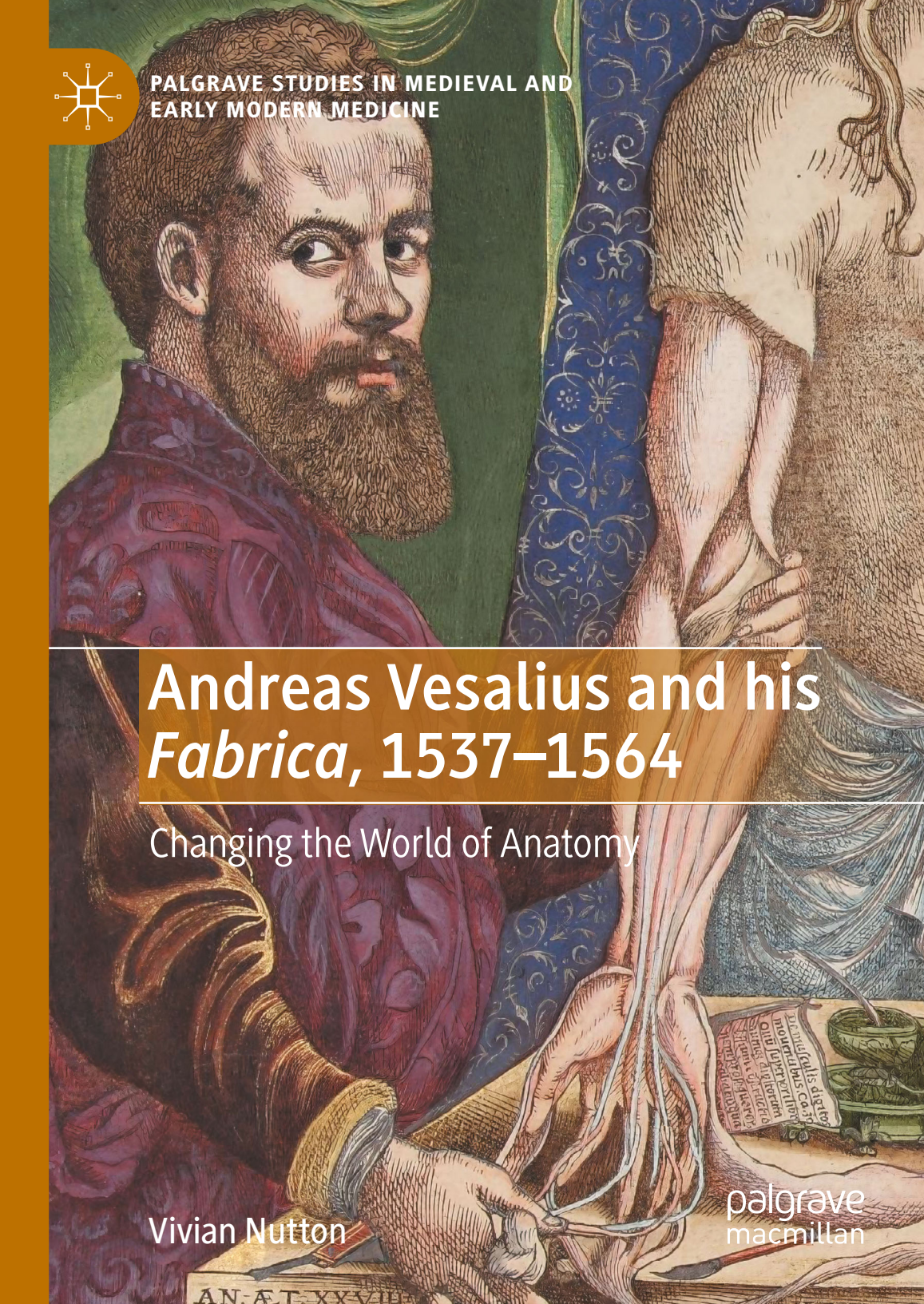

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Andreas Vesalius and his *Fabrica*, 1537–1564

Changing the World of Anatomy

Vivian Nutton

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Acknowledgements

The origins of this book go back to 2010, when I received an email from Gerry Vogringic inviting me to assist him in deciphering and publishing what he believed to be Vesalius' own copy of the 1555 *Fabrica*. This, at first sight implausible, request has led me on a journey of discovery that has taken me across the globe, for not only was the volume heavily annotated by its author but it encouraged me to look more closely than ever before at some familiar as well as many unfamiliar aspects of the greatest of all anatomical books. This study both begins and ends with Gerry Vogringic and his discovery, and it is only right that he should come first in my expressions of gratitude. Likewise, I am grateful to Stuart Rose for access to his annotated copy of the Vesalian *Institutiones*, as well as to Philip Oldfield, Anne Dondertman and the staff of the Thomas Fisher Rare Books Library of the University of Toronto for allowing me to see this when it was on exhibition there in 2014 and to spend further time with the 1555 edition once it had been deposited there on loan.

My involvement with Vesalius quickly brought me into contact with many Belgians, whose friendship and advice have been crucial—in particular, Maurits Biesbrouck, Theo Dirix, a fellow taphophile, Theodore Godderis, Pascale Pollier, Omer Steeno, Francis Van Glabbeek, Rob Van Hee and Ann Van der Velde. The triennial meetings organised by this group in Zakynthos and Antwerp have allowed me to tap into their detailed knowledge of Vesalius as well as to meet a variety of scholars

interested in him and his work. The Belgian Foreign Ministry also facilitated visits in 2014 to lecture to audiences in Copenhagen and Astana. The recent acquisition of the 1555 volume by the University of Louvain is a fitting indication of the Belgian regard for one of their greatest sons: Vesalius has come home.

All Vesalians must at some point make their way to Basle, where Martin Steinmann assisted my work in the University Library and Dominique Brancher invited me to deliver a lecture on Vesalius. I was also delighted to work with Dan Garrison and Malcolm Hast on their sumptuous English version of the 1543 *Fabrica* (and much else) that was published by the firm of Karger. Its head, Thomas Karger, and his successor, Gabrielle Karger, were generous hosts, and I learned much about printing from discussions with their staff, especially Herbert Weckerlin and Franziska Suter.

I am grateful to the University of Padua and Maurizio Rippa Bonati for an invitation to talk about Vesalius in rooms of the Bo' which he would have known. Fabiola Zurlini and the Studio Firmano also invited me to several conferences in Fermo, whose Biblioteca civica houses a hand-painted copy of the 1543 edition as well as one of the 1555 edition that belonged to Queen Christina of Sweden. Both the town and its library deserve to be much better known.

Closer to home I am grateful to comments and suggestions to audiences in Edinburgh, Glasgow, London, Oxford and Warwick and to the many friends who answered my questions, sent me books and articles or pointed me in unexpected directions, including Tawrin Baker, Lena Berger, Ron Blumenfeld, Piet Bols, Hélène Cazes, Lore Chumbley, the late Iain Donaldson, Dolores Iorizzo, Cindy Klestinec, David Lines, Ian Maclean, Hannah Marcus, Dan Margócsy, Domenico Meli. Michael Stolberg, Tilmann Walter, Andrew Wear, David Williams and audiences across Europe. Sachiko Kusukawa kindly showed me a proof of her own book on the *Fabrica* and discussed with me our complementary approaches to what happened in 1543 and after. Roger Gaskell read my sections on the printing of the 1543 and 1555 editions and corrected many errors of this typographical neophyte. Martin Kemp performed a similar service for my art-historical sections as well as allowing me to make use of his unpublished suggestion for the major illustrator of the *Fabrica*. Fabrizio Bigotti, Monique Kornell, Marjorie O'Boyle and David Soulier deserve special thanks for reading the whole manuscript and commenting in detail throughout. Their advice and expertise in very varied aspects of Vesaliana

have improved the book enormously. Any errors or misunderstandings that remain are entirely my own.

Rhiannon Knol, the compiler of the 2024 Christie's sale catalogue of the 1555 edition, kindly arranged for me to use the images prepared for that sale. Lucy Kidwell, my editor, has provided timely advice and criticism, while my daughter, Alice Tyrell, helped resolve computer problems. My wife, as always, has provided constant encouragement and a sharp eye for errors and infelicities.

This book appears in a series sponsored by the Pisa Centre for the Study of Medicine and the Body in the Renaissance (CSMBR), of which I have had the honour to be the president. Its Director, Fabrizio Bigotti, and its administrator, Tomaso Pedrotti Dell'Acqua, have succeeded in a short time in creating an organisation that has gained world-wide recognition for its lectures and its *manifestazioni* as well as for its summer school that has brought together from around the world young scholars and senior experts in a wide range of disciplines. Their enthusiasm, as well as the very varied topics that have been discussed there, confirms that there is still a place for intellectual history in an increasingly scientific world. I trust that this volume lives up to the Centre's high standards.

The last fifteen years have seen many discoveries about Vesalius and his great book. This small offering has two aims: to bring new aspects of the man and his expertise in many different fields to wider attention and to encourage others to look beyond what was published in 1543. That would be a fitting tribute to a man who was never satisfied with what he had written and was constantly looking for something new.

Contents

A Brief Chronology of Early Sixteenth-Century Anatomy Writings

1502	Alessandro Benedetti, *Historia corporis sive Anatomice*
1520	Alessandro Achillini, *Anotomicae adnotationes*
1521	Jacopo Berengario da Carpi, *Commentaria in Anothomiam Mundini*
1522	Jacopo Berengario da Carpi, *Isagoge breves*
1524	Birth of Vesalius
1528	Galen, *Libri anatomici*
1536	Joachim Dryander, *Anatomia humani capitis*
	Johann Guinter, *Institutiones anatomicae*
	Andres Laguna, *Anatomica methodus*
	Niccolò Massa, *Anatomiae liber introductorius*
	Theophilus Protospatharius, *De corporis humani fabrica*
1537	Vesalius, *Paraphrasis,* ed. 1
1537	Vesalius appointed professor at Padua
1537/8?	Vesalius, *Paraphrasis,* ed. 2
1538	Vesalius, *Tabulae sex anatomicae*
1538	Johann Guinter and Andreas Vesalius, *Institutiones anatomicae*
1539	Johann Guinter, *Institutiones anatomicae,* ed. *2*
	Vesalius, *Epistola, docens venam axillarem dextri cubiti in dolore laterali secandam*
1541	Giambattista Canani, *Musculorum humani corporis picturata dissectio*
1542	Bassiano Landi, *De humana historia*
1543	Vesalius, *De humani corporis fabrica*
	Vesalius, *Suorum de humani corporis fabrica librorum epitome*
	Vesalius, *Von der menschen Cörpers Anatomey*
1544	Vesalius enters imperial service

1544	John Caius, *Libri aliquot graeci*
1545	Charles Estienne, *De dissectione partium corporis humani*
	Thomas Geminus, *Compendiosa totius anatomiae delineatio*
	Vesalius, *Epistola, rationem modumque propinandi radicis Chynae decocti....pertractans*
1547	Christopher Langton, *A very brefe treatise*
1551	Vesalius, *Anatomia deudsch; ein kurzerAuszug der Beschreibung aller Glider menschlichs Leybs.*
1552	Vesalius, *De humani corporis fabrica,* Lyon edition
1555	Jacobus Sylvius, *In Hippocratis et Galeni physiologiae partem isagoge*
	Vesalius, *De humani corporis fabrica*, ed. 2.
1556	Juan Valverde de Hamusco, *Historia de la composicion del cuerpo humano*
1558	Realdo Colombo, *De re anatomica*
1561	Gabriele Falloppia, *Observationes anatomicae*
1564	Vesalius. *Anatomicarum Gabrielis Falloppii observationum examen*
1564	Death of Vesalius

List of Figures

CHAPTER 1

Introduction

In 1566, the court physician and astrologer to the emperor Rudolf II, Thaddeus Hagecius (1526/7–1600), compared the achievement of Andreas Vesalius in anatomy to that of the astronomer Copernicus, whose declaration that the earth revolved around the sun, and not the reverse, was published in the very same year, 1543, as Vesalius' *De Humani Corporis Fabrica*.[1] The ideas of these two men and their followers, he declared, had fundamentally changed one's view of mankind.[2] He was not wrong. Vesalius remains the most famous name in the history of anatomy, and his book is now a treasured possession of major libraries across the world. It is seen as a landmark in the history of printing, and its size and beauty still astonish all who see it.[3] The quincentenary of its author's birth in 1514 occasioned conferences and exhibitions from Toronto to Kazakhstan, as well as learned books and articles. Yet, paradoxically, the timing of these celebrations was unlucky, for many of the subsequent publications were already partially outdated through discoveries made from 2010 onwards. Much more is now known about the life and background of Vesalius (with which this study is only secondarily concerned) and, not least, his work as a physician, which occupied most of the last twenty-one years of his life. More of his correspondence has come to light, as well as new details of his family and friends.

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Most striking of all has been the discovery of two sets of annotations by Vesalius himself that were preserved in private collections. The existence of the first, written into his copy of the 1538 edition of the *Institutiones anatomicae (Principles of Anatomy*) that bears both his name and that of his teacher, Johann Guinter, became widely known only in 1991 when the catalogue of the Haskell Norman Collection was published. Its contents were further described in the 1999 sales catalogue of the Collection and in the catalogue of the Toronto exhibition of Vesaliana of 2014 when it was on public display. But it was not until 2017 that a complete transcription and translation of the notes was published along with an English translation of the *Principles*. Five years earlier, in 2012, a long article had summarised an even more remarkable resurrection, the extensive notes that Vesalius had written into his own copy of the second, 1555, edition of the *Fabrica*.[4] The most important were translated in the footnotes to the 2014 English translation of the *Fabrica* by Dan Garrison and Malcolm Hast, which was fittingly published in Basle by the firm of Karger, but a complete transcription and translation of the notes is still lacking. This would be a Herculean task that would also risk being misleading, for many of Vesalius' markings take the form of underlinings or proof corrections that do not change the meaning of the text. Together, these two sets of notes take us into the mind of Vesalius, and, along with printed marginalia in a neglected work, the second edition of his *Paraphrasis,* they allow us to write a history of the *Fabrica* from the moment when Vesalius decided to abandon his plan for a further revision of the *Institutiones,* if not even earlier from his students days, until the publication of his final book, a reply to one of his critics, shortly before his death in 1564. Such an opportunity to follow in detail over a long period the creation and development of one of the most important of all pre-modern medical and scientific works is extremely rare—William Harvey and Isaac Newton are parallel instances, but from the next century—and I have been privileged to be able to assist in this process.

This study concentrates on the development of the book. It resembles an archaeological investigation in that it not only looks back at Vesalius' early ideas on the anatomy of the human body and his attitude towards his own publications, but it also considers the materials involved in the wider context of the new print culture. It thus expands on the conclusions of Martin Steinmann and Sachiko Kusukawa about the significance of Oporinus in the printing of illustrated medical and botanical books in the Renaissance.[5] In doing so it draws attention also to unfamiliar works

of Vesalius such as the revised edition of the *Paraphrasis* and the second edition of the *Fabrica,* which has been unjustly neglected compared with its predecessor. This account differs also from the recent survey of the 1543 *Fabrica* by Sachiko Kusukawa by considering its history down to the present day, and its transformation from an academic monograph to a cultural icon world-wide.[6]

Writing at length about the *Fabrica* also presents an opportunity and a challenge. The standard biography of Vesalius, by C. Donald O'Malley, was published sixty years ago in 1964 to coincide with the 450th anniversary of Vesalius' birth and the 400th of his death.[7] Excellent for its time, it stands in need of considerable revision to take account of new discoveries. The celebrations fifty years later produced many valuable articles in books and journals, but no major study of Vesalius' life and times has since appeared on the scale of O'Malley's. This book is not that biography, and hence many of the details of Vesalius' life have been deliberately omitted, nor is it a study of Vesalius' abilities as a surgeon and anatomist, which would require a very different book from someone familiar with the difficulties of cutting into a human body. Rather, it tries to show how Vesalius came to write his most famous book, beginning with his studies in Paris and his early publications in Louvain and Basle, and how he revised and corrected it over two decades. The final chapter continues the story of the book down to the present. In considering the *Fabrica* principally as an object, and looking at the processes whereby Vesalius' words, ideas and visual images were turned into print, it also brings together new material that adds to our understanding of a remarkable and multi-talented man in a period when both anatomy and the world of printing were changing rapidly. Vesalius was at the forefront of innovation in both, although the *Fabrica*'s status among modern anatomists has tended to obscure how unusual he was in his exploitation of the power of print, as well as playing down the roles of his Basle printers, Robert Winter and Johannes Oporinus. Particularly over the last twenty years, as I have worked closely on Vesalius' writings and, especially, his manuscript annotations, I have come to appreciate more and more what he was trying to do and the extent to which he succeeded. At the same time, I have not attempted to disguise the, often unfair, rhetoric of his polemics against Galen and his even more deceitful silences about his debts to others, the source of much contemporary criticism. Finally, by examining closely the way in which the book and its related publications were produced, investigating the medium as well

as the message, I hope to show why the *Fabrica* deserves its reputation as the greatest and most influential of all medical books.

Notes

1. Theodorus Hagecius, "Letter to the Reader," in Laurentius Gryllus, *De sapore* (Prague: G. Melantrich, 1566), sig. δ ii r.
2. He was echoing the view of his friend and professor of anatomy at Ingolstadt, Adam Landau (d. 1573), who placed Vesalius at the head of those whose human anatomy had within twenty years completely replaced the animal anatomy of Galen, ibid., sig β ii verso.
3. Elisabeth Eisenstein, *The Printing Press as an Agent of* Change (Cambridge: Cambridge University Press, 1979), used Vesalius as a prime example of the importance of printing as an agent of change, despite more than seventy years gap between it and the beginnings of printing; see Anthony Grafton, "The Importance of Being Printed," *The Journal of Interdisciplinary History* 11 (1980), 265–86.
4. Vivian Nutton. *Johann Guinter and Andreas Vesalius, Principles of Anatomy According to the Opinion of Galen* (London and New York: Routledge, 2017); Vivian Nutton, "Vesalius Revised: his Annotations to the 1555 *Fabrica*," *Medical History* 56 (2012a), 415–43.
5. Martin Steinmann, *Johannes Oporinus, ein Basler Buchdrucker um die Mitte des 16. Jahrhunderts* (Basle and Stuttgart: Helbing & Lichtenhahn, 1967); Sachiko Kusukawa, *Picturing the Book of Nature. Image, Text and Argument in Sixteenth-Century Human Anatomy and Medical Biology* (Chicago: Chicago University Press, 2012).
6. Sachiko Kusukawa, *Andreas Vesalius. Anatomy and the World of Books* (London: Reaktion Books, 2024).
7. C. Donald O'Malley, *Andreas Vesalius of Brussels (1514–1564)* (Berkeley and London: University of California Press, 1964); Stephen N. Joffe, *Andreas Vesalius, the Making, the Madman and the Myth* (Bloomington: AuthorHouse, 2014) is a much shorter account by a distinguished Vesalian.

CHAPTER 2

Before the *Fabrica*

The Young Vesalius

Andreas Vesalius was born to be a courtier. He came from a medical family from Wesel on the Lower Rhine, hence his Latin name Vesalius, which had moved to Brussels, the capital of the Duchy of Burgundy, when that region was at its height of prosperity in the early fifteenth century.[1] His great-great-grandfather, Peter (or, more likely, Everard) Witing, so he believed, had written a commentary on the Arabic physician, Avicenna, before briefly attending the emperor Frederick at some point during his long reign from 1440 to 1493.[2] His son, John (c. 1405–1476), was a leading member of the faculty of medicine at the newly founded university of Louvain from around 1430 before leaving twenty years or so later to become one of the civic physicians at Brussels. Soon after 1450, he dedicated a treatise on plague to Francesco Visconti, Duke of Milan, at whose university of Pavia he had earlier studied for his medical doctorate.[3] As well as maintaining property in Wesel throughout his life, John developed close relations with the Burgundy court, treating Duke Charles of Burgundy (reigned 1467–1476) and possibly also Mary of Burgundy, the future wife of emperor Maximilian I.[4] His son, also called Everard, continued the family tradition by studying at Louvain and becoming a physician to members of the imperial family, but he died in 1484/5 before his father.[5] It was his books and manuscripts, probably inherited from his

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own father, that Vesalius read and used for his own studies fifty years later. They included commentaries on some of the Hippocratic *Aphorisms* as well as on the treatises of the Arabic physician Rhazes that he consulted for his own first publication in 1537.[6] His son, Andreas, was born illegitimate but prospered enough to be trained as an apothecary and to marry Isabel Crabbe, the daughter of a tax-official and city councillor. It is not clear when he was appointed a court apothecary, a post less well paid than that of the doctor but bringing in far more than the income of a normal physician. It was a job that frequently entailed wearisome journeys away from home accompanying the ruler to Spain and elsewhere. Vesalius was thus familiar from childhood with two of the essentials for court employment: stamina and a knowledge of how to behave in the presence of the very great. Another essential, gentility, was aided by a grant of legitimation to his father in 1531 in recognition of his long and dutiful service.[7]

The young Andreas was born, the second of four children, on the last day of December 1514, if one can trust a much later horoscope.[8] His early education was typical of that of a wealthy young man in his region. In 1529, he left Brussels to study at the Castle School of the University of Louvain, where he embarked on the arts course.[9] He studied rhetoric, philosophy and logic at a university that, for a brief moment, was at the very forefront of the new humanist movement in education in Northern Europe. Its new Trilingual College, whose lectures were open to all in the university, offered instruction not only in Latin, the staple of all medieval and renaissance elite education, but also in Classical Greek and Hebrew. Like the greatest of all Netherlands humanists, Erasmus of Rotterdam (1436–1566), its professors wished to inculcate in their pupils an understanding of the foundations of scripture, in Hebrew and Greek, and of the classical authors of Greece and Rome. They aimed to revive a style of writing in Latin that avoided what they saw as the linguistic solecisms of the Middle Ages in favour of the more elegant Latin of the ancient Romans such as the orator Cicero or the historian Livy. They stressed the need for a variety of expressions for the same activity or object, complex sentences that would encompass a series of interlinked statements in an architectural whole, and a flowing rhetoric that would add an elegant literary polish to any theme. Vesalius' Latin is a tribute to his teachers, although his delight in variation, the long periodic structure of his sentences and paragraphs, and his orotundity are not

always to the taste of modern readers, accustomed to a more straightforward manner of expression.[10] It is also an ideal medium for disguise, offering an apparent abundance of information while suppressing any details that might occlude the self-image of the author. Its message is Janus-faced, describing events in the present but utilising quotations and allusions from the distant past. It presents new ideas and a challenging message while simultaneously drawing on the centuries-old authority of the ancient classics.

While at Louvain, if not earlier, Vesalius turned his mind to medicine. He may well have been conscious of his family traditions, but, apart from a section in the *China Root Letter* and a passing reference in the second edition of the *Paraphrasis*, he says nothing about them.[11] Nonetheless, it was a move that was certainly encouraged by a family friend, the imperial physician Nicholas Florenas, who had studied both at Louvain and at Bologna. In the preface to his 1537 *Paraphrase of the Ninth Book of the* Almansor, Vesalius credits Florenas with setting out the list of books that he should study, and it was probably he who suggested, or at least supported, his decision to move to Paris in 1533.[12] It was a wise move. Louvain was a typical small medical school, conservative in its ways at a time when the face of medicine was changing rapidly. Its outlook was very much local, training physicians who would live and practise in the Netherlands and Northern France. If Louvain had a wider reputation, it was for the production of annual calendars forecasting the weather and future events for the coming year.[13] This was something signalled out by Hubert Barland (fl. 1510–50), when introducing his 1529 edition of the letters of Giovanni Manardo to the young students of Louvain, although he himself never obtained a teaching post there but instead gained a probably more lucrative one as a court physician elsewhere in the Netherlands.[14]

Paris and Humanist Medicine

By contrast with Louvain, Paris had long been the leading medical school North of the Alps, both in the number of its students, although it was extremely small by modern standards, and in the reputation of its professors. The Paris printers, such as Simon de Colines and the Estiennes, were keen to publish the very latest works on medicine, and the presence of the French court also drew to the metropolis doctors and surgeons from all over France and beyond. Relations between the University, the physicians, the surgeons and the city's barber-surgeons were not always harmonious,

especially as the physicians wished to impose their writ and their privileges on all other medical groups, but there was also co-operation. Simply being in a city the size of Paris allowed Vesalius to see what was going on in chemists' shops and to observe how physicians and surgeons worked with a variety of patients.[15] Teaching took the form of lectures on some earlier texts in Latin translation, especially of the Greeks Hippocrates and Galen, and the Arabs Avicenna and Rhazes, in which the professor expounded the meaning of these, often obscure, treatises and emphasised the principles of medical theory and practice that they contained. The Paris faculty library was filled with manuscripts of these much earlier authors, for their long survival within a tradition that went back to the very origins of Western medicine in classical Greece was thought to guarantee the effectiveness of their precepts. Practical experience, by contrast, was briefer, gained by working with a master once one had grasped the theoretical principles that governed health and the workings of the body.[16]

If the Paris medical curriculum was similar to that of Louvain, the way in which it was taught there in the early 1530s was very different. While elsewhere in Northern Europe, medical teaching remained heavily focused on medieval Latin translations or treatises, the Paris faculty was deeply involved in what is often called humanist medicine. This was still based on these earlier authors, but its proponents insisted on a revision or a clarification of the principles behind them through a return to "purer sources", the words of the Greek and Latin authors on whom subsequent authors largely depended. Beginning in the late fourteenth century in Italy, this conviction of the superiority of classical learning in literature and philosophy over what had been studied in the Middle Ages was widely shared around Western Europe by the 1480s. It produced new ideas of proper behaviour as well as a new sense of style in both language and art, and no person with any pretensions to learning could reject it.[17]

But initially at least, physicians and, still more, the less well-educated surgeons stood a little apart from this renaissance. Although classical texts of literature, philosophy and history were quickly rediscovered, and from the 1460s onwards were made more accessible through the new medium of printing, this was not so in medicine. Only one previously unknown Latin medical text from Antiquity was made available before the 1480s, the treatise *On Medicine* by Aulus Cornelius Celsus, fl. 40 CE, which was found in Siena in 1426 and printed in 1468. But Celsus was not himself a doctor but a learned gentleman, whose encyclopaedia of *Artes* aimed to educate others of his ilk in practical skills that might become useful

to them. His subjects included estate management, rhetoric and military science as well as eight books devoted to medicine and surgery. Written in an elegant Latin and beginning with a sketch of the whole history of medicine from Hippocrates to his own day, it was a valuable compendium of information that the wealthy reader, like Celsus himself, might put to good use in looking after his household and friends. But this was not the same as practising medicine for money and it depended above all on a sound knowledge of the individual patient in good health as well as bad, something that Celsus thought unlikely in large (in his day slave) hospitals. How Celsus' book was used in the fifteenth century is still far from clear, but, together with the medical sections in the huge *Natural History* of the Elder Pliny (d. 79 CE), it provided a new and much more 'classical' Latin vocabulary that the modern physician could employ in his writing.[18]

Nonetheless, much of the medicine of antiquity long remained hidden from those who called themselves humanists, for one simple reason: most of the ancient medicine that had survived the centuries had been written in Greek. Greek was rarely studied at school until the early years of the sixteenth century and access to Greek medical texts was limited even among those who could read them, for Greek manuscripts were hard to find even in Italy. The Turkish conquest of Constantinople in 1453 had brought about a change, for many Greek refugees fled to Venice, bringing Greek texts with them. Wealthy patrons like the Medici in Florence or the Greek Cardinal Bessarion, who had strong links with Venice, set about collecting manuscripts for their libraries, sending envoys to the Aegean region to seek out long-forgotten treatises as well as employing their own copyists.[19] Crucially important in this search for ancient Greek medicine was the long-lived Niccolò Leoniceno (1428–1524).[20] Born and educated in Vicenza and with a prodigious reputation for his linguistic skills, he took a medical degree at Padua. Of his visit to Northern Europe in 1453, we know little except that he visited Oxford with an Englishman he had met in Padua and was forced to drink wine by the over-exuberant clients of a Dutch bar. He may have taught medicine and philosophy for a while at Padua before moving to the university of Ferrara, where, save for occasional periods of teaching in Bologna, he stayed until his death. He was so much an institution there that it was said that winter began when he put on a cap, and summer when he removed it.[21]

His home university of Ferrara, ever since its foundation in 1391, had been a pioneer of the new humanist learning, in deliberate contrast to the more traditional Padua and Bologna.[22] The Este rulers were intent on increasing their reputation as patrons of culture and made their city and its university one of the major intellectual centres of Europe for more than a century and a half. Leoniceno and his passion for the language, literature and medicine of the ancient Greeks fitted perfectly into this new society, attracting students from N. Italy and beyond. As well as his university teaching, he was paid from time to time as a ducal physician, and between 1470 and 1490 he was occupied in translating for Duke Ercole many of the ancient historians, particularly from the Greek, as well as the humorous *Dialogues* of Lucian and the modern *Roma Instaurata* of Flavio Biondo. Some of these he turned into Latin, but many also into Italian, most of them, alas, now lost or preserved only in manuscript. He was on friendly terms with leading humanist scholars such as Urceus Codrus in Bologna, Giovanni Pico della Mirandola and Politian in Florence (whose ruler Lorenzo de' Medici made tentative approaches to obtain his services as a household physician), and, above all, with the printer Aldus Manutius and his circle of Hellenists in Venice.[23]

By 1490, Leoniceno had acquired the largest collection of Greek medical and scientific writings in all of Europe. At his death, he owned at least 75 Greek codices, many composed of multiple treatises by a variety of authors and encompassing works by almost all the classical medical writers known today.[24] He made good use of them in his own writings. Speaking in 1491 in a debate before the court at Ferrara, he set out a novel manifesto that, when it was published by a local printer the next year, caused a sensation. Its title, *De Plinii et aliorum in medicina erroribus, The Mistakes of Pliny and Others in Medicine*, gave only a slight hint of its power to subvert, for this was a wholesale attack on the basis of all Latin medicine from Late Antiquity onwards. In it, Leoniceno argued that the Latin texts that every modern doctor studied were filled with innumerable errors because of the complex process of the transmission of the sources on which they drew. The multitude of translators, the different routes these earlier writings had taken, and the variety of languages involved, Syriac, Arabic, Hebrew and several varieties of Latin, to say nothing of the vagaries of copyists and the misunderstandings of readers, had led to errors of all kinds. To take but two examples, the names of plants and diseases were confused and misunderstood. Pliny had thought '*leucographis*' was a plant, although the Greeks Dioscorides,

Galen and Paul had described it as a mineral, and he had mistaken the herb '*struthius*' for its homonym, a bird. The major Arabic authors, Avicenna and the pharmacologist Sarapion, were taken similarly to task for errors whose consequences could be seen in the fallible productions of those who confected pills and other remedies, as Leoniceno did not fail to point out as he walked the streets of Ferrara.[25] These mistakes were not simply the fault of medieval scribes: even the Roman Pliny had made many errors in transliterating plant names from the Greek botanists into Latin. Only by returning to the original Greek of Galen and the botanist Dioscorides could one be sure of the actual meaning of the words that they had used and, consequently, of the validity of the principles that depended on them and had been inculcated for so long.

There were many others who followed Leoniceno's example, collecting Greek manuscripts and translating them into Latin, including the Englishman Thomas Linacre (1460–1524), physician and tutor in the English royal household and one of the founders of the London College of Physicians in 1518.[26] These 'hellenisers' argued that many of the texts of medieval medicine, and especially those taken from the Arabic, were filled with errors that derived from a misunderstanding or miscopying of the original words of the Greeks, especially Galen and Hippocrates. If only one could return to the original sources, understand and translate them correctly, and even add to their number by bringing to light treatises that had remained for centuries unnoticed among Greek manuscripts, then one would have a much clearer and sounder basis for the principles and practice of medicine. Confusion would be swept away through philological exactitude, and one would indeed have brought about a rebirth of medicine. These new medical standards, enforced throughout medicine by universities and colleges of graduate physicians, would, it was argued, ultimately benefit all mankind.[27]

These claims, widely trumpeted in Italy, were accepted only slowly North of the Alps, for two related reasons. They depended on a knowledge of ancient Greek, something rarely studied in schools or universities even within Italy before 1500, and, equally important, on access to Greek books and, particularly, Greek manuscripts. Only one ancient Greek medical writer, the botanist-pharmacologist Dioscorides, had been printed in full, in 1499, and only two of the many writings of the most prolific of all ancient writers, Galen, had been published in their original Greek, *The Method of Healing* and the smaller *Method of Healing, for Glaucon*, in 1500. Neither appears to have circulated widely outside

Northern Italy. The situation was a little different when translations into humanist Latin began to be published at the end of the century. Printers played safe, publishing modern translations direct from the Greek of a handful of basic texts that were read by all medical students, and often printing them alongside the older versions. (This was not foolish, for earlier medieval writers, and not a few contemporary lecturers, used the older translations and cross-checking with the new versions in a separate publication was cumbersome at best.) As Leonhard Schmaus, a doctor from Salzburg, no German backwater, angrily complained in 1519, it was no use saying that one could gain more solid learning from a day reading Galen than from a whole week of Avicenna, when editions and translations were few and far between, or available in only a few major cities.[28]

By the time Vesalius arrived in Paris in 1533, the situation there had changed dramatically from what it had been only a few years earlier. Paris was now a major centre of the new medical humanism, the preference, wherever possible, for the classical authorities over the medieval, with consequent substantial changes in the texts studied. Throughout the medical faculty, from the lecturer in surgery, Jean Tagault (d. 1545) to its Dean, Jean Vasses (1486–1550), Parisian scholars were eagerly translating, commenting upon and putting to wider use the newly rediscovered riches of the Ancients. The arrival in print of the works of Galen in Greek in 1525, of Hippocrates in 1526, and of several other Greek writers in the next decade, led to a flood of new translations into Latin, many published for the first time by De Colines, and later and occasionally into French, and to a reorganisation of the texts chosen for comment. The Faculty was among the first purchasers of the Aldine Greek edition, and its members swiftly made good use of what the new Galen had to offer.[29] Not only did they discover a less dogmatic Galen, whose uncertainties offered the possibility of new interpretations of familiar material, but his philosophical writings and his Hippocratic commentaries, for the most part entirely unknown before in the Latin world, offered new models for thinking about medicine, most evident in the writings of Jean Fernel (1497–1558).[30] Others, notably the two Faculty members who most influenced Vesalius, Jean Dubois (Sylvius) and Johann Guinter, were heavily involved in the dissemination and systematisation of the new Galenic medicine through the medium of lectures and translations.

Sylvius (1478–1555) was the older man. Trained in the classical languages, as well as in Hebrew and mathematics, he came to medicine