri's carelessness as a printer as energetically as he praised Liechtenstein as "a great lover of the art of books (*librarie artis*) practised by him in such an exquisite way that he is undoubtedly superior to the other printers".¹⁵ It seems reasonable to guess that in the competitive world of fifteenth century printing Liechtenstein had learned from the mistakes as well as from the business opportunities of Petri.

It was not only the nature of the printing and publishing trade that determined who operated the presses and where. The university in the manuscript age had its own ways of supplying itself with texts. The university stationer, the *pecia* system of copying texts, the extraordinary lectures of the bachelors, were all in different ways connected to the slow business of generating and correcting texts. Correcting was routine, for there would always be a certain if small percentage of errors. In the case of the parallel textbook of natural philosophy, the teacher took the class through Aristotle's text so that they could gloss the scribal errors. Indeed, the scribe had anticipated this and other kinds of gloss by leaving extra space between the lines of text. With these systems in place it is not surprising that the universities did not seek to compete in printing. The arrival of invariant printed texts, cheaply produced at competing commercial centres, must have soon destroyed the old systems, but that was not perhaps at first apparent.¹⁶

¹³ From 1477 onwards Liechtenstein printed books on his own in Treviso (1477), Vicenza (1478-1480), and Venice (1482-1494). On Petri's and Liechtenstein's printing activities, see Haebler, *Typenrepertorium*, vol. II, pp. 69, 108, 142, 201, 202.

¹⁴ Arrizabalaga, García-Ballester and Gil-Aristu, "Del manuscrito al primitivo impreso", pp. 29-30.

¹⁵ Arrizabalaga, García-Ballester and Gil-Aristu, "Del manuscrito al primitivo impreso", pp. 29-30.

¹⁶ Roger K. French, "Teaching Aristotle in the medieval English universities: *De plantis* and the physical *glossa ordinaria*", *Physis*, 34, 1997 (forthcoming).

The nature of the printed book also meant changes in the way in which text was produced. We saw that the first printed works were seen simply as replicated manuscripts. But manuscripts were often produced on commission, in religious houses or in universities, in other words in some regulated system. On the contrary, the printer worked in an open market. He was first a technical expert, able to cast type and handle the press. He needed funds to set up and perhaps took a partner for this purpose. He needed to sell his wares, which was a different business from making them. As we have seen, almost two thirds of the printers of the *Articella* also acted as their own publisher. People in this position needed to advertise, sell and distribute. One way to advertise was to print something eye-catching at the front of the text, and many an early book begins with a direct address to a potential customer: 'READER, you have here...'. Title pages and addresses to the reader served the same function, as we saw when Argilagues drew attention to the superiority of his own edition of the *Articella*. But to sell to a specialist market, like the medical one, meant having specialist skills. There was no author available to provide material useful for selling texts like the *Articella* and the printer himself was unlikely to know much medicine.

5. EDITORS

In a competitive situation these circumstances led to the birth of two new occupations, that of editor and of proof-reader.¹⁷ The proof-reader was needed because the text was invariant. The printer did not make allowance for glosses to be inserted between the lines and the printed book did not get the same treatment in the university as manuscripts. Any changes had to be made before the print-run began. It was an opportunity to put the work into a final form consistent with the textual and philological accuracy sought after by the humanist movement for as much as a century. The editor played a related role. He had to have specialist knowledge of the subject area of the text and to be responsible for the contents and style. He had to secure and compare manuscripts and in a humanist way seek the intention of the author within the changes imposed by time. The text had to be true to the original as far as possible, but also attractive to the reader. The two aims were not always strictly compatible and editorial components of printed books were additions and explanations not in the original text. Chapters, sub-chapters, headings, marginal summaries, full references for authorial quotations, tables, contents, indices, variant readings, *corrigenda* and *addenda* all helped to guide the reader but were all imposed on the text.

The editor could also address the reader or a patron at the beginning of the work and explain its significance or superiority or something else that would help to sell it or add to his own reputation. He could also advise the publisher on what would be publishable, advice which ultimately led to the publication of new materials. Here the editor was the agent who expanded the intellectual horizons of the reading public. He could also point the publisher towards new translations of well-known (and publishable) works. Some of these possibilities are demonstrated in the *Articella*. Works added to the printed collection in fact fall into two different categories: those that were ~~new and had not been published at all (that is, not even in manuscript form)~~ and those that were now ~~printed for the first time~~. In brief, to the seven texts that were canonical by the thirteenth century, more than twenty new works were added in the

¹⁷ For these and the following considerations about the job of medical editor, see Arrizabalaga, Garcia-Ballester and Gil-Aristu, "Del manuscrito al primitivo impreso", and the bibliography there referred to.

incorporated for the first time into a printed edition of the *Articella*

different printed editions of the *Articella*. Likewise some editors added as many as three new translations to the one or more already traditional in the medieval collection.

Clearly, many things were needed by the man who was going to fill the new occupation of editor successfully. He would need to like the job and to be able to learn from experience. He needed previous training in the subject area of the books involved and a great deal of skill and patience for rigorous textual work. Such qualifications might well have been obtained in a university. So while, as we have seen, there was some separation of the universities and the publishers, yet there were two important connections, first that the universities were a sizeable market for the books, and second that university men made good editors. With the authority with which his training invested him the editor endorsed the quality of the final product: university qualifications, previous editing experience and prestige as a university teacher or medical practitioner all increasingly combined to promote the value of the book. The editor must be an important focus when we follow the story of how the *Articella* reacted to external forces and finally became extinct.

These general points are illustrated by the known editors of the *Articella*. The first edition, to the best of our knowledge, did not have an editor: another of its medieval features. Of the remaining seventeen editions only two (Venice 1502 and Lyons 1505) do not have editors' names. In fifteen editions, then, the names of the editors are given, often in eye-catching places, such as the title page (in six editions). Undoubtedly the name of the editor helped to sell the book. Their reputations or qualifications were valuable in this. There were five of them, and we know a little about them. They were Francesc Argilagues (Franciscus Argilagues),¹⁸ Gregorio da Volpe (Gregorius a Vulpe),¹⁹ Pietro Antonio Rustico (Rusticus Placentinus),²⁰ Pere Pomar (Petrus Pomarius),²¹ and Girolamo Salio (Hieronymus de Saliis).²² Argilagues and Pomar were Spaniards, both of them from Valencia; the other three came from the north Italian cities of Vicenza, Piacenza, and Faenza, respectively. Among their qualifications for editing the *Articella* was the fact that all of them were doctors of arts and medicine. In addition Rustico was a principal lecturer -- *lector ordinarius* -- of theoretical medicine at the university of Pavia. Moreover, three of them were also involved in other editorial activities and thus were adding to their reputations and authority. In particular Argilagues prepared three editions of Pietro d'Abano's *Conciliator* (Venice 1483 and 1496;

¹⁸ Mario E. Cosenza, *Biographical and Bibliographical Dictionary of the Italian Humanists, 1300-1800*, 4 vols. (Boston: G.K. Hall & Co., 1962-1967) (henceforth, *BBDIH*), vol. I, p. 258; Arrizabalaga, Garcia-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso". Information about Argilagues additional to that provided by these two sources can be found in Ms. 13 of the John A. Benjamin Collection of Medical History (Biomedical Library, University of California, Los Angeles). See Paul Oskar Kristeller, *Iter Italicum* (Leiden: Brill, 1977-1992), vol. V, p. 269.

¹⁹ Cosenza, *BBDIH*, vol. IV, p. 3714. For more information about Gregorio da Volpe, see Pesenti, "Articella dagli incunabuli ai manoscritti", pp. 140-1 (footnote no. 57).

²⁰ Cosenza, *BBDIH*, vol. IV, p. 3115; Alfonso Corradì, *Memorie e documenti per la storia dell'università di Pavia e degli uomini più illustri che v'insegnarono*, 3 vols. (Pavia: Tip. Successori Bizzoni, 1877-1878), vol. I, p. 120.

²¹ José María López-Piñero et al., *Diccionario histórico de la ciencia moderna en España*, 2 vols. (Barcelona: Península, 1983), vol. II, pp. 191-2.

²² Cosenza, *BBDIH*, vol. IV, p. 3148.

Pavia 1490): a book that centres on the actual or potential differences between medical men and philosophers and which had been famous since it was finished in the early fourteenth century. It was a model of high scholastic technique and did not always meet with the approval of the hellenists and humanists of the late fifteenth and early sixteenth centuries. Their preferred authorities were the whole texts and arguments of the ancients, not broken up for analysis and commentary in the scholastic manner. The editions of Galen's works were therefore important, and the reputation of Rustico, the professor of Pavia, must have been enhanced by his position as editor of the fourth edition of the *Galen Opera*, published in his university town in 1515-16 in three volumes. (Girolamo Salio also edited other texts, notably some works of Ptolemy and Filippo Beroaldo.)

Argilagues is the earliest identifiable editor of the *Articella*. Two editions of this medical collection, both printed at Venice, one by Hermann Liechtenstein in 1483, the other by Battista Torti in 1487, were signed by him; not to mention four further Venetian editions (1491, 1493, 1500, and 1513) which (as we will see) were identical in their contents and very similar in their format to the former two, although they appeared as edited by Da Volpe. In his own editions Argilagues included a postface to the readers of his *Articella*, an introductory note of its contents, and some other comments (generally, though not always, brief) which suggest careful editorial work by him. The above-mentioned passage in the postface, where he disqualified the *editio princeps* of the *Articella* from being a scholarly work, and praised the professionalism of the printer for whom he happened to be working, might suggest that Argilagues was anxiously seeking for the legitimation of the editor's job within the press world.

Of Gregorio da Volpe we must say that certainly he did not kill himself with work in preparing the four editions he signed. Indeed, the only substantial changes he introduced to Argilagues' *Articella* were the omission of Argilagues' introductory note to the contents of the *Articella*, the replacement of the postface addressed to the reader by a dedicatory letter to the lawyer Marino Zorzi,²³ the arrangement in centred insets of those four Hippocratic texts and the Galenic one which were accompanied by commentaries, and the addition of numerous *marginalia* -- most of them expressed in an aphoristic way -- announcing the topics dealt with in each separate work of the medical collection. In his postface Da Volpe justified the inclusion of these printed marginal notes as learned from *Alovisius Malatinus*, a wise and expert medical practitioner whom Da Volpe had followed for some time, presumably during the early years of his medical career, and as intended to make medical scholars both junior and senior learn and recall Galenic medicine more easily.²⁴

Rustico was the editor who signed the *Articella* editions printed in Pavia in 1506 and 1510, and in Venice in 1507. In addition to a couple of works (Mesue's aphorisms and some *Flosculi medicinales* excerpted from Celsus' *De medicina*) which had first been included in the 1502 printed edition of the *Articella*, Rusticus' three editions contained for the first time a set of

²³ Cosenza, *BBDIH*, vol. II, p. 1585. On Marino Zorzi, see also the bibliography reported by Pesenti, "Articella dagli incunabuli ai manoscritti", p. 141 (footnote no. 58).

²⁴ See Appendix 3. On the medical magister *Alovisius Malatinus* I have found no additional information at all unless we could identify him with *d. Ludovicus Malatinus* who in June 1508 was a member of the Padua College of Physicians and Philosophers and had been designated as examiner (albeit absent for illness) of an arts doctorate. See Elda Martellozzo Forin, *Acta graduum academicorum ab anno 1501 ad annum 1525* (Padua: Antenore, 1969), #539.

medical writings (mainly large excerpts or full medical works by Avicenna and Rhazes), that were included in the syllabus of most late medieval medical faculties²⁵ as well as a practical compendium of remedies excerpted from Mesue's works by Jacques Despars (c. 1380-1458). All his three editions also included a postface he addressed to the physician of the duke of Milan, Ambrosius Varisius Rosatus.²⁶

Pere Pomar was in charge of the four Lyons editions of 1515, 1519, 1525, and 1534. Except for six additional Hippocratic works, and two aphoristic collections of Arnau de Vilanova that he first added to the printed *Articella*, Pomar's editions followed in both contents and format the pattern of Rustico's.

Finally, Girolamo Salio edited two editions of the *Articella* (Venice 1523, and Lyons 1527). Salio returned to the original *Articella* pattern of contents followed in Argilagues' and Da Volpe's editions. Nevertheless, he enriched it by incorporating the same new set of Hippocratic works as Pomar in his editions, and by including some new translations alongside the old ones to some texts, as well as by adding the *quaestio De tribus doctrinis ordinatis secundum Galeni sententiam* of the hellenist physician Nicolò Leoniceo (1428-1524).

6. FAMILIES OF EDITIONS

During the late Middle Ages the *Articella* showed a high adaptability to the variable circumstances of the different European university medical contexts. The printed stage of this medical collection seems to have followed an exactly similar pattern. Thus, its format and contents varied substantially through its eighteen printed editions. Yet, all the editions in the charge of each editor possessed the same format and an entirely or almost identical contents (i.e., the same writings in similar order), which allows us to establish the six families of editions reflected in TABLE 2.

The two editions of the *Articella* prepared by Argilagues as well as the four ones signed by Da Volpe, not to mention the *editio princeps* of about 1476, were all of them printed in secundo or folio. The three editions in the charge of Rustico were printed in octavo, as was the case with the four ones signed by Pomar, and those of 1502 and 1505 whose editor is not identifiable. Finally, the two editions by Salio were printed in quarto.

As for the contents of the printed *Articella*, all its eighteen printed editions were built upon a common core of seven works. This core was supplemented by a number of other writings, the number and identity of which are constant for each family of editions, though substantially variable from one family to another. Only some minor changes (some misprints corrected, *addenda* eventually incorporated into the text, and changes in the system of foliation, among others) can be perceived by comparing different editions within the same family. This means that each successive edition within a family may be considered as a revised reprint of the matrix one, and never merely as a re-issue of it.

²⁵ Siratsi, *Medieval and early renaissance medicine*, pp. 70-7.

²⁶ Cosenza, *BBDIH*, vol. I, pp. 160-1.

The core of works includes in the same order: the triad *Isagoge* of Johannitius (809/810-877),²⁷ *De pulsibus* attributed to Philaretus,²⁸ and *De urinis* of Theophilus (*fl.* sixth century);²⁹ followed by the Hippocratic works (*Aphorismi*, *Prognostica*, and *De regimine acutorum morborum*) and the Galenic (*Tegni*) which were already canonical in the thirteenth-century *Articella* and have been underlined by Pesenti as being present at least in two lasting manuscript traditions, namely that of the *Ars commentata* (with Galen's commentaries to these Hippocratic works as well as Ibn-Ridwan's to Galen's *Tegni*), and that of the *Ars medicinae* (without these commentaries). The six incunabula editions (Padua c. 1476, and Venice 1483, 1487, 1491, 1493 and 1500) as well as those of Venice 1513 and 1523, and Lyons 1527, followed the pattern of the *Ars commentata*, while the nine remaining ones (Venice 1502 and 1507; Lyons 1505, 1515, 1519, 1525 and 1534; and Pavia 1506 and 1510) followed that of the *Ars medicinae*.

In addition to these seven fixed works, however, up to some twenty five more titles can be counted from the six families of printed editions, not to mention other translations (up to three different ones) additional to the Hippocratic and Galenic texts which some of these families incorporated in parallel columns. All these particulars can be seen in TABLE 3, and are widely discussed in the following pages.

The editio princeps

The printer of the *editio princeps* of the *Articella* [Padua, about 1476] seems to have confined himself to reproducing a manuscript specimen: it lacks foliation, title-page, list of contents, and colophon, and only an *incipit* establishes the beginning of each work, and an *explicit* its end. The edition plainly adopted the canon of the *Ars commentata*. The initial trio of works by Johannitius-Philaretus-Theophilus was followed by the Hippocratic *Aphorismi* with their commentary by Galen, in the Latin translation from the Arabic by Constantine the African (died before 1098-99);³⁰ the Hippocratic *Prognostica* in two versions (which the editor Da Volpe later called *nova et antiqua*), accompanied by Galen's commentary in one single version;³¹ the Hippocratic *De regimine acutorum morborum*, also in two versions,

²⁷ On the *Isagoge*, see Paul Oskar Kristeller, *Studi sulla Scuola Salernitana*, pp. 109-10; Gregor Maurach, "Johannicius, Isagoge and Techne Galieni", *Sudhoffs Archiv*, 62 (2), 1978, 148-74; Danielle Jacquart, "À l'aube de la renaissance médicale des XIe-XIIe siècles: L'Isagoge Johannitii et son traducteur", *Bibliothèque de l'École des Chartes*, 144, 1986, 209-40. On Johannitius, whose Arabic name was Hunain Ibn Ishaq, see George Sarton, *Introduction to the History of Science*, 3 vols. (Baltimore: The Williams & Wilkins Co. for the Carnegie Institution of Washington, 1923-1948), vol. I, pp. 611-3.

²⁸ On *De pulsibus* and its possible author, see Kristeller, *Studi sulla Scuola Salernitana*, pp. 112-3; John A. Pithis, *Περὶ σφυγμῶν. Die Schriften "Peri sphygmon" des Philaretos: Text, Übersetzung, Kommentar von ...* (Husum: Matthiesen, 1983); Piero Morpurgo, "Il commento al *de pulsibus Philareti* di Mauro Salernitano. Introduzione ed edizione critica dal ms. Parisinus Latinus 18499", *Dynamis*, 7-8, 1987-1988, 307-46.

²⁹ On Theophilus Protospatharios, and on his works, see Sarton, *Introduction*, vol. I, p. 478; Kristeller, *Studi sulla Scuola Salernitana*, p. 112.

³⁰ Kibre, pp. 29-90, particularly, pp. 50-61; Stillwell, #408. On Constantine the African, see Herbert Bloch, *Monte Cassino in the Middle Ages*, 3 vols. (Cambridge, Mass.: Harvard Univ. Press, 1986), vol. I, pp. 93-110, 127-34; Francis Newton, "Constantine the African and Monte Cassino: new elements and the text of the Isagoge", in Charles Burnett & Danielle Jacquart, eds., *Constantine the African and 'Ali ibn al-Abbas al Magusi. The Pantegni and related texts* (Leiden: Brill, 1994), pp. 16-47.

³¹ To the best of my knowledge, some unsolved difficulties remain to identify the manuscript traditions reflected in these two versions. The catalogue of Thorndike and Kibre related the *incipit* of the first-placed version (*Omnia qui*

accompanied by Galen's commentary in one single version;³² and Galen's *Tegni* (*Ars medica*, *Microtegni*), in both its *translatio antiqua* by an anonymous translator and subsequently completed by Burgundio da Pisa (1110-1193), and its *translatio ex Arabico* by Gerard of Cremona, accompanied by a Latin version of its standard commentary by 'Ali Ibn-Ridwan.³³

The editions by Argilagues and Da Volpe

After the *editio princeps* of Padua about 1476, the contents of the subsequent editions of the *Articella* experienced a great number of changes, for which their successive editors were mainly responsible. Francesc Argilagues was the earliest to take editorial initiatives, among them the addition of new works, and the inclusion of several tables of contents.

Argilagues' *Articella* also adopted the canon of the *Ars commentata*. But he incorporated Gentile da Foligno's little work *De divisione librorum Galieni*,³⁴ and four Hippocratic works which had not hitherto been printed. They were the *Epidemiae cum commentis Johannis Alexandrini* (actually, the sixth book of the Hippocratic Epidemics together with their commentary by Johannes Alexandrinus, in an Arabic-Latin translation by Simon Januensis);³⁵ *De natura fetus* in the Greek-Latin version by Bartholomaeus of Messina;³⁶ *De lege* in its

medicine artis studio seu gloriam...) to that of the Hippocratic *Prognostica* with Galen's commentary according to Constantine the African's translation, and that of the second version (*Videtur mihi ut sit ex melioribus rebus...*) to Galen's commentary to this Hippocratic work according to the probable translation by Gerard of Cremona. See Lynn Thorndike and Pearl Kibre, *A catalogue of incipits of mediaeval scientific writings in Latin* (London: The Mediaeval Academy of America, 1963) (henceforth, TK), cols. 1002, 1694. Additionally, they rightly identified the *incipit* of what actually seems to be the Galenic commentary itself (*Manifestum est quod Hypocrates non utitur...*) (TK 847). Kibre, who appears to have wrongly identified *Omnis qui medicine* with the *incipit* of the preface to the *Prognostica*, and *Videtur mihi quod* with the *incipit* of this book itself, claimed that both of them correspond to an Arabic-Latin translation of this Hippocratic text by either Constantine the African or Gerard of Cremona (+1187) (Kibre, pp. 199-221: particularly, pp. 199-213). While both versions appear one after another in all the *Articella* printed editions adding Galen's commentary to this Hippocratic text, only the former (*inc. Omnis qui medicine artis...*) is reported in those editions without Galen's commentary.

³² Some unsolved difficulties also remain here in identifying the manuscript traditions reflected in these versions. TK referred the first placed *incipit* (*Qui de egrotantium accidentibus in singulis egritudinibus tractantes...*) to that of the Hippocratic *De regimine acutorum morborum* without Galen's commentary, and the second one (*Illi qui sententias illis de assidis relatas scripserunt...*) to that of the same text accompanied with Galen's commentary (*Non solum cum scripserunt rememorationes...*) according to Gerard of Cremona's translation (TK 660, 922, 1205). Although Kibre suggested that "at least one or possibly two of the variant texts found in the manuscripts may, in all probability, be assigned to the well known translator from the Greek, Nicholas de Reggio", she was unable to properly establish this second manuscript tradition. Furthermore, she seems to have wrongly ascribed *Qui de egrotantium* both to Gerard of Cremona and to Constantinus Africanus, and identified *Illi qui sententias* with Galen's commentary (Kibre, pp. 5-25, particularly, pp. 7-18). While both versions appear one after another in all the *Articella* printed editions including Galen's commentary to this Hippocratic text, only the former (*inc. Qui de egrotantium accidentibus...*) is reported in those editions not including it.

³³ Richard J. Durling, "A Chronological Census of Renaissance Editions and Translations of Galen", *Journal of the Warburg and Courtauld Institutes*, 24, 1961, 230-305; pp. 282, *passim*; ---, "Corrigenda and Addenda to Diels' Galenica", *Traditio*, 23, 1967, 461-76; p. 463; 37, 1981, 373-81; pp. 373-4.

³⁴ For a fifteenth-century manuscript copy of this work, which accompanied Gentile's commentary on Galen's *Tegni*, book 1, see TK, col. 1220.

³⁵ Kibre, pp. 138-42, particularly pp. 140-2; Stillwell, #411; C.D. Pritchett, ed., *Johannis Alexandrini commentaria in sextum librum Hippocratis Epidemiarum* (Leiden: Brill, 1975).

³⁶ Kibre, pp. 189-91; Stillwell, #659.

Greek-Latin version falsely attributed to Arnau de Vilanova;³⁷ and the *Iusiurandum* in its Greek-Latin version by Nicolò Perotti (1429/30-1480) -- also falsely assigned to Pier Paolo Vergerio.³⁸ From their printing in 1483, the *Epidemiae* (sometimes with the commentary of Johannes Alexandrinus, sometimes without it) were present in every subsequent edition of the *Articella*. The same could be said about the *Iusiurandum*, except for the lost Lyons edition of 1505 (if we rely on Choulant's above-mentioned description of it). However, two Hippocratic works (*De natura fetus* and *De lege*) appeared neither in the editions of Venice 1502 and Lyons 1505, nor in any of the three prepared by Rustico. And Gentile's *De divisione librorum Galieni* was reproduced neither in these two editions nor in those by Pere Pomar.

Argilagues included three *tabulae* of contents (originated by him, to the best of my knowledge), namely one for the Hippocratic *Aphorismi*, another for the *Prognostica*, *De regimine acutorum morborum*, and *Epidemiae* together; and the third one for Galen's *Tegni*. These tables became an exclusive feature of the secundo and quarto editions of the *Articella*, that is those in the charge of Argilagues, Da Volpe, and Salio. The latter additionally chose to create a separate *tabula* for the *Prognostica*, leaving the old one for the *Epidemiae* and *De regimine acutorum morborum*.

Last but not least, at the end of the text of *De regimine acutorum morborum* Argilagues addressed to his readers a rather detailed editorial note to justify the subsequent inclusion of the version of the Hippocratic *Epidemiae* he has chosen to edit.³⁹ Although Da Volpe reproduced this note in his *Articella* of 1491, he did not do so in the three subsequent editions in his charge.⁴⁰

The editions of 1502 and 1505

The Venetian edition of 1502 represented a turning point in the history of the printed *Articella*. It appears to have been the earliest one to be printed in *octavo* as well as the first to adopt the canon of the *Ars medicine* (i.e., the above mentioned set of seven works, with no commentary to the Hippocratic and Galenic texts). Yet the Hippocratic *De regimine acutorum morborum* was not included. In comparison with the previous printed editions its contents were impoverished. Indeed, the set of Hippocratic works which Argilagues and Da Volpe had previously included in their editions, was reduced to the *Aphorismi*, the *Prognostica* (including only one of the two versions reported by previous editors) and the *Iusiurandum*. However, the contents of this edition show some new features which were fully developed in further ones.

³⁷ Kibre, pp. 182-6; Stillwell, #415.

³⁸ Thomas Rutten, "Receptions of the Hippocratic Oath in the renaissance: the prohibition of abortion as a case study in reception", *Journal of the History of Medicine and Allied Sciences*, 51 (4), 1996, 456-83; pp. 461-3, 479-80. Rutten's essential work has definitely settled Nicolò Perotti's authorship of this Latin version of the Hippocratic Oath. Its attribution to the early hellenist grammarian Pier Paolo Vergerio, *il Vecchio* (1370-1444) was not only constant in all the printed editions of the *Articella* which included it, but has been also usual until now. See, e.g., Kibre, pp. 177-82; Stillwell, #414.

³⁹ *Articella* (Venice, 1483), f. 119v; (Venice, 1487), f. 127v.

⁴⁰ *Articella* (Venice, 1491), f. 112v.

First, it was in this edition that the new Greek-Latin versions of the ancient medical works made by the hellenists first emerged in the *Articella*. On this occasion the new feature was restricted to the Latin translation of the Hippocratic *Aphorismi* by the Greek scholar Theodore Gaza (died by 1478). Yet the inclusion of this new version did not prevent its editor from also including the Arabic-Latin one (*translatio antiqua*) which had been collected in the incunabula editions of the *Articella*.⁴¹ Actually, the old version turned to be used with the *Collectio aphorismorum Hippocratis ad unamquamque egritudinem pertinentium* inserted between the two translations. This *Collectio* included all those Hippocratic aphorisms concerning treatment and prognosis of diseases "from head to toe" (*a capite usque ad calcem*) throughout twenty-two chapters, not to mention two additional sections dedicated to fevers.⁴² This peculiar series of Hippocratic Aphorisms was by no means an exclusive feature to this and other further printed editions of the *Articella*: it was, for instance, also included at Jean d'Ivry's *Scrinium medicine* along with the other two above-mentioned versions of Hippocrates' *Aphorismi*.⁴³

Secondly, the editor introduced some *Flosculi in medicina ex Cornelio Celso extracti*, which reported in an aphoristic way excerpts from the five first books of Cornelius Celsus' *De medicina*.⁴⁴ These excerpts undoubtedly reflected the strong impact that Latin humanism exerted on Italian medical circles at the beginning of the sixteenth century.⁴⁵

And thirdly, the "Book of the Medical Axiomata" of Yûhannâ Ibn Mâsawayh (Mesue) was first integrated into the printed *Articella* under the designation of *Aphorismi Joannis Damasceni*. Yet this Latin translation of Mesue's work had widely circulated all over the Latin world since the thirteenth century, being present in numerous manuscript copies of the medieval *Articella*. Mesue's *Aphorismi* had been first printed in Milan in 1481. In addition to their being a part of nine printed editions of the *Articella* (Venice 1502, Lyons 1505, the three editions by Rustico, and the four ones by Pere Pomar), these aphorisms were also included in another collection of medical writings including Maimonides' *Aphorismi* and Rhazes' *De secretis medicine* among others, which was repeatedly printed (Bologna 1489, and Venice 1497, 1500 and 1508), as well as in Jean d'Ivry's *Scrinium medicine* ([Paris], 1519).⁴⁶

⁴¹ Contrary to what Kibre indicated (see Kibre, p. 62), the version of Theodore Gaza was included in no printed edition of the *Articella* before 1502.

⁴² There is no trace of this aphoristic series in TK.

⁴³ Jean d'Ivry, *Scrinium medicine* ([Paris], 1519), fols. 48r-60v.

⁴⁴ Celsus' *De medicina* had remained almost unnoticed in the Middle Ages, and was not recovered until the years 1426-1443. It was first printed in Florence in 1478, and three times more before the end of the fifteenth century (Milan 1481, Venice 1493 and 1497), not to mention its numerous sixteenth-century printed editions. On Celsus, see the bibliography reported by Sarton, *Introduction*, vol. I, pp. 240-1; Carmèlia Opsomer, *Index de la pharmacopée du Ier au Xe siècle*, 2 vols. (Hildesheim: Olms-Weidmann, 1989), vol. I, p. xxxviii.

⁴⁵ There is no manuscript copy of these *Flosculi* at TK. According to Nicolò Commeno Papadopoli, *Historia Gymnasii Patavini*, 2 tomes (Venice, 1726), tom. II, p. 185, Pietro Carrerio (dead 1506), medical lecturer at the university of Padua, was the author of some *Scholia in Celsum* which might be identified with the *Flosculi*. See Tiziana Pesenti, *Professori e promotori di medicina nello Studio di Padova dal 1405 al 1509. Repertorio bio-bibliografico* (Padua: Lint, 1985), pp. 67-9.

⁴⁶ On Mesue's *Aphorismi* and its Latin transmission, see Yûhannâ Ibn Mâsawayh (Jean Mesue), *Le livre des axiomes médicaux (aphorismi) (édition du texte arabe et des versions latines avec traduction française et lexique...)*, ed.

As already noted, there is to the best of my knowledge no copy extant of the Lyons edition of 1505 of the *Articella*, so that all we know about it comes from Choulant's description.⁴⁷ According to this we can conclude that the 1505 *Articella* had a very similar contents to that of 1502. Thus, everything suggests the existence of a close relationship between the two of them. The only apparent differences between one and the other concern two works, namely the *Iusiurandum* which was present in the edition of 1502, but not in that of 1505; and *De regimine acutorum morborum* which appeared in the edition of 1505, but not in that of 1502.

The editions by Rustico

The three editions by the ordinary lector of theoretical medicine at Pavia university, Pietro Antonio Rustico, repeated the basic pattern of the Venetian edition of 1502, although enriched with a number of titles and some translations which first appeared in the printed *Articella*.

The new titles included by Rustico were (in the same order as they were arranged in the volume) as follows. First, large excerpts of Avicenna's *Canon* in its Latin translation from the Arabic by Gerard of Cremona, which were commonly used as university texts at the time. They consisted of *Canon* book I, fen 1 and 2, whose contents were used to introduce medical theory; and book I, fen 4, and book IV, fen 1, which were used to teach practice. Additional excerpts of this text dealing with surgery (*Canon* book IV, fen 3: on apostemes and sores; fen 4: on wounds; and fen 5: on dislocations) were first incorporated in the edition of Pavia 1510.⁴⁸

Secondly, Avicenna's *Cantica*, a medical compendium written in an aphoristic way, which was translated from the Arabic by Armengol Blasi (*fl.* 1280-1309) at Montpellier.⁴⁹

Thirdly, book IX of Rhazes's *Liber ad Almansorem regem*, which in accordance with its very title (*De curatione aegritudinum qui accidunt a capite usque ad pedes*) was a text of special therapeutics, arranged in the medieval fashion "from head to toe". This individual book was very popular and had a separate publishing history, first appearing in Milan or Pavia in 1472 as part of the *Practica* of Gianmatteo Ferrari da Gradi, who also produced a commentary to Avicenna's *Canon*. The whole of the *Ad Almansorem* was printed as early as 1481 and continued to appear in new editions throughout the sixteenth century.⁵⁰

by Danielle Jacquart and Gérard Troupeau (Geneva: Droz, 1980), pp. 1-140. On the Latin version upon which this text is based, see pp. 13-88.

⁴⁷ Choulant, *Handbuch der Bücherkunde*, p. 400. An additional proof for the actual existence of this lost edition is the fact that Rustico referred to it in the postface to the printed *Articellae* he edited. See Appendix IV.

⁴⁸ Siraisi, *Avicenna*, pp. 132-3. On the role of the *Canon* in medieval medical teaching, see *ibidem*, pp. 43-76. As to whether these excerpts of the *Canon* were part of the *Articella* before the printed edition of 1506, for the moment I cannot go beyond Siraisi. Very cautious at this point, she merely said that "The *Canon* excerpts were not part of the *Articella* as it existed in the twelfth or thirteenth century, and are not found in incunabular editions of the *Articella*" (*ibidem*, p. 132).

⁴⁹ For medieval manuscript copies of this work, see TK, 727, 857.

⁵⁰ Sarton, *Introduction*, vol. I, pp. 609-10; Klebs, #826; Stillwell, #689.

Rustico's fourth addition to the *Articella* was yet another aphoristic work, the alphabetical list of remedies taken by Jacques Despars (Jacobus de Partibus, 1380?-1458) from Mesue: *Summula per alphabetum super plurimis remediis ex ipsius Mesue libris excerptis*. This too was often printed during the fifteenth and sixteenth centuries as a part of Mesue's works, and after Rustico's editions of the *Articella* was included also by Pomar.⁵¹

A fifth addition of Rustico's *Articella* consisted of two brief descriptions of weights and measures, for pharmaceutical purposes taken 'from the breviary of *Aiseir*' and from the breviary 'of the son of Serapion' respectively.⁵²

Lastly, Rustico added a group of short treatises on prognosis thought to be Hippocratic and called collectively the *Capsula Eburnea*,⁵³ the 'ivory chest'. These mostly spurious texts were probably derived from the canonical Hippocratic work on prognosis and dealt with the signs of life and death. Rustico's text was the Latin version by Gerard of Cremona of an Arabic translation or adaptation. Rustico established it as a proper part of the *Articella* and it remained in subsequent editions by Pomar and Salio. These works were repeatedly printed along with Magninus Mediolanensis' *Regimen sanitatis* [Lyons, 1500], Maimonides' *Aphorismi* (Bologna 1489, Venice 1500), Rhazes' *Liber ad Almansorem regem* (Milan 1481, Venice 1497 and 1500), and Serapion's *Opera medicinalia* (Venice 1497) -- the place where Rustico's text had first been printed.⁵⁴

On the other hand, Pietro Antonio Rustico was the earliest editor of the printed *Articella* to introduce, after the Arabic-Latin version of Galen's *Tegni* (*Ars medica, Microtegni*) by Gerard of Cremona, its new Greek-Latin translation by the hellenist physician Lorenzo Lorenzano (c. 1450-1502), who dated his dedicatory letter to Francesco Pandulfini on 13 February 1500. Rustico's seems to be the first printed edition of Lorenzano's translation. As in all the previous editions in octavo, neither the old version nor the new one included the standard commentary by Ibn-Ridwan.

The editions by Pomar

The four editions of Pere Pomar show a close relationship with Rustico's. They also include (in the same order of appearance) versions of the Hippocratic *Prognostica* (only one of the two versions of the *editio princeps* and of the editions by Argilagues and Da Volpe) and of the

⁵¹ Ernest Wickersheimer, *Dictionnaire biographique des médecins en France au Moyen Âge*, 2 vols. (Geneva: Droz, 1979), vol. I, pp. 326-7; Danielle Jacquart, *Supplément to Wickersheimer's Dictionnaire...* (Geneva: Droz, 1979), pp. 134-5; Klebs, #331. For medieval manuscript copies of this work, see TK, 323, 493, 1021, 1437, 1681. On Jacques Despars, see Jacquart, "Le regard d'un médecin sur son temps: Jacques Despars (1380?-1458)", *Bibliothèque de l'École des Chartes*, 138, 1980, 35-86.

⁵² One of these descriptions (*ex breviario filii Serapionis*) seems to have been taken from Serapion's *Breviarium medicinae* (Venice 1479 and 1497). See Klebs, #911.1-2, Stillwell, #555. However, I have been unable to identify the provenance of the other description allegedly taken from the compendium of "Aiseir" (*ex breviario Aiseir*).

⁵³ In full, *Liber Prognosticorum Hippocratis dictus Capsula Eburnea*. On the Latin transmission of this and other treatises under this common designation, see Kibre, pp. 110-23.

⁵⁴ On its incunabular printed editions, see Klebs, #640.5, 644.1-2, 826.1-3, 911.2.

Aphorismi (in two versions, the *antiqua* and that by Lorenzano plus the *aphorismi ad unamquamque aegritudinem*), both of them without Galen's commentaries; Galen's *Tegni* (in the *translatio antiqua* and that by Lorenzano) without its commentary by Ibn-Ridwan; the Hippocratic *Iusiurandum*, *Liber prognosticorum dictus capsula eburnea*; the *Aphorismi* of Mesue, the *Flosculi medicinales* from Cornelius Celsus' *De medicina*, the same excerpts of Avicenna's *Canon* (I.1,2,4; IV.3,4,5); his *Cantica*, Rhazes's book IX of *Ad Almansorem regem*, Jacques Despars' *Summula super Antidotario Mesue*, and the already mentioned two short descriptions of weights and measures.

But, along with all these treatises Pomar restored the traditional Hippocratic text *De regimine acutorum morborum* (only one of the two versions reported in the *editio princeps* and in the editions by Argilagues and Da Volpe), the *Epidemiae*, *De natura fetus* and *De lege* (all four of which had disappeared from the editions of 1502 and 1505, and from those by Rustico). The first two works now appeared without Galen's commentaries.

Pomar also inserted six more "Hippocratic" works (since we do not know what Hippocrates wrote we have to accept a range of pseudo-ness) into the collection, including *Airs, Waters and Places*. The others are short and do not have traditional English titles: that on secrets, *Liber secretorum* (another member of those included under the common designation of *Capsula eburnea* like the *Liber prognosticorum* edited by Rustico); on prognostication according to the moon, *De esse egrorum secundum lune existentiam*; on the nature of the body and the elements, *De humana natura vel de elementis*; on remedies, *De pharmaciis*; and *De insomnis*. All these had become available in printed editions in the 1480s either on their own (*De insomniis* [Rome, c. 1481] and *De esse egrorum...* (Padua, 1483)) or as a part of a collection of medical works headed by Rhazes' *Ad Almansorem regem* (Milan, 1481). As to the versions of these works reported in Pomar's *Articellae*, the *De insomniis* was in a Greek-Latin translation by the hellenist editor Andrea Brenta (fl. c.1460-1485);⁵⁵ *De esse egrorum*, in an anonymous Arabic(?)–Latin translation;⁵⁶ the *Liber secretorum*, in a translation from the Arabic by Gerard of Cremona;⁵⁷ *De humana natura*, in a Greek-Latin version probably by Bartholomaeus of Messina (thirteenth century);⁵⁸ *De aere, aqua, et regionibus*, in an Arabic(?)–Latin version by Isaac Toletanus;⁵⁹ and *De pharmaciis*, in one Greek-Latin translation probably by Nicolò da Reggio (fourteenth century).⁶⁰

Finally, Pomar's *Articellae* also included two series of medical aphorisms by the Montpellier medical professor Arnau de Vilanova (c. 1240-1311), namely the *Aphorismi sive parabole universales* (traditionally known as *Parabole medicacionis*), and the *Aphorismi particulares*. The former, which was completed at Montpellier in 1300 and addressed to king Philip IV of

⁵⁵ Kibre, pp. 175-6; Stillwell, #413.

⁵⁶ Kibre, pp. 94-107; Stillwell, #416.

⁵⁷ Kibre, pp. 110-23; Stillwell, #421. Pomar edited this work in addition to the *Liber prognosticorum Hippocratis* (already edited by Rustico) which he ascribed to the designation of *Capsula eburnea*. However, I have followed Kibre's views and enclosed both works under the common name of *Capsula eburnea*.

⁵⁸ Kibre, pp. 192-5; Stillwell #660.

⁵⁹ Kibre, pp. 25-8; Stillwell, #658.

⁶⁰ Kibre, pp. 165-7; Stillwell, #417.

France, arranged 342 aphorisms in seven "doctrines" dealing with the physician's preparation for his task (ds. I-III), the treatment of complexional, compositional, and compound illnesses (ds. IV-VI), and guidelines for dealing with a relapsed or convalescent patient (d. VII). The second set of Arnau's aphorisms was subdivided into three doctrines dealing with diseases of the head, with the preservation of memory, and with diseases of the spiritual, nutritious, and generative members, respectively.⁶¹

The editions by Salio

The editions of Girolamo Salio were based upon the *corpus* of medical works included by Argilagues and Da Volpe, although they also introduced new versions and texts.

First, the Hippocratic *Aphorismi* with Galen's commentary were given in three different versions, arranged in three parallel columns. To the left the *translatio antiqua* by Constantine the African, in the middle the version by Lorenzo Lorenzano (*transductio Laurentiani*), and to the right that by Nicolò Leonicensi (*versio Leonicensi*). Additionally, in the margin and in smaller characters, Salio provided Theodore Gaza's translation of this Hippocratic work, in this case without Galen's commentary. The versions by Lorenzano and Leonicensi, two outstanding hellenist physicians, had been first printed in Florence (1494) and Ferrara (1509), respectively.⁶²

Secondly, the Hippocratic *Prognostica* with their commentary by Galen were given in three versions. The first two were the same Latin translations with a single version of Galen's commentary as in the *editio princeps* and in the editions by Argilagues and Da Volpe, but they were followed by the new Greek-Latin translation of both text and commentary by Lorenzo Lorenzano, who retitled this Hippocratic work as *Predictiones (editio princeps)*: Florence, 1508).⁶³ Another Hippocratic text, *De regimine acutorum morborum*, is again provided in the two versions already standard in the *editio princeps* and those by Argilagues and Da Volpe, and accompanied with a single version of Galen's commentary.

And thirdly, Galen's *Tegni* or *Ars parva* (here called *Microtechni*) in four different versions consecutively printed, namely those by Leonicensi and Lorenzano, the so-called *translatio antiqua* by Burgundio da Pisa, and the *transductio ex Arabico* by Gerard of Cremona. While Lorenzano's version had been first printed in the *Articella* edition of Pavia 1506, Leonicensi's had been independently published in Venice (1508).⁶⁴ The four versions of the Galenic text

⁶¹ For a critical edition of and study on these aphoristic series by Arnau of Vilanova, see Juan-Antonio Paniagua, Lola Ferre and Eduard Feliu, eds., *Arnaldi de Villanova opera medica omnia. Vol. VI.1. Medicationis parabole. Pirqé Arnau de Vilanova* (Barcelona: Universitat de Barcelona, 1990); Juan-Antonio Paniagua, Pedro Gil-Sotres et al., eds., *Arnaldi de Villanova opera medica omnia. Vol. VI.2. Commentum in quasdam parabolis et alias aphorismorum series...* (Barcelona: Universitat de Barcelona, 1993).

⁶² Durling, "A chronological census", pp. 250-1, 294.

⁶³ Kibre, pp. 199-221; Durling, "A chronological census", pp. 251, 295. Actually, both of them consisted only of Galen's *In Hippocratis Prognosticum III Comm. III*.

⁶⁴ Durling, "A chronological census", p. 282; Durling, "Corrigenda", *Traditio*, 23: p. 463; 37: pp. 373-4.

were followed by its standard commentary by Ibn-Ridwan in the above-mentioned single version.

On the other hand, Salio's editions of the *Articella* contained the additional texts as follows. First, the *Liber prognosticorum Hippocratis* (here under the exclusive designation of *Capsula eburnea*) that Rustico had already incorporated into his editions, and the group of six Hippocratic works already edited by Pomar, namely *Liber secretorum*, *De esse egrorum secundum lune existentiam* (*Prognostica secundum lunam*), *De humana natura vel de elementis*, *De aere, aqua, et regionibus*, *De pharmaciis*, and *De insomnis*.

Secondly, Galen's shortest treatise *Quos oporteat medicamentis purgare et quando*, which Durling has identified with an anonymous Latin translation from the Greek first printed in London (1522).⁶⁵

Thirdly, Salio included Leoniceno's two forewords to the readers of his own translations of Galen's works, namely his larger and common one to Galen's books he had translated from Greek to Latin, and the shorter one he had prefixed to his version of Galen's *Ars medicinalis* or *Tegni*. Both of them had been first printed in Venice (1508).⁶⁶

Fourthly, the volume ends with Leoniceno's long discussion of the "three doctrines" with which Galen opened the *Tegni* (*Quaestio de tribus doctrinis ordinatis secundum sententiam Galeni*) (also first printed in 1508).⁶⁷

Last but not least, the edition of Lyons 1527 contains two more remarkable features. On the one hand, it restored some fragments to the Arabic-Latin version of the Hippocratic *De regimine acutorum morborum* which the previous *Articella* editions lacked, and added to it a last paragraph allegedly omitted. On the other, it incorporated a Greek-Latin version of the Hippocratic *Epidemiae* by Marco Fabio Calvi (*fl.* 1520) along with the standard one. This new version seems to have been first published two years before in the *Opera* of Hippocrates (Rome, 1525) in which Calvi had been involved as translator.⁶⁸ The Lyons publisher advertised these two new features on the title-page of the volume, and made it clear that the editor Michel de La Chapelle, very active in Lyons in that time, had been in charge of incorporating both of them into it.⁶⁹

⁶⁵ Durling, "A chronological census", pp. 253, 294.

⁶⁶ See Durling, *A catalogue of the sixteenth century printed books*, #2792.

⁶⁷ On this work of Leoniceno, see Daniela Mugnai-Carrara, "Una polemica umanistico-scolastica circa l'interpretazione delle tre dottrine ordinate di Galeno", *Annali dell'Istituto e Museo di Storia della Scienza di Firenze*, 8 (1), 1980, 31-57.

⁶⁸ Stillwell, #406; Durling, *A catalogue of the sixteenth century printed books*, #2320.

⁶⁹ "Articella cum commento. Novissime per excellentissimum doctorem dominum Hieronymum de Saltis Faventinum recognita et expurgata, pluribus translationibus et additionibus hincinde incertis ornata, que in ceteris impressoribus non habentur, ut in sequenti pagina sub hoc indice videri licet. Cum textum libri quarti regiminis acutorum Hippocratis, necnon etiam cum textu epidemiarum eiusdem Hippocratis nuper traducto per eruditum virum Marcum Fabium Calvum Rhavenatem, qui textus hac in postrema editione industria magistri Michaelis de Cappella artium et medicine doctoris, cum non parva legentium et studentium utilitate adiecti sunt. 1527". On Michel de La Chapelle, see Wickersheimer, *Dictionnaire biographique*, vol. II, pp. 551-2; Jacquart, *Supplément*, p. 209.

7. MEDICINE, HUMANISM AND HELLENISM

The conceptual framework of physicians trained in the universities of northern Italy in the second half of the fifteenth century may be described as late medieval Galenism, sometimes also called Avicennan Galenism. Its doctrines rested on the supposed harmony of classical -- Greek-Roman -- medicine and the Arabic re-creation of it. In particular Avicenna, as the foremost Arabic author, was held to agree with Galen, the great interpreter of Hippocrates. This did not prevent future doctors coming out of university lecture rooms imbued with the concepts and values of the humanist movement. They should not be called humanists, for humanism was a style of teaching rather than a body of doctrine, and one which suited the literary subjects best, but by the middle of the fifteenth century, as Kristeller observes, the influence of the humanist movement had gone beyond the limits of the *studia humanitatis* and to a greater or lesser extent affected every intellectual sphere. Medicine and natural philosophy, as technical subjects, had been humanised as much as their nature would allow by the period of the printed *Articella*.⁷⁰

A "humanised" medical man might well share with the literary humanists a desire to restore what the ancient authors had truly said. He would be prepared to use or accept textual criticism of the major medical sources and strove to recognise that the historical circumstances in which the authors had written had a bearing on what they wrote. The medical "establishment" was also a profession and it taught structured courses within universities governed by statutes. These are not circumstances that promote change, and however "humanised" he was the doctor did not want to abandon his authoritative Avicenna, who was neither ancient nor Greek nor Roman. Nor did they agree with the new fashion of medical hellenism of the 1480s. This movement, with origins in the Council of Ferrara-Florence (1438-1439) and the collapse of Constantinople in 1453, sought to radicalise the humanist programme, advocating a return to the *prisca medicina* of the ancient Greeks, which they claimed was the true source of medicine.⁷¹

⁷⁰ Paul Oskar Kristeller, *Renaissance Thought and its Sources* (New York: Columbia University Press, 1979), pp. 29-30.

⁷¹ On humanism and, in general, on the learned culture in late fifteenth- and early sixteenth-century Italy and Europe, see among others, R.R. Bolgar, *The Classical Heritage and its beneficiaries* (Cambridge: Cambridge University Press, 1954); L.D. Reynolds & N.G. Wilson, *Scribes and scholars. A guide to the transmission of Greek and Latin literature* (3rd ed., Oxford: Clarendon Press, 1991); Kristeller, *Renaissance Thought*; John Stephens, *The Italian renaissance. The origins of intellectual and artistic change before the Reformation* (London-New York: Longman, 1990); Anthony Goodman & Angus MacKay, eds., *The impact of humanism on Western Europe* (London-New York, Longman, 1990); James Hankins, *Plato in the Italian renaissance*, 2 vols. (2nd. impr., Leiden: Brill, 1991); Walter Rüegg, "Epilogue: the Rise of Humanism", in Hilde de Ridder-Symoens, ed., *A History of the University in Europe. Volume 1: Universities in the Middle Ages* (Cambridge: Cambridge University Press, 1992), pp. 442-68; Francisco Rico, *El sueño del humanismo. (De Petrarca a Erasmo)* (Madrid: Alianza, 1993). On the university medical and natural-philosophical culture in this period, see among others, Richard J. Durling, "A chronological census"; Francis Maddison, Margaret Pelling, and Charles Webster, eds., *Linacre Studies. Essays on the Life and Work of Thomas Linacre, c. 1460-1524* (Oxford: Oxford Univ. Press, 1977); Jerome J. Bylebyl, "The School of Padua: humanistic medicine in the sixteenth century", in Charles Webster, ed., *Health, medicine and mortality in the sixteenth century* (Cambridge: Cambridge University Press, 1979), pp. 335-70; Roger K. French, "Berengario da Carpi and the use of commentary in anatomical teaching", in Andrew Wear, Roger K. French and Ian M. Lonie, eds., *The medical renaissance of the sixteenth century* (Cambridge: Cambridge University Press, 1985), pp. 42-74, 296-8; French, "Pliny and Renaissance medicine", in Roger K. French and Frank Greenaway, eds., *Science in the Early Roman Empire: Pliny the Elder, his Sources and Influence* (London-Sydney: Croom Helm, 1986), pp. 252-81; Nancy G. Siraisi, *Avicenna*; Vivian Nutton, *John Caius and the manuscripts of Galen* (Cambridge: The Cambridge Philological Society, 1987); Daniela Mugnai-Carrara, *La biblioteca di Nicolò Leonicensino. Tra Aristotele e Galeno: cultura*

The medical hellenists were not an intellectually homogeneous group. Some of them followed the natural philosophy of Aristotle, as taught in the schools of western Europe since the thirteenth century, which they read now in Greek. Others identified themselves with the Platonic philosophy then being revitalised in Florence by Marsiglio Ficino and his circle, and studied the Greek Plato and Greek neo-Platonists. But all of them agreed, in the face of the academic medical "establishment", that a return to the Greek *prisca medicina* was the best, if not indeed the only, way of achieving the reform of medicine which, they maintained, could no longer be postponed. They sought a "rebirth" of Greek medicine, which they maintained had spent centuries in the dark.

Many in the medical "establishment" did not agree. Theirs was a professional and practical business. It had been taught in Latin for centuries, and these doctors read their Greeks and Arabs in Latin, beginning with the *Articella*. Latin was more than the language of mere commentators, whom the hellenists decried, and was part of their culture, which they called, in reaction to the hellenists, the *res Latina*. While they did not deny the importance of the Greek authors they thought that to limit medicine to ancient texts was to ignore the additions made to medicine by the commentators, who "aggregated" new knowledge to the old, or made refinements within the broad principles of the ancients. Some even felt that in restricting themselves to Greek sources the hellenists were avoiding the technical difficulties of medicine (and natural philosophy) or were discussing words rather than things.

This was the context in which the *Articella* was printed. There were many things about it that did not appeal to the medical hellenists. It was in Latin. It had technical terms that could look barbaric. Some of the component tracts were of late origin, and all were small. It was full of commentaries, often with more than one for an individual work. Its editors introduced additional works composed in Arabic or Latin long after the end of the classical period. Ultimately, the medical hellenists won their battle. New translations from the Greek replaced those medieval ones from Arabic and Greek, and among the texts used for teaching those that allowed the Greek authors to "speak for themselves" were preferred to the analysis and commentary of the Latin tradition. The medical hellenists killed the *Articella* by destroying the market for it.



e libri di un medico umanista (Florence: L.S. Olschki, 1991); Anthony Grafton, *Defenders of the text. The traditions of scholarship in an age of science, 1450-1800* (Cambridge, Mass.: Harvard University Press, 1991); Jon Arrizabalaga, John Henderson and Roger K. French, *The Great Pax. The French Disease in Renaissance Europe* (New Haven-London: Yale Univ. Press, 1997); Vivian Nutton, "The rise of medical humanism: Ferrara, 1464-1555", *Renaissance Studies*, 11 (1), 1997, 2-19.

The hellenist medical movement, the earliest nuclei of which crystallised round physicians like Nicolò Leoniceno (1428-1524) at the university of Ferrara and Giorgio Valla (1447-1500), quickly spread through the medical faculties of Italy and then the rest of Europe, coming into full flower in the sixteenth century. Among its leaders were Lorenzo Lorenzano (1450-c.1502), Giovanni Manardi (1462-1536), Jean de la Ruelle (c.1479-1537), Wilhelm Kop (1460-c. 1532), Johan Guinther von Andernacht (1505-1574), and Thomas Linacre (c.1460-1524). Their most characteristic activity of course was the translation and editing of ancient and Byzantine Greek works. Works of Galen, Hippocrates and others began to circulate, first in manuscript, from about 1480, although most of them were not printed until well after 1500.⁷²

8. CHANGES IN THE ARTICELLA

The remarkable changes undergone by the *Articella* during the almost sixty years of its printing history may be explained as publishers' adaptative responses to the new, quickly changing circumstances involving medical learning and practice in late fifteenth- and early sixteenth-century Europe. I will deal with these responses by distinguishing between those made in reaction to medical humanism both Latin and Greek, and those concerning the changing nature and function of the printed book.

As already noted, the *editio princeps* of the *Articella* [Padua, c. 1476] remained close to manuscript conventions. It seems to have had no editor other than the printer, who probably worked from a single manuscript exemplar, and not a very good one. Like a manuscript, it has no page or folio numbers, no title page, list of contents or colophon; its beginning and end are marked only by an *incipit* and *explicit*. The edition consists of the seven works that were canonical in the thirteenth century and follows the tradition of the *Ars commentata*. This is the *Articella* at its most basic and medieval. The translations are mostly from the Arabic; Galen is better represented as a commentator than author; and the number of medieval or Byzantine works matches the number of Hippocratic. These features were changed by later editors in a number of ways that relate to the context of late fifteenth-century medicine as seen by the editors.

The Articellae of Argilagues

Francesc Argilagues, the editor of the Venetian *Articellae* of 1483 and 1487, had been trained in the medical faculties of Siena and Pisa during the 1470s and was a typical member of the Italian medical "establishment" that we have characterised as being Avicennan-Galenist.⁷³ He resented the claims of the medical hellenists and took a belligerent attitude to them. Undoubtedly this affected what he chose to include in the *Articella*, that is, what he took a proper medical education to be. First, in an introductory note to the tracts in the *Articella* he took pains to resolve an academic question posed by apparent contradictions in Hippocrates,

⁷² Richard J. Durling, "A chronological census"; Durling, "Corrigenda"; Stillwell, pp. 113-7, 125-31; Nutton, *John Caius*, pp. 19-49.

⁷³ Arrizabalaga, Garcia-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso".

Galen and Avicenna. It was a question of how to calculate the critical days in post-partum fever, and it arose as part of the subject matter of the Hippocratic *Prognostics*. Galen's commentary on the point seemed to differ from Avicenna's explanation of it, and it is clearly the action of an "establishment" figure to try to reconcile Avicenna with the Greek sources.⁷⁴ Leoniceno, the arch-hellenist, would have delighted in showing that Avicenna was in error.

Second, Argilagues has a word of advice for the reader in connection with the Hippocratic *Regimen in Acute Diseases*. Only the first three sections of the work, he says, have previously been printed, and not the last, of which only a single translation existed, containing some difficulties. Humanist, physician and hellenist alike would agree that it was good now to publish the remaining part of the text, but in doing so in a less than perfect translation Argilagues knew that he would run the gauntlet of criticism from the hellenists.

If in this fourth section there are some Greek words wrongly written in our Latin letters, which might make any expert in Greek laugh, there is no reason at all for criticism, since the translation of these words is faithful and true. None of the codices of which I made use in my editing differs on these words, in spite of the fact that they often appear written in different ways in the commentary and in the text. When one knows the essence of something, one must not worry about the words; it was Galen's wish to learn and teach without using words. Thus it is found, in contradiction to many, in the second particle of the *Aphorisms*, commentary 22, that [Galen] says, 'I want to avoid the views of the new physicians who always chatter about names, believing they are talking about the things they are the names of'. And in the third book of the *Tegni*, near its end, he says that 'it is also possible not to give names of causes at all, like the sophists who neglect theory in the investigation of the great diversity of things and reduce their lives to a matter of names'. Averroes for his part says that Aristotle had little concern with names. The Latin translations should be enough for you, reader, since the Latin language is not to be considered inferior to Greek in dignity and excellence. In the foreword to his *Tusculan Questions* Cicero says 'I have always thought that our forefathers were in themselves wiser than the Greeks in all things, or that they improved all that they took from them'. Let Priscianus and many others think much the opposite.⁷⁵

This passage has been given at length because it shows so clearly Argilagues as a careful editor, working from a range of manuscripts and undoubtedly within the late medieval medical tradition. He stoutly defended the sense of the Latin translation (despite some infelicities of Greek transcription), and in arguing strongly for the importance of thing over name he has eloquently chosen a medical model, Galen, and a Latin hero, Cicero, significantly where Cicero was challenging Greek cultural superiority. The argument about things and names might have been sharpened by the medieval dispute between the nominalists and realists, but it found forceful application in the hands of another group of "establishment" medical figures, the anatomists, who often thought that in concentrating on Greekifying the terminology the

⁷⁴ Arrizabalaga, García-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso", pp. 39-40. See Appendix 2.

⁷⁵ Arrizabalaga, García-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso", pp. 40-1. See Appendix 2.

hellenists had forgotten the real business of anatomy.⁷⁶ In just the same way Argilagues argues that the philological concern of the hellenists was in some sense an evasion of the technical and difficult issues of real things in the business of the natural philosopher and physician. Argilagues questioned the value of hellenistic translations that were in circulation in manuscript (we should remember that Aldo Manuzio did not start publishing medical works in Greek and Latin until 1497).

In short, as an opponent of the hellenists, we see Argilagues as a businesslike "humanised" medical man, with humanistic textual and historical skills that served him in his editing and without the hellenists' aversion to the Arabic and medieval sources of medicine. He was full of praise for Gerard of Cremona's translations from the Arabic in the technical fields of medicine, natural philosophy and mathematics:

... a very illustrious man who translated from Arabic into our Latin 75 works of dialectics and philosophy as well as mathematics, not to mention 21 medical works. If this place were more appropriate I would enumerate all of them here in his honour.⁷⁷

Certainly, Gerard of Cremona (1114-1187) was not someone whose memory the hellenists would be inclined to celebrate. He not only was the leader of the Toledo school of translators (1130/40-1284), but also symbolized the kind of approach to medical and natural philosophical sources that shaped the university pattern of learning in the late Middle Ages -- a pattern that Argilagues, like most medical "establishment" members, feared would be displaced and substituted by the new, still evanescent one, that hellenists were intending to introduce.

The hellenists' programme threw some aspects of late medieval Galenism into new relief. Argilagues energetically attacked the carelessness of some works of the ancients then circulating and we have seen that he was scathing about the *editio princeps* of the *Articella*. The point was that such things were soft targets for the hellenists, and threatened the repute of good Latin scholarship. Argilagues was pungent in his attack on careless editors, and blamed them for the continual "inconveniences and extravagancies" present in the printed works. Yet, Argilagues kept in reserve his most lacerating attack for the printers who, he said, "almost always alter and change everything they receive already corrected".⁷⁸ Such tension between editor and printer must have been a common feature of the early press.

In the light of all this we can understand a little better the changes that Argilagues introduced into the *Articella*. First, two words about the little work by Gentile da Foligno on arranging the books of Galen which he brought into the collection. For the hellenist Leonicensis, Gentile was "the old commentator" on Avicenna, because he had lived before the plague. Leonicensis

⁷⁶ French, "Berengario da Carpi"; French "Pliny and renaissance medicine".

⁷⁷ Arrizabalaga, García-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso", p. 41. See Appendix 2.

⁷⁸ Arrizabalaga, García-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso", pp. 29-32. See Appendix 1.

did not like commentators or Avicenna, but to Argilagues both had much to offer. Gentile's advice in this text on how to divide up the books of Galen and in what order to read them began life as a commentary on Galen's *Tegni* and so was a by-product of teaching the *Articella*. In bringing it into the collection Argilagues was asserting the continuity and utility of the medical Latin tradition.

Secondly, it was not necessary to be a hellenist to see the virtues of good translations of Greek works. Thus, it makes sense that Argilagues introduced into the *Articella* no less than four previously unpublished Hippocratic works, namely an Arabic-Latin translation of the *Epidemiae*, and Greek-Latin single versions of a tract on the development and therefore the anatomy of the unborn body (*De natura fetus*), and of two others concerned with legal and ethical parts of medicine (*De lege* and *Iusiurandum*).

Finally, the three tables of contents Argilagues introduced seem to have been intended as a guide to the most important works, for they cover the *Tegni*, the *Aphorismi* and three more Hippocratic texts taken together, those on *Prognostica*, *Epidemiae* and *De regimine acutorum morborum*. Thus Argilagues did not think it worthwhile or important to provide a guide to the first three works of the collection, Johannitius' introduction and the texts on urines and pulses. There is evidence that although among the oldest members of the *Articella*, these texts were regarded simply as introductory -- a sort of medical *trivium* to the Hippocratic/Galenic *quadrivium* that followed -- and were sometimes omitted.⁷⁹ Argilagues' treatment would be consistent with such an attitude. As already said, other editors followed Argilagues' lead in supplying tables of contents, but only in the secundo and quarto editions (Da Volpe and Salio). No doubt it was necessary to omit as much as possible in squeezing the component tracts of the *Articella* into an octavo volume. Possibly too if the pocket-sized octavos were intended as constant companions (rather than reference or library folios) familiarity would render such guides unnecessary.

The octavo Articellae

The first octavo *Articella* was the edition of Venice, 1502. We do not know who its editor was, and so we do not have any external means of judging his cultural alignment. But there are signs of the cultural changes we have been discussing. This edition as well as the eight subsequent others published in octavo (the lost edition of Lyons 1505, the three in the charge of Pietro Antonio Rustico and the four Lyons ones edited by Pere Pomar) included the first of a new series of translations made by hellenists from the Greek: the Hippocratic *Aphorismi* in a translation by Theodore Gaza (died in 1478). In comparison to the age of the collection as a whole, this represents a fairly rapid adoption of novelty. But then the formation of the collection itself had much to do with the comparatively sudden appearance of the Arabic-Latin translations in the twelfth century, and we should not be surprised at its modification at a time of new round of translations beginning in the late fifteenth century. The new translation made the old one *translatio antiqua*; but it did not make it redundant. These editors retained it in their volumes, despite the pressure on space in a small book. One reason for this may be that the old translation was commonly taught by means of commentary, and scholastic commentary commonly proceeded by examining small sections of the text in turn. Each section was identified by a phrase -- a *lemma* -- taken from the text, which had to remain constant if the

⁷⁹ Pesenti, "Articella dagli incunabuli ai manoscritti", pp. 135-6.

commentary was to work. The old commentary could not work with a new translation. To a certain extent the same thing was true of Galen's commentaries traditionally presented with the Hippocratic texts of the *Articella* (although not of the *Aphorismi* in this case): a new translation of the Hippocratic text would ideally require a new translation of Galen's commentary.

Not only did these editors retain the old translation of the *Aphorisms*, they used it a second time in presenting a *Collection of Aphorisms relating to Every Disease*, in which the aphorisms were reorganised to follow a head-to-toe sequence. The point of doing this was to add an organising principle to the collection to make for easier learning and reference. Doubtless the old translation was retained for this purpose because it was still the most familiar (and fitted the commentaries). The editors said the arrangement was 'to ease the labour of the students' (*ad tollendum studentium laborem*), which reflects the central part played in medical education by the *Aphorisms*. Indeed, it is worth pausing just a moment to reflect on the nature of medical aphorisms. The Hippocratic forms of the genre are conspicuously without theory and look like pieces of advice distilled from the lengthy and authoritative experience of the father of medicine. They were in a sense practical, for they told the doctor what to expect or do in a variety of situations. Practical, based on experience and without theory, they might have been thought empirical; but the university-trained, rational and learned doctor had the most pressing need never to appear to be empirical, for this was a label that had come to be applied to his rivals, the unlicensed practitioners. Although it was not explicit, in this situation one advantage of reading Galen's commentaries on the Hippocratic texts was that Galen supplied the theory that Hippocrates had chosen not to express. Indeed, to explain the *Aphorisms*, *Prognostics* and *Regimen in Acute Diseases* (all frequently accompanied by Galen's commentaries in the *Articella*) was to assign causes and to introduce principles. The *Aphorisms* were thus rescued from empiricism and retained their authority and practicality.

The *Flosculi medicinales ex Cornelio Celso extracti*, aphoristic excerpts from Celsus' *De medicina*, which all these editions also incorporated, doubtless reflected the strong impact enjoyed by this ancient Roman authority in early sixteenth-century northern Italy and southern France. These "flowers" could be picked with profit from Celsus not only to be presented as aphorisms, but as pieces of elegant, ancient and confident *Latin* medical literature, from the '*Cicero medicorum*', at a time when the hellenists were getting into their stride. Both humanist and hellenist medical men thought that the new appearance of old texts was a good thing, and there is no conflict in our editor publishing Celsus and Theodore Gaza's translation of Hippocrates.

The exclusion of four Hippocratic works already included in previous editions (and one of them, the *Regimen in Acute Diseases*, which had been canonical for a long time), was a more drastic alteration made by the editors of the octavo *Articellae*. Of the Hippocratic texts introduced by Argilagues they kept only the *Iusiurandum*. Perhaps they saw Argilagues' inclusion of *De Lege* and the texts on epidemics and the nature of the foetus as unnecessary innovations. But the omission of the book on acute diseases alone is a serious loss to the Greek side of the balance, as is the absence of Galen's commentary on the surviving Hippocratic prognostics and aphorisms. The introduction of Mesue from the edition of Venice

1502, and of other Arabic and Latin medical authorities in the subsequent octavo editions, might seem to further shift the balance away from a Greek *prisca medicina*; but then Galen's *Tegni* is also without its commentary, which was originally Arabic.

We cannot be sure of all the factors influencing the decision of an editor on what to include, but it is fairly clear that the needs of the traditional medical faculties, and their statutes, formed a market that competed with another partly shaped by hellenism. The *Articella* editions put out by Rustico (Pavia 1506, 1510, Venice 1507) and Pomar (Lyons, 1515, 1519, 1525, 1534) show this clearly. Presumably, these were primarily targeted at the medical schools of Pavia and Montpellier.

Rustico, the *ordinarius* at Pavia, seems to have been concerned with bringing the *Articella* up to date for use in his own university. Bringing up to date meant adding rather than omitting, and Rustico accepted that the aphorisms of Mesue and the extracts from Celsus that had appeared in the 1502 edition were proper parts of the *Articella*. He also included material that was distinctly medieval rather than ancient and which was specified by the medical syllabus at Pavia, as at most late medieval faculties.

This consisted of, firstly, the above-mentioned large excerpts of Avicenna's *Canon*. Systematic and comprehensive, the *Canon* was an ideal textbook, except for its size. This prevented a complete commentary being finished much before the Black Death, when Gentile da Foligno had finished all but a few sections. The text and the commentaries by Gentile, Jacques Despars (*Jacobus de Partibus*) and Gianmatteo Ferrari da Gradi (*Matthaeus de Gradibus*) were the centre of a huge publishing enterprise in the late fifteenth and the early sixteenth century, while the *Articellae* were still being printed: clearly the publisher anticipated a steady market of a traditional sort in which to recoup his investment. Rustico's omission of the section on anatomy in *Canon* book I, fen 1 was consistent with the way this textbook had been usually taught from the early fourteenth century.⁸⁰ Gentile thought this was wrong, believing that anatomy was the alphabet of medicine, but nevertheless followed the custom. This meant that the *Articella* was without anatomy in an age when anatomy was becoming important as Galen's anatomical works became better known and vindicated Gentile's opinion (implicit in his tract, which was sometimes included in the *Articella*, on how to read Galen's books). By 1502 Gabriele da Zerbi had made Paduan anatomy conspicuous with his huge book, which took Galen's *On the Use of the Parts* (*De usu partium*) as its guide. When Berengario da Carpi did the same to Bolognese anatomy in 1521 it became increasingly clear that the rationality and learning on which the physician had depended for so long for his professional standing, was anatomical. Both Zerbi and Berengario were "establishment" figures: proud to call themselves "scholastics" they saw the hellenists as a distinct group, and while admiring their philological skill, distrusted their anatomical competence. Both had a humanistic interest in restoring Galen's anatomy in a Latin form.⁸¹ To the extent that anatomical rationality prospered, the *Articella* was marginalised.

⁸⁰ Siraisi, *Avicenna*, pp. 132-3.

⁸¹ Roger K. French, "Anatomic rationality", in Roger K. French, Jon Arrizabalaga, Andrew Cunningham & Luis Garcia-Ballester, eds., *Medicine from the Black Death to the Great Pox* (Aldershot, Ashgate, 1998) (forthcoming).

The *Canon* remained an important text in medical teaching throughout the sixteenth century, and the ultimate victory of the hellenists, who disliked it, was in this respect incomplete. Rustico himself brought out a revised edition of it in Lyons in 1522, in collaboration with Symphorien Champier.⁸² Other additions to Rustico's *Articellae* such as Avicenna's *Cantica*, Rhazes' book nine of the *Liber ad Almansorem regem*, Jacques Despars' *Summula per alphabetum super Plurimis Remediis ex ipsius Mesue libris excerptis*, and the two brief descriptions of weights and measures for pharmaceutical purposes also answered a need that was not at all derived from hellenising physicians, and show that the "establishment" medical men looked with favour at Arabic writings.

The "establishment" physicians, like the hellenists, saw value in the ancient Greek works in good translations directly from the Greek. The hellenists differed in seeing value *only* in such things and in actively opposing the use of Arabic sources and Latin commentators. So it need not surprise us that Rustico added to his edition of the *Articella* the new Greek-Latin translation of Galen's *Tegni* by the hellenist Lorenzo Lorenzano (who had completed it in early 1500). However, this was an addition, rather than a replacement of the old translation, which he retained. We can only speculate about why there were two translations of the same text in an octavo volume where space was at a premium. Possibly it was intended to make a comparison possible, in which a humanist physician could exercise his philological and historical skills in deciding which was the better key to Galen's thought. Perhaps the older translation was retained (it was in first place) because it was still taught in the schools or taught by means of the traditional commentary by Ibn Ridwan (not included by Rustico), which would not have fitted the new translation.

It is tempting to see the increasing number of new translations included in the *Articella* as a sign of the penetration of hellenism. They are present to greater or lesser extent in the editions of Venice, 1502, Lyons 1505 and in Rustico's editions. Rustico was followed closely by Pomar's four Lyons editions: the *Aphorisms* and *Tegni* were present in both old and new translations, by Gaza and Lorenzano respectively, and none had Galen's commentary; the *Capsula Eburnea* appears again, as does the *Iusiurandum* and the extracts from Celsus. In following Rustico, Pomar also included the medieval works that we noted above, but in addition he restored the traditional Hippocratic text on regimen in acute diseases. He also put back into the collection the Hippocratic works included by Argilagues and Da Volpe, but omitted from the editions of 1502 and 1505 and from Rustico's, that is, those on epidemics, the nature of the foetus and *De Lege*. Lastly, Pomar also inserted six more Hippocratic works (already mentioned) into the collection.

Tempting though it is to see this text-count as evidence of the increasing penetration of hellenist influence in the *Articella*, we should remember that the aims of the hellenists largely coincided with those of humanist doctors in seeking out good translations of the ancient texts. In the nature of things most ancient medical texts were Greek, so again humanist and hellenist would have been looking for the same thing. Celsus was an exception, since he wrote in Latin, and this made him an important figure for those who saw themselves as champions of Latin

⁸² Siraisi, *Avicenna*, pp. 188, 362.

culture. "Establishment" medical men varied in their attitude to humanistic principles and to the *res Latina*, but few of them were hellenists. Pomar, for all the Greek material he introduced into the *Articella*, also increased the number of excerpts from Avicenna's *Canon*, that is, sections of book IV dealing with surgery, presumably related to the teaching of surgery in the medical syllabus in Montpellier. That all of Pomar's editions were published in Lyons seems to indicate that they were primarily targetted at Montpellier and designed to supply a need that the particular form of medical education took there. This is suggested too by Pomar's inclusion of still more aphorisms, those of the Montpellier teacher Arnau de Vilanova. He had died in 1311, but his two sets of aphorisms ('universal' and 'particular') remained popular works. Pomar's inclusion of Arnau and Avicenna make it clear that he was no determined hellenist.

The hellenist Articella

We see a rather different picture when we look at the two *Articella* editions prepared by Girolamo Salio (Venice 1523, and Lyons 1527). Here the comparison of different translations is carried to new lengths. Although we cannot be certain of Salio's intentions, his methods implied a number of things. Four versions of a single text in parallel columns (the case of the Hippocratic *Aphorismi*) or sequentially arranged (the case of Galen's *Tegni*) clearly invite textual comparison. A humanist and hellenist philology would be served in such a way. That the texts are displayed in certain chronological order of their translation (forwards in the *Aphorismi*, and backwards in the *Tegni*) would also serve the humanists' sense of history; but it also implies an evolution of expertise, culminating with the version of the arch-hellenist Leoniceno, the enemy of Avicenna and the commentators, and to that extent the arrangement carries a hellenist message. But it is a message to non-hellenists, if only because it is in Latin. Doctors who could read Greek would not need parallel columns of Latin text to help them to decide what Galen meant -- which must be one of the purposes of the technique. It is a message to the "establishment" doctors, for whom it would be an unreasonable expectation that they would learn Greek. Nor would hellenists need a Latin text; when a Greek edition of the works of Hippocrates and Galen became available such an apparatus as found in these *Articellae* became less necessary and no doubt helped to end their publishing history.

Salio's quarto editions are essentially books in three parts with independent foliation (albeit without new title-page). Most of the traditional component texts of the *Articella* are given in the first (*Isagoge - De pulsibus - De urinis*) and second (*Aphorisms, Prognostics*, and the Hippocratic works incorporated by Pomar into the collection) parts, while the third part contains (in addition to the Hippocratic *Regimen in Acute Diseases, Epidemics*, and *De natura fetus*) non-traditional matter, including Leoniceno's general introduction to his own translations of Galen from the Greek (first printed in 1508). The volume ends with Leoniceno's discussion of the "three doctrines" with which Galen opened the *Tegni* (first printed also in 1508).⁸³ This had caused great difficulty for the earlier medieval commentators, and some high scholastic commentaries on it were still printed in the sixteenth century. The problem was what kind of doctrine Galen meant: how did one use them in terms of logic? Leoniceno cut through the commentaries by radically asserting that Galen was simply discussing methods of *teaching*.⁸⁴

⁸³ Durling, "A chronological census", p. 282; Durling, "Corrigenda", 23, p. 463; 37, pp. 373-4.

⁸⁴ Mugnai-Carrara, "Una polemica umanistico-scolastica circa".

In short, these two editions of Salio's can be called hellenist *Articellae*. Over and above the permanent and original first three works of the collection, there were in these editions of 1523 and 1527, twenty works of a kind that the hellenists perceived as their tradition. The single exception was Gentile's text on how to arrange Galen's works. Of the remaining nineteen most (thirteen) were "Hippocratic". We have noted Salio's wide use of hellenist translations. The arrangement of the entire volume implies a progression of medical knowledge, from the traditional introduction of Johannitius, up through the chronological and increasingly humanist/hellenist range of translations and ending with a hellenist programmatic promotion of Leoniceno's translations from the Greek and his dismissal of a question that had bothered the scholastics. It was Salio, the editor, who chose to introduce Leoniceno's works into an *Articella*, but it was the Greek-language activities of Leoniceno and other hellenists that finally killed the collection.

We can look in a little more detail at Leoniceno's hellenist programme, which is important in the third part of the hellenist *Articella*. Whatever the reasons for his conviction of the superiority of Greek culture, one of the reasons why Leoniceno wanted to recover Greek medicine was that he believed that it was more effective at the practical level. It was simply better medicine than that of the medieval Latins and the Arabs. He had been concerned about the dangers of using the wrong things as medicines (because of poor texts) when attacking Pliny and Avicenna,⁸⁵ and he now extended his attack to all recent medical writers, in whose books the good old medicine lay hidden in shadows.⁸⁶ The hellenists still felt themselves to be in a minority, which lent urgency to the exhortations to battle with which they addressed each other in their books. In addressing Leoniceno another hellenist physician, Luigi Bonacciuoli (*Ludovicus Bonaciolus*, dead c.1540), poured scorn on the enemy, the great number of medical men who reproduced old errors and filled their books with an ignorance that went unpunished. He was angry with them too and thought that their contagion of deceit was worse than the treachery of Nero in forcing his teacher Seneca and his fellow Lucan to kill themselves, and in ordering the death of his mother Agrippina. He thought that their language (because it bristled with technical terms and neologisms taken from the Arabic) was "stammering", a term used by hellenists for those who did not know or did not write the "eloquence" of Greek. It was parrot-talk, he said; but at least parrots are innocent, and one can remove their tongues. He cheered what he saw as Leoniceno's attempt to destroy the medicine of these people by cutting out what was profane and polluted, and cultivating "good



⁸⁵ See among others, French, "Berengario da Carpi"; French, "Pliny and renaissance medicine"; Arrizabalaga, Henderson and French, *The Great Pox*.

⁸⁶ "Brevi inquam fore ut nostro labore tuo autem ductu atque auspiciis vetus medicina, quae olim in clarissima luce versabatur, nunc autem in libris barbarorum multis iacet obruta tenebris, tandem exerat caput et in pristinam claritatem atque splendorem revocetur". See Leoniceno, *Praefatio in artem medicinalem Galeni*, in *Articella* (Venice, 1523), fol. 84rb; (Lyons, 1527), fol. 95v.

arts" in place of "bad" (that is, in translating Galen well from the Greek, rather than undertaking commentary).⁸⁷

In a minority, the medical hellenists sought not only to reassure each other of their superiority, but needed the help of the powerful. Before prefacing his translations from Galen, Leoniceno addressed Alfonso I d'Este, duke of Ferrara (1505-1534), dedicating the translations to him. He reminded Alfonso of his power (and dropped a gentle comparison with the ancient Caesars), of his wisdom in choosing good letters (of Leoniceno's kind), and of his *studium* of Ferrara, where the good letters should be cultivated. (Like many reformers, the hellenists wanted to change the names of the things they wanted to reform, and the medieval *studia* became *gymnasia* -- Leoniceno's word -- or the more Platonic *academiae*.) Leoniceno also reminded him that true immortality lay in the cultivation of good letters, not in stone walls; part and parcel of the whole was Leoniceno's battle against the forces of reaction, the "neoteric" medicine, a battle in which Leoniceno called on the help of his *humanissimus princeps*.⁸⁸ It was for related reasons that Leoniceno also addressed Francesco Castelli, the duke's physician. He too was congratulated on his association with the "good arts". But there was a particular reason for writing to Castelli. Leoniceno refers to the recent floods and dreadful pestilence that had recently affected Ferrara so severely that the philosophers and physicians of the *gymnasium* had left their posts. It was a critical moment: as Leoniceno says, time is the enemy of the good arts, particularly those of letters, and brings disasters like this, just as (he implies) the splendour of Greek medicine was eclipsed. Bringing in new teachers might well have brought in new doctrines; but Castelli seems to have guided Alfonso in restoring a suitably hellenistic *gymnasium* which Leoniceno thought could make use of his new work on Galen's three doctrines.⁸⁹

It is clear that the hellenist part of this *Articella* offers an alternative rather than a complement to the traditional texts that precede it. It was not that the hellenists wanted to get rid of the traditional Hippocratic and Galenic texts, but rather of their unsatisfactory translations and mode of expounding them. Leoniceno's treatment of the three doctrines with which Galen opens the *Tegni* is a paradigm. It is indeed not now the medieval *Tegni*, or even the humanist equivalent, the *Ars parva*, which had already become too common a title for the hellenists, but the *Ars medicinalis*. Leoniceno's entire treatment of this traditional member of the *Articella* was designed to replace the traditional commentaries upon it. That by 'Ali Ibn-Ridwan was doubly barbaric to Leoniceno. First where Ibn-Ridwan thought the text to be defective, he supplied words to complete what he thought was Galen's sense. They were of course Arabic words, now rendered into medieval Latin. They were accordingly ugly and in being alien almost without meaning. Second, Leoniceno thought that Ibn-Ridwan had been "violent" with his textual emendation in that the result did not in fact agree with a Galenic position. The medieval Latin writer Pietro Torrigiano (*Turisanus*, c.1270-c.1350), whose nickname *Plusquam Commentator* spoke for itself to a hellenist, had also commented on this part of the text, and although reaching a satisfactory Galen restoration, was still barbaric to Leoniceno because he stuttered along in a parrot Latin. Leoniceno's exercise here is to go back through

⁸⁷ Bonacciuoli's address prefaces Leoniceno's introduction to his translations of Galen. The enemy are *Neroniores*, more and worse than Nero. See Appendix V.

⁸⁸ *Articella* (Venice, 1523), fol. 84r; (Lyons, 1527), fols. 95r-v.

⁸⁹ *Articella* (Venice, 1523), fol. 157v; (Lyons, 1527), fol. 173v.

Ammonius and Porphyry to Aristotle and Plato and start all over again with a Greek, not medieval or Arabic discussion.⁹⁰

If we can assume that the hellenist *Articella* containing these texts of Leoniceno had a fairly wide circulation, then it seems likely that the hellenist programme expressed in them had a hand in the death of the traditional collection. Leoniceno knew what kind of objections would be offered to his programme. He knew that many traditional medical men and philosophers made Avicenna and Averroes "into gods". He knew that "establishment" physicians, proud of their businesslike profession, resented being sneered at by Greekifying hellenists who appeared to avoid getting tangled in the technicalities of medicine and philosophy in their search for the "eloquence" of Greek. In doing so, Leoniceno recognised, the hellenists could be grouped with those who were concerned with grammar and rhetoric and teaching in the early part of the arts course, and who only dabbled in philosophy. But in writing on the three doctrines he had taken the technical side of the theory of medicine head on and shown that hellenism could tackle it. His linguistic skills in fact dealt with technical medical problems with important practical results, not only in his famous attack on Pliny, but in the introduction to the translations of Galen.

9. THE ARTICELLA AND THE PRESS

Let us finally look at how the men who edited and published the *Articella* reacted to the new possibilities of a growing technology. As we saw above, seven of the eighteen editions of the *Articella* were printed in folio -- more strictly, in secundo -- two were quartos, and the remaining nine were octavos. Since it is obvious that, then as now, the size of a book was conditioned by the use to which the volume was destined and, at the same, time constituted a powerful conditioner of other potential uses for it, we must assume that these changes in format were significant, and the most ready explanation is that the format was governed by the use that the publisher or editor thought that the book would be put to. The format would also encourage or defer other potential readers.

The six secundo volumes of the fifteenth century (Padua about 1476, and Venice 1483, 1487, 1491, 1493, and 1500) and that of Venice 1513 can be considered as direct descendants of the kind of book which Petrucci has defined as the *libro da banco*, that is, manuscript texts produced at or for the universities, designed for use in conjunction with lectures and with the largest format, two columns of text and big margins for the reception of glosses and postils.⁹¹ We have seen that this was particularly striking in the case of the Paduan *editio princeps* of the *Articella*, where the printer seems to have limited himself to reproducing a manuscript, format and all. But we see from the details of the later editions of Argilagues and Da Volpe that publishers and editors soon came to see the huge potentialities in reaching new markets and spreading knowledge. As the editor Argilagues noted in his postface,

⁹⁰ *Articella* (Venice, 1523), fols. 81r-84r; (Lyons, 1527), fols. 92r-95r.

⁹¹ Armando Petrucci, "Alle origini del libro moderno. Libri da banco, libri da bisaccia, libretti da mano", *Italia medioevale e umanistica*, 12, 1969, 295-313: pp. 297-8.

Undoubtedly mankind owes the highest praise to the father of such an industry [printing] as well as to those who have day by day developed, cultivated, and improved it. By their work all these people have offered so great a service to mankind as was never seen by our forefathers. Future generations will accordingly bestow on them immortal glory in addition to praise.

In fact people of the present can rejoice exceedingly in making use of a huge amount of books which our predecessors and fathers lacked. We see that the number of printed books has increased so much that they fill not only libraries but also whole houses.⁹²

Salio's two quarto editions (Venice 1523, and Lyons 1527) are those described above as the hellenist *Articella*. Because of their format they entirely fit into Petrucci's category of the humanist book, which he defined as a book "written at or for humanist circles, and destined for the libraries of learned people or of those protecting them".⁹³ But it is not yet clear whether these editions of the *Articella* were meant for the libraries of hellenist physicians or perhaps reflected the medical teaching at some northern Italian universities (it is worthy of note that Leonicensis was closely linked to that of Ferrara until his death in 1524).

The nine octavo editions fully fit the category of handbooks, that is, *enchiridia* or Petrucci's *libretti da mano*. These were intended for more personal and continuous use by their readers;⁹⁴ implicit in these terms too is the use of the octavo as a reference work. Apart from religious and devotional books, where constant use and reference was natural, Aldo Manuzio was the first to produce octavos on any scale, from 1501.⁹⁵ The innovation was soon picked up by the De Gregori brothers,⁹⁶ and their *Articella* was one of the first titles in this format: while their edition of 1500 was a folio, by June 1502 they had rethought their publishing strategies and printed in octavo. It must have been designed for a different use. It seems to have been, as Pesenti suggests, "to allow students and lecturers to have this basic text always to hand".⁹⁷ This must have had a radical effect on the nature of university teaching. As Walter Ruegg has expressively remarked,

Teaching in the Middle Ages was dominated by the spoken word in lectures and in disputations, as well as by the ideas which were presented and elaborated in those oral forms. When the ordinary student began to buy books, the written word became dominant in university teaching. Not only were the sources made more immediately and more comprehensively accessible, but

⁹² Arrizabalaga, García-Ballester, and Gil-Aristu, "Del manuscrito al primitivo impreso", p. 30. Also in Appendix I.

⁹³ Petrucci, "Alle origini de libro moderno", pp. 298-9.

⁹⁴ Petrucci, "Alle origini de libro moderno", pp. 308-12.

⁹⁵ Lowry, *The world of Aldus Manutius*, pp. 142-3.

⁹⁶ Pesenti, "Editoria medica", pp. 25-8.

⁹⁷ Pesenti, "Editoria medica", p. 27.

commentaries, textbooks, and polemics ceased to be monopolized by teachers and could be purchased in the market.⁹⁸

Several other features of the octavo editions of the *Articella* suggest the same thing. The editors Rustico and Pomar expanded the contents of the collection to cover the whole medical syllabus. In doing so they were undoubtedly aiming for a market success for an *Articella* that was now to be sold to large sections of the population of medical students. Even the second edition (Lyons 1527) of the quarto *Articella* of Salio is addressed on the title page "for the sake of readers and students" (although the term was wider than simply university students). So much is clear from the postface that Rustico addressed to *magister* Ambrosius Varisius Rosatus, for his appeal to this potential new market could not be more explicit. Rustico asserted that having seen the Lyons edition of 1505 and having shared with his publisher the wish to find the way "to make the book much more worthy and valuable than any other version", he did his best,

every year
to publish, in a new printing and in a kind of very brief compendium, all the parts of medicine which are the topic of the ordinary lectures both theoretical and practical in our university [Pavia] so that the whole art of medicine may be had in a sort of handbook (*enchiridion*).⁹⁹

This consideration about the press and the market for its productions might also explain why in these editions the commentaries have been suppressed -- not only the Galenic commentaries on the Hippocratic works, but that of 'Ali Ibn-Ridwan on the *Tegni*. It might also explain why these editors included as new components of the *Articella* so many of the collections of aphorisms that we have noted in passing (those of Mesue, Arnau de Vilanova, the *Flosculi* of Celsus, the *Cantica* of Avicenna and others) for brief aphorisms are eminently memorable.¹⁰⁰ That is, not only did omitting these commentaries save space in the small octavos (and diminish their price), but it was consistent with the purposes of the student, who did not need all the scholarly apparatus of the folio editions. They simply needed a single compendium with the outline of their syllabus. Precisely the same thing happened with the parallel textbook of natural philosophy in the arts course: many of them advertised themselves with the declaration that they contained all that was needed to proceed to arts degrees.¹⁰¹

Apart from this there was another potential use for the octavo format. Every university physician could carry it with him in his practice as a manual or *vademecum*: a reference book, as suggested above. The presence of so many series of aphorisms also supports this hypothesis. Certainly, aphorisms were wise, terse and memorable. When they were arranged for diseases from head-to-toe, or alphabetically, they were capable of quick recall from the

⁹⁸ Ruegg, "Epilogue: the rise of humanism", p. 467.

⁹⁹ See Appendix IV.

¹⁰⁰ On the aphoristic genre in medicine see Panlagua, Gil-Sotres *et al.*, eds., *Arnaldi de Villanova opera medica omnia*. Vol. VI.2. *Commentum*, pp. 241-4, and the bibliography cited there.

¹⁰¹ French, "Teaching Aristotle".

pocket-book. Such a thing was not new to the sixteenth century, and Arnau de Vilanova, in his *Repetitio super Vita brevis* (a title reflecting the first Hippocratic aphorism) said that the medical practitioner had always to carry the general precepts (*canones universales*) of his profession in a written, aphoristic form "in his pocket (if he is unable to carry them in his mind [*corde*] for human memory is very weak)".¹⁰² The "reading" part of this equation was enormously multiplied in the sixteenth century with these octavo pocket books.

10. CONCLUSION

No less than eighteen editions of the *Articella* issued from European presses between about 1476 and 1534. During almost sixty years the *Articella* publishers managed to sell this product at the university medical market. So, why did the printed *Articella* suddenly collapse in the mid 1530s? An immediate explanation might be that by then the printing of this medical collection stopped being a profitable business for publishers, for it no longer fulfilled the medical readers' expectations (despite the publishers' continuous attempts to adapt its contents and format to the market's changing demands) whereas other editorial products were better covering physicians' intellectual demands either traditional or new. At least three major features contributed to the sudden death of this medieval textbook.

First of all, by the mid 1530s European printers had already published Latin and vernacular versions of all the works by medieval and ancient authorities (Arab, Latin and Greek) which had been essential for the training and practice of university medical practitioners during the previous two hundred and fifty years or so. Additionally, from the 1490s original Greek editions of ancient and Byzantine medical works, both those previously known in other versions and those just rescued from oblivion, and from the 1510s hellenist translations into Latin, were increasingly issuing from the presses.

Secondly, during the first third of the sixteenth century hellenists managed to gradually introduce substantial parts of their reformist programmes in many European medical faculties inside and outside Italy. To a greater or lesser extent this brought about changes in the medical syllabus including the introduction of new subjects (*materia medica*, anatomy, surgery and clinical teaching, among others) as well as of new ways of teaching the traditional ones. Medical hellenists' Latin translations eventually replaced the oldest ones, and their new commentaries to these texts gradually took the place of the scholastic ones. Additionally, original works, both Latin and vernacular, dealing with medical teaching, theory and practice were increasingly printed all over Europe.

¹⁰² "... et ideo quando accidentia vult comparare repetere debet canones universales quibus prompte notitia horum elicitur et --ut promptius etiam legere vel recurrere possit-- debet eos in cedula semper scriptos et maxime sub stilo amporismali portare in bursa (si nequit in corde, cum sit valde labilis memoria hominis) ..." See Arnau de Vilanova, *Repetitio super Vita brevis*, Bayerische Staatsbibliothek Ms. Clm 14245, fol. 31r (ed. Michael R. McVaugh; quoted by Paniagua, Gil-Sotres *et al.*, eds., *Arnaldi de Villanova opera medica omnia. Vol. VI.2. Commentum*, p. 244).

Last but not least, the widest availability (in terms of numbers and prices) of medical works at the book market promoted by the printing press made a collection of works like the *Articella* to eventually become an old-fashioned textbook without any role to play at the medical book market.

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