Medicine in Flux:
An examination of Lázaro de Soto's exegesis of *Places in Man.*

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Thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

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December 2014

Abstract

This thesis examines Lázaro de Soto's commentary on the Hippocratic text, *Places in Man*, which is included in his 1594 volume, *Tomus primus commentationum in Hippocratis libros*. Castilian medicine in the Renaissance has been the subject of only limited study in Anglophone literature. Moreover, de Soto himself has received even less attention and thus a contextualisation of this author and his commentary provides a unique opportunity to broaden our understanding of how ancient medicine was utilised by Renaissance physicians. A case study approach is employed to examine what can be learned about the author of the commentary himself, in addition to asking how this information can be extrapolated further to gain a greater understanding of early modern medicine. This thesis uses both de Soto's work and his biography to address these questions. Many issues that have informed de Soto's medical understanding are considered, including his education and career, and wider medical movements, such as Vesalianism and humanism. Additionally, specific areas of medicine are given special consideration, including anatomy, physiology, pathology and nosology, precepts and de Soto's reception of the Hippocratic author's ideology. In these explorations of de Soto's comments certain trends begin to emerge. The first, which de Soto states explicitly in his dedication, is a concern for the *utilitas publica*, as the author tries to provide useful medical information and clarification of the Hippocratic text for practical purposes. Moreover, de Soto uses his commentary as a means to demonstrate his humanist erudition, copiously citing ancient authors, both medical and literary. Finally, throughout de Soto's comments he champions the contested Galenism, rejecting newer theories and connecting Galenism to *Places in Man* in order to strengthen Galenic authority. In short, de Soto employs this commentary to further both his career and his Galenic understanding of medicine.

Acknowledgements

This thesis would have never been completed without the help and support of an abundance of people. First and foremost, I would like to thank my supervisor, PD Dr Thomas Rütten, for his eagerness to help and his willingness to share his extensive wisdom and expertise. In all likelihood I would still be staring at a blank computer screen without his help and encouragement.

The faculty and staff in the department of History, Classics and Archaeology at Newcastle University provided a brilliant support network. Particular thanks are owed to Professor Jakob Wisse, Dr Susanna Phillippo and Dr Fiona Noble for their help in all things Latin, as well as to Barbara Cochrane and Sandra Fletcher for their brave guidance through the innerworkings of the University's bureaucracy. Dr Helen Berry, too, is owed a hearty thank-you for all of her enthusiasm and encouragement. Moreover, my experience at Newcastle would not have been nearly as rewarding without the camraderie and inspiration found amongst my colleagues in the PhD room - the blogs, the tea-breaks and the afternoon slumps saved my sanity.

I owe a huge thank-you to all of my family and friends in both the US and the UK for listening to me warble on about obscure historical matters for the better part of a decade and cheering me on when things got tough. A special thanks is owed to James McSloy for his enduring patience and positivity.

Finally, I would like to dedicate this thesis to my wonderful parents, John and Pam Preston, who have always been my rocks, my fans and fonts of never-ending love and encouragement, no matter which silly whim I am off chasing.

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Chapter 1. Introduction

Girolamo Cardano, sixteenth-century Italian physician, mathematician and philosopher, noted in his commentary on the *Aphorisms*, first published in 1564, that in reading a commentary, more information is learned about the commentator than the author of the work being elucidated. Employing this principle, the intent of this thesis is to gain a greater understanding of the Spanish physician, Lázaro de Soto, through an exploration of his 1594 commentary on the Hippocratic text *Places in Man*.[1] Pushing Cardano's claim further, a commentary not only reflects the author, but also the time in which it was written. De Soto's commentary helps to illustrate the role of the genre of commentary in Castilian medicine in the Renaissance, as well as contemporary medical theory and practice. This thesis will contextualise de Soto's commentary on *Places in Man* in order to gain a greater understanding of medicine in early modern Spain. Very little scholarship has been carried out on de Soto and his work, and none on the scale of this examination; moreover, *vallisoletano* physicians have largely been ignored by Anglophone scholarship. Thus, by contextualising de Soto's commentary, this thesis will also help to further illuminate characteristics of the careers of humanist court physicians in the Spanish *siglo de oro*.

Examining the life and work of de Soto provides an opportunity to better understand the medical training and career of an academic physician in early modern Castile. A staunch Galenist, de Soto follows a conventional understanding of flux and humoural theory, likely due to the more conservative teaching he received at the University of Valladolid. He discusses issues, but rarely disagrees outright with either the Hippocratic author or Galen. De Soto's focus in commenting on *Places in Man* is to elucidate the words of the author, making his medical theories and recommendations more accessible, thus advancing the medical art. Moreover, de Soto aims to connect this Hippocratic text to his understanding of humouralism, arguably in an attempt to defend the contested Galenism. Some attention is lent to philological concerns, an element seen in his inclusion and discussions of Greek terms; however, as was often the case in humanist medical works printed toward the end of the

[1] See Girolamo Cardano, *Opera Omnia*, vol. 8, ed. by Charles Spon (Lyon: Jean-Antoine Huguetan and Marc-Antoine Ravaud, 1663), 251; Ian Maclean, "Foucault's Renaissance Episteme Reassessed: An Aristotelian counterblast," *Journal of the History of Ideas* 59 (1998): 163; Ian Maclean, *Logic, Signs and Nature in the Renaissance: The case of learned medicine* (Cambridge: Cambridge University Press, 2002), 224; Nancy Siraisi, *The Clock and the Mirror: Girolamo Cardano and Renaissance medicine* (Princeton: Princeton University Press, 1997), 147.

sixteenth century[2], de Soto is more concerned with what the Hippocratic text says rather than the individual words themselves. Familiar humanist themes are seen throughout de Soto's commentary with the inclusion of ancient sources and references, both medical and literary. Many of these references will be discussed throughout the case studies to follow, aiding in the contextualisation of de Soto's comments.

1.1 Methodology

One of the methodological difficulties in examining de Soto's commentary stems from the limitations of space in this study. Due to this limitation, the framework of this thesis takes a case study approach in order to provide the most complete representation of the commentary possible. In her critical edition of *Places in Man*, Elizabeth Craik organises the chapters of the Hippocratic text upon which de Soto commented into seven thematic blocks: the introduction (ch. 1), the anatomical section (ch. 2-8), the physiological section (ch. 9-23), the pathological and nosological section (ch. 24-30), precepts (ch. 31-40 "on practical and surgical guidance"), the ideological section (ch. 41-46), and a final chapter on gynaecology (ch. 47).[3] It is from these thematic blocks that I have selected comments from de Soto's text for further examination; however, for reasons of space, case studies have only been selected from five of the seven thematic blocks that best encompass the various aspects of de Soto's medical knowledge.

In the course of de Soto's commentary, sources from the Hippocratic and Galenic Corpora are frequently utilised in order to add authority to his arguments. Moreover, de Soto makes copious references to a variety of ancient works throughout his commentary to supplement his arguments and demonstrate his erudition; these citations, too, will be discussed in greater depth. Lastly, primary works from de Soto's contemporaries will be used as sources of comparison in examining de Soto's commentary. There is very limited information on the life of de Soto and the sources available are usually somewhat repetitive of one another. The most in depth research on de Soto was published in 1999 by José Ignacio Blanco Pérez in his book *Humanistas Médicos en el Renacimiento Vallisoletano* and his

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[2] Vivian Nutton, "Greek Science in the Sixteenth Century Renaissance," in *Renaissance and Revolution: Humanists, scholars, craftsmen and natural philosophers in early modern Europe*, ed. by Judith V. Field and Frank A. J. L. James (Cambridge: Cambridge University Press, 1993), 24; see also fn. 21.

[3] Hippocrates, *Places in Man*, ed. and trans. by Elizabeth Craik (Oxford: Clarendon Press, 1999), 13. *Places in Man* consists of 47 chapters that Craik has divided into seven thematic blocks. This division is conceptual, only being discussed in the introduction to her critical edition rather than being marked in the actual translation of the text. De Soto's commentary is structured with enumerated Hippocratic passages (sometimes entire chapters of the work, sometimes only a part of a chapter and sometimes spanning two or more chapters) followed by his own comments on the passage.

article “Los Comentarios a Hipócrates del vallisoletano Lázaro de Soto, Médico de Felipe II”.[4] Still, no work has undertaken an examination of de Soto and his commentary on *Places in Man* on this scale.

1.2 Structure

This thesis is structured into three larger chapters: the first chapter provides background information necessary for understanding de Soto's commentary, the second examines the authorial paratexts of de Soto's commentaries, and the third contains the five case studies lifted from his commentary on *Places in Man.* In addition to the methodological and structural information provided in this introduction, a brief biography of de Soto is constructed, including his education at the University of Valladolid and his work at the court of Philip II as a *médico de cámara*, later being counted among the ranks of the *médicos de la casa de Borgoña*. Next are sub-sections that explore to what extent humanism, politics and religion impacted de Soto and his work. Additionally, this chapter will explore both the genre of medical commentary and the history of the Hippocratic text, *Places in Man.* As information on de Soto is so limited, inferences from secondary source material has provided suggestions for additional biographical information.

After establishing the necessary background information, chapter two examines the dedication, letter to the reader and preface that open the volume of commentaries. There is much to be gleaned from these, as the author uses these texts to communicate with the reader information he deems essential. Within this section, we learn of de Soto’s employment to Philip II and his sister, Empress Maria of Austria, who was the mother of the work’s dedicatee, Archduke Albert VII of Austria.[5] De Soto also asserts his preference for the

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[4] José Ignacio Blanco Pérez, *Humanistas Médicos en el Renacimiento Vallisoletano* (Burgos: Universidad de Burgos, 1999) and "Los Comentarios a Hipócrates del vallisoletano Lázaro de Soto", *Minerva* 13 (1999): 201-229.

[5] Lázaro de Soto, *Tomus primus commentationum in Hippocratis libros* (Madrid: Ludovico Sánchez, 1594), III: ...*SERENISSIMO DNO* [sic] *ALBERTO, SANCTAE, E. R. Cardinali inclyto, & Archiduci Austriae, Lazarus de Soto Magni Philippi Hispaniarum Regis, & Caeserea Mariae Imperatricis a cubiculo Medicus*; for more information on Empress Maria, see Magdalena S. Sánchez, *The Empress, the Queen, and the Nun: Women and power at the court of Philip III of Spain* (Baltimore: The Johns Hopkins University Press, 1998); María del Carmen Blas y Dias-Jiménez, "La Emperatriz Doña María de Austria", PhD diss. (Universidad Complutense, 1950); Shirley Harrold Bonner, "Margaret of Austria: Her life and learning in Europe's Renaissance", PhD diss. (University of Pittsburgh, 1981); Joseph H. Patrouch, *The Queen's Apprentice: Archduchess Elizabeth, Empress Maria, the Habsburgs and the Holy Roman Empire, 1554-1569* (Leiden: Brill, 2010). For more information on Philip II, see Geoffrey Parker, *Philip II: King of Spain* (Chicago: Open Court, 2010); Henry Kamen, *Philip of Spain* (New Haven: Yale University Press, 1998); Mía J. Rodríguez Salgado, *The Changing Face of Empire: Charles V, Philip II, and Habsburg Authority, 1551-1559* (Cambridge: Cambridge University Press, 1988).

translations of Janus Cornarius (*c.* 1500-1558), as well as including his intent in writing this commentary.[6] Many issues are at play within these texts, which give way to discussions of topics such as the court, patronage, and the nature of translation and publishing medical texts and commentaries in late sixteenth century humanism.

Thereafter, this thesis will examine case studies selected from the body of de Soto's commentary on *Places in Man*. The first of these, in the thematic block of anatomy, focuses on a passage that discusses the placement of the cranial sutures. In addition to demonstrating how de Soto understood the structure of the skull, this study provides an opportunity to better understand how medical, and especially anatomical, information was understood and interpreted between antiquity and the early modern era. This case study raises the issue of the role of the parts within humouralism, leading into the next case study, which focuses on physiology. From this second case study, a greater understanding of de Soto's overall grasp of flux and humoural theory is gained. It also demonstrates how de Soto employed this text to defend the Hippocratic-Galenic humoural physiology. Next, is a case study examining the pathology of dry pleurisy, which provides an opportunity to examine how de Soto applied the theory of humouralism to the occurrence of disease. Moreover, this case study will further explore the idea of *utilitas publica*, initially raised by de Soto in his dedication. The penultimate case study explores a Hippocratic passage and comment that falls under the category of precepts or generalised medical and surgical advice. This comment reads an early modern understanding of melancholy into the wording of the primary Hippocratic text, and lends itself to an exploration of literary and religious texts employed by de Soto. The final textual case study examines de Soto's comment on a Hippocratic passage categorised under the more general term of 'ideology'. This passage explores the roles of knowledge and fortune in the art of medicine, thus inspiring a comment in which de Soto explores the epistemology of the medical art. Moreover, de Soto's commentary on this passage highlights his defence of the medical art and, more specifically, humouralism.

1.3 Biography of Lázaro de Soto

Lázaro de Soto spent the earlier years of his life in the Castilian city of Valladolid, where he attended the local university, obtaining his *Grado de Licenciado* on 28 April 1560.[7] Unfortunately, there is no precise date for his birth, but records provide that de Soto was

[6] De Soto, IV[v]: *Id tamen aduerte, Ianni Cornarii versionem (quam veriorem esse existimamus, & Erotiano authori antiquissimo maxime consonam) sequutos esse, eam scilicet, quae in octavo papiri communiter impressa circumfertur*: see also ch. 2, fn.117.
[7] Blanco Pérez, *Humanistas*, 70; Amalia Prieto Cantero, *Bachilleres Médicos Graduados en la Universidad de Valladolid (1546-1870)* (Valladolid: Universidad de Valladolid, 1974), 183.

married on the 31 March 1591, established his will in 1625 and passed away on 26 March 1626.[8] During his career, de Soto produced only a few academic works, focusing his efforts to the task of commenting upon Hippocratic treatises. His affinity for Hippocratic exegesis presumably began during his studies, which culminated in a dissertation examining *Aphorism* 1.20, a passage that will be discussed in more detail shortly. Thereafter, de Soto published commentaries on a variety of Hippocratic texts, including *De locis in homine* [*Places in Man*], *De medicamento expurganti* [*On Purgatives*], *De usu veratri* [*On the uses of Hellebore*] and *De dieta* [*Diet*], all of which were included in the volume *Tomus primus commentationum in Hippocratis libros* [*The First Volume of Commentaries on the Books of Hippocrates*] along with his *Animadversiones medicinae practicae* [*Observations in Practical Medicine*] in 1594.[9] Additionally, he published *Animadversiones medicae et commentaria in librum Hippocratis de aere, aquis et locis* [*Medical Observations and comments on Hippocrates' book Airs, Waters, Places*] in 1589.[10] It should be noted, however, that while the title of de Soto's compilation - *Tomus primus* - would suggest more volumes to follow, no subsequent volumes of commentaries were published.

One of the greater influences on de Soto's career was his education at the University of Valladolid, an institution that was held in high repute as a center for medical study and humanism, despite being one of the smaller Spanish faculties of medicine at the time.[11]

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[8] Blanco Pérez, *Humanistas*, 70. See also Mariano Alcocer y Martínez, *Historia de la Universidad de Valladolid. Bio-bibliografías de Medicos Notables* (Valladolid: Imprenta Castellana, 1931), 299; María Teresa Santander Rodrígues, *Hipócrates en España (siglo XVI)* (Madrid: Dirección General de Archivos y Bibliotecas, 1971), 125; Antonio Hernández Moréjon, *Historia Bibliográfica de la Medicina Española*, vol. 3 (Madrid: Imprenta la Viuda de Jordan e Hijos, 1843), 363; José María López Piñero, *et al.*, *Diccionario Histórico de la Ciencia Moderna en España* (Barcelona: Península, 1983), 388, which suggests a birthdate at around 1540. It is notable that, if this date of birth is indeed true, de Soto's 1591 marriage occurred when he was around the age of 51. Whilst it is probable that he was previously married, there are no records to confirm such probability.

[9] Hernández Moréjon, 363 notes that *Animadversiones medicinae practicae*, *De locis in homine* and *De dieta* were originally published as individual works in the years 1585, 1591 and 1594 respectively; however, I am unable to confirm this statement.

[10] Blanco Pérez, *Humanistas*, 70. Santander Rodrígues, *Hipócrates*, 125 disputes de Soto's authorship of *Animadversiones medicae*, noting a citation by Cristóbal Pérez Pastor, *Bibliografía Madrileña* (Madrid: Tipós de los Huérfanos, 1891), 234 and an unsuccessful search mentioned in a footnote by Hernández Moréjon, 363. Blanco Pérez, *Humanistas*, 71 notes that although many scholars set the first date of publication for *Animadversiones* to be 1589, he was unable to find an edition with this date. See also José María López Piñero, *et al.*, *Bibliografía Medica Hispanica, 1475-1950*, vol. 1 (Valencia, Instituto de Estudios Documentales e Históricos sobre la Ciencia, Universitat de Valencia: CSIC, 1987), 189-190. I, too, have searched for this work, but have been unable to locate it.

[11] Universidad de Valladolid, *Historia de la Universidad de Valladolid*, vol. 1 (Valladolid: Universidad de Valladolid, 1989), 75-110; José María López Piñero, *Antología de Clásicos*

Along with the universities of Salamanca and Alcalá de Henares, Valladolid was one of three universities authorised by the Catholic Monarchs, King Ferdinand (1479-1516) and Queen Isabella (1451-1504), to issue medical degrees.[12] Valladolid provided three degrees that could be obtained: *bachiller*, *licenciado* or *doctor* [bachelor, licentiate or doctoral degrees]. Though the degree of *bachiller* was the lowest in rank, it was by far the most popular choice for the medical students at Valladolid, as it provided the skills necessary for practicing medicine, whereas the grade of doctor typically led to an academic career.[13] The licentiate, which de Soto obtained, was often, but not always, considered a transitionary degree between a bachelor and a doctorate.[14] Why did de Soto opt to pursue this degree? There is no extant information to answer this question with certainty; however, there is room for some speculation. As has been noted, de Soto pursued a career at the court of Philip II, and later that of his son and successor, Philip III; perhaps acquiring a licentiate gave de Soto the extra edge needed to gain royal employment. It may also be the case that acquiring this degree would separate him from other practicing physicians, perhaps generating more business. Lastly, it is possible that de Soto intended to complete his doctorate, but later decided against it, having already completed his licentiate.

The Faculty of Medicine at the University of Valladolid in the sixteenth century consisted of a structure that was slightly different to many contemporary faculties. Remaining with the earlier, medieval tradition, Valladolid retained a *catédra de prima* as that of the *catédra de Avicena* rather than changing its title to the *catédra de Hipócrates*.[15] This

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Médicos (Madrid: Editorial Tricastela, 1998), 18 states that Valladolid was considered "la tercera de las grandes universidades castellanas"; Blanco Pérez, *Humanistas*, 35, notes that enrolment into the medical faculty at Valladolid accounted for 4% of the student body, whereas enrolment into the faculty of law, the largest school in the university, constituted 45% of matriculation between the years 1567-68 and 1577-78. The author also notes that Valladolid's regulations by the *protomedicato* may have caused students to attend universities outside of the tribunal's jurisdiction. López Piñero, *Antología*, 18 agrees that the University of Valladolid acted as a center of judicial study, noting that the city of Valladolid held *La Real Chancillería*, the highest court in the Crown of Castile.

[12] Michele Clouse, *Medicine, Government, and Public Health in Philip II's Spain* (Burlington, VT: Ashgate, 2011), 46. See also Richard Kagan, "Universities in Castile, 1500-1700", *Past & Present* 49 (1970): 46-47 who notes that Valladolid was the smallest of the "imperial" universities, but, like the University of Salamanca, was established during the medieval era, making it one of the older universities of Spain. For more information on the Catholic Monarchs, see John Edwards, *The Spain of the Catholic Monarchs (1474-1520)* (Malden, Mass.: Blackwell Publishers, 2000).

[13] Blanco Pérez, *Humanistas*, 36-37.

[14] Blanco Pérez, *Humanistas*, 36-37.

[15] López Piñero, *Antología*, 18; Blanco Pérez, *Humanistas*, 35. For further discussion on the reception of Avicenna in Spain, see Nancy Siraisi, *Avicenna in Renaissance Italy. The 'Canon' and Medical Teaching in Italian Universities after 1500* (Princeton: Princeton

retention of the *catédra de Avicena* helps to illustrate the emphasis of Arabized Galenism in the curriculum at the University of Valladolid – a stress that should be remembered in analysing de Soto's commentary.[16] This older form of medical study stood in contrast to the universities such as Salamanca and Alcalá, which moved away from this Arabized form of Galenism significantly earlier; moreover, this no doubt influenced how de Soto received the theories of Hippocrates and other physicians of antiquity.[17]

Before matriculation into the Faculty of Medicine, knowledge of Latin had to be demonstrated by the student by means of an examination, due to the heavy use of Greek medical texts in Latin translation.[18] Additionally, in June 1564, the University established the *catédra de Retórica, Griego y Hebreo* in the school of Logic and Grammar.[19] It is notable that this inclusion to the University of Valladolid is a bit delayed compared to some other universities of Europe, perhaps due to the isolated nature of the Iberian Peninsula.[20] Although this chair did not reside within the Faculty of Medicine, it nevertheless demonstrates the resurgence of ancient Greek happening at the University of Valladolid. These philological elements can be seen in de Soto's commentaries, in both the Latin he used to write his commentary and in notations of Greek words and etymologies scattered throughout the work, such as in comment 8, when the author is discussing the etymology of the names of the parts of the ear.[21] However, some may argue that de Soto's understanding of the Greek language

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University Press, 1987), 77-83. Siraisi notes the mixed reception of the work in this period, as it was banned at the University of Alcalá de Hernares in 1565 under the direction of Francisco Valles (pp. 77, 82); however, Luis Mercado, an alumnus of the University of Valladolid, was part of a movement reacting against this abandonment of the *Canon* and cited the work copiously in his works (p. 83).

[16] Avicenna is explicitly referenced by de Soto on 19 occasions through his commentary on *Places in Man.*

[17] Blanco Pérez, *Humanistas*, 35. See Nancy Siraisi, *Medicine in the Italian Universities, 1250-1600* (Leiden: Brill, 2001), 63-78, 203-225.

[18] Universidad de Valladolid, *Historia*, 84. See Kagan, 46-47 for information on Latin education in grammar schools prior to entering university.

[19] José López Rueda, *Helenistas Españoles del siglo XVI* (Madrid: Instituto Antonio de Nebrija: CSIC, 1973), 117. The original document can be found at the *Archivo Histórico de la Universidad de Valladolid, Libros de Claustros,* nº3, f. 6-6^{v}.

[20] In the conclusion of his book, *From Byzantium to Italy: Greek studies in the Italian Renaissance* (London: Duckworth, 1992), 157, Nigel Wilson states that prior to and during the first half of the fifteenth century most of the major universities in Italy had established a chair of Greek. Moreover, the scope of this work begins with Greek studies occuring as early as 1397. Given this time-frame, Valladolid was, indeed, later in establishing a chair of Greek.

[21] De Soto, 7 lists *lombus*, the lower part of the ear, as stemming from the Greek "λαμβανο" [sic]. See also ff. 13, 19^{v}, 33, 37, 38, 39, 48, 54, 57. Blanco Pérez, *Humanistas*, 175-178 discusses the language of this text, noting its use of Hellenised Latin, its medieval flavor and its distinctly scientific, rather than literary, style.

was only superficial. Nutton notes that much of the Greek provided in commentaries published after the 1580s was often only "window-dressing".[22]

When discussing the University of Valladolid and Spanish medicine contemporary to our author, one should spare a few words for the *vallisoletano* physician Luis Mercado, who was both highly famed and influential. His date and place of birth have both been subjects of dispute, but it is safe to assume a date of birth between 1520 and 1530 and a date of death in the year 1611 or earlier.[23] Mercado attended the University of Valladolid, before graduating with a *Grado de Doctor*, in 1560 – the same year that de Soto completed his *Grado de Licenciado*.[24] The sources agree that Mercado was later given the appointment of *Prima de Avicena* at his *alma mater*, a post that he held for twenty years before retiring in 1592.[25] Additionally, Mercado was employed in the courts of both Philip II and Philip III, acting as a *médico de cámara* and *protomédico general* from 1578.[26] In examining Mercado's career, many parallels are seen between his life and work and that of de Soto in both education and employment. It would not be unreasonable to assume that at some point these two physicians may have crossed paths. Moreover, the works of the physicians come together in de Soto's tome, in which Mercado is cited five times, always with respect but not always in agreement; however, this will be discussed in more detail in case study 2.[27]

For his licentiate thesis, de Soto chose to expound upon *Aphorism* 1.20, which states: "Do not disturb a patient either during or just after a crisis, and try no experiments, neither with purges nor with other irritants, but leave him alone."[28] This particular aphorism is

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[22] Nutton, "Greek Science", 27.
[23] Blanco Pérez, *Humanistas*, 55.
[24] Juan Riera Palmero, *Vida e Obra de Luis Mercado* (Salamanca: Universidad de Salamanca, 1968), 12, places Mercado's birth around 1525 in Valladolid and death 86 years later (his accepted age of death due to complications from gallstones) in 1611; López Piñero, *Diccionario*, 56 puts his date of birth at 1525 and date of death at 1611, as well, but states he was born in León rather than Valladolid; Hernández Morejón, 180-181 lists Mercado's birth in Valladolid in 1520 and his death in 1606; Blanco Pérez, *Humanistas*, 55 cites a document "en el libro de difuntos de la Antigua en Valladolid" that establishes Mercado's death in December of 1611, which would, in turn, establish a year of birth of 1525. Blanco Pérez further argues León as his place of birth.
[25] Riera Palmero, 12; López Piñero, *Diccionario*, 56; Blanco Pérez, *Humanistas*, 56.
[26] Riera Palmero, 12; Blanco Pérez, *Humanistas*, 56. However, López Piñero, *Diccionario*, 56 argues that Mercado's employment as *médico de cámara* did not begin until after his retirement from *Prima de Avicena* in 1592, although, Piñero says, Mercado did have ties to the royal household before this date.
[27] See case study 2, fn. 66.
[28] Hippocrates, *Aphorisms*, trans. by William Henry Samuel Jones, LCL 150 (London: William Heinemann, 1931), 107. See also Caroline Magdelaine, "Histoire du Texte et Édition Critique, Traduite et Commentée des *Aphorismes* d'Hippocrate", PhD diss. (Université de Paris-Sorbonne, Institut d'Études Grecques, 1988), 390, 479: *Ce qui se juge et ce qui est*

focusing on the theory of crises, i.e. identifying the occurrence and frequency of any change in the course of a disease, whether it is a fluctuation in the intensity of the disease or a variation in the nature of the disease itself.[29] The idea of this particular passage is echoed in other Hippocratic works, including *On Affections* and *Airs, Waters, Places*.[30] It is clear from both the kind of education de Soto enjoyed and from his choice of thesis that he developed an interest in the works of Hippocrates early in his career, studying Hippocratic texts "siempre con gran interés".[31] De Soto's interest in the *Aphorisms* continues throughout his commentary on *Places in Man*, as he used them extensively to evidence his claims; however, even within the 29 explicit citations from the *Aphorisms* made by de Soto, he does not employ this particular aphorism, possibly due to the nature of *Places in Man*, a text that does not emphasise crises.[32]

After completing his studies, de Soto first practiced as a physician in his hometown of Valladolid, before moving to Madrid.[33] There he remained stationary, first in private practice and later, in 1571, gaining employment in the royal household as a *médico de cámara* alongside Juan Almazán de la Cerda.[34] Though few records remain of our author, there are some that document his progression through the hierarchy of physicians within the royal court. According to the information gathered by Cristóbal Pérez Pastor, in 1601, de Soto acted as an *examinador* in the court of the *protomedicato* and in 1602 he starts being listed as

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complètement jugé, ne pas le mettre en mouvement et ne pas innover, ni avec des évacuants, ni avec d'autres stimulants, mais laisser tel quel.

[29] Jacques Jouanna, "Cause and Crisis in Historians and Medical Writers of the Classical Period" in van der Eijk, ed., *Hippocrates in Context*, 4.

[30] Alcocer y Martínez, 21; Hippocrates, *On Affections*, trans. by Paul Potter, LCL 472 (Cambridge, Mass.: Harvard University Press, 1988), 17: Crises are "to be judged in disease when they increase, diminish, change into another disease, or end"; and Hippocrates, *Airs, Waters, Places*, trans. by William Henry Samuel Jones , LCL 147 (London: William Heinemann, 1923), 105: "One should be especially on one's guard against the most violent changes of the seasons, and unless compelled one should neither purge, nor apply cautery or knife to the bowels…For it is especially at these times that diseases come to a crisis." See also Hippocrates, *Hippocratis De aere aquis locis, edidit et in linguam Germanicam vertit H. Diller*, ed. and trans. by Hans Diller, CMG I, 1, 2 (Berlin: Akademie-Verlag, 1999), 53-55.

[31] Alcocer y Martínez, 21.

[32] See de Soto, 2, 13^{v}, 27, 31, 33^{v}, 35(2) [*recte*: 36], 40, 42^{v}, 43^{v}, 49^{v}, 51^{v}, 56^{v}, 59, 64, 74, 81^{v}, and 87. Moreover, de Soto frequently, but not exclusively, employs Galen's commentary on the *Aphorisms* in conjunction with the Hippocratic text, see de Soto, 19, 20^{v}, 26, 32, 34, 35(2) [*recte*: 36], 38, 43^{v}, 48^{v}, 50, 54^{v}, 56, 65^{v}, 71, 74.

[33] Alcocer y Martínez, 299; Hernández Morejón, 363; Blanco Pérez, *Humanistas*, 71.

[34] Alcocer y Martínez, 299; López Piñero, *Diccionario*, 388; Santander Rodrígues, *Hipócrates*, 125; Blanco Pérez, *Humanistas*, 203; Nicolás Antonio, *Bibliotheca Hispana Nova*, vol. 2 (Madrid: J. de Ibarra, 1778), 12. I have been unable to unearth any further information about de la Cerda.

médico de la casa de Borgoña.[35] A few pieces of information can be gathered from these listings. First, de Soto's involvement in the court of the *protomedicato* illustrates the direct connections, and often overlap, between the royal house and the medical governing body. The second, which will be discussed shortly, is that de Soto remained in the employ of the court after the death of Philip II in 1598.

When examining the hierarchy of physicians at the royal court, it is most easily understood in a pyramidal structure, as described by José Pardo Tomás and Álvar Martínez Vidal.[36] At the base of the pyramid is found the lowest ranking chamber physicians, who worked within the court and with the lower members of the royal family, where de Soto began his career in the employment of the monarch; moving upward the *médicos de la casa de Borgoña* are found, to which de Soto was promoted in 1602; and finally, at the highest level were the *médicos de cámara con ejercicio y gajes* [chamber physicians with office and privilege], who directly served the monarchs and often served as the *protomédico.*[37] Thus, de Soto may have never served the monarch directly, as there is no record of him even attaining the title of *médico de cámara con ejercicio y gajes.* There were 12 physicians of the rank *médico de la casa de Borgoña*, who often lived at court, as de Soto did, and frequently lent their services as *examinadores* to the tribunal of the *protomedicato* of Castile.[38] Furthermore, it should be noted that the progression of de Soto's career occurred after the death of Philip II, meaning de Soto's employment in the royal court continued into the reign of Philip III. Pardo Tómas and Martínez Vidal also observed that employment within the royal court provided the opportunity to interact with the Castilian nobility, which, in turn, could offer a means of

[35] Pérez Pastor, 482; David Goodman, *Power and Penury: Government, technology and science in Philip II's Spain* (Cambridge: Cambridge University Press, 1988), 227-229 notes: "In the last decade of the reign [of Philip II] the *protomédicos* of Castile were given greater powers and their influence was felt beyond the narrow five-league belt around Madrid. In 1588 practitioners seeking licences in the area of Madrid were subjected to a theoretical and practical examination by the *protomédico* and three examiners." Given this date range, it should be noted that de Soto and Mercado probably worked together in this capacity, as Mercado was appointed *protomédico general* in 1578 (d. 1611) and de Soto acted as an *examinador* in 1601; see fn. 26.

[36] José Pardo Tómas and Álvar Martínez Vidal, "El Tribunal del Protomedicato y los Medicos Reales (1665-1724): Entre la gracia real y la carrera professional," *Dynamis* 16 (1996): 63-67.

[37] Pardo Tómas and Martínez Vidal, "Tribunal", 63-67.

[38] Pardo Tómas and Martínez Vidal, "Tribunal", 65-66; Pérez Pastor, 481, lists de Soto as a "residente en esta corta" in a document from 1591. For more information on the involvement of the 12 *médicos de la casa de Borgoña*, see María Luz López Terrada, "La Monarquía de Felipe II y el Control de las Profesiones y Ocupaciones Sanitarias" in Martínez Ruiz, ed., *Felipe*, 75.

social mobility and possible sources of patronage.[39] Moreover, it should be considered that in the documentation recording de Soto's marriage to Beatriz de la Hoz, she is listed as *doña* and as the daughter of Don Francisco de la Hoz.[40] Given the honorifics bestowed upon the family into which he married, in conjunction with his ability to attend university and his placement in the court, it is not unreasonable to infer that de Soto was from a family of some rank.

Information about de Soto is rather limited, consisting mostly of entries in bio-bibliographical catalogues and dictionaries such as the *Bibliografía Medica Hispanica (1475-1950)* and the *Diccionario Histórico de la Ciencia Moderna en España*.[41] Prior to the nineteenth century, mentions of our author are limited and brief. An interesting reference to de Soto in the seventeenth century occurs in the work of Francisco Perla, Italian physician and fellow commentator on *Places in Man*. In the preface to his commentary published in 1638, Perla tells us that he had seen de Soto's commentary listed in the catalogue of Zacuto Lusitano (1575-1642), but was unable to locate the work despite an exhaustive search.[42] Perla laments being unable to find the tome, as he hoped it would have proven useful to his own commentary. Lusitano lists de Soto amongst the other Hippocratic commentators and their works in the preface to his *Operum tomus primus in quo de medicorum principum historia...* (1629-1642) and later again our author is listed amongst the *Iuniores elegantes et docti* under the larger heading of *Elenchus Auctorum*.[43] Notably, in this substantial list of Hippocratic commentators, de Soto is the only author listed to have commented upon *Places in Man.*[44]

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[39] Pardo Tómas and Martínez Vidal, "Tribunal", 65.
[40] Pérez Pastor, 481.
[41] López Piñero, *Bibliografía*, vol. 1, 189; López Piñero, *Diccionario*, 388.
[42] Francisco Perla, *Liber de locis in homine* (Rome: Bernardino Tano, 1638), VII: *Lazarus enim Sotus, quem id ipsum praestitisse, apud Zacutum Lusitanum de Medicorum Principum historia non semel legeram, neque ad meas vnquam peruenerat manus, quamuis studiose apud plurimos perquisitus, nec quemquam inuenire licuerat, qui eum se vidisse affirmaret...At vix ad calcem perduxeram, cum inopinatinem opus Lazari Soti, quo diu, frustraque ex multis totius Europae Emporiis Librariorum ope conquisitum...* See also: Zacuto Lusitano, *Operum tomus primus in quo de medicorum principum historia...* (Paris: Joannis-Antonii Huguetan and Guillielmi Barbier, 1629). For more information on Lusitano and his works, see Saul Jarcho, "The Style of Zacutus Lusitanus and its Origins", *Journal of the History of Medicine and Allied Sciences* 44 (1989): 291-295 and Maximiano Lemos, *Zacuto Lusitano: A sua vida e sua obra* (Porto: Martins, 1909).
[43] Lusitano, preface, *Elenchus Auctorum.* See this volume for an extensive list of Hippocratic commentators prior to the publishing date, organised by Hippocratic texts. Additionally, our author is listed as "Lazarus a Sotto" rather than the more regular Latinised spelling of "Lazarus Sotus".
[44] It should be noted that Lusitano only mentions de Soto's commentary on *Places in Man*, neglecting his other works. This independent mention of de Soto's commentary on *Places in*

Although de Soto may never have attained the heights of academic notoriety, he did gain some recognition for his commentary on *Places in Man.*

Moving into the eighteenth and nineteenth century, more is written about de Soto. Antonio Hernández Morejón in his *Historia Bibliográfica de la Medicina Española* (1843) cites a speech given by Andrés Piquer entitled *Sobre la necesidad de restaurar la medicina de los españoles,* in which the Castilian physician Piquer likens de Soto to the eighteenth century Dutch-Austrian physician, Gerard van Swieten, granting high praise to de Soto and his works.[45] Moreover, this quote demonstrates an interest in de Soto and an appreciation of his works that continued into the nineteenth century. Whilst de Soto does not enjoy great fame at present, he certainly had not quietly faded into obscurity. This is further demonstrated by a contemporary of Hernández Morejón, Anastasio Chinchilla, and volume one of his *Anales Históricos de la Medicina en General y Biografico-Bibliográficos de la Española en Particular* (1841). The passage represents the earliest extensive account of de Soto and his works. In it, Chinchilla provides biographical information whilst lauding de Soto's career. Additionally, he provides the earliest known study of de Soto's commentaries, in the form of brief summaries of the subject matter of each commentary.[46] Most interestingly, Chinchilla uses de Soto as an example of a sixteenth century physician, who, whilst enthusiastic about Hippocratic doctrine, is often guilty of abusing it.[47] More specifically, he writes that de Soto, who is again "entusiamado por las obras de Hipócrates", lacks the

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Man may serve as evidence to support the claim of individual publications of de Soto's works. See fn. 8.

[45] Hernández Moréjon, 363-364: *Accido ad Vanswietenium, virum summum, in artis operibus exercitatissimum, dignum certe, qui a medicis diurna nocturnaque manu versetur. Sed fremant licet omnes, dicam quod sentio. Lazarus Soto, Philippi II Hispaniarum Regis Archiater, quoad medendi scientiam spectat, praecepta tradidit et numero, et viribus, et utilitate praestantiora. Cum enim uterque in commentariis scribendis insudaverit, ibique sparsim, prout occasio ferebat, observationes ad medendum necesarias inseruerit, vel eo nomine praeferendus Soto videtur, qui Hippocratem illustrare, nullis ratiociniis sisthematicis confundere, neque longa explicationum serie obscurare pro munere sibi imposito sumpserit, tot tantaque doctrinae ubertate, puritate, et sententiarum gravitate ejus scripta pollent, ut si observationes in Vanswietenio certe multas, et utiles in unum cogamus, ratiociniis relictis, et cum nostri animadversionibus conferamus, inges inter utrumque discrimen reperiemus.* For more information on Andrés Piquer, see Manuel Mindán Minero, *Andrés Piquer: Filosofía y medicina en la España del siglo XVIII* (Zaragosa: Sociedad Económica Aragonesa, 1991) and Jésus Ángel y Espinós and María Isabel Fernández Gahán, "Andrés Piquer et la tradition hippocratique dans l'Espagne du XVIIIe siècle", *Vesalius* 4 (1998): 31-34; for Gerard van Swieten, see Frank T. Brechka, *Gerard van Swieten and his World (1700-1772)* (The Hague: M. Nijhoff, 1970).

[46] Anastasio Chinchilla, *Historia de la Medicina Española,* vol. 1, *Anales Históricos de la Medicina en General y Biografico-Bibliográficos de la Española en Particular* (Valencia: Imprenta de López y Compañía, 1841), 452-457.

[47] Chinchilla, vol. 1, 452.

courage to differentiate between the good and the bad within the Hippocratic text, and thus provides some good practical information whilst simultaneously being prone to extravagances.[48] This account is in line with de Soto's adherence to ancient authority and his tendency to meld the Hippocratic text with Galenic doctrine.

Moving into the twentieth century, an entry on de Soto and his volume of commentaries is included in Blas Bruni Celli's 1984 work *Bibliografía Hipocrática*.[49] It includes both *Tomus primus* and de Soto's earlier work, *Animadversiones medicae, et commentaria in librum Hippocratis de aere, aquis, et locis*. Whilst Bruni Celli provides some information about de Soto, even including a very short biography, some confusion does arise from consulting this text. When searching for other works based on *Places in Man*, it is found that often this work is confused with *Nature of Man*. Moreover, one finds a work by Leonhard Bausch [Leonardius Bauschius], published in Madrid in 1594, containing commentaries on the texts *De locis in homine*, *De medicamento expurganti*, *De usu veratri* and *De dieta* - the same commentaries contained in de Soto's compilation, as well as the same city and year of publication.[50] Naturally, an identical entry such as this warranted further research. Upon consulting the sources employed by Bruni Celli, Emile Littré's *Oeuvres complèts d'Hippocrate* (1849) and Johannes van der Linden's *De Scriptis Medicis* (1656), an error is found in van der Linden's catalogue.[51] In this work, van der Linden has listed de Soto and his *Animadversiones medicae*, however, there is no mention of his 1594 volume. Reading the page further, one finds de Soto's work listed two entries down under Bausch's name (as the volume has been alphabetised according to the first name of the author). This information was then repeated in Littré's volume and finally in Bruni Celli's, essentially causing a three hundred year typographical error. More recently, José Ignacio Blanco Pérez in his

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[48] Chinchilla, vol. 1, 452: *...y no teniendo el suficiente valor para haber elegido lo bueno, y desechado lo malo, hizo alarde de comentar aquellos libros de Hipócrates, que aunque ciertamente contienen ideas muy preciosas é interesantes para la práctica, se hallan promiscuadas con otras que son unas estravagancias.*

[49] Blas Bruni Celli, *Bibliografía Hipocrática* (Caracas: Universidad Central de Venezuela, 1984), 390.

[50] On Leonhard Bausch (1574-1636), town physician in Schweinfurt and founder of the famous Bausch library (today part of Schweinfurt's municipal library), see Richard Toellner, "Leonhard (1574-1636) und Johannes Laurentius Bausch (1606-65) und ihre Bibliothek", *Kirchliches Buch- und Bibliothekswesen* 2 (2001): 13-26. See also Uwe Müller, *et al.*, eds., *Die Bausch-Bibliothek in Schweinfurt* (Halle: Deutsche Akademie der Naturforscher Leopoldina, 2004); Menso Folkerts, *et al.*, eds., *Die Bausch-Bibliothek in Schweinfurt. Wissenschaft und Buch in der Frühen Neuzeit. Leopoldina-Meeting am 19. und 20. Juni 1998 in Schweinfurt* (Heidelberg: Johann Ambrosius Barth, 2000).

[51] See Bruni Celli, 47, 390; Emile Littré, *Oeuvres complètes d'Hippocrate*, vol. 6 (Paris: J. B. Baillière and Sons, 1839-1861), 265; Johannes van der Linden, *De Scriptis Medicis* (Amsterdam: Johannes Blaue, 1656), 420.

Humanistas Médicos en el Renacimiento Vallisoletano (1999) supplies an in-depth analysis of our author and his works.[52] This work focuses on the medical faculty of the University of Valladolid during the Renaissance and provides case studies that examine certain *vallisoletano* physicians. Blanco Pérez explores how medical education, especially at the University of Valladolid, in the sixteenth century affected the work of its graduates both in content and linguistically.

1.4 Medical Humanism in Sixteenth Century Spain

The mid-sixteenth century saw the rise of humanism, reaching Spain from its contact with Italy, causing a desire amongst Spanish intellectuals to return to the classical roots of their disciplines, connecting with the minds of antiquity and removing inaccuracies from texts that had been copied and recopied.[53] In revisiting these ancient texts, humanists reviewed them within the scope of knowledge available in the early modern period; impacted by changes and ideas ranging from the advent of printing, to the Inquisition and religious wars, the early modern era provided an abundance of new thoughts and opportunities never before available.[54] Although the terms are not interchangeable, the historical period known as the Renaissance and the intellectual movement known as humanism often coincide. As a temporal time-frame for the Spanish Renaissance, Luis Sánchez Granjel considers the beginning of the period to coincide with the establishment of Catholic rule in 1479 and to conclude with the death of Philip II in 1598.[55] Thus, de Soto's volume of commentaries, published in 1594, should be considered a product of the Spanish Renaissance, and more specifically, of Spanish medical humanism.

As previously stated, the specific aim of humanism was the translation, restoration, and interpretation of classical texts. The ultimate goal of humanist study was to imitate, emulate and eventually surpass the ancient authors; an idea that pervaded all the disciplines of humanism.[56] In the case of de Soto's commentary, our author was attempting to imitate, and through extensive study eventually emulate, Hippocrates as a physician and the commentaries later done on his works by Galen. However, this return of classical authority was not always blindly accepted; often the claims of the ancient texts were tested by new

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[52] Blanco Pérez, *Humanistas* (1999).
[53] Blanco Pérez, *Humanistas*, 27.
[54] See Thomas Rütten, "Early Modern Medicine" in Jackson, ed., *Oxford Handbook*, 60-81.
[55] Luis Sánchez Granjel, *El Ejercicio Médicos y Otros Capítulos de la Medicina Española* (Salamanca: Universidad de Salamanca, 1974), 11.
[56] See Joshua Scodel's entry "Imitation and Mimesis" in Grafton, ed., *Classical Tradition*, 472-475; See also George W. Pigman III, "Versions of Imitation in the Renaissance", *Renaissance Quarterly* 33 (1980): 1-32.

methods, such as human dissection, for validity.[57] This pursuit of consulting, interpreting, and testing the ancient sources was thought to lead to a better understanding of the medical art, and although some physicians may not have participated in the translation and analysis of these texts, they still utilised the teachings of the humanists.[58] Blanco Pérez asserts that the foundation of humanism was a superior philological knowledge and understanding that allowed the scholar to interact with the ancient author.[59] Although de Soto used his source text in Latin translation, his commentary reveals a basic knowledge of Greek. As has been noted, throughout his comments, de Soto provides examples and discussions of Greek terminology, particularly in reference to Greek anatomical nomenclature.[60] De Soto is confident enough in his understanding of the ancient Greek language to assess the quality of various translations; asserting the virtues of Cornarius' translation and criticising those of Niccolò Leoniceno (1428-1524) and Agostino Gadaldini (1515-1575) in comment 36.[61]

The new trend of humanism quickly spread throughout the European centres of research and learning. Physicians and authors were able to communicate across national borders "thanks to a shared *lingua franca* (Latin), a common historical heritage, and comparable social structures, as well as apparatuses of state and church power."[62] Furthermore, the rise of printing led to wider dissemination of medical ideas and knowledge, both academic and practical.[63] Medical books and treatises, both ancient and contemporary, were now more readily available for study, contemplation, and response, allowing doctors, as well as others in the various humanist fields, to exchange new ideas on a scale and with a

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[57] José María López Piñero, "Actividad Científica y Sociedad en la España de Felipe II" in Martínez Ruiz, ed., *Felipe*, 31.

[58] Blanco Pérez, *Humanistas*, 21-22; Rütten, "Early", 70-72. See also José María López Piñero, *Medicina y Historia Natural en la Sociedad Española de los siglos XVI y XVII* (Valencia: Universitat de Valéncia, 2007), 39-40, who discusses this movement arising from 15th century Italian Galenic humanism and the desire of the humanists to interact directly with the ancient sources and verify Galenic authority.

[59] Blanco Pérez, *Humanistas*, 22.

[60] See fn. 21.

[61] De Soto, 24: *QVidam* [sic] *linguae Graecae interpretes, vt fuit Nicolaus Leonicenus & Augustinus Gadaldinus, orationis difficultatem fugientes, dictionem illam* κενωσεωςμεν [sic], *hoc est, vacuationis quidem indigentes dispositiones, abstulerunt*. The addition of "μεν" was certainly an error; however, it is impossible to know if it is an error by the author or publisher. For Leoniceno, see Jerome J. Bylebyl, "Leoniceno, Nicolò" in Coulston Gillespie, ed., *Dictionary*, vol. 8, 248-250; Daniela Mugnai Carrara, *La biblioteca di Nicolò Leoniceno: Tra Aristotele e Galeno, cultura e libri di un medico umanista* (Florence: L. S. Olschki, 1991); Daniela Mugna Carrara, *Profilo di Nicolò Leoniceno (1428-1524)* (Rome: Salerno Editrice, 1978); for Gadaldini, see Caroline C. L. Petit "Gadaldini's Library", *Mnemosyne* 60 (2007): 132-138; Ivan Garofalo, "Agostino Gadaldini (1515-1575) et le Galien latin" in Boudon-Millot, ed., *Lire*, 283-322.

[62] Rütten, "Early", 60.

[63] Rütten, "Early", 69.

speed never before available. Spain in particular saw an influx of printers from Northern Europe establishing themselves in the Iberian Peninsula and the ever-growing systems of trade aided in the import and export of printed knowledge.[64] Given his position in the court, it is likely that de Soto had access to a wide range of printed material, both medical and otherwise; possibly even including access to Philip II's library at El Escorial. This availability of material may have added a great depth to his analysis of Hippocratic texts.

1.5 Medicine and the Court of Philip II

It is important to consider the role of the physician within Spanish society and politics when discussing de Soto's life and career. During the early modern era, medicine was the only subject within the realm of science to have become a recognised and regulated profession, both in the university and professional settings, as early as the late Middle Ages.[65] Moreover, in Spain, the early modern period saw an age of centralisation of both government and the Church, and the merging of the two.[66] The court of the *protomedicato* illustrates this movement of centralisation. Established by Juan II in 1422 and expanded in 1477, the regulatory body for the supervision of physicians in Castile was headed by the *protomédico.*[67] The government of Philip II in 1563 later reformed the structure of the court in 1588 and 1593.[68] This regulatory body also employed two physicians and two surgeons given the task of examining and licensing doctors, surgeons and other medical professionals, known as

[64] Henry Kamen, *Philip of Spain* (New Haven: Yale University Press, 1997), 25. For more information on the rise of the book and early modern book trade, see Andrew Pettegree, *The Book in the Renaissance* (New Haven: Yale University Press, 2010); Simon Eliot and Jonathan Rose, eds., *A Companion to the History of the Book* (Malden, MA: Blackwell, 2007); Eltjo Buringh and Jan Luiten van Zanden, "Charting the 'Rise of the West': Manuscripts and printed books in Europe, a long-term perspective from the sixth through eighteenth centuries", *Journal of Economic History* 69, 2 (2009): 409-445; for information more specific to Spain, see Benito Rial Costas, *Print Culture and Peripheries in Early Modern Europe* (Leiden: Brill, 2013); Anastasio Rojo Vega, *Ciencia y Cultura en Valladolid: Estudio de las bibliotecas privadas en los siglos XVI y XVII* (Valladolid: Universidad de Valladolid, 1985); Rafael M. Pérez García, "La imprenta en España, c. 1472-1559: Negocio, política y cultura", *Boletín de la Sociedad de Amigos de la Cultura de Vélez-Málaga* 5 (2006): 19-24.

[65] Sánchez Granjel, *Ejercicio*, 14-17; López Piñero, "Actividad", 21.

[66] Virgilio Pinto Crespo, "La Censura: Sistemas de control e instrumentos de acción", in *Inquisición Española y Mentalidad Inquisitorial: Ponencias del Simposio Internacional sobre Inquisición, Nueva York, Abril de 1983*, ed. by Ángel Alcalá (Barcelona: Ariel, 1984), 270.

[67] Sánchez Granjel, *Ejercicio*, 14.

[68] López Piñero, "Actividad", 21; Blanco Pérez, *Humanistas*, 29.

examinadores.[69] In addition to regulating the quality of the physicians themselves, the court of the *protomedicato* worked with the Inquisition to regulate 'purity of blood' within the medical profession in an attempt to create a more homogenised medical professional body.[70] This regulation of *limpieza de sangre* [purity of blood] meant that those who were deemed 'impure', usually due non-Christian descent or some perceived heresy, were barred from practicing medicine in Spain.[71] We have already seen that de Soto was involved in the court of the *protomedicato,* both in the capacity of an *examinador* and as part of his duties in the *casa de Borgoña.* This involvement bolsters the notion that de Soto was, indeed, a well respected physician of his time. Michele Clouse elaborates on the connection between the court and the *protomedicato*: "The crown relied on those medical professionals at the apex of the profession...to serve as experts and offer wise counsel on medical matters."[72] Clouse continues to suggest that the reforms made by the king thoughout his reign were done with the counsel of his personal physicians who served both as chamber physicians and in the court of the *protomedicato*.[73] Thus, in the court of the *protomedicato,* it is likely that de Soto would have interacted with contemporary high-ranking physicians, such as Luis Mercado, possibly providing a network for the exchange of ideas and opportunities.[74]

However, the court of the *protomedicato* was not the only governing body responsible for the regulation of the medical profession.[75] The Inquisitorial campaign often struck harshly against the Muslim and Jewish populations, known as *moriscos* and *conversos* after their forced conversion following the Christian conquest, threatening the medical plurality within sixteenth century Spain; although, traditionally, the people of medieval and early modern Spain could employ the services of various empirics and folk healers, as well as surgeons and apothecaries.[76] Moreover, consulting these forms of healing was by no means considered

[69] Andrew Wear, "Medicine in Early Modern Europe, 1500-1700" in *The Western Medical Tradition*, ed. by Lawrence I. Conrad, *et al.* (Cambridge: Cambridge University Press, 1995), 230.
[70] Blanco Pérez, *Humanistas*, 29.
[71] Blanco Pérez, *Humanistas*, 29.
[72] Clouse, 44.
[73] Clouse, 65.
[74] See fn. 35.
[75] María Luz López Terrada, "Medical Pluralism in the Iberian Kingdoms: The Control of Extra-academic Practitioners in Valencia" in Arrizabalaga, ed., *Health and Medicine*, 10-11; López Terrada, "Monarquía", 77.
[76] María Luz López Terrada, "The Control of Medical Practice under the Spanish Monarchy during the Sixteenth and Seventeenth Centuries" in Navarro Brotóns, ed., *Leyenda Negra*, 286.

taboo, regardless of the fact that the Inquisition may have often targeted them.[77] The empirical practices utilised by the *morisco* population had a long standing tradition as the primary source of healthcare in the Iberian Peninsula before the Christian conquest and continued after the mandatory conversion in the early sixteenth century.[78] These empirical methods included, but were not limited to, the use of scapulars, religious texts, spells, astrology, and other forms of the occult.[79] It was their use of these unfamiliar and seemingly "un-Christian" methods that drew the ire of the Inquisition. However, for the *morisco* healer this was a paradox, as he had been prohibited from universities and cut off from learning academic medicine.[80] Thus, *morisco* practitioners continued to employ the empirical methods of medicine used by their families for generations. However, it was not simply differences in methodology or religion that led the Inquisition to target these populations. As is explained by Luis García Ballester, minority groups, especially that of the *moriscos*, were frequently tried by the Inquisition under charges of 'consulting with demons' and heavily fined, which was, in turn, an efficient way for the Inquisitional bureaucracy to fund its large structure.[81] In contrast, the *conversos*, who were often academically trained, were called up on charges of 'Judaizing', that is, continuing practice of Jewish rituals, and, much more frequently than *morisco* physicians, were sentenced to death.[82] This dichotomy of treatment regarding different minority groups by the Inquisition illustrates very clearly the issues that arose from

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[77] Luis García Ballester, "Academicism versus Empiricism in Practical Medicine in Sixteenth-Century Spain with regard to *Morisco* Practitioners" in Wear, ed., *Medical Renaissance*, 250. Indeed there was nothing socially unacceptable about the use of an empiric or *morisco* physician in the early modern period, however, they were only likely to be called by the higher social classes when all other forms of rational medicine had failed (p. 257). Even Philip II had employed the aid of a Valencian *morisco* to aid in the healing of his son Charles (p. 252). A few humanists, such as Andrés Laguna (who had translated the edition of Dioscorides' *Materia Medica*, frequently used by empirical practioners, into Catalan) consulted with *morisco* healers, as well as many other types of folk healers, to aid in his own medical research and practice (p. 251).

[78] García Ballester, "Academicism", 246.

[79] García Ballester, "Academicism", 247; Scapulars were a type of religious image worn over the clothing on the affected body part in order to aid in the healing process.

[80] García Ballester, "Academicism", 247.

[81] Luis García Ballester, "The Inquisition and Minority Medical Practitioners in Counter-Reformation Spain. Judaizing and *Morisco* Practioners" in Grell, ed., *Medicine*, 162.

[82] García Ballester, "Inquisition", 164. Accusation of "Judaizing" generally stemmed from traditional ritual such as "cleansing of the hands, washing of meat, rejection of pork, death rituals, among others" that did not coincide with the mores of traditional Catholic orthodoxy (p. 157). In contrast to *morisco* practitioners, *conversos* for a while were allowed to attend university and benefit from the rational medical training there, until the University College of San Ildefonso at the University of Alcála first banned the matriculation of anyone having "stained blood" in 1519 - a principle that was soon adopted by many other Spanish universities.

medical pluralism in Spain at that time: the *moriscos* were tried for infractions of methodology, *conversos* for those of personal religion and the respective groups were sentenced according to the severity of the injury upon orthodoxy.

Though these medical groups were unlikely to be highly influential on de Soto, the presence of these varying methods of practice help to contextualise de Soto's commentary, particularly his defence of medicine that will be examined in case study 5.[83] Moreover, it was not only physicians of minority groups that felt the heavy hand of the Inquisition. Humanists from all fields were subject to censorship, as the campaign would stop the import and distribution of any ideas considered dangerous - especially those of a Lutheran persuasion.[84] The conflict initially escalated with the persecution of *las erasmistas*, and then, widening the net, continued with Inquisitorial injunctions against other academic physicians and their works, such as Juan de Valdés' (*c.* 1509-1541) *Diálogus* and the works of Michael Servetus (1511-1553).[85] As explained by Virgilio Pinto, the Inquisition exercised censorship on both an intellectual and political level in its attempts to maintain orthodoxy.[86] He continues, stating that from the records kept by the Inquisition, this sort of censorship was abundant during the early modern period, but became significantly reduced during the 18th century - coinciding with a general decline of this brand of religious fervor.[87]

1.6 Medical Commentary and the history of *Places in Man*

In understanding de Soto's exegesis, the role of the commentary within medical humanism must be considered. In the 19th century, Morejón argued that de Soto was one of the best Spanish commentators of Hippocrates of his age and very "worthy of being

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[83] See the section, "3.5.3 De Soto's Defence of Medicine and Humouralism" and "3.5.4 De Soto's Reaction to Quackery" in case study 5. Additionally, the pluralistic nature of Spanish medicine ties back to de Soto's involvement with the court of the *protomedicato.*

[84] Pinto Crespo, 270.

[85] Pinto Crespo, 294. For information on Valdés, see Daniel A. Crews, *Twilight of the Renaissance: The life of Juan de Valdés* (Toronto: The University of Toronto Press, 2008); for Servetus, see Pierre Domeyne, *Michel Servet (1511-1553): Au risque de se perdre* (Paris: Editions L'Harmattan, 2008); Marian Hillar and Claire S. Allen, *Michael Servetus: Intellectual giant, humanist and martyr* (Lanham: University Press of America, 2002) and Roland H. Bainton, *Hunted Heretic: The life and death of Michael Servetus*, 1511-1553 (Boston: Beacon Press, 1953).

[86] Pinto Crespo, 271: *...identificar la heterodoxia y interceptar su difusión.*

[87] Pinto Crespo, 273. However, the actions of the Spanish Inquisition should be held separately from that of the inquisitorial court of Rome. We are reminded in the introduction to Victor Navarro Brotóns and William Eamon, eds., *Más allá de la Leyenda Negra: España y la Revolución Científica* (Valencia: Soler, 2007), 32 that it was "the Inquisition in Rome, not Spain that prosecuted Europe's leading Copernican, Galileo" who was later defended by the Spanish Diego de Zúñiga, who "was allowed to publish his opinions freely, without threat of persecution."

consulted."[88] While this is only the opinion of one man, de Soto's commentary proves to be a useful source in examining the humanistic medical tradition in early modern Spain and an illustration of how Hippocrates and other ancient medical authors were understood and utilised. In commenting upon this Hippocratic text, de Soto joins a long tradition of Hippocratic commentary that began in antiquity and continued, and thrived, throughout the Renaissance.[89] Still, it is important that, for many academic physicians, Galen remained the ultimate authority, even when a Hippocratic source was being consulted. Nancy Siraisi notes: "Although knowledge and appreciation of the Hippocratic texts became wider and deeper among university-trained physicians as the [sixteenth] century progressed, nevertheless for most of them Galen, not Hippocrates, remained the principal authority in medicine."[90] This helps to explain the authority granted to Galen throughout de Soto's commentary on a text from the Hippocratic Corpus.

The genre of commentary itself has a long history and roots in antiquity. Anthony Grafton identifies the Derveni papyrus, an anonymous work, as the earliest known commentary, dated to the 5th century BCE, commenting on an Orphic text.[91] This tradition continued to perservere and from the twelfth century, medical commentary was considered one of the most important genres of literature in the western medical tradition, comprising most of the academic writings of prominent physicians, with Galen held as the model for Hippocratic commentary.[92] Rebecca Flemming provides an excellent discussion of Galen and his commentaries in her contribution to *The Cambridge Companion to Galen.* She notes that Galen wrote 62 Hippocratic commentaries in an effort to create a more unified medical

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[88] Hernández Moréjon, 364.

[89] For further examination of Hippocratic commentators in the Renaissance and their commentaries, see Siraisi, *Clock*, (1997); Nancy Siraisi, "Hippocrates in the Eyes of Some Sixteenth-Century Medical Commentators" in *Geschichte der Medizingeschichtsschreibung: Historiographie unter dem Diktat literarischer Gattungen von der Antike bis zur Aufklärung*, ed. by Thomas Rütten and Nadine Metzger (Renscheid: Gardez! Verlag, 2009), 233-263; Craig Martin, "The Authentic Hippocrates in the Renaissance: The case of *De Alimento*", *Journal of the Washington Academy of Sciences* 90 (2004): 17-28; Thomas Rütten, "Die Entdeckung eines pseudohippokratischen Briefromans als Melancholieschrift" in López Férez, ed., *Tratados Hipocráticos*, 437-452; Thomas Rütten, "Commenti ippocratici in età moderna", *Medicina nei Secoli* 17 (2005): 443-468; Thomas Rütten, *Stories of the Hippocratic Oath* (Wiesbaden: Harrassowitz, 2007), CD-ROM.

[90] Siraisi, *Clock*, 121.

[91] Anthony Grafton, "Commentary" in Grafton, ed., *Classical Tradition*, 225. Grafton continues to summarize the extended history of commentary up to the modern era. See also: Roy K. Gibson and Christina Shuttleworth Kraus, eds., *The Classical Commentary* (Leiden: Brill, 2002) and Glenn W. Most, ed., *Commentaries-Kommentare* (Göttingen: Vandenhoeck & Ruprecht, 1999) for essays discussing the various aspects of the tradition of commentary in antiquity.

[92] Blanco Pérez, *Humanistas*, 207-08.

system.[93] Moreover, she explores Galen's commentaries on other works, as well as his motivations and methodology for exegesis: "Elucidation of certain Hippocratic texts in a certain style was an intrinsic part of Galen's education, as of his colleagues' and competitors'."[94] This tradition continued into the early modern era, and by commenting upon an ancient medical text, a physician was able to emulate the commentators that had come before him; de Soto chose to do so by commenting upon works that had been less frequently studied by Spanish authors.[95] Further to this, Grafton writes: "By the middle of the 15th century, some scholars were addressing commentaries to texts deliberately chosen because they had previously lain outside the standard curriculum, or even for their difficulty."[96] De Soto was, indeed, successful in garnering attention for a text that was often overlooked; thus carving himself a niche in the medical community. Moreover, de Soto notes in his letter to the reader that these texts were often passed over due to their difficulty; thereby making his successful completion of these commentaries a testament to his prowess as both a physician and humanist.[97] It should also be noted that there is no evidence for a Galenic commentary on *Places in Man*; thus, de Soto may be, in a sense, completing the work begun by Galen.

Closely linked to the history of commentary in the early modern era is the history of publishing. While commentaries were produced for two thousand years as manuscripts, the advent of printing allowed the production and dissemination of the works on a much larger scale. The work by Luis Granjel Santander and Mercedes Granjel Santander in *El Libro Medico Español Renacentista* is beneficial in illustrating the rise of the book, specifically on the subject of medicine, in early modern Spain. Their examination of 541 medical works (translations, commentaries, and works on specific medical issues) printed between 1475-1599 demonstrates a steady increase in medical publishing beginning in 1560 and continuing until the sample ended in 1599.[98] De Soto's commentary is listed on page 37, and is published in the bracket 1590-1594 along with 47 other medical works, which held the second highest

[93] Rebecca Flemming, "Commentary" in Hankinson, ed., *Cambridge Companion*, 328, 334.
[94] Flemming, 348.
[95] Blanco Pérez, *Humanistas*, 208; Chinchilla, vol. 1, 452 states: *Viendo que en España habian comentado ya casi todas las obras de Hipócrates, se propuso hacerlo con las únicas que no lo estaban, tales eran el libro* de locis in homine, *el* de medicamento espurganti [sic], *el* de usu veratri, *y el* de dieta.
[96] Grafton, "Commentary", 229. Moreover, de Soto notes in his dedication that *Diet* was often passed over for comment due to its difficulty, see chapter 2, fn. 52.
[97] See ch. 2, fn. 53.
[98] Luis Sánchez Granjel and Mercedes Sánchez Granjel, *El Libro Medico Español Renacentista* (Salamanca: Universidad de Salamanca, 1980) 9-11. Indeed, the period between 1560 and 1599 held 276 books, 53% of the total sample.

number of printing behind the period 1595-1599.[99] Due to the Iberian Peninsula's geographically isolated nature, the study found that most Iberian doctors tended to print locally and that, in the final third of the century, Madrid emerged as the Spanish printing hub, producing 13.69% of the sample between 1565-1599, after accounting for no works in the preceding 90 years of the study.[100] Finally, the study illustrated the rise of the humanist medical commentary, categorised under *medicina general*, a grouping that accounted for 37 works between the years 1565-1599.[101] This small but relevant sample clearly demonstrates a growth in print culture among Spanish medical humanists in the Renaissance and as a result suggests a growth in the spread and availability in medical knowledge.

There is not much information to be found of de Soto's publisher, Ludovico Sánchez, or his publishing house; still, other works published by the same printer may provide some insight. One of the more interesting works is that of Francisco Valles (1524-1592), *Tratado de las aguas destiladas, pesos, y medidas de que los boticarios deben usar, por nueva ordenança y mandato de su Magestad y su Real Consejo* (1592), a work composed by order of Philip II to standardise the weights and measures used in medical practice.[102] Similarly, Sánchez also published two works by Mercado in 1594, *Institutiones Chirurgicae iussu regio factae pro chirurgis in praxi examina*[*n*]*dis* and *Institutiones Medicae iusso regio factae pro medicis in praxi examinandis*. These works were commissioned by the crown as a means of standardised testing for those graduating from schools of medicine and surgery.[103] Additionally, Sánchez published another medical work by Francisco Pérez Cascales (*c.* 1611) entitled *Liber de affectionibus puerorum una cum tractatu de morbo illo vulgariter garrotillo appellato, cum duabus Quaestionibus. Altera, de gerentibus utero rem appetentibus denegatam*.[104] These titles illustrate a trend of printing medical subjects, and, moreover, a tendency to work with those physicians employed by the crown, such as Valles and Mercado. However, not all of Sanchez's work was located in the medical sphere - other titles he

[99] Sánchez Granjel and Sánchez Granjel, *Libro*, 12.
[100] Sánchez Granjel and Sánchez Granjel, *Libro*, 16-18. It should be noted that this upturn of publishing in Madrid coincides with the move of the court of Philip II from Toledo to Madrid in June, 1561; see Mía J. Rodríguez-Salgado, "The Court of Philip II of Spain" in Asch, ed., *Princes*, 208-209.
[101] Sánchez Granjel and Sánchez Granjel, *Libro*, 25. This category showed a marked increase by accounting for 3, 4, and 23 works in the previous temporal ranges. Additionally, the study notes (pp. 36-37) that most of the commentaries on Hippocratic works were published in the second half of the sixteenth century.
[102] López Terrada, "Monarchy", 290.
[103] Goodman, *Power*, 229 discusses Philip II's task assigned to Luis Mercado of standardising this examination.
[104] For more information on Cascales see Javier Sanz, "El Doctor Francisco Pérez Cascales. Su Biografía y el Capítulo Odontológico de su Obra", *Asclepio* 26 (1994): 23-42.

published include Bartholomew of Braga's (1514-1590) *Compendium spiritualis doctrinae, ex variis sanctorum patrum sententiis magna ex parte collectum* (1582) and Tomás Sánchez's (1550-1610) *De sancto matrimonii sacremento disputationum* (1623), which demonstrate a second focus on theology as part of Sanchez's publishing programme.[105]

In addition to an examination of Sánchez's publications, still more can be learned through a survey of the extant copies of de Soto's commentaries. A search of both national and international databases, such as the Karlsruher Katalog and the catalogue of the Consejo Superior de Investagaciones Cientificas [CSIC], has yielded a total of nine extant copies of de Soto's work. Three copies are currently held in Spanish institutions, located at the Universidad Complutense de Madrid, the Universidad de Salamanca and the Vicent Peset Llorca Library for the History of Medicine at the Instituto de la Historia de la Medicina y la Ciencia López Piñero, part of the Universitat de Valencia. Four more are held in England at the British Library, the Bodleian Library, the Wellcome Library and the Exeter Cathedral Library. Additionally, a copy is held by the Bibliothèque Nationale de France and one is held and has been digitised by the Bavarian State Library. Unsurprisingly, this is a small sample; however, some information may still be gleaned from the ownership of these copies.[106]

Beginning with the copies held in Spain, a handwritten note on the title page of the volume now held at the Universidad Complutense de Madrid indicates that de Soto's work was purchased by the Universidad Complutense de Alcalá de Henares in 1709.[107] Unfortunately, there is no information regarding its provenance, leaving around 100 years of its history unknown. It should be noted that in the nineteenth century, the Universidad Complutense de Alcalá de Henares merged with the Central University of Madrid and was later renamed the Universidad Complutense de Madrid in 1970.[108] Thus, this volume of de Soto's commentaries has been held in essentially the same collection since the early

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[105] For more information about Bartholomew of Braga, see Raul de Almeida Rolo, "Bartholomew of Braga, Ven." in Marthaler, ed., *New Catholic*, vol. 2, 124; and for Sánchez see Fernanda Alfieri, *Nella Camera delgi Sposi: Tomás Sánchez, il matrimonio, la sessualità (secoli XVI-XVII)* (Bologna: Società Editrice il Mulino, 2010).

[106] A small number of extant copies is not uncommon for such a Renaissance commentary; for example, Peter Memm's 1577 commentary on the *Oath* is only extant in three copies; see Thomas Rütten, "Hippokrateskommentare im 16. Jahrhundert: Peter Memms Eidkommentar als Paradigma eines gegenwartsbezogenen Genres" in *The Frontiers of Ancient Science: Essays in honor of Heinrich von Staden*, ed. by Brooke Holmes and Klaus-Dietrich Fischer (Berlin: de Gruyter, [forthcoming] 2014), 562-563.

[107] A copy of this volume has been digitised by the Universidad Complutense de Madrid and is available through its library catalogue. Written on the title page is: *de la Libreria de la Comp. de Alcala, Ano 1709.* Moreover, it should be noted that this volume is richly annotated, suggesting that this particular volume has been extensively used.

[108] See José Javier Etayo Gordejuela, *et al.*, eds., *Universidad Complutense de Madrid: De la edad media al III milenio* (Madrid: Editorial Complutense, 2002), 84-90.

eighteenth century. The copy held at the Universidad de Salamanca, too, displays a stamp from an older institution, that of the Colegio Mayor de Cuenca, one of the four colleges of old Salamanca that combined to create the university in the early nineteenth century.[109] The volume holds no other information that would indicate a date of purchase. The final copy extant in Spain belongs to the Instituto de Historia de la Medicina y de la Ciencia López Piñero. While this copy contains no information regarding provenance, the information available on this volume demonstrates private ownership in the nineteenth century, belonging to the library of León Sánchez Quintanar (1801-1877), chair holder of surgical pathology at the university.[110] After his death, Sánchez Quintanar donated his library to the Universitat de Valenica.[111]

Four more copies of de Soto's volume of commentaries are currently held in English institutions, more than any other country. The title page of the copy held at the Wellcome Library in London displays an ownership stamp from the Medical Society of London, whose collection was purchased by the Wellcome Library in the 1980s.[112] Unfortunately, no date of purchase or any other proof of ownership is provided, as this copy remains relatively clean. The Bodleian Library's copy of de Soto's work has been in the possession of the library essentially since its establishment (1602), as evidenced by *The First Printed Catalogue of the Bodleian Library, 1605*.[113] It should be recalled that de Soto's work was only published once in 1594, and thus this copy has been in the possession of the Bodlein Library almost directly after it was printed. The third copy, currently held in Exeter Cathedral Library, was donated by a local physician by the name of Thomas Glass (1709-1786), likely around 1795.[114] Glass

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[109] I would like to thank Margarita Becedas González, Director de la Biblioteca General Histórica of the Universidad de Salamanca, for providing this information, as well as providing images of the title page.

[110] I would like to thank José Enrique Ucedo of the Biblioteca Historico-Médica "Vicent Peset Llorca" for providing information about this copy and about León Sánchez Quintanar.

[111] For more information on this collection, see Juan Micó Navarro, "León Sánchez Quintanar (1801-1877): Vida, obra y biblioteca", PhD diss. (Universitat de Valencia, 1986).

[112] I would like to thank Dr. Elma Brenner, a specialist in Medieval and Early Modern Medicine at the Wellcome Library, for providing information about the Wellcome Library's copy of de Soto's commentaries, as well as information about the purchase of the Medical Society of London's library by the Wellcome Library in the 1980s.

[113] I would like to thank Dr. Alan Coates, Assistant Librarian of Rare Books of the Bodleian Library, for providing information about the provenance of this copy. See also, Thomas James, ed., *The First Printed Catalogue of the Bodleian Library: A facsimile* (Oxford: Clarendon Press, 1986), 211. This catalogue makes no mention of any other works by de Soto.

[114] I would like to thank Ellie Jones, Cathedral Archivist, and Stuart Macwilliam, Assistant Librarian, for providing images and information about the provenance of this copy. For more information on Thomas Glass, see Alick Cameron, *Thomas Glass, MD: Physician of Georgian Exeter* (Tiverton: Devon Books, 1996).

was born in the town of Tiverton, leaving in 1728 to study at the University of Leiden.[115] He completed his doctorate in the summer of 1731 and returned to Exeter to start his professional career.[116] Glass is most famous for his *Commentarii duodecim de febribus ad Hippocratis disciplinam accommodati* (popularly known under the vernacular title: *The Twelve Commentaries on Fevers*), a work that shares the same focus on Hippocratic exegesis demonstrated by de Soto.[117] It may be suggested that Glass found relevance in de Soto's commentaries, as both the Hippocratic author and the commentator devoted much discussion to the topic of fevers.[118] The final copy of de Soto's work held in England is found at the British Library. This copy was acquired by the library as part of the Sir Hans Sloane collection in 1753.[119] The accession number assigned to the volume by Sloane allows for an estimated acquisition date of between 1729-1730.[120] Prior to the work's acquisition by Sloane, it was in the possession of a Carolus Brasdefer, as evidenced by a hand-written note on the title page.[121] Very limited information is available about Brasdefer; he was a native of the northern French town, Évreux, he attended the University of Montpellier and subsequently graduated in 1591 under the supervision of Joannes Hucherius.[122] It should be noted that it is likely that this specific volume of de Soto's commentary was in the possession of another between Brasdefer and the work's acquisition by Sloane.

Two further copies of de Soto's collection of commentaries are extant outside of the United Kingdom and Spain. The first is held in the Bibliothèque Nationale de France and, according to a stamp found on the title page of the work, entered the collection between 1600 and 1724. Unfortunately, there are no records that can indicate a more precise date or any

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[115] Cameron, *Glass*, 11-12. Glass left his extensive library in the care of a colleague, Bartholomew Parr, who supervised its donation to the cathedral library.
[116] Cameron, *Glass*, 11.
[117] Cameron, *Glass*, 12.
[118] Fevers are discussed frequently throughout de Soto's commentary, but special attention is given to them in comments 94-101; see de Soto, 63-68.
[119] I would like to thank Jeffrey Barrow at the British Library's Corporate Archive for providing information about the provenance of this copy of de Soto's work and its place in the Sir Hans Sloane Collection. For more information about Sir Hans Sloane, see Amy Blakeway, "The Library Catalogues of Sir Hans Sloane: Their authors, organization and function", *The Electronic British Library Journal* 35 (2011): 1-49; Michael Hunter, *et al*., eds., *From Books to Bezoars: Sir Hans Sloane and his collections* (London: The British Library, 2012) and Jack A. Clarke, "Sir Hans Sloane and Abbé Jean Paul Bignon: Notes on collection building in the eighteenth century", *The Library Quarterly* 50 (1980): 475-482.
[120] See de Soto's entry in the British Library's database for Sloane's Printed Books: http://www.bl.uk/catalogues/sloane/Home.aspx.
[121] The note states: *ex libris Caroli Brasdefer*[*i*].
[122] Marcel Gouron, *Matricule de l'Université de médecine de Montpellier, 1503-1599* (Geneva: Librairie E. Droz, 1957), 193, 230. For more information on Joannes Hucherius, see *ibid.*, p. 152.

information about the provenance of the book. The second copy, held by the Bavarian State Library, contains two ownership stamps on the title page. The oldest belongs to a Thomas Thiermair (d. 1661), physician at the court of Duke Wilhelm V from 1611 and Maximilian I (Elector of Bavaria) from 1633.[123] Thiermair was a fairly prolific medical writer of the seventeenth century, writing on topics such as venesection and paralysis.[124] The second, more recent proprietor's note is that of Franz Xaver von Hieber and is dated with the year 1773. Far less information is available about von Hieber, however, an entry about the coat of arms included in his book plate can be found in Karl Heinrich von Lang's *Adelsbuch des Königreichs Baiern*.[125]

While it is unfortunate that so few copies of de Soto's work are extant for study, some interesting information may be gleaned from the examination of these works, particularly about the spread of this work throughout Europe. Although Spanish academia in the sixteenth century is often portrayed as insular, works written and published on the Peninsula were making their way throughout Europe. This is particularly exemplified by the copy of the work that has been held by the Bodleian Library since the turn of the seventeenth century. Moreover, the wide disbursement of the texts may suggest that de Soto was, indeed, filling a niche in commenting upon Hippocratic works, such as *Places in Man*, that were subject of less frequent commentary and also attests to a continued interest in humouralism throughout the seventeenth and eighteenth centuries.

Places in Man, considered by Galen and others to be a genuine work of the historical Hippocrates, contains information on maintaining health and curing disease, in addition to extensive anatomical description.[126] Craik notes: "The treatise has everything: 'factual' information, scientific reasoning, clinical practice, ideological statements. It represents in

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[123] Erich Rudolf Stockbauer, "Ärztebiographien Thomas Thiermair - Franz Ignaz Thiermair aus dem *Elenchus quorundam Bavariae medicorum* des Münchener Hofbibliothekars Andreas Felix von Oefele", PhD diss. (University of Erlangen-Nuremberg, 1968), 11-13. See also Anton Maria Kobolt, *Baierisches Gelehrten-Lexikon* (Landshut: Hagen, 1795), 690-691 and August Hirsch, *et al.*, eds., *Biographisches Lexikon der hervorragenden Ärzte aller Zeiten und Völker*, vol. 5 (Berlin and Wien: Urban and Schwarzenberg, 1934), 554. I would like to thank Dr Nadine Metzger for providing copies of this work. It should also be noted that the secondary literature lists his name as "Thiermair", whilst the book plate in de Soto's text reads: *Thomas Thirmair/Philos*[ophiae] *& Medic*[inae]/*Doctor*.

[124] See Kobolt, 691.

[125] Karl Heinrich von Lang, *Adelsbuch des Königreichs Baiern* (Munich: Gassert, 1815), 381; see also Johann Siebmacher, *J. Siebmacher's Großes Wappenbuch*, vol. 2 (Nuremberg: Bauer and Raspe, 1854), 85.

[126] Hp., *Loc. Hom.*, 5. Santander Rodrígues, *Hipócrates*, 126. Craik notes on the first page of her critical edition of the work that *Places in Man* was thought by scholars in both late antiquity and the Renaissance to be 'genuine'.

miniature the entire HC [Hippocratic Corpus]."[127] In turn, the diversity of the text allowed de Soto to tie his understanding of humouralism to many different facets of the medical art. Santander Rodrígues elaborates on the objective of de Soto's work, suggesting that it was written to indicate how disease are caused by fluxes of humours in the various parts of the body.[128] López Piñero examines this further, writing that de Soto uses his commentary on *Places in Man* in order to discuss the relationship between humoural flux and the organs, or places where the flux happens; he also notes that de Soto focuses his comments on the inner physiology of the body, rather than employing clinical case studies.[129] Again, there is emphasis on understanding how flux can cause illness, which will be explored in greater detail throughout the case studies. As we can see from these statements, one of de Soto's primary foci when commenting upon *Places in Man* was to elaborate upon the structure of the body and how it was affected within the physiological theory of humoural flux. In doing so, de Soto relies on both what is written within the treatise and employs other works from the Hippocratic tradition of medicine. Moreover, the variety of material provided by the Hippocratic author lent de Soto an excellent opportunity to comment on a range of topics; thus being able to advance his humoural understanding in nearly every aspect of medicine.

The origins and dating of *Places in Man* is a topic of discussion and dispute. The most recent attempt of dating was made in 2010 by Ignacio Rodríguez Alfageme. By employing a thorough analysis of the author's choice of syntax in comparison with other Hippocratic treatises, as well as non-medical works such as those of Herodotus and Thucydides, he concluded the provenance of *Places in Man* to be from between the end of the 5th century and the beginning of the 4th BCE.[130] Craik suggests an earlier date than the estimation above, proposing "the first half of the fifth century" BCE, based on the text's more archaic syntax, and continuing to offer that the work was written "perhaps in the West Greek area by a widely travelled and well informed medical practitioner, an older contemporary of Hippocrates of Kos."[131] She continues to note the consistency of theory and of wording and

[127] Hp., *Loc. Hom.*, 13.
[128] Santander Rodrígues, *Hipócrates*, 126.
[129] López Piñero, *Diccionario*, 388: *Al glosar el escrito hipocrático* De locis in homine, *se detiene en las especulaciones acerca de las simpatías orgánicas y la localización de las fluxiones humorales, sin interesarse apenas por las descripciones morfológicas o las observaciones de casos clínicos.*
[130] Ignacio Rodríguez Alfageme, "*De locis in homine*: Intento de datación", *Estudios Griegos e Indoeuropeos* 20 (2010): 43; in this article, the author explores varying anomalies within the syntax of *Places in Man* - the proposed date is by no means firm, but rather an educated hypothesis based upon statistical analysis.
[131] Hp., *Loc. Hom.*, 29.

to emphasise the primitive qualities of the work.[132] Craik sums up her analysis with the following description of the treatise: "Rugged yet magisterial, this may be the earliest work in the HC, and the earliest surviving work of Greek prose."[133] Still, no precise date or author can currently be attributed to the text, but it should suffice to note that de Soto considered this text to be authored by Hippocrates of Kos. De Soto himself notes a certain *gravitas* and *obscuritas* of this Hippocratic work, writing that these are characteristic of the genuine Hippocratic works.[134] However, de Soto is not basing this assertion on his own sentiments alone. Many other ancient and contemporary authors, including Galen himself, recommended *Places in Man* as an authentic Hippocratic work.[135] As will be seen in the discussion on the preface, de Soto employed a variety of ancient sources to verify this assertion.

In her critical edition of the text, Craik provides an excellent account of the reception of *Places in Man.* Beginning with its reception in antiquity, Craik notes the glosses of Erotian, which include citations of Bakcheios, writing about this text in Alexandria in the 3rd century BCE.[136] From there, Craik notes citations of the text in the works of Celsus, Caelius Aurelianus, Rufus of Ephesus and Galen.[137] She then discusses the printed reception of this Hippocratic text, listing the earliest editions of the work. The first, printed in 1525, was a Latin translation by Marco Fabio Calvo, followed shortly thereafter by Andreas Asulanus'

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[132] Hp., *Loc. Hom.*, 13, 28. Furthermore, Craik notes that the later dating of *Places in Man* is a fairly modern notion and argues that the occasions of newer syntax woven through the work are more likely a product of addition and editing over time, rather than a later work employing archaic wording.

[133] Hp., *Loc. Hom.*, 33.

[134] De Soto, V: *Inter proprios ergo ac genuinos libros hunc esse reponendum, vel ex hoc manifesto constare puto, quod verborum series, sermonis grauitas, sententiarum obscuritas Hippocratem authorem redolent.* See also the examination of de Soto's preface to this commentary in chapter 2.

[135] Santander Rodrígues, *Hipócrates*, 126.

[136] Hp., *Loc. Hom.*, 29. For more information on Bakcheios (Bacchius), see Heinrich von Staden, "Lexicography in the Third Century B. C.: Bacchius of Tanagra, Erotian, and Hippocrates" in López Férez, ed., *Tratados Hipocráticos*, 549-569; Heinrich von Staden, *Herophilus: The art of medicine in early Alexandria* (Cambridge: Cambridge University Press, 1989), 484-500, especially p. 487. See also Erotian, *Erotiani vocum Hippocraticarum collectio: Cum fragmentis*, ed. and trans. by Ernst Nachmanson (Uppsala: Applebergs, 1918), 19, 50, 60 (α.58, κ.28, and μ.9) for references to *Places in Man.*

[137] Hp., *Loc. Hom.*, 30. Craik notes affinities between *Places in Man* chapter 41 and Celsus' *Prooemium* (lines 66-68). See Celsus, *On Medicine*, vol. 1, trans. by Walter George Spencer, LCL 292 (London: William Heinemann, 1935-1938), 37. See Caelius Aurelianus, *On Acute Diseases and On Chronic Diseases*, 2nd ed., ed. and trans. by Israel Edward Drabkin (Chicago: The University of Chicago Press, 1950), 921 for a reference to chapter 22 of *Places in Man*: "Among the famous physicians, Hippocrates in his book *On Places* employs cupping without scarification..."; Rufus of Ephesus, *Opera*, ed. and trans. by Charles Daremberg and Charles Émile Ruelle (Amsterdam: Adolf M. Hakkert, 1963), 233.

Aldine edition of the Hippocratic Corpus in 1526.[138] The next edition of *Places in Man* was included in Cornarius' *Opera Omnia* published in 1538, followed by Mercuriale's edition in 1588, Foës' in 1595 and van der Linden's in 1665.[139] Additionally, Craik notes the first commentary to be printed on this text, that of Theodor Zwinger, published in 1575 in his *Hippocratis Coi…viginti duo commentarii tabulis illustrata*.[140] While Zwinger does, indeed, comment on many passages of this Hippocratic text, he does not comment on the work in its entirety. From there, Craik mentions the editions and commentaries of Luiz de Lemos (1588), Francisco Perla (1638) and Thomas Burnet (1685); however, there is no mention of de Soto and his 1594 work.[141]

Places in Man itself does not seem to be a favourite for commentators; still, many of de Soto's contemporaries were keen to explore the works of Hippocrates. Some early modern Spanish Hippocratic commentators include Francisco Valles, Jerónimo Jiménez (*c.* 1589), Juan Bravo de Piedrahita (d. 1610), Jaime Segarra (d. 1598), Pedro Jaime Esteve (d. 1556), and Cristóbal de Vega (1510-1573) and while these men commented on a variety of Hippocratic treatises, none chose to comment on *Places in Man*.[142] This lack of exegesis on

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[138] Hp., *Loc. Hom.*, 31. See Marco Fabio Calvo, *Hippocratis Coi octoginta volumina quibus maxima ex parte latina lingua caruit* (Rome: Francisco Giulio Calvo, 1525), 487-503; and Andreas Asulanus, *Omnia opera Hippocratis* (Venice: Aldus Manutius, 1526), 27^{v}-32.

[139] Hp., *Loc. Hom.*, 31. Janus Cornarius, *Hippocratis medici...libri omnes*, (Basel: Hieronymus Froben, 1538), 71-83; Girolamo Mercuriale, *Hippocratis opera quae exstant...* (Venice: Giunti, 1588), 1-23; Anuce Foës, *Magni Hippocratis...opera omnia* (Frankfurt: The Wechel Heirs, 1595), section 4, 78-96; Johannes van der Linden, *Magni Hippocratis Coi opera omnia...* (Leiden: Daniel, Abraham and Adrian à Gaasbeeck, 1665), 363-399.

[140] Hp., *Loc. Hom.*, 31. Theodor Zwinger, *Hippocratis Coi...viginti duo commentarii tabulis illustrata* (Basel: Johannes Oporinus, 1579), 343-364.

[141] Hp., *Loc. Hom.*, 31. Luiz de Lemos, *Iudicium operum magni Hippocratis* (Salamanca: Ildefonso de Terranova, 1588), 23-23^{v}; Perla, (1638); Thomas Burnet, *Hippocrates Contractus* (Edinburgh: John Reid and George Mosman, 1685), 51.

[142] López Piñero, *Medicina*, 158-160. For more information on Valles, see José María López Piñero and Francisco Calero, *Los Temas Polemicos de la Medicina Renacentista: Las controversias (1556), de Francisco Valles* (Madrid: CSIC, 1988); for more information on Jiménez, see his commentary *Hippocratis de natura humana liber Hieronymi Ximenez philosophiae ac medicinae doctoris ejusdem in academia caesaraugustana publici interpretis commentariis illustratum, nunc primum in lucem editus* (Zaragosa: Laurenzo de Robles, 1589); Chinchilla, vol. 4, 139; and López Piñero, *Bibliografía*, vol. 1, 97; for more information on Bravo de Piedrahita, see his commentary *Ioannis Bravi Petrafitani doctoris medici, et scholae medicae Salmanticensis publici professoris, in Hippocratis Prognostica commentaria...*(Salamanca: Matías Gast, 1579); Chinchilla, vol. 2, 5-12; López Piñero, *Bibliografía*, vol. 1, 43; for more information on Jaime Segarra, see his commentary *Commentarii physiologici* (Valencia: Pedro Patricio Mey, 1596); Chinchilla, vol. 1, 472-476; López Piñero, *Bibliografía*, vol. 1, 185; for more information on Esteve, see José María López Piñero, *La Escuela Botánica Valenciana del Renacimiento: Pedro Jaime Esteve, Juan Plaza y Jaime Honorato Pomar* (Valenica: Consell Valencia de Cultura, 2010) and María Teresa Santamaría Hernández, "Nicandro Latino en el Humanismo Médico Valenciano:

Places in Man raises the question of why de Soto chose this text for comment? Some answers to this problem have already been suggested and include a desire to further his career, and, more importantly, to comment upon a text with varied subject matter, allowing him to further the reader's understanding of humouralism from many different angles. In the former, de Soto was certainly successful, gaining employment with the Spanish crown and advancing through the ranks of the physicians. Additionally, he may have been attempting to carve out his own niche in the academic sphere by employing a little used text.

1.7 Examination of Sources Employed by de Soto

In his commentary on *Places in Man*, de Soto employs a wide variety of texts in order to demonstrate his erudition and add authority to his claims. A cursory glance at the explicit references (there are, indeed, many implicit references, but these are more difficult to quantify with complete certainty) made by de Soto throughout his commentary reveals a definite preference for works of the Hippocratic Corpus, as he makes 501 references to Hippocrates and various works. In contrast, whilst the works of the Galenic Corpus are still highly influential throughout the commentary, de Soto only makes 253 explicit references to Galen, half as many as are made to Hippocrates. Still, references to Galen occur far more frequently than to other ancient works; for example, de Soto explicitly references Eustachi's edition of Erotian 32 times, Avicenna's *Canon* on 19 and Celsus' *De medicina* on 12 occasions.[143] From these numbers can be seen how staggering the influence of the Hippocratic and Galenic Corpora were on the medical conceptions held by de Soto.

Additionally de Soto makes a few references to sixteenth century physicians and their works; this includes authors such as Francisco Valles, Janus Cornarius, Luis Mercado, Niccolò Leoniceno, Agostino Gadaldini, Girolamo Mercuriale, and Jean Fernel, amongst many others. The works of contemporaries are far less influential on de Soto and are often used to illustrate points of contention, such as his distaste for the translations of Leoniceno

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Pedro Jaime Esteve, traductor de los 'Theriaca'" in *Humanismo y Pervivencia del Mundo Clásico: Homenaje al Profesor Antonio Fontán*, ed. by Luis Charlo Brea, *et al.* (Salamanca: Imprenta Kadmos, 2002), 2579-2594; for more information on de Vega, see Justo Hernández, "Cristóbal de Vega (1510-1573), Médico de Cámara del Príncipe Don Carlos (1545-1568)", *Dynamis* 21 (2001): 295-322.

[143] See Bartolomeo Eustachi, *Erotiani...vocum, quae apud Hippocratem sunt, collectio* (Venice: Luca-Antonio Giunta, 1556). For more information on Eustachi, see Vivian Nutton, "Eustachi, Bartolomeo" in Coulston Gillespie, ed., *Dictionary*, vol. 4, 486-488. In an interesting connection, the stamps of Thomas Thiermair and Franz Xaver von Hieber, who previously owned the copy of de Soto's commentaries digitised by the Bavarian State Library, are also to be found in the copy of Eustachi's text that I have consulted for this project. This could hint at the movement of a collection from Theirmair to von Hieber.

and Gadaldini or his disagreement with Mercado.[144] Still, others are praised, as we have seen in the case of Cornarius or in his mentions of Valles.[145] Overall, the majority of de Soto's citations of early modern medical sources are used in order to demonstrate familiarity with contemporary sources and discourse rather than providing authority in the way he employs the works of Hippocrates and Galen.

A final type of citation made by de Soto is that of non-medical sources, particularly literary sources from antiquity. These include references to Homer, Virgil, Horace and Seneca, amongst others. De Soto often employs ancient literary sources as a means to further his reputation as a humanist physician, highly educated in all aspects of antiquity. Some of these citations will be discussed in more depth throughout the case studies, but it should suffice to say that these references are a means for de Soto to show the reader his extensive erudition.[146] Moreover, de Soto was able to add further authority to his argument by utilising ancient authors, as well as demonstrating how medical knowledge may be used to inform the other higher faculties.

To gain a clearer understanding of the sources that de Soto was employing, it will prove beneficial to examine some of these citations in more depth, particularly the editions of translations utilised throughout the commentary. It would not be practical to survey every text cited by de Soto, for two reasons: the first is that de Soto employed around 50 works from the Hippocratic Corpus and 40 from the Galenic Corpus alone.[147] Moreover, de Soto

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[144] See fn. 61.

[145] For Cornarius, see de Soto: IV^{v}, 16^{v}, 17^{v}, 44, 59^{v}, 71, 76^{v}; for Valles, see de Soto: 7, 63^{v}, 70.

[146] See especially: ch. 2, "2.1 Dedication" and case study 4, "**3.4.3 Literary and Religious References**".

[147] The Hippocratic works include: *On Joints; On the Nature of Man; On the Nature of the Child; Nutriment; On the Nature of the Bones; Aphorisms; On Fleshes; On Ulcers; Diet I & II; Epidemics I, II, III, V, VI; On Wounds of the Head; Letters; On Diseases of Women; On Winds; Airs, Waters, Places; Generation; Prognostics; On Diseases I, II, III, IV; On Glands; Laws; On Vision; On Internal Affections; On the Uses of Liquids; Coan Praenotions; Ancient Medicine; Regimen in Acute Diseases; On the Heart; On Purging Medicines; On Fistulas; Regimen in Health; On the Physician; On the Art of Medicine; Precepts; On the Diseases of Girls;* from the Galenic Corpus: *On his own Opinions; On Uneven Distemper; On Hippocrates' 'Aphorisms'; On Affected Parts; On the Therapeutic Method; On the Natural Faculties; Difficulties in Breathing; On the Utility of the Parts; On the Organ of Smell; On Hippocrates' 'Prognostic'; On the Pulse for Beginners; Therapeutics to Glaucon; On Hippocrates' 'Surgery'; On the Anatomy of Veins and Arteries; On the Powers [and Mixtures] of Simple Drugs; History of Philosophy; On Hippocrates' 'Epidemics'; On Mixtures; On Hippocrates' 'On Joints'; On the Preservation of Health; Causes of Symptoms; On the Composition of Drugs according to Kind; On Hippocrates' 'Regimen in Acute Diseases'; Differences of Diseases; Causes of Diseases; On Treatment by Bloodletting; On the Composition of Drugs according to Places; On the Thinning Diet; Causes of the Pulses; Art of Medicine; Prognosis by Pulses; Outline of Empiricism; On the Use of Breathing;*

does not usually quote these works directly. More often than not, he adds a reference as a 'see also', making a claim then noting a work for corroboration or paraphrasing it rather than using an exact quotation. The occasions that he does directly quote are easy to recognise, as he frequently prefaces the quote by phrases such as "as Hippocrates writes, in this way" followed by a colon. Given these constraints, I have chosen to examine further the Hippocratic and Galenic works frequently cited by de Soto, which also provide a number of direct quotations for comparison.

In his preface, de Soto declares his preference for Janus Cornarius' translation of *Places in Man*, stating that is stays truest to the words of Hippocrates.[148] Because of this claim, it seems reasonable to assume that de Soto employed Cornarius' translations in all of his Hippocratic, and possibly even Galenic, citations; however, this is not the case, as a further examination of direct quotations in de Soto's commentary proves otherwise. For example, in quoting the Hippocratic text *Prognostics*, rather than employing the work of Cornarius, de Soto has chosen Cristóbal de Vega's translation, which includes translations of both the Hippocratic text and Galen's commentary upon it, as well as de Vega's own commentary.[149] On numerous occasions complete or nearly complete quotes from de Vega's translation are found, as in comment 41, wherein de Soto quotes *Prognostics* 2.1: *Incipiunt autem plurimae quidem ex partibus inanibus & lumbis, quaedam autem a iecore...*, which is directly taken from de Vega's translation.[150] This is seen again in comment 63, in which de Soto quotes *Prognostics* 2.9: *Si digiti ac pedes omnino nigrescunt, minus perniciosi sunt,*

Medical Definitions; On Theriac to Piso; On Bloodletting against Erasistratus; Glossary of Hippocratic Terms; On Plethora; On the Diagnosis and Cure of the Errors of the Soul; Differences of Pulses; On the Properties of Foodstuffs.

[148] See ch. 2, fn. 117.

[149] *Prognostics* is the second most frequently cited Hippocratic work in de Soto's commentary on *Places in Man*, being explicitly referenced on 19 occasions. For the purposes of this thesis, I have employed a 1576 copy of de Vega's *Opera*, which is readily available through many sources. It is plausible, however, that de Soto used de Vega's 1552 edition, containing only his work on the *Prognostics* and published in Salamanca, as he neglected to use de Vega's translations in the case of the *Aphorisms*. See Cristóbal de Vega, *Opera, nempe liber de arte medendi... commentaria in librum Galeni de Differntiis febrium... commentarius de Vrinis... commentaria in lib. Aphorismorum Hippocratis... Prognosticorum Hippocratis e Graeco in Latinum versio, cum expositionibus ac annotationibus in Galeni commentaria.* (Lyon: Guglielmo Rovillio, 1576) and Cristóbal de Vega, *Liber Prognosticorum Hippocratis Coi, Medicorum omnium facile principis, nupere Graeco in Latinum sermonem translatus, cum praeclaris Expositionibus: additis Annotationibus in Galeni Commentarios, quae singulas partes, quae in ipsis difficiles habentur, explicant* (Salamanca: Andreas a Portonariis, 1552). See also Hippocrates, *Die hippokratische Schrift* Prognostikon. *Überlieferung und Text*, ed. and trans. by Bengt Alexanderson (Göteborg: Elander, 1973).

[150] De Soto, 28^{v}; de Vega, *Opera*, 1005.

quam si liuescant...[151] Moreover, in comment 61, in which de Soto also frequently cites *Prognostics*, he explicitly mentions de Vega and his correct emendation of Celsus, 2.7.[152] Choosing to employ de Vega's text has two distinct advantages for de Soto: not only does de Vega provide a Latin translation of the Hippocratic text, he also provides a translation of Galen's commentary and his own exegesis of both works, thus, combining various sources of information into one well-organised volume. Moreover, de Vega was employed as a *médico de cámara* at the court of Philip II until his death in 1573, at one time working as the primary physician to the latter's son, Don Carlos (1545-1568).[153] This means that for two years, de Soto and de Vega were employed together by Philip II, which likely influenced de Soto's choice of de Vega's book for the *Prognostics*.

Again, de Soto neglects a translation by Cornarius in his use of the Hippocratic text *On Head Wounds*. This is clearly exemplified in a quote that occurs in comment 109; de Soto writes: *Vulnera capitis nullo humore humectare oportet, sed neque vino...*[154] Unfortunately, no match can be found for de Soto's translation of this passage. For example, in Cornarius' translation, the Greek is rendered into *Vlcus in capite nullo humore humectare convenit, ac ne vino quidem*.[155] Further comparison with the translations of Calvo and Cardano reveal more discrepancies with de Soto's quote from *On Head Wounds.*[156] Most notably is de Soto's choice to discuss "wounds" of the head, most similar to the translation of Calvo, rather than ulcers or sores, as is seen in Cardano and Cornarius. A final opportunity for comparison occurs in Vidus Vidius' translation and commentary of this Hippocratic text, in which he writes: *Vlcus in capite neque vino, neque alia re madefacere oportet, aut certe quam minimum.*[157] Again a discussion is seen of sores or ulcers rather than wounds, amongst other differences. More information may be gleaned about the work of Vidius in comment 50, wherein de Soto explicitly references Vidius' commentary on *On Head Wounds*, amongst

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[151] De Soto, 50^{v}; de Vega, *Opera*, 1021.
[152] De Soto, 48^{v}: *Quo in loco Christophorus a Vega Cornelium Celsum emendat, qui lib. 2. c. 7. inter signa suppurationis pallorem in summis digitis recenset, legendumque esse existimat. Et summi digiti calent, non summi digiti pallent, quae lectio et si consona sit Hippocr. Loco citato, tamen ego (vt Celsi lectio maneat) potius dicerem, pallorem esse in summis digitis, quando affectio iam inueterauit, & facultatis languidissima est, quae non valet ad extrema vsque peruadere...*
[153] For more information on Cristóbal de Vega, see fn. 142.
[154] De Soto, 73.
[155] Janus Cornarius, *Hippocratis Coi, liber aphorismorum*, in *Opera Omnia* (Basel: Hieronymus Froben, 1546), 447.
[156] Calvo, 667: *Capitis quidem vulnus nihil madefacito, ne vino quidem...*; Cardano, 251: *Vlcus in capite nullo humore humectare convenit, ac ne vino quidem...*
[157] Vidus Vidius, *Chirvrgia e Graeco in Latinum conuersa Vido Vidio Florentino interprete, cum nonnullis eiusdem Vidij commentarijs* (Paris: Petrus Galterius, 1544), 84.

many paraphrased references.[158] Still, even with this explicit reference to Vidius' work, de Soto does not seem to be employing his translations.

The results of this examination grow more complicated when considering de Soto's use of Galenic editions. Galen's *Method of Healing* is the Galenic text most frequently cited by de Soto, mentioned on 29 different occasions. A comparison between three direct quotations in de Soto's commentary and Thomas Linacre's translation, later published in Cornarius' Basel edition, reveals many similarities.[159] The first occurs in comment 36, wherein de Soto references *MM* 13.3: *...partes quae mittunt, alias vt copia superuacuum, vel aut qualitate molestum, alias vtroque nomine succum propellunt.*[160] An almost exact quotation is seen in Linacre's translation; the only difference occurring in the second *vt,* which has been changed to *aut* in de Soto's quotation and is likely a typographical error.[161] A second example occurs in de Soto's account of *MM* 11.9 in comment 97. In this case the Latin in de Soto's commentary and Linacre's translation are identical, with only a few differences in comma placement.[162] A final example stems from a quotation from *MM* 13.17, which discusses purging the liver through the kidneys; de Soto writes: *...gibba iocinoris pars per rhenes expurgari oportet*.[163] The original Latin from Linacre's translation bears some difference; however, it seems de Soto may have opted to change the wording to better fit the quotation into his sentence structure.[164] From these comparisons, it can be concluded that de Soto employed Linacre's translation for his references to Galen's *Method of Healing* with almost certainty.

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[158] De Soto, 35(2)^{v} [*recte*: 36^{v}]: *...quoniam Hippocrates inquit libr. de vulnerib. capitis. totam cutem capitis tuto posse secari: id quod considerans Vidus Vidius eo loco dixit, imposita esse Hippocrati verba illa, quae initio libri de vulneribus capitis scribuntur, scilicet, Nullum capitis vulnus contemni debet, cum ipse dicat.* For biographical information on Vidus Vidius, see Charles E. Kellett, ed., *Mannerism and Medical Illustration (Lectures on the iconography of the* Chirurgia *of Vidus Vidius and the* De dissectione *of Estienne and Riviere, given at the University of California, Los Angeles, October 1961* (Newcastle upon Tyne: King's College Printing Section, 1961); Wear, ed., *Medical Renaissance*, 77, *passim.*

[159] For comparison I have employed Thomas Linacre, *Galeni De medendi methodo libri xiii* in Galen, *Omnia Opera* (1565), vol. 6, 5-365; for more information on Thomas Linacre, see Richard Durling, "Linacre and Medical Humanism" in *Essays on the Life and Work of Thomas Linacre, c. 1460-1524*, ed. by Margaret Pelling and Charles Webster Francis Madison (Oxford: Clarendon Press, 1977), 76-106.

[160] De Soto, 22^{v}.

[161] Linacre, 314.

[162] De Soto, 64^{v}; Linacre, 273: *Ostensum praeterea est, ipsius febris, prout febris est, aquam frigidam semper esse remedium.*

[163] De Soto, 60.

[164] Linacre, 329: *...gibba vero iocinoris et renes per urinas purgantur*; additionally, de Soto always opts to change translations from *renes* to *rhenes*.

However, Linacre's translations could not be employed for all of de Soto's Galenic quotations. *On the Powers of Simple Remedies* is the third most frequently cited of Galen's works throughout de Soto's commentary with 12 explicit mentions. Unfortunately, only two of these are direct quotations suitable for comparison, as more often than not the references are paraphrased. The first of these quotations occurs in comment 95, in which de Soto is discussing the treatment of fever; he writes: *Quippe duplex in lassitudinibus affectio nascitur*...[165] An exact match occurs in Theodoricus Gerardus' edition.[166] Further to this is a brief quotation made by de Soto in comment 142, in which he writes: *Medicamenta ea dicuntur ab Hippocrate in praesenti oratione, quae praesentem statum corporis immutant, & vt Galen. dixit I. de simp. med. fac. cap. I. quae nostram naturam alterant.*[167] This is not a direct quote of Gerardus, who translated the passage as ...*quod naturam nostram alterare potest*; however, de Soto likely altered the translation to better fit the structure of his commentary with the repetition of the plural verb.[168] What is most interesting about de Soto's choice in these commentaries is the fact that both are presented in Cornarius' Basel edition; the most likely scenario is that de Soto was indeed using this edition of Galenic texts. This is further supported by de Soto's reverence for Cornarius; although these may not be Cornarius' own translations, as the editor of the volume he would have chosen those he considered to be the best available; thus, de Soto, too, revered Cornarius for his ability as an editor.

1.8 Conclusion

This introductory chapter has explored the environmental and biographical factors that culminated in this commentary. In order for de Soto's commentary to be properly understood, many angles needed to be considered – particularly his educational background and employment, as well as wider historical trends, such as humanism. As was seen from the discussion of his education at the University of Valladolid, de Soto was trained in an institution that fostered a conventional understanding of Galenism. This, in turn, impacted how our commentator interpreted and expounded upon ancient texts. Moreover, during his time at the University of Valladolid, de Soto developed an interest in Hippocratic commentary, completing a thesis exploring *Aphorism* 1.20. Clearly, this interest continued throughout his career and had a profound impact on his medical writings. Later in his career, de Soto gained employment at the court of Philip II, eventually being appointed a *médico de la casa de Borgoña.* This position at the court provided de Soto with greater access to

[165] De Soto, 63^{v}.
[166] Theodoricus Gerardus, *De simplicium medicamentorum facultatibus libri undecim* in Galen, *Omnia Opera* (1549), vol. 5, 5-320.
[167] De Soto, 87^{v}.
[168] Gerardus, 6.

materials, to colleagues at the apex of their profession and to people in positions of power. This last advantage will be discussed more in the following chapter in the examination of de Soto's dedication and his relationship to Archduke Albert VII. In addition to these biographical factors, de Soto's interpretation of *Places in Man* was heavily influenced by humanism and its resultant influx of recently discovered, edited and translated ancient texts. De Soto capitalised on this trend and used his commentary as an opportunity to imitate, and eventually emulate, Hippocrates the physician and Galen the commentator. Our commentator intended to further the medical art by elucidating less popular and more difficult texts. These themes will be continually seen throughout this examination of de Soto's commentary.

In addition to introducing de Soto and his commentary, necessary information has been provided about the treatise *Places in Man*. As was discussed, this text represents the "Hippocratic Corpus in miniature" due to the wide range of topics addressed within it.[169] Thus, de Soto is able to assert his understanding of humouralism from a variety of fronts. Moreover, within this chapter, possible source texts for de Soto's commentary were examined in order to extrapolate a clearer picture of the works that de Soto employed. As was seen, despite his admiration for the translations of Cornarius, de Soto used a wide variety of authors as sources of both translations and information in his comments. Finally, this chapter investigated the location and provenance of extant copies of de Soto's volume. Although the sample was small, de Soto's work has been owned by individuals and insitutions ranging from a scarcely known French physician by the name of Brasdefer to the Bodleian Library of Oxford University. Perhaps this can corroborate Morejón's assertation that de Soto's volume is, indeed, "worthy of being consulted" both in the early modern era and the present.[170]

[169] See fn. 127.
[170] See fn. 88.

Chapter 2. The Paratext of de Soto's Commentary

In the introduction to his seminal monograph on paratexts, Gerard Genette compares a work's opening paratexts, such as the title page, dedication or preface, to a door or a threshold.[1] These paratexts are what, most likely, a reader will first encounter before entering into the body of the work; easing the reader in his movement from the world around him into the mind of the author. Genette explains further that "the paratext in all its forms is a discourse that is fundamentally heteronomous, auxiliary, and dedicated to the service of something other than itself that constitutes its raison d'être. This something is the text."[2] This section will focus on the three authorial paratexts that precede de Soto's commentary: his dedication, letter to the reader and preface. These texts, of course, are a conventional part of any commentary; however, they also offer de Soto the opportunity to communicate with his reader information that he may deem necessary to understand his work. In the course of these prefatorial texts, de Soto links himself to authority, allies himself with the contested Galenism, gives a glimpse of his intended reader and explains his rationale in choosing these specific Hippocratic texts.

2.1 Dedication

The authorial paratexts of de Soto's work begin with his dedication, before continuing to the letter to the reader and preface.[3] Genette notes that the act of dedicating is of itself a classical tradition, offering early modern humanists yet another opportunity to emulate the ancient authors they revered.[4] Moreover, the dedicatory letter allowed the author to link himself with a figure of power or authority and possibly acquire a patron.[5] The dedication itself provided an author a powerful rhetorical tool with which he could demonstrate his erudition, advance his career and build networks. However, this tool was not without restraints, as sixteenth century dedications were subject to certain formulae that were expected by both the dedicatee and the reader. Stefania Fortuna has noted some characteristics common to dedicatory letters of the first humanist medical translations, and de Soto's letter to Albert VII illustrates that the same characteristics also apply to commentaries

[1] Gérard Genette, *Paratexts: Thresholds of Interpretation* (Cambridge: Cambridge University Press, 1997), 2.
[2] Genette, 12.
[3] For ease of referencing, the unnumbered paratexts of de Soto's commentary have been assigned Roman folio numbers. The dedication takes place on ff. III-IV, the letter to the reader on f. IV^{v}, and the preface beginning on f. V and finishing on f. V^{v}.
[4] Genette, 117.
[5] Genette, 135 notes "the dedication... is the proclamation (sincere or not) of a relationship (of one kind or another) between the author and some person, group, or entity."

authored towards the end of the sixteenth century. These characteristics include praise for the dedicatee, humility of the author, and mentions of other historical figures.[6] Moreover, she notes that prefatorial paratexts often include the "circumstances in which [the] work was undertaken", the environment of the author, any assistance from friends or colleagues, and information on the sources employed by the author.[7] Within de Soto's dedication, many of these elements will be seen; de Soto praises his dedicatee, requests his patronage and exhibits knowledge of the classical tradition informing contemporary dedications.

De Soto dedicates the entirety of the volume to the cardinal and Archduke Albert VII of Austria, listing himself as a chamber physician to Philip II and Empress Maria. The Archduke in question, Albert VII (1559-1621), was the son of the same Empress Maria (1528-1603), wife of the Holy Roman Emperor Maximilian II (1527-1576) and sister to Philip II (1527-1598).[8] Albert is most famous for his marriage to Isabella, his cousin and daughter of Philip II, in 1599 to establish their joint rule of the Habsburg Netherlands.[9] However, this dedication takes place before his appointment and subsequent marriage. Albert was educated in the court of Philip II, arriving at the age of 11 with his brother Archduke Wencelas in 1570.[10] This move was urged by both Philip II and Empress Maria, in an effort to shield her younger sons from the unorthodox tendencies of Albert's father, Maximilian II, and to raise and educate the young princes to share the worldview and political goals of Philip II.[11] This push for orthodoxy resulted in Albert embarking on a clerical career, which led to his appointment as cardinal in 1577, with the intention of his eventual appointment as

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[6] Stefania Fortuna, "The Prefaces to the First Humanist Medical Translations", *Traditio* 62 (2007): 324.

[7] Fortuna, 324.

[8] Werner Thomas, "Andromeda Unbound: The reign of Albert and Isabella in the Southern Netherlands, 1598-1621" in Thomas, ed., *Albert*, 1-2. See also: Andrew Wheatcroft, *The Habsburgs: Embodying Empire* (London: Viking, 1995), appendix for complete Habsburg family tree; Francisco Caeiro, *O Archiduque Alberto de Áustria* (Lisbon: L'autor, 1961). For more information on Maximilian II, see Paula S. Fichtner, *Emperor Maximilian II* (New Haven: Yale University Press, 2001); Friedrich Edelmayer and Alfred Kohler, *Kaiser Maximilian II* (Munich: Oldenbourgh, 1992). For more information on Philip II, Archduke Albert or Empress Maria, see ch. 1, fn. 5.

[9] Jean Bérenger, *A History of the Habsburg Empire, 1273-1700*, trans. by C. A. Simpson (London and New York: Longman, 1994), 224; Henry Kamen, *Spain, 1469-1714: A society of conflict* (London and New York: Longman, 1991), 135.

[10] José Martínez Millan, "El archiduque Alberto en la corte de Felipe II (1570-1580)" in Thomas, ed., *Albert*, 28.

[11] Martínez Millan, 27-28. Emperor Maximilian II pushed for policies of toleration with in the Holy Roman Empire, employing the doctrine of *exercitum religionis privatum* in an effort to appease the protestant nobility. See Walter Grossman, "Toleration -- *Exercitum Religionis Privatum*", *Journal of the History of Ideas* 40 (1979): 129-134.

the Archbishop of Toledo.[12] However, in 1583 his life took a more political turn upon being named viceroy of Portugal. Albert remained in Lisbon until 1593, when Philip II recalled him to Madrid to aid in the Spanish government.[13] It was in Madrid that Albert resided at the time of the publication of de Soto's volume.

It is with this background that de Soto's dedication and requested patronage should be considered. De Soto asks the Archduke for his patronage, writing: "I have not doubted to entreat your Highness to take up the patronage of our works."[14] The patron-client relationship was an integral part of the early modern court and may shed light on de Soto's motivations for composing such a work. In his article on patronage in late Renaissance Italy, William Eamon states that "[t]he vocabulary of this basic relation, expressed on the one side in the lexicon of obedience and adulation, on the other side in that of command and expectation, defined the conditions of courtly patronage."[15] Both the identity and the initiative of a courtier were highly tied to bringing prestige to the prince and the crown; by producing an academic work, de Soto was fulfilling one of the duties that would have been expected of him as a *medico de cámara.* Moreover, he brought further repute to the Habsburg family, whose members were renowned for their patronage of the arts and sciences.[16]

De Soto acknowledges that it is likely that the Archduke has other, far more important concerns, as he is "always occupied by the gravest affairs," and he never "cease[s] from the defence and protection of the poor and destitute"; virtues that have not gone unnoticed by the people of the realm.[17] Indeed, de Soto writes to the Archduke that the whole world is stuck by his humanity, kindness and modesty.[18] Certainly, de Soto is employing the rhetorical technique of *captatio benevolentiae*, intended to cause benevolence in the reader, in this case Archduke Albert.[19] In this instance, de Soto is praising the Archduke, while at the same time humbling himself and his work with the purpose of gaining the reader's favour. These virtues extolled by de Soto are fitting for both the political and religious offices that the prince held,

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[12] Luc Duerloo, *Dynasty and Piety* (Farnham, Surrey: Ashgate, 2012), 22-23.
[13] Duerloo, 29.
[14] De Soto, III^{v}-IV: *...non dubitaui Celsitudinem tuam exorare, nostrorum laborum patrocinium sumere...*
[15] William Eamon, "Court, Academy, and Printing House: Patronage and scientific careers in late Renaissance Italy," in Moran, ed., *Patronage*, 30-31.
[16] William Ashworth, "The Habsburg Circle", in Moran, ed., *Patronage*, 137.
[17] De Soto, IV: *Nam etsi sciam grauissimis semper occupari negotijs, nunquam tamen a defensione protectioneque indigentium et egenorum desistis.*
[18] De Soto, IV: *...tum etiam vt humanitati, benignitati, modestiae, & animi tui candori (quibus totum applaudis orbem) correspondeas.*
[19] Lucia Calboli Montefusco, "Captatio benevolentiae" in Cancik, ed., *New Pauly*, part 1, vol. 3, 1080. See also: William W. Fortenbaugh "Benevolentiam Conciliare and Animos Permovere: Some remarks on Cicero's *De oratore* 2.178-216", *Rhetorica* 6 (1988): 259-273.

and he notes that his offering pales in comparison to what the Archduke deserves.[20] De Soto finally closes the dedication with a wish of good health and fortune, writing "[l]ive and be strong, illustrious Cardinal and brightest Archduke."[21] Again, the young prince is praised and both of his offices are emphasised.

In his dedication, de Soto explicitly names a variety of traits that he attributes to Albert, which make him a worthy dedicatee. This praise includes statements of the prince's intelligence, piety and kindness, amongst several other virtues, touching on the religious, political and humanitarian. Additionally, de Soto spares some words to praise the Archduke's extensive education, which, in itself, is praise not only of the Archduke but also of Philip II, who saw to the young prince's education. It should be noted, as well, that de Soto has chosen to dedicate this work and seek a patron much younger than those who employ him. Both Philip II and the Empress Maria, who had returned from Germany in 1582 to reside in a convent in Madrid (as there were far fewer heretics), were in their later years by 1594; de Soto may have been trying to secure himself patronage and employment with the next generation of power. Mía J. Rodríguez Salgado notes in "The Court of Philip II in Spain" that "[a]ll relationships with the monarch were power relationships. Everyone with access to the sovereign, however, menial his task, was a power-broker."[22] The potential for this sort of power gain was by no means limited with access to the monarch. Both Empress Maria and the Archduke were trusted family members of Philip II, wielding substantial power of their own. Albert represented the next generation of authority, having already achieved the rank of cardinal and that of viceroy of Portugal. Moreover, de Soto had, presumably, been a successful and loyal employee of both Albert's uncle and his mother, having entered the service of the royal household in 1571 and likely joining Empress Maria's household after her return in 1582, it seems only natural to attempt to continue employment and patronage within a family with which he already had a record of good service.[23] This is further supported by de Soto's later appointment as a *médico de la casa de Borgoña* in 1602 and his responsibilities in the court of the *protomedicato*.[24] Continued favour from the monarch and

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[20] De Soto, IV: *Hoc igitur tenuitatis nostrae munusculum, quod sedulo praesto (nam maiora quibus dignus es, doctiores me praestabunt) studij amorisque erga te mei...*
[21] De Soto, IV: *Viue et vale, Cardinalis inclyte & Archidux serenissime.*
[22] Rodríguez Salgado, "Court", 206.
[23] Alcocer y Martínez, 299; López Piñero, *Diccionario*, 388; Santander Rodrígues, *Hipócrates*, 125; Blanco Pérez, *Humanistas*, 203; Antonio, 12. De Soto, IV notes that he was employed by the Empress Maria along with his fellow doctor Juan Almacano de la Cerda: ...(*cui ego non sine bono eius, & seruientium omnium applausu, vna cum praeclaro illo literis & genere ornatissimo viro Ianne Almaçano de la Cerda intra cubiculum curam sui gerens inseruio*)...
[24] See ch. 1, fn. 35.

his family could open up the opportunity to serve as the *protomédico*, aid in academic appointments or a higher rank amongst the physicians of the court.

While the modern reader may pass off the praise given to the Archduke by de Soto as saccharine panegyric, upon closer examination both Albert's piety and political prowess would be considered worthy of praise by our author. Although the Emperor Maximilian II embraced religious toleration rather than staunch Catholicism, the young Archduke was educated in the highly orthodox court of Philip II. The king, along with Albert's mother, was instrumental in cultivating his extremely pious worldview. The Empress Maria, as noted above, even felt the need to leave her court in Germany for that of her brother in Spain, as she was uncomfortable living in such close proximity to so many heretics and those who tolerated them. Although his career may have taken a different path, his religious education still played a major role in his life and politics. This adherence to the faith and the counter-reformation would have made the Archduke seem like an excellent choice to rule the Habsburg Netherlands, which had been ravaged by 30 years of religious turmoil.[25]

In addition to his religious education, the Archduke displayed great intelligence and political acumen. This talent did not go unnoticed by his uncle, who not only trusted him to rule by proxy in both Portugal and the Netherlands, but who actively sought his political advice. While this may seem unremarkable, it should be noted that Philip II was notoriously mistrustful and hesitant to share power, even with those closest to him.[26] As noted by Rodríguez Salgado, the Archduke was a "modest, sensible, and politically experienced man," and these qualities no doubt led to his uncle's favour. Furthermore, during his rule in the Netherlands, Albert, along with Isabella, demonstrated great support for all levels of educational institutions. They were directly involved with the Jesuit college in Brussels, providing both financial support and attending academic ceremonies, established a prize for the best student at the *Palaestra Bonae Mentis*, and aided in reforms at the University of Leuven.[27]

De Soto begins his dedication by praising his dedicatee in this time of "many calamitous things and much misery."[28] Clearly, it was understood that this was not a time of harmony, and a cursory examination of both Spanish and Habsburg history at the end of the

[25] Thomas, *Albert*, 1-5. For more information on the relationship between Spain and the Habsburg Netherlands and the accompanying religious turmoil see Jonathan Israel, *Conflict of Empires: Spain, the Low Countries and the struggle for world supremacy, 1585-1713* (London: Continuum International Publishing Group, 1997) and Robert Stein and Judith Pollmann, *Networks, Regions and Nations: Shaping identities in the Low Countries, 1300-1650* (Leiden: Brill, 2010), especially pp. 131-172, 195-282.
[26] Rodríguez Salgado, "Court", 220.
[27] Thomas, *Albert*, 10-11.
[28] De Soto, III: *...etsi multis in rebus calamitatibus & miserijs plenum experiamur...*

sixteenth century confirms this notion.[29] Domestically, Spain was combating religious pluralism, as the forced conversion of both the *moriscos* and *conversos* was not always easily accepted.[30] As a result, the push for religious homogeny led to further suspicion and regulation against these new Christians. Apart from these difficulties, the Protestant Reformation was another threat to which Catholics needed to be vigilant. Moreover, Philip II faced many financial difficulties, even reaching bankruptcy on more than one occasion.[31] This is hardly surprising when one considers the expense of an empire spanning multiple continents and the cost of constant war. Fluid alliances and rivalries with the other European nations added yet another level of uncertainty, along with thirty years of war in the Spanish Netherlands and the failed Armada invasion of 1588. It is likely that many of these concerns would have weighed heavily upon the young Archduke whilst he was acting as an advisor to his uncle. However, de Soto takes an optimistic turn, writing that despite all these difficulties, he "see[s] all the good in the art restored to purity and pristine integrity (with the great dexterity and fruitfulness of clever men)."[32] Here, the purity of the knowledge being acquired through humanist study is contrasted against the darkness of war and heresy. This idea stems from the popular humanist idea of *prisca philosophia* or the effort to restore ancient works and thoughts to their proper form; cleansing the impurities that were gathered during the medieval era.[33] De Soto applies this idea to medicine, employing the words *puritas* and *pristina* when describing the restoration of the medical art. These key words were intended to convey this overarching theme to the reader and align de Soto with the current humanist movement.

De Soto then contrasts the difficulties of the era with its intellectual accomplishments. Here, quite obviously, de Soto is going to be focusing on medicine, "omit[ting] Philosophy,

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[29] For comprehensive accounts of early modern Spanish history, see: Henry Kamen, *Crisis and Change in Early Modern Spain* (Aldershot: Variorum, 1993); William D. Phillips and Carla Rahn Phillips, *A Concise History of Spain* (Cambridge: Cambridge University Press, 2010); James Casey, *Early Modern Spain: A social history* (London: Routledge, 1999); Fernand Braudel, *The Mediterranean and the Mediterranean World of Philip II* (London: Collins, 1972).

[30] See García Ballester, "Inquisition", 156-191.

[31] Kamen, *Conflict*, 167. The government of Philip II declared bankruptcy in 1557, 1560, 1576 and 1596. See pp. 161-171 for a full account of financial instability during this time.

[32] De Soto, III: *...quod bonas omnes artes puritati, ac integritati pristinae (magna cum ingeniorum dexteritate, ac fertilitate) restitui videam.*

[33] See Charles B. Schmitt, "Perennial Philosophy: From Agostino Steuco to Leibniz", *Journal of the History of Ideas* 27 (1996): 505-532 and Fabrizio Lelli, "'Prisca Philosophia' and 'Docta Religio': The boundaries of rational knowledge in Jewish and Christian humanist thought", *The Jewish Quarterly Review* 91 (2000): 53-99 for discussions of *prisca philosophia* and humanist philosophy. See also Jon Arrizabalaga, *The* Articella *in the Early Press*, c. *1476-1534* (Cambridge: Cambridge Wellcome Unit for the History of Medicine, 1998), 22-23 for a discussion of *prisca medicina.*

Theology and the skill of Law, and other graver disciplines, thus raised to the highest level."[34] He argues that while there are many skilled philosophers and scientists, none will be able to produce a completely new genre of work. He writes:

> For one person seems to excel in the fabric of the human body, another undertakes to raise his head [in writing] on the history of plants, another employs extreme diligence in [studying] fish and the other animals, metals, stones and plants which arise from the earth, another puts lots of effort into translating Greek authors, another into commenting upon and explicating them. Given so much fertility of talents, variety and completion of works, however, it seems to me that not some new literary genre remains, but Hippocrates' new book, *Places in Man*, remains worthy for exegesis...[35]

De Soto allows that new information may be written, however, the forms of these writings will be taken from antiquity.[36] In that sense, *Places in Man* is as new as the other contemporary works to which he is alluding. Those studying fish and animals is likely a reference to Guillaume Rondelet, who published his *Libri de piscibus marinis, in quibus verae piscium effigies expressae sunt* in 1554 or Conrad Gesner, who helped establish modern zoology with his *Historiae animalium* (1551-58, 1587), as well as publishing a botanical work *Enchiridion historiae plantarum* (1541) and a geological work entitled *De omni rerum fossilium genere* (1565).[37] Georg Agricola, too, turned his attention to the earth

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[34] De Soto, III: *Et vt omittam Philosophiam, Theologiam, Iurisque peritiam, seuerioresque alias disciplinas, ita ad summum gradum erectas...* This same phrase was, indeed, a popular *topos* in humanist dedications. For example, in his dedication to the *De humani corporis fabrica*, Vesalius even goes as far as to assert medicine's primacy over the other faculties; see Andreas Vesalius, *On the Fabric of the Human Body*, ed. and trans. by Daniel H. Garrison and Malcolm H. Hast (Basel: Karger, 2013), 1: "I will pass over the other arts in silence and direct my words for a while to that which is responsible for the health of mankind; certainly, of all the arts that human genius has discovered, this is by far the most useful, indispensable, difficult, and laborious."

[35] De Soto, III: *Quidam enim in corporis humani fabrica excellere videtur, Alius in stirpium historia erigere caput conatur, Alius in piscibus, caeterisque animalibus, metallis, ac lapidibus e terra nascentibus extremam diligentiam adhibet, Alius in vertendis Graecis authoribus, Alius in commentandis, explicandisque ipsis magnam operam impendit. In tanta igitur ingeniorum fertilitate, varietate, & operum consummatione, non nouum aliquod scribendi genus, sed nouus, ac explicatione dignus Hippocratis liber de Locis in homine restare mihi visus est...*

[36] Eamon, 49 emphasised this push for new information when he stated, that in the context of publishing within the court, "[e]very book had to be a book of 'new' discoveries, 'new' secrets, or 'new inventions'." By framing his commentary this way, de Soto is able to fulfill this requirement.

[37] For Guillaume Rondelet see: David Damkaer, *The Copepodologist's Cabinet: A biographical and bibliographical history*, vol. 1 (Philadelphia: The American Philosophical Society, 2002), 15; Ellison Hawks and George Simond Boulger, *Pioneers of Plant Study* (London: The Sheldon Press, 1928), 163; Louis Dulieu, "Guillaume Rondelet", *Clio Medica* 1 (1965-1966): 89-111; François J. Meunier, "Les innovations zoologiques de Guillaume Rondelet (1507-1566)", *Cahiers des Naturalistes* 56 (2008): 73-86. For Conrad Gesner see: Cynthia M. Pyle, "Conrad Gesner" in Applebaum, ed., *Encyclopedia*, 413-415; Hans Fischer,

and is now known as the Father of Mineralogy due to his *De re metallica*, which was published in 1556.[38] Moreover, de Soto's men who excel at the translation of Greek authors could be any number of translators; however, the reader may be inclined to assume that this reference is made with Janus Cornarius in mind, as de Soto wrote so favourably of his work; and whilst they are not spoken of as highly within his volume, the translators Niccoló Leoniceno, Agostino Gadaldini, Girolamo Mercuriale, Adriaen de Jonghe, and Marco Fabio Calvo are also noted throughout de Soto's commentary.[39]

More explicitly, de Soto writes that there are those men who excel in *corporis humani fabrica* and *in stirpium historia*. The former is quite clearly a reference to Andreas Vesalius and his *De humani corporis fabrica*, first published in 1543. With this reference to Vesalius a contentious issue it brought forth. In his work, Vesalius claimed that he was doing something new, questioning the traditional authorities and mapping the human body through his own experience. He writes in his dedication:

> But let even these men gradually soften their position out of a love of truth, and let them trust their not ineffectual eyes and powers of reason more than the writings of Galen; let them carefully write out these unexpected truths which are not cadged from other authors and not verified merely by a collection of authorities...[40]

Vesalius is calling for his contemporaries to employ both the ancient sources and their own powers of observation and reasoning to create a truer medicine. Unfortunately for Vesalius, not all would soften their position; the driving force behind the opposition to the *De fabrica* was Vesalius' former teacher, Jacobus Sylvius (1478-1555), who lambasted Vesalius for

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et al., *Conrad Gessner, 1516-1565: Universalgelehrter, Naturforscher, Arzt* (Zurich: Drell Fussli Verlag, 1967) and Brigitte Mondrain, "Les *Euporista* ou Περὶ ἁπλῶν φαρμάκων de Dioscoride: l'*editio princeps* de Johann Moibanus et Conrad Gesner" in Boudon-Millot, ed., *Lire*, 143-154.

[38] See Helmut Wilsdorf, "Agricola, Georgius" in Coulston Gillespie, ed., *Dictionary,* vol. 1, 77-79.

[39] See de Soto, comments: 1 (ff. 1-1^{v}), 8 (ff. 6^{v}-7), 16 (ff. 11-12^{v}), 27 (ff. 16-16^{v}), 36 (ff. 19^{v}-24^{v}), 46 (ff. 28-29), 58 (ff. 43-44), 76 (f. 54), 105 (ff. 70-71), 118 (ff. 76-76^{v}). Nutton, "Greek Science", 17 notes that between the years of 1525-1557 Europe saw a huge influx of publications of Greek editions and their Latin translations. For more information on Leoniceno and Gadaldini, see ch. 1, fn. 61. For more information on Mercuriale, see Vivian Nutton, "Mercuriale, Girolamo" in Grafton, ed., *Classical Tradition*, 582-583 and Alessandro Arcangeli and Vivian Nutton, eds., *Girolamo Mercuriale: Medicina e cultura nell'Europa del cinquecento* (Florence: Olschki, 2008); for more information on de Jonghe, see Dirk van Miert, ed., *The Kaleidoscopic Scholarship of Hadrianus Junius (1511-1575): Northern humanism at the dawn of the Dutch Golden Age* (Leiden: Brill, 2011); and for more information on Calvo, see Danilo Aguzzi-Barbagli, "Marco Fabio Calvo" in Bietenholz, ed., vol. 1, 246-247. More contemporary to de Soto was Anuce Foës (1528-1586) with his edition of the Hippocratic Corpus, published in 1595. For more information on Foës, see Jacques Jouanna, "Foës éditeur d'Hippocrate: Deux énigmes résolues" in Boudon-Millot, ed., *Lire*, 1-26.

[40] Vesalius, *Fabric*, 6.

"ignorance, ingratitude, arrogance and a lack of belief and piety."[41] From Sylvius' point of view, Vesalius' crime was that of heresy, disregarding traditional authority and the established method of progress. In this reference to Vesalius' work, de Soto is allying himself with Sylvius and those who opposed Vesalius' assertions. This stance will be seen throughout de Soto's commentary, both in his reliance on ancient sources and rejection of Vesalius (and those with a similar view). This mindset paralleled Catholic views of the Reformation, which rejected the authority of the Church Fathers and claimed to have created something new in the same way that Vesalius was challenging ancient authority and publishing a work of new anatomy.[42] Andrew Cunningham provides a lengthy comparative analysis of Luther's approach to Christianity and Vesalius' approach to anatomy in order to better understand the connection between these two movements.[43] Whilst there is scant evidence to suggest that Vesalius was, indeed, a Lutheran, the emphasis on personal experience with the source material, whether that be the Bible or a body, is familiar:

> Not only does Vesalius insist on the primacy of 'the Word', that is, the body, over written text and tradition but, like Luther with the Bible, he introduces touching and pointing, into both the practice of public anatomizing and its visual representation, as aids to witnessing the truth for oneself.[44]

Cunningham further attributes this stress on personal experience as an attempt at the humanist ideal of *prisca medicina* or, indeed, *anatomia* - in order to gain the purest understanding, in Vesalius' case, of the human body, one must do as the ancients themselves did.[45]

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[41] Thomas Rütten, "Hippocrates and 'Progress'" in Cantor, ed., *Reinventing Hippocrates*, 43. See Charles O'Malley, *Andreas Vesalius of Brussels: 1514-1564* (Berkeley and Los Angeles: The University of California Press, 1964), 212-*passim.* On an interesting note, in his *Bloodletting Letter of 1539*, Vesalius refers to "the Lutherans of physicians", a popular phrase to refer to those who had adopted the new method of venesection. The opponents of this new method, described their adversaries as such to Charles V of Spain in an effort to illustrate the dangers of this new methodology. See Andreas Vesalius, *Andreas Vesalius Bruxellensis: The Bloodletting Letter of 1539*, ed. and trans. by John B. de C. M. Saunders and Charles D. O'Malley (London: William Heinemann, 1947), 42-43, n. 104.

[42] Rütten, "Progress", 44. It should be noted that Vesalius was in all likelihood a Catholic, as noted by Vivian Nutton in the historical introduction to Vesalius, *Fabric*, LXXXIII; however, the tension between the Catholic/Reformed worldviews and the traditional/"new" science worldviews are nonetheless comparable.

[43]Andrew Cunningham, *The Anatomical Renaissance: The resurrection of the anatomical projects of the ancients* (Aldershot: Scolar Press, 1997), 216-236.

[44] Cunningham, *Anatomical Renaissance*, 227.

[45] Cunningham, *Anatomical Renaissance*, 235.

The reference de Soto makes to the history of plants is arguably a direct reference to Leonard Fuchs (1501-1566) who published his *De historia stirpium* in 1542.[46] Fuchs, too, was inspired by the works of the ancients, particularly Dioscorides; however, to supplement ancient wisdom he employed practical experience, observing plants *in situ.*[47] Fuchs had a great admiration for Vesalius' approach to science, which led him to publish his own anatomical work entitled *Epitome of the Fabric of the Human Body taken from Galen and Vesalius*.[48] In fact, Fuch's praise and emulation of Vesalius was such that he drew the ire of Sylvius, as well, who wrote: "Fuchs published an anatomical epitome containing misrepresentations selected from that vast and worthless farrago of the slanderer."[49] Common to many of these works was their dependence on illustrations derived from observation, as seen in both the works of Vesalius and Fuchs to which de Soto alluded. Moreover, Gessner's *Historiae animalium* and Rondelet's *Libri de piscibus*, too, were highly dependent upon illustrations to explain the natural world. The common goal that united these works was the attempt to use both ancient authority and observation (enhanced by visual representation) to gain a truer understanding of the natural world. This is contrasted to de Soto's understanding of ancient authority, in which the information provided by the greats, such as Hippocrates, is almost divine and thus a truer knowledge may be attained by the production of accurate texts and their subsequent study and exegesis.

It is against this backdrop that de Soto continues his dedication, writing that *Places in Man* is a text worthy of exegesis "in which much is contained that pertains to the preservation of health and to fighting and recognising sicknesses (the foulest of natural enemies)."[50] This idea may seem contradictory to his previous statement; however, further examination explains this seeming discrepancy. Since new information could always be gleaned from the work of the ancients through the study of newly discovered or less corrupted textual witnesses and a more in-depth study of the history of exegesis devoted to it, a canonical text

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[46] Paula Findlen, "Natural History" in Park, ed., *Early Modern Science*, 443. See also: Frederick G. Meyer, *et al.*, eds., *The Great Herbal of Leonhart Fuchs:* De Historia Stirpium Commentariis Insignem, *1542* (Stanford: Stanford University Press, 1999). Nutton notes in the historical introduction to Vesalius, *Fabric*, XCIV, that while Fuchs was a professor of medicine at the University of Tübingen, he distanced "himself from the ultra-Galenists, who sought to defend Galen at every turn, condemning their insolence and ignorance, but at the same time seeking to imply that he had been preaching the same message as Vesalius for many years."

[47] Findlen, 457.

[48] O'Malley, *Vesalius*, 245. See Leonard Fuchs, *De humani corporis fabrica epitome…* (Tübingen: Ulrich Morhard, 1551).

[49] O'Malley, *Vesalius*, 247.

[50] De Soto, III: ... *in quo multa quae ad sanitatem retinendam, pleraque ad morbos (naturae teterrimos hostes) debellandos, cognoscendosque, pertinent, continentur.*

would always remain 'new'. That is the primary meaning of the prefix 're-' when one wants to describe de Soto's endeavour as a re-construction, re-presentation, or re-invention of Hippocratic texts. Given de Soto's counter-reformational worldview, the works of the Hippocratic Corpus held authority similar to that of the Gospels, with subsequent ancient commentaries equivocated to the works of the church fathers of late antiquity.[51] This is evidenced throughout the commentary by de Soto's acceptance of the works of Hippocrates and Galen as absolute truth. When de Soto's words are understood in this context, they are complimentary rather than contradictory. In his view, a translator or commentator is unable to discover a new genre on his own, despite the claims of others; however, he may, through careful study, gain a greater understanding of ancient knowledge and provide a better understanding of medicine. Thus, in de Soto's view, further philological study and exegesis amounts, indeed, to progress.

Although this thesis focuses its efforts on de Soto's exegesis of *Places in Man*, the volume is comprised of three more commentaries and another work of medical observations. Following the commentary on *Places in Man* in de Soto's volume are his comments on the first book of the text *Diet*; de Soto writes that the work is "entangled with many difficulties and filled with enigmas, in which much is taught that is advantageous for conserving health."[52] De Soto finds this Hippocratic work worthy of commentary due both to its useful information and because that information is not presented in the clearest possible way. The difficulty of the text is such that "[t]hus far no one has dared to undertake the explanation of this [Hippocratic work] (such is its obscurity and entanglement)."[53] Moreover, he notes that medicine is necessary not only to cure disease, but also to preserve health and "[t]herefore, [Hippocrates] composed three books on diet, of which the first perfectly includes this entire art of maintaining healthy bodies through six necessary things."[54] By commenting on both

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[51] Rütten, "Progress", 43.

[52] De Soto, III: [*Accessit huic proximus liber Hippocratis de Dieta primus,*] *multis implicitus difficultatibus, et aenigmatibus plenus, in quo multa quae ad conseruationem salutis expediunt, docentur...*

[53] De Soto, III^{v}: *...cuius explicationem (tanta est eius obscuritas, & implicatio) nullus adhuc aggredi ausus est.* It should be noted that Theodor Zwinger had, indeed, produced a commentary on this text, see Zwinger, 386-542.

[54] De Soto, III^{v}: *...ideo libros tres de Dieta scripsit, quorum primus totam hanc artem conseruandi corpora sana per sex res necessarias perfecte amplectitur...* Here de Soto is referring to Galen's six non-naturals; see Luis García Ballester, "On the Origin of the 'Six Non-natural Things' in Galen" in *Galen und das hellenistische Erbe,* ed. by Jutta Kollesch and Diethard Nickel (Berlin: Franz Steiner Verlag, 1993), 105-115, wherein he lists the six non-naturals as "air and environment, food and drink, sleep and wakefulness, motion and rest, evacuation and repletion, passions of the mind." (p. 105). The alternate term, *sex res necessariae*, was employed by the *Tacuinum sanitatis in medicina ad narrandas sex res necessarias...*, a Latin translation of a medieval Arabic handbook on health and medicine. See

Places in Man and *Diet*, de Soto was able to elucidate Hippocratic advice for both the prophylactic and therapeutic aspects of medicine. In *Places in Man* the reader was taught how to treat disease when it occurred and the first book of *Diet* gave the reader information on how to prevent it from arising, thus bringing the medical art into balance.

In addition to these two texts, de Soto included commentaries on *On Purging Medicines* and *On the Uses of Hellebore* in his volume; however, in his dedication, he does not elaborate on why he chose to include these works. The latter Hippocratic book, which de Soto has called *De usu veratri*, is more popularly known as *De helleboro* [*On Hellebore*]. In the years since de Soto's commentary was published the text has been deemed spurious and very little information is to be found on the work.[55] As is evident from the title, this (pseudo)Hippocratic work focuses on the subject of the plant hellebore and its medicinal uses. This plant will be talked about further in case study four, as hellebore was often prescribed as a cure for madness and melancholy. *De medicamento expurganti*, also known as *De purgantibus* or *Purgatives*, has gained significantly more attention than *De usu veratri*. Also left out of Littré's *Opera*, an edition of the work was completed by Hermann Schöne under the title "Hippokrates περὶ φαρμάκων".[56] Marie-Laure Monfort re-evaluated the history of this text in her article "L'Histoire Moderne du Fragment Hippocratique *Des Remèdes*" in 2000. In it, Monfort provides a stemma for the fragment's tradition in the early modern period, citing editions of the text by Junius Crassus, John Caius, Cornarius, and Jan van Heurne.[57] As is clear from her study, this fragment had gained popularity in the time just before and contemporary to de Soto. From the creation of these editions, numerous translations and commentaries of this text were printed in the sixteenth and early to mid-seventeenth centuries

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Alixe Bovey, *Tacuinum sanitatis: An early Renaissance guide to health* (London: Sam Fogg, 2005). Perhaps de Soto's use of this term is influenced by the more Arabized style of Galenism taught at the University of Valladolid.

[55] See Gerhard Fichtner, *Corpus Hippocraticum: Verzeichnis der hippokratischen und pseudohippokratischen Schriften* (Tübingen: Institut für Geschichte der Medizin, Universität Tübingen, 1990), 67. Fichtner notes that *De usu veratri* does not appear in Littrè's collection. Moreover, no entry is provided for this work in Bruni Celli's bibliography

[56] Fichtner, *Corpus Hippocraticum*, 69; Hippocrates, "Hippokrates περὶ φαρμάκων", trans. by Hermann Schöne, *Rheinisches Museum* 73, (1920-1924): 434-448.

[57] Marie-Laure Monfort, "L'Histoire Moderne du Fragment Hippocratique *Des Remèdes*", *Revue des Études Anciennes* 102 (2000): 361-377 (p. 371 for stemma). See Giunio Paolo Grassi, *Theophili Protospatarii de corporis humani fabrica...libri quince* (Venice: Ottaviano Scoto, 1536), 111-117; John Caius, *Cl.Galeni...libri aliquot Graeci...annotationibus illustrati per Joannem Caium* (Basel: Froben, 1544), 77-79; Cornarius (Basel, 1546), 123; Jan van Heurne, *Hippocratis Coi Prolegomena (Iusiurandum, de Medico, Lex, de Arte, de Veteri Medicina, de Elegantia, Praeceptiones, de Carnibus sive Principiis, de Purgatoriis remediis)*...(Leiden: Franz van Ravelingen, 1597), 167-174.

before tapering off, with only a few re-printed editions occurring in the eighteenth century.[58] Similar to *De usu veratri*, *De purgantibus* is another pharmacological text, discussing the topic of purgative drugs. These texts further complement de Soto's other commentaries, which have focused on therapeutic and prophylactic medicine, by adding a pharmacological dimension.

Lastly, de Soto mentions the final work of the volume, *Animadversionum medicinae practicae* [*On observations of practical medicine*]; the only work within the volume that is not a Hippocratic commentary. He writes that these final works were added "not only so that this first volume of our works gains proper size, but so that we may be mindful of the common good."[59] From this statement three things may be gleaned: the first is that de Soto believed he would be adding subsequent volumes of commentaries and other works to his bibliography; however, there is no record of any such volumes being published. Secondly, de Soto believes that a volume of such works ought to be of a proper length. As can be seen from his work, our commentator was not one for brevity, a sentiment, which he explicitly states later in his dedication, writing that "the compact method of writing of certain men never pleased or was able to appease me."[60] Finally, de Soto emphasises to the reader that he has chosen works for the "common good" or *utilitas publica*, a phrase used throughout antiquity and the early modern era. First used in Cicero's *De Officiis*, the idea took shape in Platonic, Aristotelian and Stoic philosophy.[61] Cicero used the term in relation to legislation and defined it as "the state as a naturally determined combination of people bound together in their acknowledgement of the law and of the commonality of benefit."[62] In the early modern era, the term is used more widely as 'the public weal' or 'common good'. Using this phrase, de Soto asserts that the intent behind his great work is exceedingly altruistic. This certainly is

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[58] Bruni Celli, 34, 90, 105, 140, 143, 155, 172, 189, 205, 214, 238, 241, 275, 284, 291-292, 299-300, 312, 320, 352, 362, 378, 390, 402, 410.

[59] De Soto, III^{v}: ...*non solum vt hic nostrorum operum tomus primus iustam magnitudinem adipisceretur, sed vt publicae vtilitati consuleremus*...

[60] De Soto, III^{v}: ...(*nam nunquam mihi placuit, aut placere potuit conferta quorundam scriptitandi ratio*...

[61] Loretana de Libero, "Utilitas publica" in Cancik, ed., *New Pauly*, part 1, vol. 15, 144-145; Cicero, *On Duties*, ed. and trans. by Miriam T. Griffin and Eleanor Margaret Atkins (Cambridge: Cambridge University Press, 1991), 117: "Those cases are splendid in which the appearance of public benefit [*publicae utilitatis*] has been despised out of regard for honourableness." See also: Peter Hibst, Utilitas publica - *gemeiner Nutz - Gemeinwohl: Untersuchungen zur Idee des politischen Leitbegriffes von der Antike bis zum späten Mittelalter* (Frankfurt: Lang, 1991) and Roberto Scevola, *Utilitas publica*, 2 vols. (Padova: CEDAM, 2012).

[62] De Libero, 144-145; Cicero, *The Republic and the Laws*, trans. by Niall Rudd (Oxford: Oxford University Press, 1998), 19: "Well then, a republic is the property of the public. But a public is not every kind of human gathering brought together by legal consent and community of interest."

not the only objective in his venture, and likely not the primary, but it is important to note that this is how de Soto wishes to portray the purpose of his work.

This emphasis on the usefulness of the volume continues as de Soto writes: "I hope that a notable reward shall take hold from reading these [commentaries], for those who desire to accomplish with good cheer and to be moved foward in medicine."[63] Again, he hopes that all who read this book will see the value in its information, carefully written by Hippocrates and elucidated by de Soto. Moreover, he believes his exegesis can help the reader advance in his knowledge of medicine. He states that "all these books gain some light and clarity with our commentary, examined after many courses of years."[64] This volume, according to de Soto, is a product of much study and thought, rather than being quickly put together: "For although this may be the argument of an eager and sharp mind, still a certain meticulous diligence, matured by a longer time and a slow speed, is more approved in the view of the authors."[65] These authors he is referring to are those from antiquity, citing both Horace and Seneca to further his point; de Soto writes that Horace never published a poem without first editing and correcting it for many days.[66] He directly quotes Seneca's letters, in which the philosopher asserts that "nothing that rushes headlong and is hurried is well ordered."[67] By citing these authors, a poet and a philosopher, de Soto is demonstrating a wider knowledge of classical literature. He is showing the reader that while he is well versed in the Hippocratic and Galenic Corpora, he has also been educated in the wider humanist tradition. Moreover, when these authors are coupled with the idea of *utilitas publica*, they work together to reinforce a Stoic leaning to de Soto's worldview. As mentioned above by de Libero, Cicero derived his understanding of *utilitas publica* from the philosophies of Plato and Aristotle, as well as that

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[63] De Soto, III^{v}: *..ex quorum lectione spero insignem fructum capturos, qui bono animo proficere, & in re medica promoueri desiderant.*

[64] De Soto, III^{v}: *Hos itaque omnes libros nostris commentarijs aliquid luminis, & splendoris adeptos, & post multa annorum curricula examinatos...*

[65] De Soto, III^{v}: *...licet enim illud sit prompti, & acuti ingenij argumentum, tamen probatur magis apud authores accurata quaedam diligentia, et longioris temporis matura, ac lenta festinatio...*

[66] De Soto, III^{v}: *...id quod animaduertens Horatius, carmen reprehendit, quod non coercuerit multa dies, & multa litura.* See Horace, *The Art of Poetry or The Epistle to Pisos*, ed. and trans. by H. Rushton Fairclough, LCL 194 (Cambridge, Mass: Harvard University Press, 1978), 475: "Do you, O sons of Pompilius, condemn a poem which many a day and many a blot has not restrained and refined ten times over to the test of the close-cut nail." (*...vos, o Pompilius sanguis, carmen reprehendite quod non multa dies et multa litura coercuit atque praesectum deciens non castigavit ad unguem.*)

[67] Seneca, *Epistles*, vol. 1, ed. and trans. by Richard M. Gummere, LCL 75 (London: William Heinemann, 1927), 265: *...nihil autem ordinatum est, quod praecipitatur et properat.*; de Soto, III^{v}: *...& Seneca nihil ordinatum esse dixit, quod praecipitatur et properat...* As can be seen in this comparison, de Soto's citation of Seneca is almost exact, only modifying the grammar to employ the accusative/infinitive, in order to properly fit the sentence structure.

of the Stoics. Horace, too, demonstrated Stoic tendencies within his poetry, especially in his *Odes*, a work imitated by de Soto in this dedicatory letter.[68] These allusions may hint at de Soto's familiarity with the Neostoic movement, a philosophy founded toward the end of the sixteenth century by the Flemish humanist and philosopher Justus Lipsius through his work *De constantia* (1584).[69] In this dialogue, Lipsius used the writings of Seneca in particular to unite Stoic and Christian philosophy.[70] This fusion between ancient moral philosophy and Christian doctrine may have appealed to de Soto, given his tendency toward Christian humanism; unfortunately, he wrote nothing explicit about Lipsius or Neostoicism.

One of the reasons that he spent so much time on his work, de Soto tells the reader, is because he intended to attach the Archduke's name to it. Certainly, our commentator would only want to present his best work to such an illustrious man. De Soto chose the Archduke because he believed "that a decision is made not casually and blindly, but with utmost deliberation."[71] In his mind, de Soto is dedicating his work not only to a powerful man, but a man with a discerning mind, who, like de Soto himself, is careful in his thought and study. He writes to the Archduke "[O]nly you yourself occur among the most learned born from the lineage of the Empress and Queen as of exquisite nature. If erudition paired with noble birth [is required], only you occur amongst the most learned Emperors."[72] Moreover, de Soto writes that the Archduke "surpasses all the princes from his generation in virtue."[73] Indeed, he considers the Archduke to be erudite, even explicitly stating that his mind is greater than that of most. Our commentator notes the active role that the Archduke played in the government,

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[68] See Glenn W. Most "Horace" and Mark Morford "Stoicism" in Grafton, ed., *Classical Tradition*, 454-457, 908-909. See also: Roland Mayer "Horace's Epistles I and Philosophy", *The American Journal of Philology* 107 (1986): 55-73; Halvard Leira, "Justus Lipsius, Political Humanism and the Disciplining of the 17th Century Statecraft", *Review of International Studies* 34 (2008): 669-692. De Soto (f. 1) opens his commentary with a mention of the philosophical school of Stoicism, stating that they believed the earth to be infinite (in the manner of a circle or a sphere): *NON Dubium* [sic] *est, quin plerique scriptores globosam seu sphericam figuram mundo attribuerint, vt & Aristoteles, & cum Stoicorum schola Homerus quasi princeps sensisse videtur, qui terram* απειρονα [sic]*, id est, infinitam dixit...*

[69] Erik de Bom, *et al*., "Introduction: Towards a more balanced view of Justus Lipsius's political writings and their influence" and Bo Lindberg "Stoicism in Political Humanism and Natural Law" in de Bom, ed., *Justus Lipsius*, 3, 73-78; See also: Jan Papy, "Erasmus' and Lipsius' Editions of Seneca: A 'complementary' project?", *Erasmus of Rotterdam Society Yearbook* 21 (2001): 10-36.

[70] Lindberg, 73-78.

[71] De Soto, III^{v}: *...quod non fortuito, ac temere, sed maxima cum ratione prouisum factum esse* [*credas*].

[72] De Soto, III^{v}: *...tu solus occurris inter doctissimos e Caesarea, Regiaque stirpe natus praeclarus. Si cum genere eruditio, solus occurris inter Caesareos doctissimus.*

[73] De Soto, III^{v}: *Cum ergo considerassem, quantum omnes tuae aetatis Principes virtute excellas...*

writing that Philip II "is accustomed to use your council pertaining to certain serious things and to matters regarding the sum of affairs and circumstances."[74] Because of the Archduke's erudition, Philip II has seen it fit to seek the advice of the young prince, even going as far as to establish him as the viceroy of Portugal.

In both his request for patronage, and the dedication as a whole, de Soto alludes to the works of Horace. Beyond the specific reference seen above, the entirety of the letter is reminiscent of Horace's dedication to Maecenas in book one of the *Odes.*[75] As noted by Genette, early modern dedications were meant to emulate the dedications of antiquity; de Soto encompasses this by alluding to both Horace's dedication and his patron.[76] Within his dedication, Horace writes that "there are some who enjoy raising Olympic dust with their chariots... one man is delighted if the mob of fickle citizens strive to elevate him... another if he has stored in his own barn every grain that is swept from the threshing floors of Libya," and the list continues with farmers and sailors and lushes.[77] This same structure is seen in the beginning of de Soto's dedication, wherein he tells us that some men excel at anatomy and others in mineralogy, and so forth.[78] More explicitly, de Soto refers to Albert as a patron and maecenate on two occasions. In the first instance, he writes "If I have to implore a patron and Maecenate, who is more worthy than that man who holds nearly supreme power?"[79] On the second occasion, de Soto writes that he has no doubt that the Archduke "may wish to act the part of the most virtuous Maecenas."[80] In this citation, de Soto is reiterating the relationship between Horace and Maecenas and likening it to that between himself and the Archduke. It is important to note that on both occasions, *Moecenas* is capitalised; a stylistic choice arguably intended to emphasise the allusion to the historical Maecenas, the famous patron of Horace, Virgil and Propertius. Moreover, Julia Haig Gaisser notes that "[t]he term Maecenas was used relatively little in the Renaissance, perhaps because it was not grand enough for the greatest patrons."[81] By choosing to employ this term, de Soto is perhaps acknowledging that while the Archduke may be a worthy patron, his rank does not allow for the highest praise, which would have likely been saved for Philip II. Moreover, Haig Gaisser notes that the term

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[74] De Soto, III^{v}: *...qui ad seria quaeque, & ad rerum statuumq; summam pertinentia tuo vti solet consilio)...*
[75] See Kenneth J. Reckford, "Horace and Maecenas", *Transactions and Proceedings of the American Philological Association* 90 (1959): 195-208.
[76] Genette, 117-118.
[77] Horace, *Odes*, ed. and trans. by Jeffery Henderson, LCL 33 (Cambridge, Mass: Harvard University Press, 2004), 3-5.
[78] See fn. 35.
[79] De Soto, III^{v}: *Si patronus, atque Moecenas exorandus mihi est, quis dignior illo, qui supremam fere potestatem habet...*
[80] De Soto, IV: *...& Moecenatis integerrimi partes agere velis.*
[81] Julia Haig Gaisser, "Maecenas" in Grafton, ed., *Classical Tradition*, 554.

'maecenate' can often imply familiarity between the author and patron; thus it would not be unreasonable to assume a familiar relationship between de Soto and the Archduke.[82]

The choice of such an orthodox dedicatee raises the issue of de Soto's religion and how it applies to his work. While there is no concrete evidence as to our commentator's religious leanings, as nothing he has written, other than this volume, is extant, certain things may be gleaned from both his work and his biography. It certainly can be assumed that de Soto was Catholic, and was fairly devout, or at least presented himself as such, as someone who displayed any sign of heresy may have found it difficult to gain employment from two persons so renowned for their orthodoxy. Moreover, much of the praise our commentator gives to his dedicatee centres not only on his erudition and governing, but also on his devotion and piety. In addition, it is reasonable to assume that de Soto came from a traditionally Catholic family, rather than from a newly converted one, due to the exclusionary practices recently put into place in the Spanish universities.[83]

Within de Soto's commentary, there are a few instances that allude to religion. The first few mentions of religion, occurring in the dedication, and in comments 136 and 153 can easily be written off as idiomatic rather than giving real insight into de Soto's religious leanings.[84] Still, a few citations within de Soto's commentary provide more detailed insight into the religious influence on his work. The first occurs in comment 141, in which de Soto writes that Hippocrates emphasises restraint in all things, including labour, food and drink, sleep and wakefulness and intercourse, and the sort of "moderation which is befitting of the Christian man".[85] The basis of prophylactic Hippocratic medicine lies in a balanced regimen, an idea that was systematised further in the Galenic Corpus. Christian doctrine, in turn, warns against excess, as well; one has to look no further than the seven deadly sins, which include gluttony, sloth and lust. Fusion between ancient and Christian philosophy can be seen, with both sources emphasising moderation as key for both physical and spiritual health. Additionally, de Soto makes an explicit reference to scripture in comment 125, wherein he cites *Genesis* 30 and the story of Rachel and Leah to further his discussion of melancholy and

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[82] Haig Gaisser, 554.

[83] Garcia Ballester, "Inquisition", 156-161. *Conversos* were excluded from university study beginning with the University College of San Ildefonso in 1519. Moreover, Goodman, *Power*, 220 notes: "The crown, the municipal authorities and the guilds which they controlled, everywhere favoured the policy of preserving the medical arts for Old Christians."

[84] In de Soto III^{v}, he states that God has well-equipped the cardinal with more than sufficient intellect, see fns. 72-74; at 84^{v}, de Soto writes that what may hurt Peter could possibly be the cure for Paul: *Nam in diuersis subiectis eadem causa calida potest in Petro stillicidium generare, quae in Paulo potest curare, si stillicidium a frigida oriatur*; and at 83(2) [*recte*: 94], he ends the entire commentary with the exclamation 'Praise to God!' (*Laus Deo*).

[85] De Soto, 87: *...eam quae virum Christianum decet mediocritatem...*

mandrake root.[86] Case study four will examine this comment in greater detail; however, a key point may be noted here. Although he is not using this passage for the purposes of a religious discussion, he is taking the word of the Bible as fact; this use of scripture would suggest that our commentator had faith in its words. Moreover, citing *Genesis* in this way allows de Soto the opportunity to demonstrate his biblical knowledge. Having enough familiarity with scripture to make the connection between melancholy, mandrake and *Genesis* demonstrated to the reader that de Soto was well versed in scripture. Additionally, in comment 152, the subject of case study five, de Soto speaks of matters that are "vexing to us Christians" in his discussion of medicine and fortune.[87] Whilst these comments in themselves lend no clear indication of his exact religious leanings, when they are coupled with a consideration of his geography, education and employment, an image of de Soto the Catholic may be extrapolated.

As de Soto's dedication encompasses many of the typical elements found in late-sixteenth century humanist dedications, a contemporary comparison may provide even further insight. Girolamo Mercuriale's (1530-1606) dedication to Maximilian II in his *De arte gymnastica* (1573) lends a suitable point of comparison for further contextualisation of de Soto's dedicatory letter. The second dedicatee of this work, the first being Cardinal Alessandro Farnese (1520-1589), was the Holy Roman Emperor, a Habsburg and the father of Archduke Albert; however, beyond this connection, many similarities can be seen in the language and style chosen by Mercuriale. He begins by noting the worth of the other disciplines, but narrowing his focus to only medicine, just as de Soto did when opening his dedication.[88] Moreover, the laudatory language used by Mercuriale is similar to de Soto's for the Archduke. Mercuriale praises the Emperor's "great authority and power" and his "keen desire to benefit the human race".[89] Shortly thereafter, Mercuriale also asserts the insignificance of his work, in comparison to the greatness of the emperor, employing the same rhetorical technique as de Soto, *captatio benevolentiae*:

> Wherefore I beseech you, with your customary and incomparable magnanimity to receive this small gift, so unequal to those of your Majesty, yet all that your humble servant can offer, and to count me among your household, protect and support me.[90]

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[86] De Soto, 79[v]: *Vel dicendum illud debere intelligi de pomis mandragorae, quae (vt sacra Scriptura docet) Rachel expetiuit a Lia, vt conceptus fieret opportuna, Gene. 30*; *Genesis* 30: 14-17 (NRSV); see case study 4, fn. 49.
[87] De Soto, 90[v]:...(*praeterquam quod nobis Christianis propter multa scripturae sacrae testimonia, quibus medica facultas approbatur, molesta fit*)...See ch. 3, case study 5.
[88] Girolamo Mercuriale, *De arte gymnastica*, ed. by Bruno Grandi and Pantaleo Palmieri (Florence: Leo S. Olschki, 2008), 3; see fn. 34.
[89] Mercuriale, *Gymnastica*, 7; see fns. 17, 34.
[90] Mercuriale, *Gymnastica*, 7; see fn. 20.

Additionally, this dedicatory letter, too, serves as a bid for patronage from the monarch. Still, this humility is not seen throughout the entirety of the dedication, as Mercuriale is sure to assert the worth of his work throughout his dedicatory letter in a bid of self-promotion.[91] Whilst there are many aspects of these dedicatory letters similar, there was room for individuality amongst what was required. The first difference stems from the fact that Mercuriale's dedicatory letter to Maximilian is, indeed, in the second edition of his work, and thus the author had to spare some words for his previous dedicatee, Cardinal Farnese.[92] Moreover, as Mercuriale only provides this letter as a prefatorial text, it must provide additional information, such as the history of the subject and the aims of his work. However, as these differences are minor, the comparison between these two dedicatory texts does provide more insight into the conventions of such a letter in the early modern era.

2.2 Letter to the Reader

Although Fortuna's work on prefaces focuses primarily on those of translations, many of the characteristics set forth in her article apply to humanist prefatorial paratexts as a whole. These characteristics are held in de Soto's dedication, as he included many of the elements expected in a traditional dedicatory letter: he praised his patron, showed humility and included references to historical figures. Moving forward to the letter to the reader, de Soto is provided the opportunity to promote himself and his work.[93] In discussing prefaces, Genette notes that the primary function of such letters is "to ensure that the text is read properly."[94] He further breaks this idea down, noting that for the book to be read properly, it must first be read.[95] Throughout all of de Soto's prefatorial paratexts these themes are seen: de Soto uses these texts as a source of advertisement, enticing the reader into his work and, moreover, he uses these texts, especially the letter to the reader and the preface, to contextualise the commentary that is to follow.[96]

The letter to the reader is by far the shortest of the paratexts and focuses on two main themes. The first is an emphasis on the care that de Soto has taken in preparing this

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[91] Mercuriale, *Gymnastica,* 5: "What was brought together, as it were, and from them formed the present work. What was produced by me with great exertion and application of the mind has met, as I have learned from many quarters, with a not unfavourable reception, if I may say so."
[92] Mercuriale, *Gymnastica,* 7: "In addition, I thought it was a gesture which would give great pleasure to Cardinal Farnese, to whom, after God, I confess that I owe everything, and whom I have always felt to be a most diligent and indefatigable herald of your praises..."
[93] Fortuna, 329.
[94] Genette, 197.
[95] Genette, 197.
[96] The dedication acts as a source of advertisement, as it puts forward the name of a powerful benefactor who has endorsed the work.

commentary. He writes: “How much pain, zealous reader, has been taken by us in elucidating the Hippocratic book, *De locis in homine*, I would consider it necessary for me to declare with many words (if the matter did not speak for itself).”[97] Already de Soto's self-promotion can be seen as he emphasises the difficulty of the text and the time he has spent in commenting upon it. This statement plays well with his discussion in the dedication, wherein he argues that academic works can only be great after much care and deliberation. Again, this is an attempt to emulate the ancients, as evidenced by the previously cited passages of Seneca and Horace. Continuing this self-promotion, de Soto tells the reader of the great service he is providing by commenting upon this text:

> …if you have read this our work in its entirety and have considered [its] particular doctrines and will have contemplated how much you are able [to achieve] under your own steam, you will be glad not only to admire our nocturnal and sustained work, through which easy access is provided to almost all doctrines contained in the books of Hippocrates and to be compared, but also, if you have absorbed them with us, to have been equipped with the very intellect with which you will most easily achieve what someone else has compared with much work.[98]

Indeed, by reading his commentary, the words of Hippocrates will be clearly explained to the reader, thus sparing him the pains that de Soto himself has endured by undertaking this task. Moreover, the reader is told that this is a product of de Soto's “nocturnal study,”[99] emphasising the fact that the majority of his time was spent in the employ of the *casa real*, attending to the needs of the king, members of the royal family, and other courtiers, as well as fulfilling other commitments at the court of the *protomedicato*, all of which limited the time that he could spend on his personal studies.[100] This, too, may lend a clue as to why

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[97] De Soto, IV[v]: *QVANTOPERE* [sic], *studiose lector, a nobis elaboratum sit in Hippocratis libro de locis in Homine elucidando (ni ipsa res loqueretur) pluribus mihi indicandum putarem.*

[98] De Soto, IV[v]: *...si totum hoc nostrum laborem perlegeris, & singulas sententias consideraueris, & quantum in vnaquaque tuopte possis marte contemplatus fueris, non solum nostram lucubrationem, & improbum laborem admirari, quo facilis aditus ad omnes fere sententias in libris Hippocratis contentas, comparandas praebetur, sed etiam si eosdem nobiscum conceptus habueris, te eo ingenio praeditum esse gaudebis, quo ea quae alius magno labore comparauit, facillime assequeris...*

[99] De Soto, IV[v]: *... non solum nostram lucubrationem...*

[100] Still, the idea of nocturnal study could be a *topos* of humanist literature; for example, in Vesalius, *Fabrica*, 476 (fn. 1), it is noted that the 1555 edition made this addition: "But though I can make it possible for each reader to order his reading of my chapters as he sees fit, I am also compelled to carry along those who even in their dreams have no training in dissection and who rely on the labours of others to justify themselves on whatever pretext, thinking that they are following some golden mean; they will turn my efforts and sleepless labours into revolting summary, or rather a waste of money, and inflict a sham on serious students." Similarly to de Soto, Vesalius uses the imagery of sleepless nights to emphasise the effort he has put into his work.

subsequent volumes of commentaries or other medical works were never produced by de Soto.

A discussion of de Soto's letter to the reader naturally raises the question of who, exactly, de Soto envisioned to be reading and employing his work. While de Soto never explicitly states his expectations in the prefatorial paratexts or otherwise throughout the commentary, a few deductions may be made. On the most fundamental level, the language of de Soto's commentary would exclude the masses, allowing access only to the elite, who had been schooled for literacy in not only the vernacular language, but also in Latin and sometimes with a basic understanding of Greek.[101] Despite the pluralistic nature of medicine in early modern Spain, this language barrier would exclude most, if not all, medical practitioners, other than those trained in a university setting, from de Soto's commentary.[102] Additionally, the content of the commentary would exclude from the readership anyone who was not well-versed in the Hippocratic and Galenic traditions. In short, de Soto was writing a commentary for his colleagues who could understand and appreciate his analysis of *Places in Man.* De Soto may have had in mind students of medicine as the readership of this text. As *Places in Man* was not traditionally part of the medical curriculum at this time, perhaps this was an attempt by de Soto to highlight a text he saw as very worthy of study. However, as de Soto was not, according to the available knowledge, affiliated with any university after his graduation, he may not have had the medical curriculum of a university in mind. Still, it may be said that the readership of this text would be very small, focused, and concentrated in the upper echelons of society.

With this readership in mind, one can better assess the way in which de Soto portrays himself and his work to the reader. He gladly tells the reader that he restlessly laboured away on this commentary, but he is also keen to imply that his labour has produced genius. Whilst this sort of self-promotion may strike the modern reader as eccentric, one must remember that de Soto was writing in another era for a very different audience. In a time before copious reviews and advertising, when books were an extremely expensive investment, these paratexts provided the author or commentator an opportunity to sell his work, to convince the potential reader why he should take the time and spend the money on this volume instead of

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[101] See Walter D. Mignolo, *The Darker Side of the Renaissance: Literacy, territoriality and colonization* (Ann Arbor: The University of Michigan, 2003) for a wider discussion of literacy in the Renaissance. Moreover, it should be noted that many humanists in early modern Spain published their works or produced translations of Latin texts in the vernacular language; see Ottavio di Camillo, "Humanism in Spain" in *Humanism Beyond Italy*, ed. by Albert Rabil, Jr. (Philadelphia: University of Philadelphia Press, 1998), 55-108 for more information on vernacular humanism in early modern Spain.

[102] Again, see Goodman's comment about the exclusion of New Christian practitioners in fn. 83.

another. It has already been noted by Genette that in order for the reader to properly understand a work, he must first decide to read it; thus de Soto's address to the reader provides the perfect opportunity to assert the value of his work.

However, de Soto is not all self-promotion. He ends the letter by admitting that some may disagree with his exegesis. He divides those who disagree with him into two possible categories. First there are those who may hold a different understanding of the text, but who still see the merit in his work. He entreats these readers to defend him from slanderers: "But if you have not understood the same as us, and have thought that we say clever things, you will protect us from the calumnations of slanderers."[103] De Soto is leaving his work open for academic discussion and debate; however, he is hopeful that his colleagues will still defend the worth of his work, even if they disagree with the specifics. This sort of academic discourse is seen in de Soto's citations of Mercado, wherein de Soto disagrees with his statements, but still writes highly of him as an academic and physician.[104] Secondly, de Soto addresses those who might find his work to be completely incorrect: "But certainly if you have thought that we have brought forward less than the truth, I will receive a reprimand with a most willing spirit, for it is impossible that I will not err in many things, for I am human."[105] De Soto acknowledges his fallibility and assures the reader that he is open to constructive criticism. This confession, too, stems from the Hippocratic tradition. Rütten notes: "Hippocrates's reputation in Renaissance and early modern thought was further enhanced by his admission of fallibility..."[106] Again, de Soto emulates Hippocrates, presenting himself with this characteristic of the Father of Medicine in an effort to garner the respect of the reader. Moreover, the notion of all men being subject to error has a strong religious undercurrent.

There is only one classical reference within de Soto's letter to the reader; a fact which is not surprising due to the nature of this paratext. In his discussion of the preparation of this commentary, de Soto refers the reader to Galen's *On the Doctrines of Hippocrates and Plato*, 9.1. In this work, Galen employs Hippocrates in a discussion on the nature of discovery:

> How does Hippocrates say that the nature of things is discovered? If we begin with what is 'greatest and easiest': greatest in its use, easiest with reference to our

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[103] De Soto, IV[v]: *Quod si idem nobiscum assequutus non fueris, & nos ingeniosa dicere existimaueris, vindicabis nos a calumnijs maledicentium.* It is notable that de Soto employs the word *calumnia*, as Sylvius frequently referred to Vesalius as the *calumniator* or "distorter of the law" in his attacks. Perhaps de Soto is again alluding to his anti-Vesalian position, emphasising the mendacity of Vesalius' works. See Rütten, "Progress", 43.
[104] See case study 2, fn. 66.
[105] De Soto, IV[v]: *At vero si minus vera nos proferre censueris, libentissimo animo castigationem suscipiam: impossibile enim est, homo cum sim, in multis non peccem.*
[106] Rütten, "Progress", 45.

> knowledge (of it). For nature gave us a double gift: the criteria themselves, and untaught trust in them. The criteria themselves are the sense organs and the faculties that employ them, the trust in them, unlearned and natural, belongs not only to men but also to the other animals... If a person puts no trust in things that appear clearly to sense-perception or thought, he must also not undertake to construct any art. But if the works of the arts are seen to be useful for human life, then surely the men on whose judgment they rest trusted the natural criteria. And we are more fortunate than they to this extent, that we learn in a short time the useful discoveries that cost our predecessors much time and effort and concern. If then in the time that remains in our lives we practice the arts not as a diversion but with constant attention to the differentiation of similars and dissimilars, there is nothing to prevent us from advancing beyond the men of earlier times. How shall we exercise and train ourselves? By beginning from things easiest to know, as Hippocrates said. These are the things that have great use for all of life and great differences from one another.[107]

In one brief mention, de Soto opens the reader up to a complicated discussion of the nature of knowledge and discovery. The importance of this lies in the reader's understanding how some authors of the Hippocratic Corpus, Galen, and thus de Soto, believed that knowledge can be acquired and accumulated. Moreover, the assertion that knowledge begins by understanding those things which are “easiest to know” sets the reader up for the first comment of de Soto's work, which discusses the nature of the body, particularly its beginning. Just as knowledge and understanding must start with the fundamentals, so, too, must a discussion of medicine begin by understanding the beginning of the body itself. Once the beginning of the body is understood, its individual parts and processes may be discussed, and so forth.[108]

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[107] Galen, *On the Doctrines of Hippocrates and Plato*, ed. and trans. Phillip de Lacy, CMG 4, 1, 2 (Berlin: Akademie-Verlag, 1980), 545. For an interesting discussion of this text's transmission and reception in the Renaissance, see Vivian Nutton, "*De Placitis Hippocratis et Platonis* in the Renaissance" in *Le Opere Psicologiche di Galeno: Atti del terzo colloquio Galenico internazionale, Pavia, 10-12 Settembre, 1986*, ed. Paolo Manuli and Mario Vegetti (Naples: Bibliopolis, 1988), 281-301.

[108] De Soto, 1: *Atqui cum hominem microcosmum, id est, minorem mundum appellitent, non est mirum, si Hippocrates in praesenti, corpus humanum circulo comparauerit, principio & fine carenti, mutuans illud ab Homero, ipso Hippocrate antiquiore, vt constat ex libro de articulis. At vero quantum veritatis Hippocratis assertio contineat, iam dicam. Qui in Philosophiae ac Medicinae documentis fuerit vel mediocriter instructus, non temere affirmare poterit, primam hanc Hippocratis sententiam (qua docet principium corporis nullum esse, sed omnia similiter principium & omnia finis, vt in circulo) suspicione non carere*; (*Aduerte, Hippocratem non dixisse: Dum circulus scribitur, sed, Circulo scripto: dum enim scribitur, principium habet. Quod pariter in hominis generatione est intelligendum: quando enim generatur principium habet: facto iam ac genito, principium non inuenitur…*): "But since they [Homer, Aristotle and the Stoics] call a man a microcosm, that is, a smaller universe, it is not surprising if Hippocrates, in the passage in question, has compared a human body to a circle lacking a beginning and an end, borrowing that [opinion] from Homer, even older than Hippocrates, as is certain from the book *De articulis.* But certainly, how much [of the] truth Hippocrates' assertion contains, I would like to say now. Who has only moderately been instructed in the doctrines of philosophy and medicine will hardly be able to claim that this first maxim of Hippocrates (by which he teaches that there is no beginning of the body,

The second important theme emphasised in de Soto's letter to the reader is his use of Janus Cornarius' Latin translation of *Places in Man*: "Still draw your attention to this, that we have followed Janus Cornarius' version (which we think to be more true, and very harmonious with the most ancient author Erotian), which, commonly printed in octavo, is widely circulated."[109] De Soto most likely used the 1546 edition printed by Guillard and Desbois in Paris for his commentary. Extant copies of this edition are more widely available than the other octavo edition, that of Gryphius, also published in 1546, suggesting that de Soto did, indeed, employ the former.[110] Throughout his commentary, de Soto asserts his preference for the translations of Cornarius; with the majority of his argument for the validity of this Latin translation stemming from Cornarius' consistency with the glosses of Erotian, as edited by Bartolomeo Eustachi (*c.* 1500-1574) and published in 1566 under the title *Erotiani graeci scriptoris vetustissimi vocum, quae apud Hippocratem sunt, collectio*. In de Soto's opinion, this loyalty to the ancient glosses, and thus to ancient authority, lends the best translation possible, as Erotian provides the most ancient insight into the words of Hippocrates. Thus, in de Soto's opinion, Cornarius' employment of Erotian in his translation was consistent with the goal of *prisca medicina*. It should be further noted that both Cornarius and Eustachi were opposed to the new anatomy of Vesalius, and sought to

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but that all [things] are similarly the beginning and all things belong to an end, as in a circle) is not unsuspicious..." Here de Soto is cautious with this potentially heretical statement, particularly with its relationship to the transmigration of the soul; however, after careful deliberation, de Soto (f. 1^{v}) is able to reconcile the passage thus: "Bear in mind that Hippocrates did not say: as long as a circle has been drawn [it has no beginning], but, after a circle has been drawn. For while it is being drawn, it has a beginning. This is also to be recognised in the generation of man; for since he is generated, he has a beginning, but after he has already been made and generated, a beginning is not found..."; see also Brian Ogren, "Circularity, the Soul-Vehicle and the Renaissance Rebirth of Reincarnation: Marsilio Ficino and Isaac Abarbanel on the possibility of transmigration", *Accademia: Revue de la Société Marsile Ficin* 6 (2004): 63-94.

[109] De Soto, IV^{v}: *Id tamen aduerte, Ianni* [sic] *Cornarii versionem (quam veriorem esse existimamus, & Erotiano authori antiquissimo maxime consonam)* [*nos*] *sequutos esse, eam scilicet, quae in octauo papiri communiter impressa circumfertur.* See also, Blanco Pérez, "Comentarios", 210 for an alternative translation in Spanish. Whilst it is possible that de Soto employed Cornarius' Greek version of *Places in Man*, his use of the Latin translation is far more probable, given the similarities between the Latin in the texts. Moreover, there is no evidence to suggest that de Soto would have had the Greek language skills to complete such a translation. See ch. 1, "1.3 Biography of Lázaro de Soto" and ch. 3, case study 1,"3.1.1 Contextualisation of Places in Man, 6.1."

[110] The two editions in question are: Janus Cornarius, *Opera Omnia* (Paris: Guillard and Desbois, 1546) and Janus Cornarius, *Opera Omnia* (Venice: Joannis Gryphius, 1546). See Marie-Laure Monfort, "L'apport de Janus Cornarius (ca. 1500-1558) à l'édition et à la traduction de la collection hippocratique", PhD diss. (Universite de Paris-Sorbonne, 1998), 290-294.

safeguard the authority of Galen. [111] Thus, Eustachi's edition had the added advantage of sharing an ideological affinity with Cornarius and de Soto.

Due to his prominence throughout the text, a moment should be taken to discuss Cornarius and the influence he had on de Soto and his work. Janus Cornarius was born the son of a shoemaker around 1500 in Zwickau.[112] After obtaining his medical license in 1523, he travelled throughout Germany and Switzerland, alternating his medical practice with lectures on ancient Greek medicine.[113] In 1557 he was appointed chair of medicine in Jena; however, he died one year later in 1558.[114] During his career, Cornarius translated and edited many Greek texts, primarily medical, with one of his most famous works being his Basel edition of Hippocrates, which was published in both Greek and Latin in 1538; the latter, albeit in a later edition, was used by de Soto for his commentary.[115] In addition to this quotation, de Soto mentions Cornarius on six additional occasions. Comments 27 and 58 again praise the accuracy of Cornarius' translations, and comments 30, 87, 105 and 118 reiterate the translation's harmony with the work of Erotian, in addition to its accuracy.[116] For example, comment 118 states: "The version of this text as transmitted by Janus Cornarius is harmonious with Erotian and Eustachi, lib. vocum Hippo. collect. fol. 52, where he translates this term *frequenter*."[117] Again we see that, in de Soto's opinion, a primary indicator for the worth of a Hippocratic translation lies in its 'harmony' with Eustachi's edition of Erotian.[118]

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[111] O'Malley, *Vesalius*, 221-222; Nutton, "Eustachi", 486. Nutton further notes in his introduction to Vesalius, *Fabric*, XCIX-C: "Very different, and far from vociferous, were the feelings of those who had been at the very forefront of introducing the new Galenist anatomy, some of whom - especially Guinther, Caius, and Sylvius - had once been Vesalius' friends and companions. The sense of betrayal must have added to their anger … Their rage is almost palpable in the furious strokes of the pen with which Cornarius, professor of medicine at Marburg and a leading translator of Galen, scored through the name of Vesalius at every point in his copy of the 1542 Froben reprinting of the collected works of Galen in Latin translation, now in the British Library. Vesalius' name is expunged from the list of translators and correctors, and his errors are heavily marked down." For more information on Erotian, see Vivian Nutton, "Erotianus" in Cancik, ed., *New Pauly*, part 1, vol. 5, 39-40 and von Staden, "Lexicography" in López Férez, ed., *Tratados Hipocráticos*, 549-569.

[112] Monfort, "Cornarius", 9.

[113] Monfort, "Cornarius", 14-15, 20-24.

[114] Monfort, "Cornarius", 14, 53.

[115] See fn. 109.

[116] See de Soto, 17, 17^{v}, 44, 59^{v}, 71, and 76^{v}.

[117] De Soto, 76^{v}: *Huius contextus versio a Iano Cornario tradita, consona est Erotiano, & Eustachio...vbi dictionem illam frequenter interpretantur.* The word in question is θαμινὰ, which, according to Eustachi's volume, is translated into Latin as *densae* or *frequenter*. See Eustachi, Bartolomeo, *Erotiani... vocum quae ad Hippocratem sunt, collectio* (Venice: Luca-Antonio Giunta, 1556), 52^{v} and Erotian, 44 (θ.2).

[118] De Soto was not alone in his preference of Cornarius' work; for example Peter Memm, too, preferrred the latter's translations. See Rütten, "Memms", 557-609.

2.3 Preface

In his chapter on prefaces, Genette proposes a variety of motivations that an author may have in writing such a text, including "statement of intent," which best describes de Soto's use of this paratext.[119] He employs the preface to establish the purpose of his commentary: “For in the first place, I will uncover whether this is a genuine Hippocratic book, then I will demonstrate the preserved order, and finally, the usefulness of this work, and to which part of the art it pertains.”[120] In reading this passage, the reader now understands de Soto's main objectives in completing this commentary. The first of these goals is primarily handled in the preface itself. De Soto cites various reasons and sources to support his claim that *Places in Man* is a genuine Hippocratic text: “Therefore, I believe that this [book] should be counted among [Hippocrates'] own and genuine books or that it is certain from this manifest that the sequence of words, the earnesty of the way of speaking and the obscurity of the maxims are suggestive of the author Hippocrates.”[121] De Soto draws comparisons between the syntax and subject matter of this text to other texts that have been attributed to Hippocrates, likely employing the skills and knowledge he acquired during his extensive education and studies. Furthermore, our commentator argues that Hippocrates' authorship of this text has been asserted since antiquity: “Because no author as yet, ancient or modern, has said that this book is spurious and non-genuine.”[122] To support this claim, de Soto cites Galen's *De symptomatum causis*, chapter 6, *De inaequali intemperie*, chapter 3, as well as Erotian’s *Vocum Hippocratis collectio*. In *De symptomatum causis*, Galen refers to a quotation from chapter 42 of *Places in Man*: “Hippocrates, who was still more ancient, said that in those who, with respect to the natural state are changed and corrupted, pains occur.”[123] A similar idea is indeed found in *De inaequali intemperie*, wherein Galen states what Hippocrates has 'admirably' said previously: “Pains occur when the nature of anything is changed and corrupted.”[124] On both occasions, Galen has explicitly linked the quote from *Places in Man* to Hippocrates as its author. Erotian, too, includes glosses from *Places in Man*

[119] Genette, 221: "The most important function of the original preface, perhaps, is to provide the author's interpretation of the text or, if you prefer, his statement of intent."
[120] De Soto, V: *Primo enim loco, an genuinus sit hic Hippocratis liber, aperiam, deinde ordinem in eo seruatum, ac demum operis vtilitatem, & ad quam artis partem pertineat demonstrabo.*
[121] See ch. 1, fn. 134.
[122] De Soto, V: *Accedit, quod nullus adhuc tam ex antiquis, quam ex neotericis author*[*ibus*] *spurium nothumque hunc librum esse dixerit.*
[123] Galen, *On the Causes of Symptoms I* in Galen, *Diseases and Symptoms*, 220; See Hp., *Loc. Hom.*, 79: "For to everything as its nature is changed and destroyed pains occur."
[124] Galen, *On Uneven, Bad Temperament* in *Galen on Food and Diet*, ed. and trans. by Mark Grant (London and New York: Routledge, 2000), 39.

in his *Vocum Hippocratis collectio*, thus implying that the work is genuine.[125] Additionally, de Soto cites Caelius Aurelianus and his chapter on sciatica and psoitis in *On Chronic Diseases*:

> Among the famous physicians, Hippocrates in his book *On Places* employs cupping without scarification. He also prescribes the drinking of hot drugs. But even if these measures were really suitable in [an attack of] this disease, they would still, in our opinion, prove quite inadequate to overcome the disease in its chronic form.[126]

De Soto states further that Rufus of Ephesus, too, thought this book to be a genuine work of Hippocrates: "Still, I am unable to be silent about Rufus of Ephesus, who cites chapter 1, sentence 8 of this book in the beginning of the second book of *De partium corporis humani appellationibus*, and recommends it as genuine."[127] While the Hippocratic Question may never be fully answered,[128] it is important to understand that de Soto truly believed this work to be a genuine work of the historic Hippocrates and that the commentator spent some time securing sources to support his argument. However, de Soto acknowledges that not all may be in consensus about the provenance of this work:

> But if it may seem to someone that it [this book] should be counted among the spurious [treatises] (God forbid it!), still because it contains opinions, indispensable and worthy of Hippocrates, inasmuch as they seem to meet much approval of his own writings (as one is at liberty to consider with the help of the reasoning of the whole book and with the help of our *enarratio*); it is therefore worthy of much respect and recommendation.[129]

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[125] As noted in ch. 1, fn. 136 of this thesis, Erotian refers to *Places in Man* on three occasions.

[126] Cael. Aur., *TP*, 921. See Hp., *Loc. Hom.*, 65, which states: "When flux leads to sciatica, you must apply a cupping vessel and draw out the matter without breaking the skin; and warm up the interior by prescribing warming drugs to drink, so that there will be a way outside to the skin by the drawing of the cupping vessel and inside to the belly by the heating process. For when it is pent up and does not have anywhere to travel, it travels to the limbs and flows to the point which yields, and causes sciatica"; de Soto, V: *Caelius praeterea Aurelianus vetustissimus author capite de coxendice Hippocratem citat hoc in libro de morbo coxendicis verba facientem.*

[127] De Soto, V: *...sed Ruffum Ephesium subticere non possum, qui libro altero primo de partium corporis humani appellationibus, c. 1. huius libri sententiam. 8. citat, & tanquam genuinam commendat.* While Daremberg and Ruelle's edition of Rufus notes no explicit references to *Places in Man* in their French translation of this text, Craik notes affinities between the texts on pp. 133, 139, 143, 144, 147, 150-152, 155.

[128] See Geoffrey E. R. Lloyd, "The Hippocratic Question", *The Classical Quarterly* 25 (1975): 171-192.

[129] De Soto, V: *Quod si inter spurios recensendus alicui videatur (quod absit) quia tamen necessarias & Hippocrate dignas sententias continet, qua ipsius documentis multum arridere videntur (vt considerare licet per totius libri discursum, & nostram enarrationem) ideo multa reuerentia, & commendatione dignus est.*

Indeed, de Soto believes that even if *Places in Man* is not a genuine work of Hippocrates, the tenets held within the work are close enough to those of the ancient physician that the book should still be considered useful and praiseworthy.

The preserved order of the text, the establishment of which is de Soto's second goal, is a far simpler task. This is briefly mentioned in the preface, and our commentator demonstrates it in full throughout the body of the work. The Hippocratic text follows a traditional order, moving *capite ad calcem* in its discussions of anatomy, physiology and nosology. Moreover, fluxes are discussed in this manner, most frequently originating from the top of the head and traveling in a downward motion.[130] Each section of the text is built upon the previous; to understand how the movement of fluxes affect the body, one must understand the parts, and to understand the diseases caused by fluxes, one must understand how they move. As in the passage cited above from Galen's *On the Doctrines of Hippocrates and Plato*, knowledge can only be acquired by first understanding the most basic concepts before moving forward. De Soto uses this brief mention of order as a springboard into his discussion of the purpose of *Places in Man*: "Certainly, because he considers the order, we may say that the goal of the author in the present text is to demonstrate diseases (and especially those arising from flux and peculiar to each part of the body)."[131] As seen above in the other paratexts, de Soto understands the utility of this text to lie in the explanations of how to identify and treat diseases that are caused by flux.[132] In doing this, the author of *Places in Man* outlines the parts of the body, an understanding that is necessary in the subsequent physiological and pathological discussions; de Soto writes that the Hippocratic author "recounts the history of the particular parts of the body..."[133] The physiology presented

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[130] See Hp., *Loc. Hom.*, 241 for a diagram depicting the movement of flux throughout the body according to this Hippocratic author.

[131] De Soto, V[v]: *Quod vero ad ordinem spectat id dicimus, scopum authoris in praesenti libro esse, morbos (eosque praecipue ex fluxione ortos, & unicuique parti corporis proprios) monstrare...*

[132] This idea was emphasised by López Piñero in his discussion of de Soto's commentary on *Places in Man*; see ch. 1, fn. 129.

[133] De Soto, V[v]: ...*praecipuarum partium corporis historiam narrat...* In the introduction (pp. 1-22) to the volume *History, Medicine and the Traditions of Renaissance Learning*, Nancy Siraisi notes the alternate meaning of the term *historia* used by physicians in the Reniassance: "At the same time, although history remained closely connected to rhetoric and moral philosophy and was usually considered exemplary in function, the term *historia* again began to be understood - and to acquire a range of applications - in its original Greek sense of 'narrative of the results of an inquiry,' that is, a report on research"; see Nancy Siraisi, *History, Medicine and the Traditions of Renaissance Learning* (Ann Arbor: University of Michigan Press, 2007), 9. Thus, in using the term *historia*, de Soto means that the Hippocratic author is intending to recount his research or observations about the parts of the body.

in *Places in Man* is holistic, with each part affecting the others, as well as the parts working in consensus.

2.4 Conclusion

Just as Genette suggested,[134] these paratexts act as a threshold to both the entire volume and to de Soto's commentary on *Places in Man*, providing the background information necessary for the reader to understand the author's conception of Hippocratic medicine. In writing these texts, de Soto achieves several goals. In the first instance, de Soto links himself to authority by dedicating the volume to Archduke Albert VII of Austria. His bid for patronage includes many of the traditional elements seen in humanist dedications; particularly, praise for the dedicatee, the use of the rhetorical tool *captatio benevolentiae* and allusions to historical figures, in this case, the famed classical patron, Maecenas. Moreover, this dedication demonstrates a desire by de Soto to continue his career at the court, as he focuses his attention on the upcoming generation of power. Moreover, de Soto uses the dedication to ally himself with the contested Galenism, by rejecting the works of the 'new' science; especially Vesalius' *De fabrica* and Fuch's *De historia stirpium*. This theme will be continued throughout the textual case studies, as de Soto continually uses his commentary on this Hippocratic treatise to reassert Galenic authority. Additionally, de Soto uses these paratexts to explain to the reader why he has chosen these particular works for comment. In the course of his discussion, the reader learns that de Soto chose texts both for their obscurity and difficulty and also in order to present a more rounded view of medicine through the inclusion of texts on therapeutic and prophylactic medicine, as well as two on pharmacy. The commentator also tells the reader that he has chosen these texts in order to serve the *utilitas publica*, or the common good, by elucidating the useful medical information concealed in these texts. Finally, as Genette notes,[135] de Soto employs these opening texts as a source of advertisement, enticing the reader into the work, as his comments would, indeed, prove obsolete if they are never consumed.

[134] See fn. 94.
[135] See fn. 95.

Chapter 3. Textual Case Studies

Now that the reader has been lured into de Soto's book by way of its paratexts, it is time to look at the commentary on *Places in Man* proper, which will be the focus of this chapter of my thesis. As has been noted in the introduction, the case studies that comprise this chapter were selected to represent the wider medical themes addressed by the author of *Places in Man* and de Soto's reader response to them; by employing this case study approach, a wider range of issues may be explored. This chapter includes five case studies on the subjects of anatomy, physiology, nosology and pathology, precepts and ideology - they are all very different, however, the common denominator that connects all of de Soto's comments is his interpretation of the Hippocratic flux presented in *Places in Man* through a lens of Galenic humouralism.

3.1 Case Study 1: Anatomy

After a brief introduction, the Hippocratic author of *Places in Man* sets out in chapters 2-8 to describe and explain the anatomical features of the human body. Within these chapters, the senses of hearing, smell and sight are discussed, as well as the structures of the bones and joints, various vessels, tendons and ligaments, and the organs involved in digestion. This assortment of structures and structural systems is discussed *a capite ad calcem*, as is to become traditional, and sets the anatomical basis for the physiological processes discussed by the author later in chapters 9-23. Indeed, de Soto describes the parts as the sites in which fluxes act upon the body. This case study will focus on chapter 6, section 1 of *Places in Man*, enumerated in de Soto's commentary as passage and comment 22 - an anatomical passage discussing the sutures of the skull.[1] While this at first glance would seem a fairly straightforward topic, it will be shown how controversially it was discussed in antiquity and how contested it remained throughout the early modern era.

3.1.1 Contextualisation of Places in Man, *6.1*

The opening lines of the anatomical block of *Places in Man* stress the importance of anatomy in medical study, stating that "the nature of the body is the beginning of discourse on medicine."[2] According to the Hippocratic author, an understanding of the human form is

[1] Hp., *Loc. Hom.*, 43; de Soto, 15.

[2] Hp., *Loc. Hom.*, 39. This is echoed by Galen, as Cunningham, *Anatomical Renaissance*, 26 notes "It was above all from Galen that later ages learnt that a knowledge of anatomy must lie at the basis of a proper knowledge of medicine." See also Ludwig Edelstein, Peri Aerōn *und die Sammlung der hippokratischen Schriften* (Berlin: Weidmannsche Buchhandlung, 1931), 140: "Es ist dann aber, so viel ich weiß, nur eine Stelle einer der hippokratischen Schriften

fundamental to the study of medicine and key to comprehending the physiological processes of the body. Craik elaborates on this, noting that "[t]he view that medicine must begin with the study of the body became a commonplace of medical writing," and citing Rufus of Ephesus, who likens the learning of anatomy as the basis of medicine to the learning of cords for the lyre player or to the understanding of iron instruments for the blacksmith.[3] De Soto expands on this idea in comment 8, noting that "the intention of Hippocrates in the present book… is to explain the parts of the human body, the limbs or places, and to expound specific sicknesses in some places and for that reason he marked the book with this title, (namely) *De locis in homine*."[4] Thus, the purpose of this work, as understood by de Soto, was to elucidate the structure of the human body, and using that knowledge as a base to then explain the physiological processes, specifically fluxes, which acted upon the parts. Moreover, de Soto reinterprets the Hippocratic author's description of seven fluxes to coincide with his own four-humour physiology.

The Hippocratic passage prompting de Soto's comment 22 is short and concise. It states that the number of sutures in the human skull varies between three and four. Subsequently, it describes the usual layout of each constellation: "…one on each side by the ears and another in front" for the former and "by the ears on each side, another at the front and another at the back of the head" for the latter.[5] Moreover, the author asserts that heads having more sutures are indicative of a healthier disposition.[6] There is little elaboration as to what would cause a difference in the number of sutures or why the number would have an effect on health.

As with his other comments, de Soto begins comment 22 with the Hippocratic passage in translation based on Cornarius' Latin. The Latin used by our author is very similar to Cornarius's original translation; however, there is one significant difference in the third and fourth line of the quotation: where Cornarius has chosen to state that the third suture is by

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der Phaidrosstelle vergleichbar. In περὶ τόπων τῶν κατ᾽ ἀνθρωπον heißt es, daß die Natur des Körpers den Anfang der Unterweisung in der Medizin machen müsse (Kap. 2 VI 278 L.). Und dann wird eine genaue anatomische Beschreibung des Körpers, der durch den Bau des Körpers bedingten stofflichen Veränderungen, der Krankheiten, der Heilmittel gegeben. Methodisch ist das die Art des Vorgehens, die Hippokrates nach Platon eigen war. Aber die Gleichheit einer Methode reicht nicht aus, um nun etwa zu sagen, daß in diesem Buch die Lehre des Hippokrates stände oder gar, daß er der Verfasser wäre; man kann nur eine Ähnlichkeit feststellen."

[3] Hp., *Loc. Hom.*., 39, 103; Ruf., *Onom.*, 133.

[4] De Soto, 6^{v}: *Hippocratis institutum in praesenti libro…est enarrare humani corporis partes, membra seu loca, morbosque declarare aliquibus locis peculiares, quapropter librum titulo hoc insigniuit (nempe) de Locis in Homine*...

[5] Hp., *Loc. Hom.*, 41.

[6] Hp., *Loc. Hom.*, 41.

the more frontal part [of the skull] (*tertia ab anteriore*), de Soto has modified the Latin to state that the suture is in a more frontal position (*tertia est anteriori*), switching the prepositional phrase used by Cornarius for the use of *esse*.[7] Craik's translation from the original Greek as "another at the front" (ἄλλη ἔμπροσθεν) is more reminiscent of Cornarius' choice of words.[8] However, de Soto's choice to change the wording of the translation could stem from an effort to help clarify the position of the suture and build a stronger anatomical picture in the mind of the reader. Rather than simply stating that the suture is located in a more frontal part of the cranium, de Soto is emphasising that the third suture holds a more frontal position in relation to the other sutures located by the ears.

Craik notes that the assertion of a variable number of sutures is incorrect, suggesting that this "may have arisen from the viewing of different heads... at different angles."[9] This is a reasonable proposal, as anatomical knowledge of the human body contemporary to the Hippocratic author stemmed from study during surgeries, examination of wounds, chance observation, or the study of skeletal remains, rather than from systematic dissection of cadavers. Moreover, study of skeletal remains would have left room for error, due to different traumas that could have occurred both pre- and post-mortem. Craik then offers the observation that this passage may be a polemic against the author of *On Head Wounds*, who also discusses the arrangement of the sutures.[10] The passage to which *Places in Man* may be in opposition claims that the sutures are in the shape of "the letter *chi* (X)... one transversely extending to the temple (on either side), the other longitudinally through the middle of the skull", rather than the positioning set forth by our Hippocratic author.[11] However, it should be noted that within this passage, the author of *On Head Wounds* does discuss varying placements of the sutures, writing that a head with three sutures can take the arrangement of a *tau* (T) and those with four can resemble both the *chi* mentioned above and the letter *eta* (H), depending on the number and position of cranial projections.[12]

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[7] De Soto, 14^{v}: *Capita suturas habent, alia tres, alia quatuor: & quae quidem quatuor habent, his sunt vtrinque iuxta aures, & tertia est anteriori...*; Janus Cornarius, *Opera Omnia*, (Basel, 1564), 72^{v}: *Capita suturas habent, alia tres, alia quatuor, & quae quidem quatuor habent, his sunt utrinque iuxta aures, & tertia ab anteriore...*

[8] Hp., *Loc. Hom.*, 31.

[9] Hp., *Loc. Hom.*, 31, 121.

[10] Hp., *Loc. Hom.*, 31, 121.

[11] Hippocrates, *On Head Wounds*, ed. and trans. Maury Hanson, CMG I, 4, 1 (Berlin: Akademie Verlag, 1999), 63. Hp., *Loc. Hom.*, 31, 121: Craik notes that this organisation of the sutures in the shape on an "X" is not impossible, but can be seen in cases of heads with metopic sutures, first described by Ruf., *Onom.* 131, 150. However, this condition is rare and should be regarded as an exception in cranial suture placement rather than the rule.

[12] Hp., *VC*, 1.1-1.4.

Furthermore, in discussing this passage and its commentary there are some issues of terminology that should be addressed. In the early modern era, anatomical study still lacked a standardised vocabulary. Although attempts had been made by physicians in antiquity, such as Galen and Rufus of Ephesus, and in the Renaissance by, for example, Julius Pollox with his *Onomasticon* (1502) and Alessandro Benedetti with his *Anatomice sive de historia corporis humani* (1502) to create a standardised vocabulary based on the works of the ancients (thus removing Arabic terminology), the intent of these works had not come to fruition during the career of our author.[13] Vesalius, too, made an attempt at standardisation, and in this pursuit of terminological clarity he "felt compelled to list all known forms of anatomical terms" and attempted to "introduce a purified, more standardized terminology by a return wherever possible to the Greek or to a Latinized version of it."[14] These attempts to standardise nomenclature based upon the classical languages rather than their Arabic counterparts is quintessential to the medical humanist movement.

Thus, in examining this passage, the first question to be asked is what exactly is meant by the term 'suture'. This, indeed, is part of the problem in enumeration and nomenclature that persisted for so many years. In the Greek of the original text, the author used the term ῥαφή, which was used to describe both anatomical sutures and, more generally, seams, stemming from the verb ῥάπτω, meaning to sew or stitch. The predominant translation, used by both Cornarius and de Soto, into Latin is the word *sutura*, again referring to a suture of the skull or, more widely, a seam, stemming from *suo* or 'to sew'. While these definitions coincide, neither explicitly defines what is meant by a suture of the skull – and this has led to confusion in both the identification and quantification of the cranial sutures. In his commentary, de Soto addresses this problem:

> Furthermore, the sutures of the head exist in two different forms, for certain sutures are proper and legitimate, however, others are illegitimate and spurious… illegitimate sutures are distinguished from these because the bones of the head are connected through legitimate sutures in the manner of teeth, bearing similarity to a saw, but [the bones of the head] are connected through the other, improper sutures by lying flush against each other.[15]

This distinction between serrated (=genuine) and smooth or overlapping (=illegitimate) sutures is still present in modern anatomical nomenclature, which classes sutures into *sutura*

[13] O'Malley, *Vesalius*, 17.
[14] O'Malley, *Vesalius*, 17, 199.
[15] De Soto, 14^{v}: *Suturae porro capitis in duplici sunt differentia, quaedam enim sunt propriae & legitimatae, aliae vero sunt nothae & spuriae…Aliae vero suturae nothae ab ijs distinguuntur, quia per legitimas suturas ossa capitis connectuntur dentatim, ad serrae similitudinem, per alias vero improprias suturas, harmonia quadam connectuntur...*

vera and *sutura notha.* Further to this, de Soto tells the reader which sutures he considers to be genuine:

> Those sutures that are legitimate are three in number, namely the lambdoid, which is on the occiput and slopes to the ear on either side, similar to the Greek letter, Λ. The second is the coronal, which the Greeks call *stephanion*. The third is the saggital or straight suture.[16]

These three sutures all have the serrations that de Soto considers a necessary characteristic of the genuine sutures. Additionally, the individual names of these sutures derive from their particular characteristics: the lambdoid, as is stated above, located on the back of the head with two branches extending toward the ears; the coronal, or in Greek – στέφανος, is positioned similarly to the placement of a crown; and the saggital or straight suture runs in a straight line through the top of the skull.

3.1.2 Sutures and the Ancients

The number of the cranial sutures was a topic that caused a surprising amount of controversy throughout antiquity and varying authors, both medical and literary, have provided differing accounts of the number and placement of them. For example, in his *Histories*, Herodotus writes of a head constructed without sutures from the battlefield of Plataea.[17] While this account has often been contested, Alfred Godley notes that sutures become far less visible with age, due to continued ossification throughout the lifetime of an individual, although it remains impossible to know if this was the case, or if Herodotus even witnessed this skull first hand.[18] Celsus, too, attests to a skull without sutures and attributes this to warm climates: "It is rare for the skull to be solid without sutures; in hot places, however, this is more easily found."[19] Although Herodotus does not attribute an origin to his skull without sutures, Celsus would have likely ascribed it to a fallen Persian soldier.

Plato and Aristotle, too, gave accounts on what they believed to be the number of sutures on the human skull, though their reasoning was quite different. Plato writes in his *Timaeus*: "The sutures are of very different patterns owing to the varied action of the revolutions and the nourishing material, being greater or fewer in number according to the

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[16] De Soto, 14^{v}: *...quae legitimatae sunt, trino numero complentur, scilicet, lambdoydis, quae est in occipitio & vergit ad vtramque aurem, similis literae Graecae, Λ. Secunda est coronalis, quam Graeci Stephaniam vocant. Tertia est sagittalis siue recta.*
[17] Herodotus, *The Histories*, trans. George Rawlinson (London: J. M. Dent & Sons, 1992), 706.
[18] Herodotus, *The Persian Wars*, trans. Alfred Godley, LCL 120 (Cambridge, Mass.: Harvard University Press, 1925), 258-259.
[19] Cels., vol. 3, 475.

intensity of the struggle between the two."[20] Thus, the number of sutures, according to Plato, is based entirely on the state of the soul during development, as the soul resides within the head. However, Aristotle attributed the differences in the number of cranial sutures to gender. According to him, the function of the sutures is to release the steam caused by the moisture and cold of the brain meeting the rising heat from the body, particularly the heart; and because the brains of males are larger, they generate more steam, and thus need more sutures to ventilate the cranium, namely three to the female's one necessary suture.[21]

Additionally, Vindician, a North African physician of the fourth century, provides insight on Synanchus and Herophilus' descriptions of the sutures:[22]

> Our head has five angular sutures, one bordering on the next; and only in the female is it, in fact, all the way around as the anatomists Synanchus and Herophilus wrote. The skull, i.e., the 'helmet', which the Greeks used to call 'crane' [*mēchanē?*], is placed underneath and it coheres with a membrane, on which is placed the skin…[23]

Familiar themes are seen within this description - particularly in Vindician's attempt to enumerate the sutures. Moreover, he differentiates between the male and female skull, a view similar to Aristotle's; although, unfortunately, Vindician provides no further information as to why male and female skulls would have differing configurations. What is most intriguing about his account is that he is claiming to provide anatomical descriptions from accounts of men from antiquity who [allegedly] had performed human dissections. Perhaps this may explain why his description of the skull and its features is quite different from the accounts of the Hippocratic authors, Plato, Aristotle and Galen.

In addition to the difficulties in enumerating the sutures, there was also controversy in the question of their placement. As has been discussed, de Soto does not comment upon sutural placement beyond the three that he considers 'legitimate'. Furthermore, these factors, the number and placement of sutures, were used to indicate the general health of the head. Though not mentioned in this Hippocratic passage, de Soto explains how the health of the head, and indeed of the whole body, is dependent upon the number of sutures on the cranium:

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[20] Plato, *Timaeus and Critias*, ed. and trans. Desmond Lee and Thomas Kjeller Johansen (London: Penguin Books, 2008), 73.

[21] Aristotle, *On the Parts of Animals*, ed. and trans. by James G. Lennox (Oxford: Oxford University Press, 2001), 30. In this passage Aristotle also notes that this occurrence only happens in the human animal rather than the "other blooded animals."

[22] For more information on Vindicianus, see von Staden, *Herophilus*, 142-143; Alain Touwaide, "Vindicianus" in Cancik, ed., *New Pauly*, part 1, vol. 15, 430. It should be noted that the existence of the physician Synanchus is contentious. In *Le Latin Médical,* Guy Sabbah suggests an alternate reading of *summus anatomicus Herophilus* rather than *Synanchus et Erophilus.* See Guy Sabbah, *Le Latin Médical: La constitution d'un langage scientifique, réalités et langage de la médecine dans le monde romain* (Saint-Étienne: Université de Saint-Étienne, 1991), 151.

[23] Vindicianus, *Gynaecia* 3, in von Staden, *Herophilus*, 195.

> For this reason, those who have more sutures are healthier in the head. For in fact, less serious illnesses and pains of the head are accustomed to arise from the retention of sooty excrements… Nevertheless, it is sufficient if you understand that the head, which has more sutures (either proper or improper), enjoys more firm and sound health...[24]

This returns to the notion that the sutures act in a way similar to a chimney over a fireplace, allowing the sooty excrements generated by the internal heat of the body out through the head. Therefore, those who have more sutures, release more of these unhealthy vapours, while those with fewer retain more. De Soto supports this view by citing a passage from *De alimento*, which states:

> Porousness of a body for transpiration healthy for those from whom more is taken; denseness of body for transpiration unhealthy for those from whom less is taken. Those who transpire freely are weaker, healthier, and recover easily; those who transpire hardly are stronger before they are sick, but on falling sick they make difficult recovery. These for both whole and part.[25]

De Soto further applies the belief that the cranium with more sutures is healthier to the porosity of the entire body: "but in fact, health not just of the head, but of the whole body is stronger the wider-mashed and more passable the body's texture was (through which the soots are discharged)."[26] However, these statements do not go undisputed. De Soto quotes the work of Celsus, who disagrees with the Hippocratic author of *De alimento* and, indeed, with de Soto. Celsus asserts that the head with fewer sutures is healthier, writing "as for the rest, the fewer the sutures, the better for the heads; and there is no certainty as to the number, or even as to the position of the sutures."[27] From this, it can be seen that while Celsus provides no information in regards to the number or arrangement of the sutures, he teaches that a suture-less head "is the firmest and safest from headaches."[28] In his commentary, de Soto disagrees with this assertion, having established that more sutures provide better ventilation for the cranium; however, he makes an attempt to better understand Celsus' reasoning, positing that Celsus was referring only to health in relation to external injury:

> Unless you want to say that Celsus understood that the head having fewer sutures is most easily protected from external injuries. But these causes are not so much more

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[24] De Soto, 14^{v}: *Quapropter qui plures suturas habent, saniores capite sunt: namque non leues solent oriri morbi & dolores capitis ex fuliginosorum excrementorum retentione...Sufficit tamen si intelligas, caput plures suturas (siue proprias siue improprias) habens, commodiori ac saniori vti valetudine...*

[25] Hippocrates, *Nutriment*, trans. William Henry Samuel Jones, LCL 147 (London: William Heinemann, 1923), 353. For a critical edition of *Nutriment*, see ch. 3, case study 5, fn. 32.

[26] De Soto, 14^{v}: *Sed re vera non solum capitis, sed etiam totius corporis valetudo potior est, quanto rarior ac patentior corporis contextura (qua fuligines excernantur) fuerit...*

[27] Cels., vol. 3, 475.

[28] Cels., vol. 3, 475.

> dangerous than internal, by which the wider-mashed parts are very easily claimed, the thicker, however, with difficulty and with great damage.[29]

While de Soto understands that Celsus was making the argument that a solid or thicker skull stands as better protection from traumatic injuries, he disagrees with this point, as he believes sutures act as a barrier from further cranial fracture. He also believes that the internal damage caused by retained sooty excrements is more worrisome than damage caused from external injury.

3.1.3 Early Modern Anatomy

In pre-Herophilean times, knowledge of the interior human body was rather limited, as the practice of human dissection was not done. The Greek physicians Herophilus and Erasistratus, living and dissecting human bodies in Alexandria in the mid-4th to mid-3rd century BCE, changed the state of affairs temporarily, but subsequently, the anatomical information gathered by the ancients, for the most part, was not gleaned from systematic human dissection.[30] However, reports of human dissection emerge again in the late antique Byzantine Empire, followed by postmortem examinations in western monasteries.[31] By the 14th century, the practice of human dissection began to take the form embraced in the Renaissance; these anatomies were highly dependent on the ancient sources, especially the works of Galen and Aristotle. Leading the revival of scholastic anatomical inquiry in the 14th century was Mundino de' Luzzi (*c*. 1270-1326), a physician employed at the University of Bologna. His text, the *Anathomia corporis humani* (1316) – which largely utilised the Galenic works *De sectis*, *Tegni*, *De interioribus*, *De iuvamentis membrorum* and *De usu partium* – became the primary text for anatomies performed prior to the Vesalian movement.[32] Moreover, Mundino and his work helped to establish the practice of public human dissection in university settings, in which anatomists continued to employ his work

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[29] De Soto, 14v: *Nisi velis dicere, Celsum intelligere, quod caput pauciores suturas habens, ab externis iniurijs facillime tutatur. Sed hae causae non tam periculosiores sunt, quam internae, a quibus rariores partes facillime vindicantur, densiores vero difficulter, & magno cum nocumento.*

[30] See von Staden, *Herophilus*, 1-66, 138-154 and Vivian Nutton, *Ancient Medicine* (London: Routledge, 2004), 128-139; and for information on dissection in the Renaissance, see Roger French, *Dissection and Vivisection in the European Renaissance* (Aldershot: Ashgate, 1999); O'Malley, *Vesalius*, (1964); Jonathan Sawday, *The Body Emblazoned: Dissection and the human body in Renaissance culture* (London: Routledge, 1995); and Andrea Carlino, *Books of the Body: Anatomical ritual and Renaissance learning*, trans. by John Tedeschi and Anne C. Tedeschi (Chicago: Chicago University Press, 1999).

[31] See Katharine Park, *Secrets of Women: Gender, generation, and the origins of human dissection* (New York: Zone Books, 2010), 13-38.

[32] French, *Dissection*, 37. See also O'Malley, *Vesalius*, 13-14.

for the next 250 years.[33] In one such anatomical demonstration a certain course of events could be expected: three professionals participated in the dissection of the body; the first, and highest ranking, was the professor of anatomy, or *praelector*, who sat aloft, away from the body, reading from and elaborating upon anatomical texts, particularly that of Mondino; next was the *demonstrator*, often a barber surgeon, who was tasked with the dissection itself; and last was the *ostensor*, who pointed to the dissected parts as the *praelector* discussed them, sometimes repeating the professor's words for emphasis.[34] This approach is particularly illustrative of the scholastic approach to anatomy in the pre-Vesalian era: the focus during such an anatomy was on the *praelector* presiding over the demonstration. The body itself, on the other hand, sat below, dissected by those of a lower rank. The words of the ancients utilised by Mondino in his text, quite literally, were held above the experience of observation.

From here, the scope of this case study should be narrowed further to focus specifically on the study of anatomy in Spain contemporary to our author. On the Iberian Peninsula, the practice of dissection was first revived in the kingdom of Aragon in the late 14th century, which José María López Piñero attributes to the close ties the region kept with northern Italy.[35] The practice first began with the University of Montpellier – "the great medical school of the Crown of Aragon, then at its height" – in 1340, and thus spread to the University of Lérida in 1391, the hospitals of Barcelona in 1402, and the Universities of Valencia and Saragossa in 1477 and 1488, respectively.[36] As can be seen from the geography of these institutions, anatomical study through human dissection in Spain was first practiced in Aragon; moreover, this same sort of inquiry did not take place in the kingdom of Castile until much later in the mid-sixteenth century. As explained by López Piñero: "Until the middle of the sixteenth century there is no evidence that autopsies on human corpses were carried out in a regular fashion either at the great universities of Salamanca, Valladolid and

[33] Luke Wilson, "William Harvey's Prelectiones: The performance of the body in the Renaissance theater of anatomy", *Representations* 17 (1987): 64. See also Nancy Siraisi, *Medieval and Early Renaissance Medicine: An introduction to knowledge and practice* (Chicago: The University of Chicago, 1990), 78-114 and Mark H. Infusino, *et al.*, "Mondino's book and the human body", *Vesalius* 1 (1995): 71-76.
[34] Wilson, 64.
[35] José María López Piñero, *Ciencia y Técnica en la Sociedad Española de los siglos XVI y XVII* (Barcelona: Labor Universitaria, 1979), 309. This was mentioned by López Piñero again in "The Vesalian Movement in Sixteenth-Century Spain", *Journal of the History of Biology* 12, (1979): 46: "…the close relations which the Crown of Aragon had been maintaining with the leading medical and university centres of Italy since the early Middle Ages. It was owing to these relations that the regular practice of the dissection of human corpses became widespread in Aragon throughout the fourteenth and fifteenth centuries." Kamen, *Philip*, 25 notes that students from Spain frequently traveled to Italy, especially Rome and Bologna, for educational purposes.
[36] López Piñero, "Vesalian", 47.

Alcalá or at the hospitals as important as those of Guadalupe."[37] It was not until the year 1561 that the University of Salamanca established regular anatomies under the instruction of Cosme de Medina and, though the exact year is hard to determine due to a gap in the records, such dissections were likely instituted in Alcalá between 1547-1550, coinciding with Pedro Jimeno's stay at the University.[38]

In 1551, the University of Valladolid was granted a royal provision to hold such an anatomy, following the 20-month visit of Alonso Rodríguez de Guevara between 1548-1550.[39] Although the course was well received both in the University and in the court, there is no evidence that this became a regular practice. Furthermore, some have argued that the University of Valladolid remained without a chair of anatomy throughout the sixteenth century.[40] It is with this knowledge that de Soto's practical anatomical knowledge was questioned by López Piñero, who states "moreover, [de Soto's] commentaries are not primarily based on personal clinical experience or anatomical data, like those that had been published by Francisco Valles and other followers of (Hippocratic) Galenism."[41] This critique of de Soto's first-hand anatomical knowledge is reasonable due to the infrequency with which anatomies took place in Valladolid during his education. Thus, most of our author's anatomical study would have come from the textual sources, including Galen's *De usu*

[37] López Piñero, "Vesalian", 47.
[38] López Piñero, "Vesalian", 64, 67. López Piñero states that a gap in the records occurs between the years 1534-1559, the year in which students requested such anatomies and the year of a document allotting the bodies of prisoners and corpses from local hospitals to the school. However, López Piñero further narrows this interval through a work of Francisco Valles, *De locis patientibus* (1559), which states that Jimeno was at Alcalá "to explain the art of dissection". This is then correlated with the records stating that Jimeno held a three year professorship at the University, leaving in the year 1550, which, in turn, strongly suggests the establishment of regular human dissection between the years of 1547 and 1550; see Francisco Valles, *Claudii Gal. Pergameni De locis patientibus libri sex* (Lyon: Claudio Pontano, 1559), 5. For more information on Cosme de Medina, see Maria Teresa Santander Rodrígues, *El doctor Cosme de Medina y su Biblioteca (1551-1591*) (Salamanca: Centro de Estudios de Salamantinos, 1999) and for Pedro Jimeno see Charles D. O'Malley, "Pedro Jimeno: Valencian anatomist of the mid-sixteenth century" in *Science, Medicine and Society in the Renaissance: Essays to honor William Pagel*, ed. by Allen G. Debus (New York: Science History Publications, 1972), 69-72.
[39] López Piñero, "Vesalian", 76; Universidad de Valladolid, *Facultad de Medicina de Valladolid: VI centenario* (Valladolid: Junta de Castilla y Leon, Consejería de Educacíon, 2006), 79. For more information about Alonso Rodríguez de Guevara, see Manuel Bernardo Barbosa Sueiro, "Súmula da vida interlope de Alonso Rodríguez de Guevera", *Medicina contemporânea* 72 (1954): 239-252
[40] López Piñero, "Vesalian", 77.
[41] López Piñero, *Diccionario*, 388: "Por otra parte, sus comentarios no están primariamente basados en la experiencia clínica propia o en datos anatómicos, como los que habían publicado Francisco Valles y otros seguidores del galenismo (hipocratista)."

partium and the Hippocratic works *De carnibus*, *De ossium natura* and *De articulis* amongst a range of other authors and works.[42]

An article by Àlvar Martínez-Vidal and José Pardo-Tómas also discusses the rise of anatomical study in the Iberian Peninsula, focusing its discussion on the construction of anatomical theatres. This article states that the crown provided much of the support for anatomical study, particularly in Castile.[43] Moreover, the authors note, in opposition to López Piñero, that although there is no explicit record, there was indeed a chair of anatomy at the University of Valladolid during the second half of the sixteenth century, held last by Pedro de Sosa (*c.* 1592).[44] Martínez-Vidal and Pardo-Tómas support their claim using the University's financial records as evidence.[45] Still, even if the University employed a professor of anatomy, there is still no evidence for recurring human dissections; a fact that supports López Piñero's assertion that de Soto's anatomical experience stems more from textual sources than practical experience. Moreover, Martínez-Vidal and Pardo-Tómas note that even if there was, at some point, as chair of anatomy at the University during this time, a specific venue for dissections was not established in Valladolid during the sixteenth or seventeenth centuries.[46] It should suffice to gather from these articles, that de Soto's experience with practical anatomy was limited at best and that his anatomical knowledge was primarily gathered from textual sources. Moreover, this emphasis on textual sources did not stem from ignorance of current anatomical trends, as de Soto was clearly informed about Vesalius and the impact of his work, but rather from a staunch belief in the authority of the ancient sources.[47]

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[42] Although the citations of these texts by de Soto seems small in number in relation to other texts (*De carnibus* and *De ossium natura* both having 5 citations, *De articulis* 6, and Galen's *De usu partium*, 8), the anatomical thematic block is one of the shorter thematic blocks in *Places in Man.*

[43] Martínez-Vidal and Pardo-Tómas, "Anatomical Theatres and the Teaching of Anatomy in Early Modern Spain", *Medical History* 49 (2005): 252.

[44] Martínez-Vidal and Pardo-Tómas, "Theatres", 255. The chair of anatomy became known as the chair of method along with a promotion to *prima* given to de Sosa. For more information on de Sosa, see Alcocer y Martínez, 141-142.

[45] Still, Martínez-Vidal and Pardo-Tómas, "Theatres", 254 quote Luis Mercado's 1611 statement against the necessity of establishing a professorship of anatomy at the University of Valladolid. The authors argue Mercado's statement as "wholly false"; however, this statement could be seen as evidence for López Piñero's claim.

[46] Martínez-Vidal and Pardo-Tómas, "Theatres", 256.

[47] In addition to the implicit reference to the *De fabrica* in his dedication, de Soto makes one explicit reference to Vesalius in comment 16 (f. 12), which states: *Accedit, quod quemadmodum cerebrum influxu spirituum vitalium priuatur, ita semen infoecundum fit, priuatum influxu spiritus animalis: praescinditur enim simul cum his venis, aut arterijs neruulus quidam a sexta coniugatione ortus, in vasa seminaria, & testiculos tendens, vt aduertit Vesalius.*

3.1.4 Teleological Anatomy

Within his comment on this passage, de Soto asserts that "the sutures of the head are not constructed uselessly."[48] This statement illustrates de Soto's teleological approach to the human body; he understands every part of the body to exist and function for a purpose, and that these parts belong to an intelligently created design. This understanding stemmed from Galenic, Platonic and Aristotelian theories that were later embraced by the Christian West. In his *Timaeus*, Plato posited the idea of intelligent design of the body by the *demiurge* and through his anatomical exploration hoped to gain more knowledge of the soul, for which the body acted as a vessel.[49] Aristotle examined the idea of a teleologically constructed body, focusing his various anatomical works on the parts, their function, and their relation to the soul.[50] For example, as has already been seen in his discussion of the sutures, Aristotle argued that the sutures existed in order to release steam generated by the body. These ideas came together in the Galenic view of the body: a purposefully arranged body, wherein every part has been formed to serve a greater function.[51] These ideas are explored further in Roger French's *Dissection and Vivisection in the European Renaissance* which discusses the teleological theory of the body and elaborates on Galen's hybrid of the Platonic *demiurge* and the Aristotelian concept of nature. French notes Galen's interchangeable use of *demiurgos* and *physis*, which, in Renaissance translations, both appear as the Latin *Natura* – thus

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[48] De Soto, 14^{v}: *...non inutiliter suturae capitis constructae sunt.* Moreover, this statement echoes the ancient, particularly Aristotelian and Galenic, notion that Nature has created everything with a purpose. See, for example, Aristotle, *Generation of Animals*, ed. and trans. by Arthur L. Peck, LCL 366 (London: William Heinemann, 1953), 207: "...and Nature does nothing which lacks purpose."

[49] Cunningham, *Anatomical Renaissance*, 11-13; Pl., *Ti.*, 31-32.

[50] Cunningham, *Anatomical Renaissance*, 18; see Aristotle, *De Anima: A critical commentary,* ed. by Ronald Polansky (Cambridge: Cambridge University Press, 2007); *Historia Animalium*, 3 vols, ed. and trans. by Arthur Peck and David M. Balme, LCL 437-439 (London and Cambridge, Mass.: William Heinemann and Cambridge University Press, 1965-1991) and *On the Parts of Animals*, ed. and trans. by James G. Lennox (Oxford: Oxford University Press, 2001). In his discussions of nature, Aristotle employed his doctrine of the four causes, in which he describes phenomena in terms of *causa efficiens, materialis, formalis and finalis.* For more information, see Robert James Hankinson, "Causes" in Anagnostopoulos, ed., *Companion*, 341-364; Mohan Matthen, "Teleology in Living Things" in Anagnostopoulos, ed., *Companion*, 520-537; Allan Gotthelf, "Aristotle's Conception of Final Causality", *Review of Metaphysics* 30 (1976): 226-254; and Frank A. Lewis, "Teleology and Material/Efficient Causes in Aristotle", *Pacific Philosophical Quarterly* 69 (1988): 54-98.

[51] Cunningham, *Anatomical Renaissance*, 30; see Galen, *On the Usefulness of the Parts of the Body*, 2 vols., ed. and trans. by Margaret Tallmadge May (Ithaca: Cornell University Press, 1968).

solidifying the fusion of these ideas.[52] The notion that a divine being, in the case of early modern Spain the Catholic God, had purposefully designed the body lent a religious dimension to the study of anatomy – to study the human body was to study God's own handiwork, and when applied to the words of the book of *Genesis*, to examine and appreciate His own likeness. As Andrew Cunningham elegantly stated: "Man is and contains all things: to study him, his body and soul, is to study God's creation in summary, to study God's highest creation, to study the image of God."[53]

However, the Hippocratic author of *Places in Man* did not hold the same teleological understanding of the body, but rather conceived of the parts insofar as they were necessary to physiological functions. According to Beate Gundert, many Hippocratic authors drew a correlation between the parts, their attributes, and their functions; however, "there is never any hint that they have particular structures in order to fulfil given roles."[54] The Hippocratic authors were not interested in considering the parts of the body outside of describing the form the parts happened to have and how this affected their physiological role. Galen, on the other hand, as has been discussed above, considered the design of the parts further and in relation to the soul, utilising philosophical works of Plato and Aristotle. In stark contrast to the Hippocratic authors, he contemplated the logic he believed went into the planning of the parts and their roles.[55]

What is especially interesting about these two contrasting understandings of anatomy is how they converge in de Soto's commentary. As has been established, Galen's teleological conceptualisation of the body is far more compatible with de Soto's early modern worldview; de Soto, in turn, then projects this Galenic framework back on to the Hippocratic text - a text without such teleological underpinnings of anatomy. However, unlike his ancient forerunners (as well as some of his contemporaries), de Soto does not employ his teleologically constructed body to discuss wider philosophical theories of the soul.[56] In contrast, for example, Galen begins *On the Purposefulness of the Parts of the Body* with a discussion of the hand, as "[for] Galen, 'the hand was an appropriate instrument for the soul of an 'intelligent animal and, alone of all the creatures of the earth, godlike'."[57] Galen discusses the hand by describing its design, explaining how this design was intended for the functions

[52] French, *Dissection*, 38, 123. See also Siraisi, *Italian*, 253-286, which was initially published as Nancy Siraisi, "Vesalius and the Reading of Galen's Teleology", *Renaissance Quarterly* 50, no. 1 (1997): 1-37.
[53] Cunningham, *Anatomical Renaissance*, 41.
[54] Beate Gundert, "Parts and their Roles in Hippocratic Medicine", *Isis* 83 (1992): 465.
[55] Siraisi, *Italian*, 262.
[56] For more information on Vesalius' Galenic-inspired teleology, see Siraisi, *Italian*, 253-286.
[57] Siraisi, *Italian*, 257. See Gal., *UP*, vol. 1, 68.

hands need to perform, then applying this to the wider functions that humans themselves perform.[58] Whilst de Soto likely would have agreed with Galen in this assertion, in his descriptions of anatomy, he completes only the first two of these steps; first describing the form of the parts, and then explaining why this form is relevant to its function. He is only concerned with the relationship between a part and its intended physiological purpose - and particularly a part's role in relation to humouralism.

So if de Soto's understanding of human anatomy was embedded in a teleological framework, what, then, did he consider to be the purpose of the sutures? De Soto tells the reader that the sutures of the head are shaped "so that the *crassa meninx* is held suitably fast to the cranial bone, and so that some vessels emerge on the inside and some on the outside and [those vessels] are sent across and to the origin of the pericranium (from the *dura mater*)."[59] To explain further, the first purpose of the sutures listed by de Soto, is to keep the *dura mater* in place while allowing vessels to connect the *meninx* to the outer pericranium (the periosteum of the cranium). Additionally, de Soto explains that the sutures are constructed "so that sooty excrements perspire properly."[60] This stems from the view that sutures work in a similar fashion to a chimney – allowing the sooty excrements generated by the heat of the body to escape upwards. This example highlights de Soto's teleological view of the body. He describes the sutures by explaining their relevance to his understanding of humoural physiology; ridding the body of the noxious vapours generated by the coction of humours. Finally, de Soto discusses the protective function of the sutures, stating that "whenever the cranium has suffered a concussion or break, breaking and fracturing cease, so that [the fracture] does not extend throughout the whole cranium."[61] De Soto explains that the sutures offer protection for the skull, acting as impediments to expanding fractures and thus minimising injury. He cites Galen as evidence: "It is useful for the cranium to be composed of many bones for this additional reason, namely, that if it should be struck and fractured at any point... the breaks would not extend through the whole cranium..."[62] Whilst this example may not relate directly to humouralism, all would agree that a shattered skull would be unlikely to properly perform its functions.

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[58] Gal., *UP*, vol. 1, 68-111.
[59] De Soto, 14^{v}. *Vt crassa meninx ossi capitis commode alligetur, & vt vasa alia intro, alia extra excidant, & transmittantur, & ad pericranei (ex dura matre) generationem...* The term *dura mater* refers to the postulation that the meninges of the brain are the root of all the other membranes of the body; see Richard Hoblyn, *A Dictionary of Terms used in Medicine and the Collateral Sciences*, ed. Isaac Hayes (Philadelphia: Richard C. Lea: 1865), 149, 274.
[60] De Soto, 14^{v}: *...vt fuliginosa excrementa recte transpirent.*
[61] De Soto, 14^{v}: *...si quando cranium percussum ruptumue fuerit, cesset ruptio ac fractura, ne per totum cranium progrediatur...*
[62] Galen, *UP*, vol. 1, 435.

Expanding this analysis further, the idea of a teleologically constructed body is seen throughout de Soto's anatomical commentaries, for example, in his discussion of olfaction and the patella. According to de Soto, in order that olfaction could take place, the nose was constructed with a certain soft and spongy flesh rather than an open foramen, as a means of absorbing and filtering vapourous smells.[63] De Soto compares the placement of olfaction to that of taste:

> For just as nature put tasting before the belly as the investigator of flavour, so that food of a corrupt taste is not carried into it [the belly], so it is proper that olfaction is placed before the brain, so that breaths [*spiritus*] are not produced from corrupt odours and vapours. [64]

Thus, in de Soto's view, both the instruments of smell and taste are placed as a barrier, preventing corrupted substances from entering the body. The patella, too, was built to carry out specific functions: "But the patella was made not only so that it prohibited the descent of fluids into the joint, but also so that it bore the armour for the joint of the femur and tibia; otherwise, we would fall forwards with a very easy source of dislocation."[65] Thus, the patella was created with the purpose of preventing excess flows of fluid and protecting the joint from luxation. Whilst the Hippocratic author would not have described these designs as purposive, de Soto is able to use his commentary to further discuss the parts, marrying Hippocratic description with Galenic teleology.

A final issue related to sutures addressed by de Soto in his commentary is their number, which has been discussed briefly above. As human dissection in antiquity was so limited, frequent examination and identification of the sutures was more difficult. Moreover, due to ambiguity in the specifications of what qualified as a suture, the controversy spanned both antiquity and the early modern era. As has been seen, the author of the original Hippocratic passage explains that the number of sutures can vary from person to person, "some three and some four."[66] De Soto acknowledges some variation in the number of sutures, as he discusses both the number of sutures in relation to health and the characteristics of legitimate and illegitimate sutures, however, he considers only the coronal, lambdoid and

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[63] De Soto, 7^{v}: *...olfactus vero foramen non habet, sed carnem quandam mollem & laxam, ratione cuius odor libere permeare non potest vsque ad olfactus instrumentum, sed ab illo longe lateque dispergitur...*

[64] De Soto, 7^{v}: *Sicut enim natura gustum posuit ante ventriculum, tanquam saporum exploratorem, ne in ipsum praui saporis cibi ingererentur, sic oportuit odoratum exponi ante cerebrum, ne spiritus ex prauis odoribus atque halitibus generentur...*

[65] De Soto, 17^{v}: *Patela autem non solum vt prohiberet descensum humiditatis in articulum facta fuit, sed etiam vt tegumentum foret femoris, & tibiae articulo, alioquin facillimo luxationis genere antrorsum procumberemus...*; See also Hp., *Loc. Hom.*, 45-47.

[66] Hp., *Loc. Hom.*, 43. In her critical edition of the text, Craik provides an excellent diagram of the Hippocratic author's proposed arrangement of sutures; see Hp., *Loc. Hom*., 239.

sagittal sutures to be genuine, and does not discuss the placements of spurious sutures. He accounts for this discrepancy between his explanation of the sutures and the one provided by the Hippocratic author thus: “It is not to be wondered at if, in the passage at hand, Hippocrates called sutures, which we call illegitimate and spurious [sutures], [just] ‘sutures’.”[67]

3.1.5 Early Modern Comparisons of de Soto's Anatomical Understanding

To contextualise this comment further, it is worth pausing to compare de Soto's teleological understanding of the cranial sutures with the work of another early modern physician, Andreas Vesalius, who in his *De fabrica*, describes the sutures, both cranial and facial, extensively. Like de Soto, Vesalius holds a teleological understanding of anatomy and stresses the purposive design of the parts. "The *Fabrica*, too, opens a number of chapters with teleological considerations and takes over many examples of purposive design in human anatomy straight from Galen..."[68] One interesting example of Vesalius' causal explanation centres around the purpose of the human head and its function to protect the eyes: "That the human head is formed for the sake of the eyes is clearly demonstrated, according to Galen, by the eyes of crabs, beetles, and certain other animals that do not have a head."[69] In turn, the brain needed to be near to the eyes due to their close connection and the cranium was constructed to house the brain. Additionally, as in de Soto's account, the sutures are discussed both as a means of evacuating fuliginous excrements and as a defence against radiating fractures.[70]

From here, Vesalius dedicates a large section to discuss the positioning of the sutures. Like our author, he describes the most ‘natural’ arrangement as the lambdoid, coronal and

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[67] De Soto, 14^{v}: *...quamobrem non mirandum est si Hippocrates in praesenti suturas appellet eas, quas nos nothas, & spurias appellamus.*

[68] Siraisi, *Italian*, 263.

[69] Vesalius, *Fabric*, 57: "How advantageous it is that the brain, the seat of reason (which like a queen rules in the highest part of the body and holds sway over two desirous spirits), is kept safely under protection. For this purpose, the provident Maker of things imparted protection to the brain made not just of skin and fleshy parts, as in the abdomen, or of bones separated from each other at intervals, as in the thorax, but he surrounded it on all sides with a helmet-like bone."

[70] Vesalius, *Fabric*, 57: "But because the head resembles the roof of a warm house, receiving whatever smoky and vaporous wastes of the parts below that ascend upwards, and consequently the head itself needs a more plentiful means of evacuation, the wise Parent of things shaped a helmet for the brain that is not solid everywhere but full of hollows and laced with sutures... The skull did not need sutures so much for the transpiration of wastes, but because it was fitting that it be made of many bones so that if it should be struck and break, its fractures should not proceed through the whole skull as a clay pot, but be checked and cease in those places where the bone itself ends at the sutures."

saggital sutures in the shape of an "H" and he asserts that this is the most common presentation in both males and females, thus implicitly refuting Aristotle:[71]

> So far we have explained the five sutures peculiar to the head and joining no bones other than those of the head: the coronal, the lambdoid and the one that runs straight through the vertex [*sutura sagittalis*], as well as the two equidistant from the vertex, which we have called the squamous agglutinations [*suturae squamosae*].[72]

Here, too, there is a distinction between genuine sutures and spurious cranial joints, termed 'squamous agglutinations'; however, Vesalius considered both sutures and squamous agglutinations to be genuine, although he does not fault those, including some Hippocratic authors, who have made the distinction, as the appearance of these agglutinations differs so much from the traditional, serrated suture.[73] Additionally, Vesalius addresses Herodotus and his claim of a suture-less skull, suggesting that it is rather a highly ossified skull of an elderly person.[74] The author devotes a further section to discuss five abnormal configurations of the sutures in placement and number, as well as a section discussing the facial and internal sutures connecting the bones of the skull. Malcolm H. Hast and Daniel H. Garrison highlight Vesalius' focus on unusual constellations of the cranial sutures. They suggest that Vesalius concentrated on these unnatural arrangements in order to draw attention away from the traditional Galenic anatomy.[75] This may help explain de Soto's lack of comment on unnatural constellations: by emphasising the arrangement of sutures in the canonical body, de Soto could, in turn, emphasise Galenic authority. Still, there are many points of contact between de Soto and Vesalius' words, including a shared understanding of a purposively designed body.

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[71] Vesalius, *Fabric*, 58: "First, the natural shape of the head has three sutures: two are transverse, of which one is in the sinciput, the other in the occiput [*sutura lambdoidea]*, and the third [*sutura sagittalis*] extends from the middle of the posterior suture, or that which is in the occiput, through the longitude of the head to the middle of the anterior suture [*sutura coronalis*]... Some falsely contend that it is peculiar to all men, others to women, but we have taken care to observe that it occurs very rarely in men, and still more rarely or hardly ever in women."

[72] Vesalius, *Fabric*, 60.

[73] Vesalius, *Fabric*, 60: "For this reason, neither Hippocrates nor any of those who have carefully studied the fabric of the body has deigned to name these sutures, but from their resemblance to a scale, anatomist have called them λεπιδοειδῆ προσκολλήματα, that is, 'squamous agglutinations' [*sutura squamosa*, *sutura sphenoparietalis*]."

[74] Vesalius, *Fabric*, 58: "I am not at all surprised that Herodotus and many others besides write that skulls are found in Persia that are divided by not sutures at all, and that Aristotle himself reports a man's skull was found in his own time without sutures. This is because the skulls of very old people show us only the site of the sutures, and quite obscurely at that, with no clear image of a suture. Nor indeed is it strange that sutures grow together in the elderly, since we see that their vertebrae unite and fuse, and we also observe that the brows and processes of their bones grow out in such a way that they are unable to perform their accustomed motions."

[75] Malcolm H. Hast and Daniel H. Garrison, "Vesalius on the Variability of the Human Skull: Book I chapter V of *De humani corporis fabrica*", *Clinical Anatomy* 13 (2000): 311-320.

The fact that this conception underpins both texts helps to illustrate the pervasiveness of this idea in the early modern era. De Soto has made it clear, especially in his paratexts that he is not always in agreement with Vesalius' approach to understanding the human body; however, the two works are not always in opposition.

The commentary on *Places in Man* by Francisco Perla provides a further source of comparison for de Soto's comments about the sutures. Perla published his work *Liber de locis in homine* in Rome in 1638; while the date of the publication is, strictly, too late to consider Perla as de Soto's contemporary, the counter-reformational context of Perla's work will prove an interesting comparison.[76] Perla divided this passage across two comments, opting to discuss the relationship between the sutures and the health of the head separately. In the former comment, many familiar themes are seen. Perla spends most of his effort discussing the number of sutures, their etymology and their uses.[77] Moreover, he differentiates between genuine and spurious sutures, using the same criteria as de Soto for the former: serrations on the edge of the sutures.[78] Particularly interesting are the citations that Perla used to substantiate his assertions, relying heavily upon the Hippocratic work *On Head Wounds*, Galen's *On the Purposefulness of the Parts of the Body* (9.17), and Celsus' *On Medicine* (8.1), the same works on which de Soto focuses. Given the similarities between these comments, if Perla had not explicitly mentioned that he had been unable to locate the former's work, one might suggest that he was influenced by de Soto's commentary. Instead, this suggests that certain ancient texts had become customary in medical discussions of the sutures.

3.1.6 Conclusion

Louis Bakay noted the emphasis that ancient authors put on the role of sutures: "To the sutures they [early authors] attributed great physiological, almost mythical, properties..."[79] As demonstrated by de Soto, as well as by Andreas Vesalius and Francisco Perla, this fascination with the sutures continued into the medical writing in the early modern era. In this

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[76] Perla, 101-106.

[77] Perla, 103: *...Coronalis videlicet in syncipite, vbi Regum diademata imponuntur, ab vno tempore trauersim ad aliud excurrens, lambdoides in occipite a Λ graeca littera, cuius figuram refert, appellata; Sagittalis demum, quae recta inter has frontem versus extenditur...Suturarum vsus multiplex assignatur...non modo ad fulginosorum excrementorum transpiratum...vt per eas crassa meninx capitis ossi alligaretur, quo vasa, alia quidem intro, alia autem exirent, vtque variis filamentis pericranium contextere tandem valeret. Fuerunt praeterea ad cranii conseruationem constructae, vt siquando percussum, ruptumque fuerit, ne per totum rupturae illae distendantur, sed inhibeantur illic et cessent...*

[78] Perla, 102: *Propriae insuper in veras adhuc, et spurias subdiuiduntur. Verae sunt ossium serratiles coniunctiones, vt supra dictum fuit, quae tres prout plurimum, secundum naturae leges numerari solent ab Anatomicis...*

[79] Louis Bakay, "The Ancient Fear of Trephining through the Cranial Sutures", *Communicationes de Historia Artis Medicinae* 28 (1982), 15.

comment, de Soto engages with this continued debate, using ancient authority, particularly that of Galen, to substantiate his claims. His use of textual sources, rather than personal experience gained through anatomies, is unsurprising when the history of anatomy in Castile is examined. De Soto highlights the canonical placement of the sutures and eschews any discussion of the unusual, or unnatural, configurations that take centre stage in Vesalius' *De fabrica.* Moreover, de Soto utilises the sutures to exemplify the idea of the purposively constructed body, echoing the ancient maxim that nature does nothing in vain; he states that "the sutures of the head are not constructed uselessly."[80] Holding fast to Galenic doctrine, de Soto assigns the sutures familiar functions: the transpiration of unhealthy vapours, a point of passage for vessels between the interior and exterior of the skull and as an anchor for the pericranium.[81] By establishing the purposive design of the body throughout his anatomical comments, de Soto prepares the reader for the next thematic block, that of physiology, and his discussions of humouralism. In doing so, de Soto advances the Hippocratic author's opening assertion - that the nature of the body must be comprehended before medicine may be understood.[82]

[80] See fn. 48.
[81] Julius Rocca, *Galen on the Brain: Anatomical knowledge and physiological speculation in the second century AD* (Leiden: Brill, 2003), 98-99 succinctly summarises the Galenic teleology of the sutures: "For Galen, sutures serve three purposes: they are formed for the sake of transpiration of waste products, they allow passage of certain blood vessels, and they generate the *perikranion* (περικράνιον)."
[82] See fn. 2.

3.2 Case Study 2: Physiology

Proceeding from the anatomical thematic block, *Places in Man* moves into the chapters that Elizabeth Craik has termed the physiological.[1] These constitute "a key statement of the author's theories," which provide "a general treatment of the aetiology of fluxes…"[2] Within this physiological thematic block, which makes up the bulk of this treatise, the Hippocratic author outlines his physiological understanding of the body – describing seven fluxes, how they move throughout the body, and how these movements affect the health of an individual. This case study will focus on the first passage of chapter nine, enumerated as 36 in de Soto's commentary, which provides the opportunity to examine our commentator's understanding of physiology - an understanding that is highly dependent upon the works of Galen, as particularly evidenced by his sub-commentaries of Galen's text *Therapeutics to Glaucon.*[3] Moreover, this commentary demonstrates how de Soto used Galenic theory to explain this Hippocratic text and thus further his view of humouralism.

3.2.1 Physiology in Antiquity

The Hippocratic passage in question states:

> Fluxes happen when the flesh is over-chilled or over-heated, or has an excess or deficiency of phlegm. Fluxes caused by cold happen when the following occurs: when the flesh in the head, and the vessels, are tensed. The vessels there press out moisture when the flesh has begun to shiver, to contract, and to exert pressure; and the flesh there simultaneously presses out moisture in response in the process of contraction; and the hairs stand on end, being pushed hard from all sides. Then, whatever is pressed out flows away at random.[4]

Easily lending itself to a humoural interpretation, de Soto uses this passage as a starting point to discuss his physiological understanding. Whilst our commentator interprets the passage in this manner, it is unlikely that the Hippocratic author would have agreed with his analysis, as

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[1] The section of the text described as physiological by Craik includes chapters 9-23 (Hp., *Loc. Hom.*, 47-65).

[2] Hp., *Loc. Hom.*, 131. For more information on physiological understandings in the Hippocratic Corpus in general, see Jacques Jouanna, *Hippocrates*, trans. by Malcolm B. DeBevoise (Baltimore: The Johns Hopkins University Press, 1999), 222, 267, 314-317, 320, 336-338 and Nutton, *Ancient*, 72-86. The historical understanding of physiology has often been conflated with the narrative of the modern discipline; however, this issue has more recently been noted and explored by scholars. See especially, Andrew Cunningham, "The Pen and the Sword: Recovering the disciplinary identity of physiology and anatomy before 1800 I: Old physiology - the pen", *Studies in History and Philosophy of Biology and Biomedical Sciences* 33 (2002): 631-665 and Manfred Horstmanshoff, *et al.*, eds., *Blood, Sweat and Tears: The changing conceptions of physiology from Antiquity into Early Modern Europe* (Leiden: Brill, 2012).

[3] See Keith Dickson, *Stephanus the Philosopher and Physician: Commentary on Galen's* Therapeutics to Glaucon (Leiden: Brill, 1998).

[4] Hp., *Loc. Hom.*, 47-49.

the four-humour theory does not take centre stage in this treatise. Rather, the Hippocratic author focuses his attention to how fluids move around the body and what effect they may cause.[5] Moreover, Jouanna notes that there was no physiology that unified the Hippocratic Corpus: "There is no point in dwelling on the various humoral theories of the Hippocratic physicians… For the moment it is enough to indicate that there was no single theory to which all the Hippocratic physicians subscribed."[6] Indeed, as will be discussed shortly, it was Galen who presented the more systematic humoural theory, largely based on the Hippocratic text, *Nature of Man*, that was so pervasive throughout the history of medicine.

According to the author of *Places in Man*, an imbalance of heat or cold, or an excess of humour is the catalyst for a flux. Most frequently stemming from the head, he explains how these imbalances cause a flux through cold tensing the vessels, heat opening them up, and dryness inducing an over-saturation of the fleshes.[7] The author continues by writing: "There are seven fluxes from the head. There is one at the nose, one at the ears, one at the eyes. That these fluxes come from the head is visibly evident."[8] In addition to these, there are fluxes to the chest, belly, hips and back; all of which are clearly represented in a diagram provided by Craik in the appendix of her critical edition and translation of *Places in Man*.[9] The Hippocratic author does note that, on occasion, a flux may move from the body to the head, especially the eyes; and that when this happens, the accompanying humour is more like mucous than the salty fluids from the brain.[10] Each of these fluxes may be accompanied by varying illnesses. For example, a flux to the chest will cause bile to arise, which can, in turn, cause consumptive diseases.[11] This holds to the principle that a flux to a part will, indeed,

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[5] Jouanna, *Hippocrates*, 336 notes that *Places in Man* "...provides a good synthesis of the movement of diseases and humors inside the body." Still, the author's focus is on movement rather than quality. This agrees with Craik's interpretation above that the author's focus is on the aetiology of fluxes.

[6] Jouanna, *Hippocrates*, 316.

[7] Hp., *Loc. Hom.*, 47-49.

[8] Hp., *Loc. Hom.*, 49.

[9] Hp., *Loc. Hom.*, 241. Jouanna, *Hippocrates*, 337, makes note of the seven fluxes presented in this Hippocratic text, as well: "As a rule, the fluxes that cause disease were supposed to depart from the head. Certain physicians who were strongly influenced by arithmology fixed the number of these fluxes at seven." These authors included that of *Places in Man*: "There, the flows leaving the head are said to go forth into the rest of the body at random. But chance has arranged things well, for the places where these flows arrive are seven in number: nostril, ears, eyes, chest (in the case of empyema or consumption), spinal cord (a sort of consumption), the flesh near the vertebrae (dropsy), and hips."

[10] Hp., *Loc. Hom.*, 55.

[11] Hp., *Loc. Hom.*, 49-51. Hp., *Loc. Hom.*, 140 notes that respiratory ailments were amongst the most commonly treated by the Hippocratic physicians. The Hippocratic author discusses these diseases further in chapter 14. See also Bruno Meinecke, "Consumption (tuberculosis) in Classical Antiquity", *Annals of Medical History* 9 (1927): 379-402. There are many works

cause an illness; in this case, humours collecting in the lungs cause the coughing and shortness of breath that are indicative of consumptive diseases. Likewise, a flux to the vertebrae and flesh of the back can cause dropsy, joint swellings or sciatica.[12] As will be seen in later case studies, these ailments may be cured by the restoration of balance, or the elimination of *dyskrasia*, curing diseases caused by quantity with moistening or astringent remedies and those caused by quality with mitigating drugs.

In her examination of *Places in Man*, Craik notes that the general physiological idea presented by the Hippocratic author shares many affinities with other texts from the Corpus, including *Diseases II* and *IV*, *Glands*, *Winds*, and *The Sacred Disease*.[13] However, while the generalities of the physiological framework remain similar to many treatises, a major discrepancy lies in the author of *Places in Man*'s conception of phlegm – a humour to which he assigns a warm quality, rather than the usual cold.[14] While unusual in the Hippocratic Corpus, this understanding of phlegm is not unprecedented, as it is also seen in the works of Philoloas.[15] Indeed, Jouanna notes that etymologically, the term phlegm derives from

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available on the history of tuberculosis, such as Thomas Dormandy, *The White Death: A history of tuberculosis* (London: Hambledon Press, 1999) and René Dubos and Jean Dubos, *The White Plague: Tuberculosis, man, and society* (Boston: Little, Brown and Company, 1952); however, most approach the disease from a modern perspective and do not account for the other possible diseases that may have been labelled as 'consumptive'. This should be kept in mind when using modern secondary literature in discussions of the Hippocratic understanding of consumptive diseases or phthisis.

[12] Hp., *Loc. Hom.*, 51. Craik states that this is "dropsy of the flesh in the 'interior' of the back (i.e. the part away from the skin)" which "is supposedly marked by concomitant desiccation in the front of the body: face, eyes, nose." Thus, in the Hippocratic author's physiological conception, a flux of humours to the back can cause this specific type of dropsy, as well as sciatica and joint pain, in addition to causing dryness in the front of the body, due to the loss of fluids. For more information on sciatica, see Ioannis Karampelas, *et al.*, "Sciatica: A historical perspective on early views of a distinct medical syndome", *Neurosurgery Focus* 16 (2004): 1-4.

[13] Hp., *Loc. Hom.*, 132; see also: Hippocrates, *Diseases II*, ed. and trans. by Paul Potter, LCL 472 (Cambridge, Mass.: Harvard University Press, 1988), 191-333; Hippocrates, *Diseases IV*, ed. and trans. by Paul Potter, LCL 520 (Cambridge, Mass.: Harvard University Press, 2012), 95-185; Hippocrates, *Glands*, ed. and trans. by Elizabeth Craik (Leiden: Brill, 2009); Hippocrates, *Breaths*, ed. and trans. by William Henry Samuel Jones, LCL 148 (London: William Heinemann, 1923), 219-253; Hippocrates, *The Sacred Disease*, ed. and trans. by William Henry Samuel Jones, LCL 148 (London: William Heinemann, 1923), 127-183. For a critical edition of *Breaths*, see ch. 3, case study 5, fn. 32; for *Sacred Disease*, see Hippocrates, *Hippocrate. La maladie sacreé*, ed. and trans. by Jacques Jouanna, CUF 2, 3 (Paris: Les Belles Lettres, 2003).

[14] Hp., *Loc. Hom.*, 133.

[15] Hp., *Loc. Hom.*, 133. Rudolph E. Siegel, *Galen's System of Physiology and Medicine: An analysis of his doctrines* (Basel: Karger, 1968), 221-222: "The earliest known Greek source referring to a pathogenic role of phlegm deals with the writings of the Presocratic philosopher of the fifth century B.C., Philoloas of Tarentum. He stated that many diseases are caused by the effect of three humors: bile, blood, and phlegm. His remarks are of special interest

phlegma, meaning fire.[16] It would not be unreasonable to suggest that this etymology may have influenced the Hippocratic author's interpretation. Moreover, this older use of the term may help support Craik's assertion of an earlier provenance of the treatise.

However, as will be seen in this comment, the works of the Galenic Corpus had a far greater impact on de Soto's understanding of physiology. As has already been noted, the theory of the four humours, first suggested in the Hippocratic work *Nature of Man*, was instrumental in Galen's systematisation of Hippocratic physiology. Moreover, as discussed in case study one, Galen believed all the parts of the body to be created to serve a physiological purpose. Armelle Debru elaborates on Galen's understanding of the relationship between anatomy and physiology:

> But for Galen, just as for Aristotle, the final cause, 'that for the sake of which', is pre-eminent. Implicitly contained in our notion of function, it is for him at the heart of his thorough-going teleological view of the world, which seeks to ascribe to the smallest part of the body both a role and structure perfectly adapted to its function or functions.[17]

In keeping with the Galenic understanding, de Soto sought to emphasise the role of the parts in humoural physiology, particularly by employing Galenic doctrine; as has been discussed in case study one, the parts themselves act as the stage for the movements of the humours, but these movements or fluxes and their effects on the body and health are de Soto's primary concern. Rudolph E. Siegel notes further of Galen's humoural doctrine:

> The humoral doctrine represented only basic science and the type of physiology available at this period of medical history. It furnished to Galen the basis for a strictly materialistic approach to the problems of constitution, heredity, and normal and abnormal function of the organs. Galen related each somatic type to one or two of the principle qualities (hot, cold, moist, dry), which he considered to be constituents of all matter - according to certain philosophical doctrines of antiquity, especially those of Aristotle, Plato and the Stoics.[18]

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because he explained that the term phlegm had originally another meaning which his contemporaries had already forgotten. He wrote: 'Although most people say that phlegm is cold, it is basically made up of heat. The term phlegm is said to be derived from *phlegein* (to burn)...That what is susceptible to heat will burn (*phlegmaineii*)'. However, Aristotle, Diocles and Praxagoras considered the mucous phlegm as cold and moist. Hippocrates equally favoured the interpretation of mucous as moist and cold and wrote the several types of phlegm could be observed." However, as has been seen above, there was some variation in the Hippocratic interpretation of phlegm.

[16] Jouanna, *Hippocrates*, 315.

[17] Armelle Debru, "Physiology" in Hankinson, ed., *Cambridge Companion*, 266.

[18] Rudolph E. Siegel, Introduction to Galen, *On the Affected Parts*, ed. and trans. by Rudolph E. Siegel (Basel: Karger, 1976), 2. See also, Siegel, *Physiology*, 197, which notes the influence of Hippocrates, as well. Moreover, he notes on p. 211 that Galen was open to other physiological systems: "On first sight it appears that Galen relied most on the humoral doctrine to the exclusion of any other interpretation of physiological mechanism. But Galen was too open minded not to consider divergent views as valuable..." The strict adherence to

Galen's emphasis on the qualities of hot, cold, moist and dry allowed de Soto to interpret the physiology of *Places in Man* through Galen's framework. Further to this, Siegel notes of Galen: "[t]he essential function of each part of the body is based on the balances of humors..."[19] Here again, the relationship between form and function is seen, wherein the parts were given their specific forms in order to support a humoural physiological system.

3.2.2 De Soto's Physiology

De Soto's comment on this chapter of the Hippocratic text provides an excellent opportunity to explore and elaborate on a number of physiological themes, which are pervasive throughout his commentary on *Places in Man*. Moreover, one of de Soto's primary objectives in writing his commentary was to defend the doctrine of humouralism; the commentator even writes that it is important that the reader understands that "everything in short comes back to these chapters."[20] De Soto agrees with the Hippocratic author that flux generally originates from the head and notes that all the parts involved in the sending and receiving of humours should be evaluated.[21] He writes that it is necessary for the Hippocratic author, and thus himself, to be insistent about his conception of physiology and flux because "there is no agreement amongst the most outstanding authors" and thus "it will be very much worthwhile to spend some time in the explanation of this matter."[22] Emulating Galen, de Soto wishes to systematise his understanding of the movement of fluxes, thus allowing their impacts on the body to be better understood. Whilst he accepts the Hippocratic author's assertion of the seven fluxes that descend from the head, throughout his commentary he will combine this with the later idea of the four humours, ascribing diseases to these fluxes dependent upon their qualities.

De Soto begins his investigation by setting out what, exactly, is meant by the term 'flux': "Therefore, so that the essence of the flux may be investigated and in what place it

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humoural physiology seen in de Soto's writing is a later construct. Nutton, *Ancient*, 202-215 provides an excellent discussion of alternatives to humoural medicine in antiquity.

[19] Siegel, *Physiology*, 207.

[20] De Soto, 22^{v}: *...vt rem omnem breuibus comprehendas, ad haec capita reducere.*

[21] De Soto, 19^{v}-20: *De Morbis* [sic] *ex fluxione ortis verba facturus Hippocrates, dissectionem omnium fere partium corporis non immerito praemisit. Nam cum in omni fluxione pars quae fluxionem mittit consideretur, & canalis, seu via per quam humor fertur, & tandem pars quae humorem recipit, veniat contemplanda, non absque ratione de capite, eiusque partibus in praecedentibus disseruit, solent enim a capite humores in subiectas partes importune fluere, qui quia per vias, seu canales decurrunt, ideo venarum atque arteriarum historiam aperuit...*

[22] De Soto, 20: *Caeterum, quia in constituenda fluxionis essentia, eiusque causis tradendis, neque inter praestantissimos authores conuenit, erit maximum operae-pretium, nonnihil temporis in huius rei explicatione consumere.*

stops, it is necessary to consider that this name of 'flux', wherever it is mentioned, in the case of Doctors introduces a certain sickly disposition."[23] According to the commentator, flux is inherently pernicious, rather than a benign movement of fluid throughout the body. Thus, the normal processes of the body cannot rightly be called 'flux'. De Soto writes:

> For while an animal is governed by the law of nature and is healthy, even if excrements are driven forward from the stomach into the intestines, and bile is discharged by the liver into the gall bladder, by which waxy moisture is cleansed in the kidneys and also from the kidneys into the bladder, still a transmission of this kind of excrement should not be called flux at all.[24]

De Soto only considers a movement of humours to be flux if it is happening contrary to nature and, in the passage above, he provides examples of those benign movements of fluids that cause no detriment to an animal. De Soto then summarises three of the possible actions of the humours: drawing, expulsion or succession.[25] These powers are asserted in the physiological conceptions of Galen, particularly in his books *Natural Faculties* and *On Treatment by Venesection*, wherein Galen discusses the powers of altering, drawing, retention and expulsion; in the latter he writes:

> I have shown in those commentaries, not only that each part pushes the excess toward its neighbor, but that sometimes the adjacent part accepts it, and at other time sends it back and repels it without receiving it into itself, and in the contest the strongest part wins. This is why the weakest parts of all are the first to be seized with diseases due to residues.[26]

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[23] De Soto, 20: *Quapropter, vt essentia fluxionis, & in quo consistat inuestigetur, considerare oportet, nomen hoc fluxionis vbicunque proferatur, apud Medicos morbosam quandam dispositionem importare.*

[24] De Soto, 20: *Nam dum animal naturae lege gubernatur, & sanum est, etiamsi a ventriculo in intestina excrementa propellantur, & ab hepate in fellis vesicam bilis excernatur, a quo in rhenes etiam, & a rhenibus in vesicam serosa humiditas percoletur, nihilominus tamen eiusmodi excrementorum transmissio, fluxio minime dicenda est...*

[25] De Soto, 20: *Quapropter fluxio excrementi alicuius praeter naturam de vno membro ad aliud est expulsio, siue id fiat tractu, siue pulsu, siue successione: nam & his tribus modis humores in partes decurrunt. Nulla ergo expulsio naturalis membri sui excrementi, dicitur fluxio proprie loquendo. Verum quia in vniuersum quidquid expellitur, aut trahitur, aut succedit, siue id sit secundum naturam, siue praeter naturam, fluere dicitur, ideo nos nunc de hac vniuersali fluxione loquentes, nunc de morbosa, doctrinam instituentes dicimus, fluxionem fieri, aut ex parte trahente, aut ex loco a quo excrementum aut humor fluit.*

[26] Galen, *On Treatment by Venesection* in *Galen on Bloodletting*, ed. and trans. by Peter Brain (Cambridge: Cambridge University Press, 1986), 78-79. Moreover in Galen, *On the Natural Faculties*, ed. and trans. by Arthur John Brock, LCL 71 (London: William Heinemann, 1916), 43, he writes: "There are the people who think that Nature is not artistic, that she does not show forethought for the animal's welfare, and that she has absolutely no native powers whereby she alters some subtances, attracts others and discharges others."

In this conception of disease, the noxious humours are sent from a stronger to a weaker part, often ending up in the weakest, the glands or the skin.[27] This is echoed in a passage of the *Canon* of Avicenna on the attractive faculty cited by de Soto:

> The attractive faculty needs more heat than dryness because the chief feature of attraction is movement, and movement demands heat. The organs concerned must move rather than be at rest and contracted... Attraction is brought about (a) by an attractive faculty - as when a magnet attracts iron, (b) by heat, as when oil is drawn up in a lamp. Some physicists assert that the last-named is really an example of filling up a vacuum.[28]

Here attraction is caused either by the part pulling the fluid to itself, a notion de Soto envisions as drawing, or by heat causing the expansion of an organ or tissue allowing more room for the fluid to be expelled by another, overflowing part, an action de Soto understands as succession.

The commentator begins by considering the action of drawing. He notes that the drawing faculty is part of natural processes, such as the villi of the belly, when the parts of the body draw nourishment to themselves and when the uterus draws in semen.[29] He writes: "But when we say that drawing happens by a faculty, in living creatures and in those that are nourished or animate, we understand that a natural drawing faculty serves for nourishment."[30] In the next paragraph, these animate things, which draw for nourishment, are contrasted with inanimate objects that are still said to have the power to draw, such as magnets, amber and medicines. De Soto comes to the conclusion that while it may seem that these objects are drawing in a fashion similar to living creatures, because these objects do not draw for nourishment and cannot convert it into a part of themselves, they cannot truly be said to express the power of drawing: "For whoever would say that amber is nourished by chaff and that a magnet [is nourished] by iron, or that rhubarb or the juice of plants converts bile into its own nature?"[31] Continuing this logic, de Soto asserts that these inanimate things cannot have the power of drawing, nor can qualities such as heat and cold; he cites Galen's *On the*

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[27] This idea will be discussed in more depth below; see fn. 50.

[28] Avicenna, *Canon*: *A treatise on the Canon of Medicine of Avicenna*, ed. and trans. by O. Cameron Gruner (New York: Augustus M. Kelley, Publishers, 1970), 116-117. This idea has roots with Erasistratus, see fn. 33.

[29] De Soto, 20: *Omnibus quidem corporis partibus communis quaedam est facultas tractrix, qua alimentum sibi conueniens & familiare trahunt, nunc per villos rectos, vt in ventriculo, nunc a partium temperamento, vt in reliquis partibus (facultas enim trahens temperamento vtitur, vt instrumento, & temperamentum calore etiam vtitur, vt instrumento) nunc ad partis delectationem, seu voluptatem, vt in vtero patet, cum semen viri trahit.*

[30] De Soto, 20: *Cum autem a facultate tractionem fieri dicimus, in viuentibus, & in his quae nutriuntur, seu vegetantur, facultatem tractricem naturalem nutritioni deseruientem intelligimus...*

[31] De Soto, 20^{v}: *Quis enim vnquam dicet, electrum palea nutriri? & magnetem ferro, & rhabarbarum, aut scamonium* [sic] *bilem in sui naturam & substantiam conuertere?*

Natural Faculties as evidence, which states: "There is nothing in the nature of things that draws for the sake of the act of drawing itself."[32] Galen's authority confirms de Soto's assertion that the action of drawing is done in order to gain nourishment. Debru elaborates on this Galenic assertation, stating:

> For Galen, the most important capacity is the one which each part of the body possesses for attracting to itself what is particularly appropriate for it. This he calls 'attractions of the specific property', in contrast with the attractive power of the void (the replacement of what is evacuated) dear to Erasistratus.[33]

Galen, and thus de Soto, understands attraction or drawing to be an active action, in which the part pulls the humour to itself. This is in contrast to succession, wherein a part passively receives a flux or humour. Still, it should be reiterated that this sort of drawing would not be considered a flux by de Soto, as this movement of fluid is not sickly or corrupted, but is rather natural and necessary.

De Soto then diverts the discussion to consider the role of heat. Although it sometimes seems to be the case, he again denies that heat is able to draw in and of itself, as heat is not in need of nourishment. Rather, he writes that heat has the ability to both warm the parts, making them open and expand, while at the same time warming liquids and causing

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[32] De Soto, 20^{v}: *...nihil in rerum natura est, quod propter ipsum (vt sic dicam) trahere....* Gal., *Nat. Fac.*, 223 states: "It was also shown that a sufficient supply of the matter which the part being nourished makes into nutriment for itself is ensured by virtue of another faculty which naturally attracts its *proper juice* [humour] that that juice is proper to each part which is adapted for assimilation and that the faculty which attracts the juice is called, by reason of its activity, *attractive* or *epispastic*. It has also been shown that assimilation is preceded by *adhesion*, and this, again, by *presentation*, the latter stage being, as one might say, the end goal of the activity corresponding to the attractive faculty."

[33] Debru, 271. Gal., *Nat. Fac.*, 119 lends the reader some insight on the Erasistratean theory: "Now, Erasistratus considers it absolutely certain that, if anything flows from the veins, one of two things must happen: either a completely empty space will result, or the contiguous quantum of fluid will run in and take the place of that which has been evacuated. Asclepiades, however, holds that not one of two, but one of three things must be said to result in the emptied vessels: either there will be an entirely empty space, or the contiguous portion will flow in, or the vessel will contract. For whereas, in the case of reeds and tubes it is true to say that, if these be submerged in water, and are emptied of the air which they contain in their lumens, then either a completely empty space will be left, or the contiguous portion will move onwards; in the case of veins this no longer holds, since their coats can collapse and so fall in upon the interior cavity. It may be seen, then, how false this hypothesis - by Zeus, I cannot call it a demonstration! - of Erasistratus is." Galen continues to say that this sort of succession only occurs in cases of plethora; Nutton, *Ancient*, 136, also discusses this tradition, most frequently associated with Erasistratus and denied by Galen: "Like the passage of blood or pneuma from aorta to ventricle within the heart, so too the appearance of blood in the arteries could be explained on the principle of the vacuum. Just as blood or pneuma moved from one chamber to the other and then outward as the heart valves opened to allow it to flow into the space left vacant by the expelled material, similarly, when an artery was cut, the *pneuma* within it escaped and blood was drawn into it from the veins to fill the vacuum."

them to flow.[34] This two-fold action gives the impression of heat having the ability to draw and de Soto calls in Galen and his *Method of Healing*, 13.3 to support his claim: "Sometimes, a greater amount [of blood] flows when one or several different parts send it and the parts beginning to become inflamed receive it, and sometimes when the affected part draws the blood to itself."[35] Again, de Soto is picking up on Galen's differentiation between the active action of drawing and the passive action of succession. Additionally, de Soto notes, using the same Galenic passage, that pain, too, is unable to draw, though that power has often been assigned to it due to the inflammations that accompany pain.[36] Galen further emphasises that fluxes flow to the inflamed and ailing part, rather than the part drawing the fluids to it. Lastly, on the topic of drawing, de Soto writes that drawing can happen if a part is not evacuating properly – fluids will move from overflowing areas into empty ones "as there is to see in water ascending through a fistula, attracted in the place of air through suction."[37] This opinion is reminiscent of Erasistratus' notion, reported in *On the Natural Faculties*, 2.1 of blood being drawn by the vacuum created by pneuma escaped from a vein; however, de Soto would not understand this motion as drawing, but rather, succession, as this is not a part drawing for the sake of nourishment.[38]

De Soto continues his commentary with a discussion of expulsion: "So it remains to write about expulsion that happens from the part of the body from which a humour flows, or to say it better, from the place where the motion comes from, by means of which fluxes happen for various reasons."[39] Expulsion, as the name would suggest, is a process which happens when a part sends the humours out of itself, rather than the receiving part drawing

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[34] De Soto, 20^{v}: *Loqui in praesenti de calore, prout qualitas quaedam est ex quatuor illis, elementorum manifeste patet: nam de calore, prout instrumentum est omnium nostrarum actionum, non loquimur. Hoc enim mediante, & attractio fit, & retentio, & fruitio, vt substantia nostra, seu calor, qui continuo deperditur, restauretur: sed dicimus calorem trahere, aut ad locum excalfactum confluere humores, quoniam spatium amplius redditur, rarefaciente calore locum, humoresque fundente, & tenuiores reddente, qui postea in excalfactum locum decurrunt, tanquam in ampliorem, & magis capacem...*

[35] Galen, *Method of Medicine*, vol. 3, ed. and trans. by Robert James Hankinson, LCL 518 (Cambridge, Mass.: Harvard University Press, 2011), 323-325.

[36] De Soto, 20^{v}: *A dolore non recte dicitur quidpiam trahi, cum nulla illi insit trahendi vis, vt diximus, sed est causa fluxionis, quia eius gratia fluxiones concitantur ad partem dolentem: nam excitata animalis facultas sentiens prae dolore, spiritum, & sanguinem transmittit ad partem dolentem: ad quam actionem obeundam excretoria facultate vtitur natura, quae fibrarum compressione, ea quae animalis facultas propellere tentat, excernit.* See also Gal., *MM*, 325: "And here, due to the pains, the part is raised up into a swelling in proportion to the humor flowing to it."

[37] De Soto, 20^{v}: *..vt videre est in ascendente aqua per fistulam, loco aëris per suctum attracti.*

[38] See fn. 33.

[39] De Soto, 20^{v}: *...id quod fit ex parte loci a quo humor fluit, aut vt melius dicamus, ex loco vnde motus, a quo fluxiones varijs de causis fiunt...*

the humours into itself. Again is seen the dichotomy between the active and the passive; the action of expulsion constituting the former and the reception of the humour, the latter. This is contrasted to drawing, in which the part receiving the humours is active. Expulsion, according to de Soto (via Hippocrates), can be caused by "cold and heat which hit the body both internally and externally..."[40] Cold, for example, by causing the vessels of the head to contract, pressing the fluid downward into the body, especially into the eyes, nose, ears, palate, lungs and belly; and heat, again, by warming the humours to make the flow with more ease. Using Hippocrates, de Soto cites the permeability of the body as the means by which external heat and cold may affect the body, especially in the case of cold: "…because the cold quality is able to implant itself through the pores of the flesh and through the sutures and finally through the synciput bone into the brain..."[41] This mention of the sutures in particular is an excellent illustration of how de Soto's conceptions of anatomy are crucial in both his physiology and pathology, as here again, the form of the sutures are discussed teleologically: indeed, the sutures, which act as ventilation for the skull, emitting excess heat from the body, can also allow external cold into the cranium. To further these points, de Soto employs the works of two non-medical ancient sources, Lucretius and Virgil, who discuss this phenomenon using empirical evidence from everyday objects. In his *De rerum natura* (I.494-497), Lucretius writes: "Warmth oozes through silver and so does penetrating cold, seeing that we have felt both, as we duly grasp the goblet, when dewy water is poured from above."[42] Thus, cold and heat can penetrate through the body, just as it can the silver of a goblet. To argue this point further, de Soto cites Virgil's *Georgics* (I.92-93), "...or the blazing sun's fierce tyranny wither it [a field], or the North-wind's piercing cold."[43] Both of these examples note the penetrating ability of cold and heat.

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[40] De Soto, 20^{v}: *...inter has tamen Hippocrates frigiditatem, caliditatemque exterius, interiusque corpus occursantes enumerat...*; De Soto is referring to Hp., *Morb. II*, 205, which states: "The tonsils, the area beneath the tongue, the gums, the tongue, and other such structures growing the region all become ill as the result of phlegm that comes down from the head. First, the head draws phlegm out of the body, it does this on becoming heated, and it becomes heated from foods, drinks, sun, cold, exertions and fire. When it becomes heated, then, it draws phlegm to itself out of the body but, after this attraction has taken place, the phlegm descends back into the body, after the head has become full, on happening to be heated by one of the things mentioned."

[41] De Soto, 21: *...sed etiam quia frigida qualitas per poros carnis, perque suturas, & demum per os syncipitis sese in cerebrum inserere potest...* See also comment 5 (ff. 3^{v}-5) and case study one, fn. 26, in which de Soto uses the Hp., *Alim.*, 28, to assert that the body that is more permeable enjoys better health.

[42] Lucretius, *On the Nature of Things*, ed. and trans. William Henry Denham Rouse, LCL 181 (Cambridge, Mass.: Harvard University Press, 1924), 37.

[43] Virgil, *Georgics*, trans. by H. Rushton Fairclough, LCL 63 (Cambridge, Mass.: Harvard University Press, 1916), 87.

Further discussing the effect of cold on the cranium and brain, de Soto writes that, often, cold can cause the brain to contract, sending even more fluid downward into the body: "For there is a certain movement of the brain that gathers to contract into itself, but congelation is a complete removal of motion."[44] This gathering movement is contrasted with the congealation of the brain itself – again, an active motion being contrasted with a passive. De Soto believes that, up to a certain point of cold, lower temperatures can cause the brain to contract, due to its glandular nature, sending more fluid into the body. He notes that if cold only caused the brain to congeal, it would not be the cause of flux. However, before the brain is able to congeal, the body, in an effort to maintain homeostasis, will send heat upwards – an idea which is further discussed in both comment 40 of his own work and in Galen's *Hygiene*, 5.11.[45]

But heat and cold are not the only qualities considered by de Soto. After wrapping up this discussion, he moves on to examine the role of dryness and moisture in flux. After a deliberation of Galenic sources, de Soto arrives at the conclusion that these qualities cause weakness in the parts, thus causing flux from a stronger part into a weaker part. Moreover, as with the case of external cold, the body, having all parts in communication with each other, does what is necessary to keep homeostasis, and thus will attempt to correct any imbalance. Additionally, de Soto tells the reader that flux is only present in animals.[46] For example, while plants do have the power of an expelling faculty and are able to dispose of excess nourishment into twigs, leaves and bark, they do not have the same physiological system as animals.[47] This sentiment draws ideas from Aristotle via Galen of the tripartite soul, consisting of the vegetative/nutritive, sensitive, and rational parts; plants, lacking the latter two, still have the ability to nourish themselves and dispel any wastes from this process.

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[44] De Soto, 21: *...cogere enim motus quidam est cerebri in sese, congelatio vero omnimoda motus priuatio est.*

[45] De Soto, 27: *...ex parte quidem cerebri, quia cum frigidam & humidam natura sua sortiatur temperaturam (licet quocunque aëre calidissimo calidius esse cerebrum dicat Galen. 8. de vsu parti. cap. 2. & 3.) accedente caliditate moderatur, & veluti contemperatur, e contra vero prae frigiditate magis distemperatur cerebrum...*; Galen, *Hygiene (De sanitate tuenda*), ed. and trans. by Robert Montraville Green (Springfield, IL: Charles C. Thomas, 1951), 222-227. See also, Galen, *De sanitate tuenda*, ed. by Konrad Koch, CMG,V, 4, 2 (Leipzig and Berlin: B. G. Teubner, 1923), 161-166.

[46] De Soto, 22: *...nam in reliquis hic fluxionis modus non videtur...*

[47] De Soto, 22-22[v]: *Ego vero stirpes quidem internum aliquod sui motus initium, & aliquem praeterea rerum congruentium, & incongruentium sensum continere, verissimum existimo, sed in caute haec pronuntiare non audeo.* See also Gal., *Nat. Fac.*, 3.

To illustrate these processes further, de Soto employs the example of swellings, particularly those that occur due to rheumatic affections. [48] Swellings, according to de Soto, can result from fluxes moving from one part of the body to another. This happens by two primary causes: the first is a weakened expelling faculty – the part being too weak to expel copious humours from itself. The second occurs when the cooking faculty of a part is weakened, leaving the part unable to convert the fluid into nourishment.[49] Both of these occurrences happen in cases of excess heat or fluid. Underlying this is a physiological process in which the parts of the body will emit humours into a weaker part of the body until reaching the weakest part available, in which a swelling will occur. Exiting the main body of the comment, de Soto engages in a long section about this affection in particular, going as far as to produce further sub-commentaries of a relevant Galenic text. The weakest parts of the body, according to Galen and de Soto, are the skin and glands, and thus this is where swelling will occur leading to a rheumatic affection, such as sarcosis, elephantitis, dropsy or rheum, in which the liver is weakened, the nutritive power diminished and the blood thinned.[50] These sub-commentaries stem from a section of Galen's *Therapeutics to Glaucon*, 2.2:

> [1] If those [humours] are combined well, due to an influx of matter, they require a single evacuation. If they are combined poorly, [they require] an evacuation and additionally, alteration through contrary qualities. [2] In any case [they require] an evacuation like the affections that are called rheumatic, about which, as you have learned, one book was edited by us, in which is shown from the beginning that that, which rules and nourishes the body, comes into being in this way, through a weakened faculty. And so forth. [3] If, however, the blood, which flows into parts of such kind, due to said rheumatic disposition, had cacochymy, a mixed disposition arises. [4] However, as luck would have it, that happens very rarely.[51]

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[48] It is important to note that *rheum* in this instance does not refer to any modern concept of disease, such as rheumatoid arthritis, but rather stems from the Greek *rheuma* meaning a discharge or expulsion; thus, a rheumatic affection or disease is any disease caused by an expulsion of a humour from one part into another; see Jouanna, *Hippocrates*, 315.

[49] De Soto, 22^{v}: *Tumores omnes fiunt, aut quia humor in parte tumore affecta generatur, aut quia aliunde confluit: qui in parte gignitur, duplici ex causa fit, aut ob debilem expultricem quae excrementa non excernit, aut ob debilem coctricem, quae copiosa gignit excrementa quam possint per loca conuenientia expurgari.*

[50] De Soto, 23: *...eaque ratione fit, vt membra praecipua sanguine illo tenui & aquoso grauata, in imbecillas partes illum protrudant, & illae in alias debiliores, donec ad omnium imbecillimas tanquam excrementum propellatur, quae sunt adenes & cutis...*

[51] De Soto, 23^{v}-24: [1] *Quae vero ob materiae influxum si bene temperata sunt, solam euacuationem desiderant, si vero male temperata euacuationem, atque simul per contrarias qualitates alterationem.* [2] *Vacuationem quidem, veluti qui rheumatici dicuntur affectus, de quibus vt nosti, vnum a nobis volumen est editum, in quo illud ab initio ostensum est, quod ea quae totum corpus regit alitque, facultate debilitata, huiusmodi fiunt. Et reliqua.* [3] *Si vero per rheumaticam dictam dispositionem sanguis qui in huiusmodi partes fluat, cacochymiam habuerit, mista oritur dispositio.* [4] *Quod forte rarissime euenit.*

De Soto has separated this text into four smaller sub-commentaries (enumerated above), clearly finding the information presented within them to be paramount, as this is the only time throughout his entire commentary on *Places in Man* that he provides separate sub-commentaries for another text. Within these, the commentator discusses the proper method of treatment for rheumatic affections. The first commentary is short, briefly reiterating what Galen has written, emphasising that if there is cacochymy, both evacuation and alteration is necessary, rather than only the evacuation that is necessary with a simple excess.[52] This idea is continued in de Soto's comments to the second passage, wherein he explains that in rheumatic diseases and those that are similar, the patient should only need a single evacuation, as these diseases are only caused by defects of quanity.[53] This emphasis on providing the proper therapies for a variety of diseases is in line with de Soto's stated purpose of serving the public good. Moreover, this is frequently done through the regulation of the humours in quality, quantity or both, as is seen in his continued comments.

The third passage focuses on the issue of a poorly combined humour causing cacochymy in the body. Again, the treatment for this, according to both Galen and de Soto, requires both evacuation and using drugs of an opposite quality to alter the quality of the flux. De Soto provides a list of some conditions that may arise from the onset of a poorly combined humour with blood:

> …and then a mixed disposition of the condition arises, namely, rheum from the sanguine humour dispersed through the whole body and causing either sarcosis or elephantitis or jaundice from the same viscous [humour] and cacochymy.[54]

These above conditions would, according to de Soto, indeed require both evacuation and alteration, as they are caused by both an excess of humour and a mixture in the blood of a bad quality. This opinion is further supported by Galen in his book, *On the Differences of Diseases*, wherein he writes:

> All such diseases are, at any rate, combined, even if they occur without an ulcer. In one way, all these diseases are creations of superfluous fluid whether hot or cold:

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[52] De Soto, 23^{v}: *Dixerat Galenus paulo superius morbos ex intemperie ortos curari debere per contrariam alterationem, nempe calidam intemperiem frigiditate, & frigidam caliditate, &c. In praesenti vero de his morbis agit qui ob influxum materiae fiunt, in quibus, si quod influit bene temperatum sit, sola euacuatione curabitur, sin autem male temperatum, per euacuationem, atque simul per contrariae qualitatis alterationem: quorum exempla deinceps ponit dicens.*

[53] De Soto, 24: *...in his enim quia id quod influit in habitum totius corporis, est sanguis tenuis, & diminute coctus, nullum aliud vitium habens, praeter substantiae et consistentiae tenuitatem, ideo solam euacuationem exposcit, tanquam quid superfluum, & a membris omnibus debilibus minime regulari aptum.*

[54] De Soto, 24: *...& tum temporis mista oritur dispositio, scilicet, rheumatica ex humore sanguineo per totum habitum disperso, & ex eodem vitioso, & cacochymo, & vel sarcitem, vel elephantiasim, vel icterum faciente...*

> *erysipelas* of yellow bile, cancer (*karkinos*) of black bile, inflammation (*phlegmone*) of blood, and swelling (*oidema*) of phlegm.[55]

Here, Galen describes the various diseases that can be caused by fluxes of mixed character, noting more general diseases that can occur from various mixtures. This idea is also found in *On the Causes of Diseases*, which notes that diseases are not always the product of a single humour: "It is clear that the causes of combined diseases are undoubtedly combined."[56] The text further notes that "...sometimes each of these humours flows unmixed, but sometimes mixed with others, and the conditions of swollen, indurated and inflamed parts, in consequence vary still more."[57] Clearly, in de Soto's understanding, these diseases of a mixed disposition are more problematic, as they require more frequent evacuations.

The largest Galenic sub-commentary focuses on the last section of the Galenic texts, which states that "as luck would have it that [disease caused by a bad combination of humours] happens very rarely."[58] De Soto tells the reader that although this short passage it parenthetically inserted into the Galenic text, it is often discussed by 'certain friends' of his, as "we see sarcosis, elephantitis and jaundice happen frequently."[59] At first, de Soto intended to dismiss the statement, as he "thought that the declaration in the above passage was not of importance"; however, looking into the matter a bit further, de Soto found that when Galen discusses this matter in *On the Causes of Diseases* and *On Differences of Diseases* he qualifies it by stating that such a mixture infrequently flows through the *entirety* of the body.[60] Thus de Soto is able to reconcile this opinion with his own observations by utilising other texts of the Galenic Corpus. Moreover, de Soto's mention of his 'friends' supports the idea that he did, indeed, network and collaborate with colleagues either in the royal court or that of the *protomédico.*

In examining de Soto's usage of both the Hippocratic and Galenic Corpora, the question arises as to why our commentator has placed such heavy evidence on the works of Galen, whilst seemingly neglecting the Hippocratic Corpus in this instance. As discussed

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[55] Galen, *On the Differentiae of Diseases* in Galen, *Diseases and Symptoms*, 153-154.
[56] Galen, *On the Causes of Diseases*, in Galen, *Diseases and Symptoms*, 168.
[57] Gal., *Caus. Morb.*, 169.
[58] See fn. 51.
[59] De Soto, 24: *Oratio haec, quae parenthesis loco interiecta est, a quibusdam amicis (quibus cum rem hanc contulimus) ad anteactam sententiam refertur…Sed meo iudicio, quando frequenter sarcitem, elephantiasim, icterum fieri videmus...*
[60] De Soto, 24^{v}: *...& quod rarissime accidit, sanguis in rheumatico affectu, tenuis substantiae, sine mistione pituitae, aut vtriusque bilis fluens, Galeno semper apparuit: vt enim constat ex ipso libro de differentijs morborum cap. 12. & lib. de causis morborum cap. 6. raro accidit, vt sanguis tam syncerus per vniuersum corporis habitum fluat, (praecipue debilibus existentibus membris) quin aliquam sibi acciscat cacochymiam, quae vacuationem & simul per contrarias qualitates alterationem desideret.*

previously, Craik noted that "[h]umoral theory here [in *Places in Man*] is at its most inchoate."[61] The physiological theory presented by the Hippocratic author is rather rudimentary in comparison to later conceptualisations. In the view of the Hippocratic author, physiological processes are primarily reliant on the qualities of hot, cold, dry and wet; qualities that were not yet firmly associated with what later became the traditional four humours. Moreover, it should be recalled that the Hippocratic Corpus does not present a cohesive physiological system, as it was Galen who later systematised earlier physiologies and helped to establish a more uniform system that was used throughout the medieval and early modern eras. Jouanna writes: "But since Galen constructed his image of Hippocrates to suit his own views, Hippocratism in the succeeding centuries was often to be dependent upon Galen's reading of it."[62] It is with this in mind that de Soto's commentary must be approached. The system provided by the Hippocratic author remains somewhat ill-defined allowing de Soto to superimpose a Galenic physiological framework upon it.

3.2.3 Contemporary Comparison of de Soto's Physiology

As de Soto makes explicit mention of a few of his contemporaries, such as Luis Mercado, Niccolò Leoniceno and Agostino Gadaldini, in this comment, it would be appropriate to use this passage to explore how his physiological understanding compared to that of other physicians.[63] Mercado in particular stands as an interesting point of comparison between de Soto and his contemporaries. A graduate of, and later faculty at, the University of Valladolid, Mercado was further employed both as the royal *protomédico* and a chamber physician to Philip II.[64] Mercado is the contemporary most frequently cited by de Soto, having been cited on five different occasions in comments 36, 48, 98, 104 and 110.[65] However, while their shared backgrounds and de Soto's frequent citation of Mercado would suggest harmony in their understanding of medicine, the reality is different; although de Soto always refers to Mercado with high praise, using epithets such as 'most learned', he always manages to disagree with Mercado. For example, in comment 36 de Soto writes about the possibility of cold congealing the brain:

> But as Luis Mercado, a most learned man and one who is well deserved in the medical art, so that he may avoid this ill-matching fact, asserts that action of this kind happens by the strength of the heat that remains within, when the cold has previously obstructed the pores of the head. Which indeed, even if it is reminiscent of good

[61] Hp., *Loc. Hom.*, 14.
[62] Jouanna, *Hippocrates*, 357.
[63] Leoniceno and Gadaldini are only mentioned briefly by de Soto in his comment on this passage, as he accuses them of fleeing from difficult translations; see ch. 1 fn. 61.
[64] Riera Palmero, 12. See also ch. 1, fns. 23-26.
[65] De Soto, 21, 35, 64^{v}-65, 69^{v},73^{v}.

> philosophy, for all attribute this to the cold, so that it can warm certain adjacent parts through *antiparistasim*; still, we ourselves will advance in a common way.[66]

In this quotation can be seen an example of the praise that de Soto gives to Mercado, while at the same time disagreeing with him, even going as far as to say that his work is "reminiscent of good philosophy" - implicitly suggesting that Mercado's understanding is, indeed, bad medicine. Still, it is important to note that while de Soto may have disagreed with Mercado on specifics, their overall physiological understanding is very similar. In her monograph exploring the tradition of Avicenna and his *Canon* in Europe, Siraisi noted Mercado's scholastic leanings, as well as his copious citations of Avicenna, which were used without disagreement.[67] Blanco Pérez, too, asserts Mercado's Galenist leanings, stating that "Muchas veces, los que plantean una acusación contra Galeno, a los que llama *neotherici*, quedan claramente rebatidos en su texto..."[68] By labelling those who disagree with Galen as *neotherici*, Mercado allies himself with conventional Galenism, and thus, a physiological theory similar to that held by de Soto.

Another example is that of Girolamo Cardano. Working slightly earlier than de Soto, he gave traditional Hippocratism his own unique twist, particularly with his element theory.[69] Still, Cardano made an effort to unify his interpretations with traditional theories:

> But Cardano adopted positions that guarded medicine from the extreme consequences of his element theory. In *De subtilitate*, he took care to divorce the number of humors from the number of elements - even though he also toyed with the idea of reducing the number of humors to three: 'There are four humors in animals; but what has this to do with the elements? What if I were to say that there were only three, together with Turisanus, the commentator on Galen's *Ars medica*?'. In the *Contradictiones*, he made a conscious decision to play down his own views on the number of the elements.[70]

Although his musings questioned the number of humours present in the body, Cardano still understood that the physiological processes of the body were caused by the movement of humours. Sirasi further asserts Cardano's reliance on Hippocratic-Galenic humoural physiology in his dietary conceptions:

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[66] De Soto, 21: *Vt vero hoc inconueniens fugiat Ludouicus Mercatus, vir doctissimus, & de arte medica benemeritus, huiusmodi actionem contingere asserit vi caloris intus manentis, prae frigiditate poros capitis obstruente. Quod quidem, etsi bonam philosophiam redolet, omnes enim frigiditati hoc tribuunt, vt subiecta quaedam per antiparistasim calefaciat, nos tamen communi incedemus viam.*

[67] Siraisi, *Avicenna*, 83.

[68] Blanco Pérez, *Humanistas*, 122 cites a passage from Mercado's *De constitutione et fabrica corporis humani, ab elementis usque ad ipsius integritatem* (Valladolid: Impressum Pintiae: in aedibus eiusdem auctoris, 1604), 489: *Quibus equidem cessat neothericorum calumnia in Gal. quia praedictae articulationes non videntur ad aliquam duarum principalium posse reduci, sed Gal. eas excipit, & innominatas, aut obscuri motus appellat.*

[69] See Siraisi, *Clock*, 63-65, for Cardano's elemental theory.

[70] Siraisi, *Clock*, 64.

> His dietary concepts reflect several of the main interests or clusters of ideas that recur through many of his works. One of these was his self-conscious Hippocratism. In his writings on food, this specific commitment appears alongside the more general influence of the long tradition of medical advice about regimen based on Hippocratic-Galenic humoral physiology, on which, as was to be expected, he also drew heavily.[71]

Thus, the incorporation of other theories into his medical understandings did not negate the influence of the humoural tradition on Cardano. It is clear that de Soto's Galenic understanding of humoural theory is in keeping with contemporary medical trends; however, if this was the case, why did he feel the need to emphasise it to such a degree throughout his commentary? The answer to this question may lie in de Soto's attempt to re-establish the authority of Galen. By re-emphasising humoural theory, a theory that was widely accepted, de Soto was thus able to re-emphasise Galen's authority and perhaps even discredit the claims of his detractors.

3.2.4 Syphilis

Briefly mentioned in de Soto's final comment on the Galenic passage is the issue of syphilis, the source of much concern and debate in the sixteenth century. De Soto writes, citing Galen and his *On the Composition of Drugs According to Kind*, that "[a]ll learned men ought to keep that way of treatment in curing *lues venerea*".[72] Thus, de Soto did not consider what he has termed *lues venerea* to be a new disease. This was not uncommon, as acknowledging new diseases may have been detrimental to ancient authority:

> The reasons why some physicians wished to make the association with an existing disease were both theoretical and practical... one school of academics would not believe that any disease could appear which was not described within the canon of accepted medical belief, namely within the writings of Galen and Hippocrates. This was not simply professional obduracy. It had implications for treatment, given that in

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[71] Siraisi, *Clock*, 70. Siraisi, *Clock*, 71, further notes Cardano's affinities with contemporary works: "Eclectic and idiosyncratic as Cardano's writings on food and diet are, they nevertheless have many features in common with other Renaissance works on the subject. His decision to include extended discussion of dietary theory in a philosophical dialogue was unusual, but in writing a treatise on regimen largely devoted to diet he joined a minor Renaissance literary industry. Since antiquity, diet had had a significant play in medical literature. All Hippocratic-Galenic humoral physiology taught that health was the result of a proper balance of the elementary qualities, a balance that was responsive to substances ingested by the body, all of which were themselves endowed with elementary qualities."

[72] De Soto, 24^{v}: *Quem curationis modum omnes viri docti in curanda lue venerea seruare debent...*; of course, this text makes no explicit mention of *lues venerea*, but in 1.8 and 1.14 Galen does briefly mention rheumatic disease, thus allowing de Soto to associate these passages with *lues venerea.* See Galen, *On the Composition of Drugs According to Kind* in *Opera Omnia*, vol. 13, ed. and trans. by Karl Gottlob Kühn (Leipzig: C. Cnobloch, 1827), 404, 427. For accounts of syphilis and history in the early modern era, see Jon Arrizabalaga, *et al.*, *The Great Pox: The French Disease in Renaissance Europe* (New Haven: Yale University Press, 1997).

> describing the disease the ancients would then provide a clear idea of the symptoms and therefore a guide to the best remedies.[73]

In this way, de Soto, again in an attempt to assert the authority of Galen, ties the disease and its remedies to a Galenic text. Moreover, the admission of the possibility of new diseases could have been detrimental to the art in its current form, as physicians needed to present a medical framework that was applicable to every disease.[74] Unfortunately, de Soto only mentions the disease on two brief occasions; however, he is quick to link it to the Galenic Corpus, thus suggesting a reluctance to the idea of 'new' diseases. This is further supported by (and supportive of) de Soto's rejection of the 'new' anatomy, as, in both cases, de Soto emphasises the authority of the ancient works.

In this comment, de Soto suggests curing the disease with sarsaparilla, gaiac wood or China root combined with wormwood and roses, all popular remedies for the affliction.[75] Notably, another popular remedy, mercury, is not listed by the commentator, suggesting that it may have been currently out of vogue. Sarsaparilla was brought into Europe around the same time that China root gained popularity in the early sixteenth century and remained a popular remedy for various diseases for centuries to come; however, unlike China root, sarsaparilla continued to be used for tertiary syphilis well into the nineteenth century.[76] Gaiac wood proved a particulary popular remedy in the Iberian Peninsula, as it was discovered in the West Indies by Spanish explorers, who began to import it around 1508.[77] The popularity of gaiac wood for the treatment of syphilis ended with the arrival of the China root around 1535, after first gaining its popularity in Spain, after its use by Charles V.[78] In addition to their Spanish connections, de Soto suggests these remedies due to their astringent properties,

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[73] Arizzabalaga, *Pox*, 25. It is further noted on p. 264 that there was no general agreement amongst early modern authors as to the age or origin of the disease.
[74] Arrizabalaga, *Pox*, 264-265.
[75] De Soto, 24^{v}: *...non omittentes eam quae a mala qualitate sumitur indicationem, decoctum zarzae parrillae, vel ligni sancti, vel radicis Chinae offerentes, quod vim roborandi & siccandi vniuersa membra habet, simul & pessimae humorum, & totius substantiae qualitati obsistendi: cui decocto (non sine magna aegrorum vtilitate) addidi absynthij comas & rosas, vt & robur siccitasque medicamenti augeretur....*; in comment 50 (ff. 35(2) [*recte*: 36]) de Soto further recommends sites for venesection in cases of *lues venerea*.
[76] James Johnston Abraham, Introduction to Girolamo Fracastoro, *Syphilis or the French Disease*, trans. by Heneage Wynne-Finch (London: William Heinemann, 1935), 28-29.
[77] Johnston Abraham, 23. On p. 24, he further notes: "By 1517 it was reputed to have cured 3,000 persons in Spain; but it was not until some years later that the rest of Europe learnt of it through the work of the famous knight Ulrich von Hutten, published in Mayence in 1519, entitled *De Morbi Gallici curatione per administrationem ligni Guaiaci*." For more information on von Hutten, see Otto Flake, *Ulrich von Hutten* (Berlin: Buchverlag der Morgen, 1983).
[78] Johnston Abraham, 27-28.

as he no doubt saw syphilis as a disease of a moist quality.[79] In envisioning the disease thus, de Soto is able to fit it into his established Hippocratic-Galenic framework, in which cure by opposites often proves the most effective.

3.2.5 Conclusion

This case study, which is drawn from the physiological thematic block, exemplifies de Soto's stauch reliance on Galenism and his use of humouralism to reassert Galenic authority. In his comments on the chosen Hippocratic passage, de Soto employs the conventional Galenic humouralism in order to develop the seven flux theory presented in *Places in Man*, even including four subcommentaries to lemmata drawn from the Galenic text, *Therapeutics to Glaucon.* These subcommentaries further address the issue of humoural *dyskrasia* and, more generally, how ailments may be cured through the regulation of noxious humours. This sets a clear foundation for the reader to move into the pathological thematic block. Additionally, and most importantly, these subcommentaries clearly demonstrate the authority that our commentator gave Galen, as de Soto uses these passages to read a humoural understanding into a Hippocratic treatise that likely predated any notion of the four humours. In de Soto's understanding, human physiology is ruled by the movement and exchange of the four humours and vexed by fluxes, pernicious in either quality or quantity. This, of course, is a common understanding of the body in the early modern period, as seen in the brief comparison with Luis Mercado and Girolamo Cardano. Whilst similarities between the conceptions of Mercado and de Soto are unsurprising, due to their shared educational background, Cardano sometimes deviated from the conventional in his medical writings. Thus, this shared understanding demonstrates the universality of this physiological system. De Soto, in turn, employs the near-universal agreement on the four humours to emphasise Galenic authority.

Additionally, de Soto uses this text to further demonstrate his humanist erudition, employing the works of Lucretius and Virgil to aid in his arguments presented in this comment. Whilst these examples do provide insight into the discussion about the penetrating ability of both cold and heat, they are even more effective at exhibiting de Soto’s knowledge of ancient literature to the reader – particularly his capacity to draw connections between medical and non-medical texts, demonstrating medicine’s applicability to the other faculties. Finally, de Soto's brief mention of syphilis, or *lues venerea*, demonstrates engagement with a

[79] See fn. 75; in his famous letter, Vesalius denies that China root is the proper cure for syphilis. See O'Malley, *Vesalius*, 216: "...when I was treating the sick in Venice under the direction of the most famous professors there, that root had made its appearance and had been received with great hope and praise, but subsequent unhappy results in two cases in which it had been used led to disappointment."

contemporary concern; however, he also ties this new issue back to the authority of Galen by referencing his *On the Composition of Drugs According to Kind*, whilst asserting that all physicians should keep a remedy for this disease. Thus, de Soto is attempting to connect the disease to the Galenic text in order to reconcile the existence of syphilis with his medical understanding. Here again, de Soto emphasises the authority of the Prince of Physicians, whilst simultaneously building on the foundation set in the anatomical thematic block, explaining how humours and fluxes affect the parts and setting the framework to discuss the specific diseases that impact the body.

3.3 Case Study 3: Pathology and Nosology

The third section of *Places in Man*, as noted by Craik, focuses on issues of pathology, the diagnosis of specific diseases, and nosology, the classification of diseases.[1] This section, which consists of comments 88-107, builds upon the previous anatomical and physiological chapters and discusses how the movements and qualities of various fluxes affect the parts of the body.[2] This case study will focus on de Soto's comments 91-93, in which he discusses the pathological features, treatment and prognosis for dry pleurisy. Within this case study, both the Hippocratic author's and de Soto's nosological understanding of pleurisy, and pathological understanding of dry pleurisy in particular, will be discussed; by examining pleurisy as a whole, further elucidation will be given to how causes and symptoms were used in identifying and categorising disease. Moreover, this case study will explore how de Soto's understandings of pathology and nosology are tied to his humoural physiology and thus aid in his emphasis on Galenic doctrine. Additionally, this case study will examine how de Soto's commentary applied the ancient and Renaissance concept of *utilitas publica*; an aim of his work that de Soto outlined in his preface.

De Soto divided the Hippocratic author's discussion of dry pleurisy into three separate comments; the first outlines the pathological features of the disease, the second engages with the therapy prescribed by the Hippocratic author, and the third with the prognosis of the disease.[3] This division breaks down the steps that the physician would take in recognising and treating a disease: in first approaching a patient, a physician would need to identify a disease by recognising the associated signs and symptoms; next, he would recommend a therapy, if one existed; finally, and most importantly, the physician provided a prognosis for the patient. In contrast to modern expectations of medicine, a cure for a disease was not the primary concern of a patient and his family, but rather a correct prognosis of the disease's

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[1] Hp., *Loc. Hom.*, 13. For more generalised discussions of pathology and nosology in antiquity, see Jouanna, *Hippocrates*, 68-39, 141-146; Nutton, *Ancient*, 28, 205-206; and von Staden, *Herophilus*, 9-13, *passim.*

[2] De Soto, 59^{v}-71^{v}.

[3] Hp., *Loc. Hom.*, 67. The original Hippocratic passage is from 26.1-2 of *Places in Man* and states: "Dry pleurisy without flux happens when the lung becomes too dry through enforced thirst. For when the lung, which is already dry, is dried out beyond its natural state, it is attenuated and having become weak leans in its weakness towards the side and touches the side. And when it touches it, which is moist, it adheres and gives rise to pleurisy. Then pain arises in the side and in the collar-bone; and there is fever and white matter is expectorated. One must treat this patient with copious drinks and give baths and administer drugs for the pain and the other treatments which induce expectoration. This patient recovers in seven days and the illness is without danger; and one should not give (solid) food."

course.[4] However, it should be noted that, while it lends itself nicely to further examination, this tripartite division is not ubiquitous throughout the pathological and nosological section of de Soto's commentary. In fact, there is no standardisation in de Soto's division of these comments whatsoever; still, these three features are always discussed in some form or another throughout de Soto's pathological comments.

3.3.1 Nosology and Symptomology in de Soto's Commentary

This thematic block as a whole covers a variety of chronic and acute illnesses between comments 88 and 108, with the largest portion of the section dedicated to classifying and treating fevers, as our author considers fever to be "the most common disease."[5] In addition to passages on dry pleurisy and fever, the Hippocratic author discusses water on the omentum, dropsy, jaundice, angina, chronic bedsores and ulcers of the tongue, finishing the section with more generalised advice on curing acute sicknesses.[6] Throughout de Soto's comments on these topics, he focuses his attention on teaching the reader how to identify these diseases and the physiological processes (or failures) that have caused them to arise, and how to employ this information for the prognosis and treatment of the diseases. For example, in comment 88 de Soto outlines the physiological processes that cause water on the omentum. He writes that tumours form on the spleen due to the heat of fevers melting the humours, which are, in turn, absorbed by the spongy spleen causing swellings or inflammations.[7] De Soto explains to the reader that a sign of water on the omentum, in addition to fever, is "a strong thirst" that "seizes [the patient], and he will drink and not vomit. For [fluid] that enters the bladder is

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[4] Nutton, *Ancient*, 237, writes "Above all, over and over again Galen stressed the importance of gaining the patient's confidence in the battle against disease… This was best achieved through the art of prognosis as laid down by Hippocrates." See also Nutton, *Ancient*, 88-90 and Jouanna, *Hippocrates*, 8, 67-68, 100-111, *passim.* Because of its Hippocratic origin and Galenic emphasis, the practice of prognosis became an instrumental technique in scholastic medieval and early modern medicine. Maclean, *Logic*, 27 notes that Paracelsus rejected the practice of prognosis and believed that doctors should, instead, use therapies gained from experience; thus, promoting a more empirical sort of medicine.

[5] De Soto, 63: *...quia febris communissimus morbus est...*

[6] Hp., *Loc. Hom.*, 65-71; de Soto, 60-72.

[7] De Soto, 59^{v}-60: *Morbus hac oratione describitur (vt vltima verba monstrant) satis periculosus: quis tandem ille sit, obscurum est: nam vel splenis obstructio depingitur, aut tumor aliquis praeter naturam de genere inflammationum largo modo dictarum, inquit enim: Cum splen prae febre magnus factus fuerit. Solent enim huiusmodi tumores febres praeire & subsequi. Sed meo iudicio, obstructio lienis depingitur, quae praeuia esse solet ad hydropem. Haec autem prae febre hoc modo contingere potest. Dum enim febris magna est & acuta, carnes colliquat & contrabefacit, in qua actione non mediocris fit superfluitatum corporis fusio, quas lien, vtpote viscus spongiosum, suscipit in se, ex quibus augescens in tumorem non paruum attollitur, praecipue si febris adfuerit maxima, quae sitim clamosam inducat & aegrum ad bibendum propensum reddat...*

expelled through urine."[8] Continuing the topic into comment 89, de Soto then discusses various treatments for this affliction, such as purging the spleen; a therapy that is clearly based on his understanding of humouralism.[9]

Much of de Soto's advice for understanding and identifying disease is dependent upon the recognition of certain symptoms and their causes. W.H.S. Jones notes in his introduction to the work *Prognostic* that the Hippocratic author

> ...attached far less value to diagnosis than he did to what may perhaps be called general pathology of morbid conditions, in particular of acute diseases. In all these diseases, according to Hippocrates, there are symptoms, or combinations of symptoms, which point to certain consequences in either the near or remote future.[10]

This emphasis on identifying the symptoms of a disease in order to recommend the appropriate therapy and prognosis is emulated in de Soto's commentary. But more than just identifying the symptoms, de Soto sought to understand the underlying causes behind them; demonstrating one of the primary differences between empirical and rational medicine. In his monograph, *Logic, Signs and Nature in the Renaissance*, Ian Maclean explores the doctrine of causes and signs and how these ideas were applied in Renaissance medicine by examining the works of a range of early modern physicians.[11] Pleurisy provided an excellent example

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[8] De Soto, 60: *Fit autem splen aquosus ab hac affectione, cum febris habuerit & non dimiserit hominem, & sitis ipsum corripuerit fortis, & biberit, ac non reuomuerit. Nam quod in vesicam penetrat, per vrinam eijcitur.*

[9] De Soto, 60-60[v]: *Vt ergo splen a tumore liberetur, medicamenta exhibere iubet, quae aquam purgent. Sunt porro talia, diuretica & vrinas prouocantia medicamenta. Sed vtrum lien expurgari possit per vrinas, vt Hippocrates in praesenti insinuat, quidam verterunt in dubium? Galenum sibi ipsi esse contrarium dicentes, qui. 13. Metho. cap. 17. sic scribit: Gibba iocinoris pars per rhenes expurgari oportet. Caua vero per inferiorem ventrem: in liene vero alteram solum superflui esse euacuationem, cum quae per rhenes agatur, nulla huic visceri vacuando via pateat. Secundo vero de arte curatiua ad Glauconem. c. 2. contrarium scribere videtur, inquit enim. Ventriculus per vomitum expurgatur, intestina per inferiores excretiones, quemadmodum & splen, & rhenes per vrinas. Sed re vera verbum illud Quemadmodum* [sic], *referendum est ad anteactam dictionem, non ad sequentem, vt sensus sit, Quemadmodum* [sic] *intestina commodissime vacuantur per inferiores excretiones, sic splen per illam partem belle expurgatur, & rhenes per vrinas & hoc modo nulla est contradictio in Galeni locis. Sed quae sit huius difficultatis resolutio, dicamus. Peculiares habent totius corporis viscera (dum grauantur) euacuationes. Cerebrum per nares & palatum, pulmo per sputum, hepatis gibba pars per vrinas, caua vero per ventrem. Ventriculus per vomitum, & lien per aluum. Sed ita sunt peculiares huiusmodi vacuationes ijs partibus, quod commodius per has, quam per alias vacuantur.* See also, Gal., *MM*, vol. 3, 387-391.

[10] Hippocrates, *Prognostic*, ed. and trans. by William Henry Samuel Jones, LCL 148 (London: William Heinemann, 1923), x.

[11] Maclean, *Logic*, 262-265, 276-332; see also Nancy Siraisi, "Disease and Symptom as Problematic Concepts in Renaissance Medicine" in *Res et Verba in der Renaissance*, ed. by Eckhard Kessler and Ian Maclean (Wiesbaden: Harrassowitz Verlag, 2002), 217-240.

for authors who wished to discuss the signs and symptomology in early modern medicine. As cited by Maclean, Adrien L'Alemant (*c.* 1550) provides an excellent example:

> There are [three] sorts of demonstrations from signs. The first is inferred, when a cause unknown to us is proved from a manifest effect, as in this case: as often as these symptoms are seen, namely difficultly of breathing, a stabbing pain in the side and persistent fever, there will be inflammation of the intercostal membrane; but pleurisy has these symptoms; therefore pleurisy is an inflammation of the intercostal membrane...[12]

This example is similar to the reasoning found in de Soto's account of the disease. In the case of dry pleurisy, our author indeed infers causes from symptoms, but also uses these same symptoms to categorise the disease.

3.3.2 Dry Pleurisy

De Soto begins his analysis in comment 91 by identifying what is meant by the term "dry pleurisy". Citing both *Diseases III* and *Regimen in Acute Diseases*, he defines the disease as a pleurisy with minimal expectoration due to excessively viscous or dry humours or weakness of the expelling faculty.[13] The reader is told that dry pleurisy happens due to

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[12] Maclean, *Logic*, 154, fn. 23; L'Alemant continues, "The second sort infers an effect hidden from us from a sign. Whenever stiffness follows on from an ardent fever, it causes the fever to go away. But when the bile inflaming the skin is evacuated through sweat, stiffness occurs. Therefore when the bile inflaming the skin is evacuated through sweat, the ardent fever goes away. The third sort assumes a remote cause, as in this example: anything which is troubled by melancholy is an animal; a plant is not an animal; therefore a plant is not troubled by melancholy." Notions of humouralism and its relationship to plants was briefly discussed by de Soto in case study 2, see case study 2, fns. 46-47. See also Adrien L'Alemant, *Ars Parva* (Paris: Thomas Richards, 1549), 29-30. For more information on Adrien L'Alemant, see: Anthony Grafton and Nancy Siraisi, "Between the Election and My Hopes: Girolamo Cardano and medical astrology" in *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, ed. by William R. Newman and Anthony Grafton (Cambridge, Mass.: MIT Press, 2001), 82.

[13] De Soto, 61^{v}: *Oratio haec, pleuritis sicca citra fluxum, manifeste monstrat alias esse pleuritides siccas quae cum fluxu fiunt... Hae autem siccae appellantur, quia in eis nihil spuitur: nota enim est non exigua omnium morborum siccorum... nihil superfluitatum excerni... aut enim prae imbecillitate facultatis expultricis humor reijci nequit, aut quia admodum crassus aut frigidus viscidusque est, aut quia nimis tenuis, qui ab aëre & spiritu impellente ipsum dissecatur, & pulmonis bronchijs adhaeret...*; Hippocrates, *Diseases III*, ed. and trans. Paul Potter, LCL 473 (Cambridge, Mass.: Harvard University Press, 1988), 39-41: "There are also dry pleurisies without expectoration, and these are severe. The crises are the same as in the other varieties, but these patients require more moisture in their drinks than do the others"; Hippocrates, *Regimen in Acute Diseases (Appendix)*, ed. and trans. Paul Potter, LCL 473 (Cambridge, Mass.: Harvard University Press, 1988), 295: "Conditions in the lung and pleurisy you must evaluate thus: if the fever is high and there are pains in one or both sides, if the patient suffers pain when he draws his breath, if he has a cough and it produces yellow-brown, livid, or thin frothy bright-coloured sputa, and if the patient is different in other ways from what is normal, you must proceed as follows with such patients..." – there is no explicit reference to "dry pleurisy" in either *Regimen in Acute Diseases* or the *Appendix*;

weakness of the lung, causing the organ to lean and stick to the side of the pleural cavity, and resulting in fever, cough, pain and difficulty of breathing.[14] Here, de Soto not only lists the symptoms of the disease, but explains, using internal causes, why they happen. The reader is told that fever in dry pleurisy is caused because the weakened lung (which has been weakened due to dryness) is unable to properly cool the heart, causing a higher temperature in the body and that the pain is caused by the motion of lung during respiration unsticking itself from the side of the cavity, only to be re-adhered.[15] This demonstrates the relationship between cause and signs, as discussed above. De Soto tells the reader that fever, pain of the side and coughing without expectoration are symptoms of dry pleurisy, but he goes one step further to explain the causes behind these symptoms. This relationship between cause and symptom will be further explored in case study four and its discussion of melancholy.

The subject of dry pleurisy continues in comment 92 with a discussion of possible cures. In this section, de Soto has established all the necessary symptoms and their accompanying causes that a doctor would need to recognise in dry pleurisy, and turns the discussion to the therapies that will be successful in treating the ailment. The fundamentals for curing dry pleurisy, according to de Soto, rely on moistening the body: baths and drinks being possible options.[16] Again, de Soto relies on balancing qualities to cure this ailment; thus, a dry pleurisy requires a moistening remedy to counter the causes of the disease. After addressing the question as to whether or not drinks may pass through the oesophagus into the trachea (they can, as it were), de Soto gives the reader his suggested therapy of "presenting a drink little by little and alternately, and not with heavy draught taken in one go, as Cornelius Celsus wrote best in the chapter about the over-heating of the stomach."[17] The reference provided by de Soto is vague; however, he may be referring to Celsus' suggestion that a

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however, suggesting an evaluation of the cough and expectoration opens the possibility of an affliction without a productive cough. Further, it must be emphasised that ancient and early modern notions of the disease pleurisy are not comparable to modern understandings of the same disease.

[14] De Soto, 61^{v}: *Siccatis nimirum pulmonibus prae ingenti calore sitim maximam inducente: tunc enim pulmo siccatus maxime imbecillis redditur, & ad latus pectoris reclinans cum eo agglutinatur, & febrem & tussim inducit, & dolorem, & difficilem spiritum.*

[15] De Soto, 61^{v}: *Febrem quidem, corde ipso no* [sic] *exacte ventilato prae imbecillitate pulmonis. Tussim vero, quia membra respirationis vexantur. Dolorem autem quia ex agglutinatione continuum soluitur, motu pulmonis conante pulmonem ipsum adhaerentem deagglutinare, propter quod etiam difficilis fit respiratio. Pulsus tamen duricies fiet in hoc morbo prae partium caliditate ac siccitate.*

[16] De Soto, 62: *Morbus superiore sententia descriptus, quia suam essentiam in siccitate habet, optime per ea quae humectare valent, curationem suscipit: id quod recte balneis exercetur, vt supra diximus de hoc remedio loquentes. Sed quod multi potus pulmoni sicco prodesse possint, dubium videtur?*

[17] De Soto, 62^{v}: *…exhibendo potum paulatim & per vices, non confertim & vnico haustu, vt optime aduertit Cornelius Celsus capite de aestuatione stomachi…*

patient suffering from a digestive ailment "may drink three or four cupfuls of wine through a fine reed."[18] In giving this advice, de Soto explicitly disagrees with Celsus, while at the same time providing no citation from either Hippocrates or Galen, as is usually done, to substantiate his argument. It would be reasonable to suggest that this preference to slowly offer a drink stems from experience, whether it be his own or that of a teacher or colleague.

Moreover, de Soto's disagreement with Celsus should be further explored. Assuming that this is the correct passage of *De medicina*, de Soto has selected a rather tangential text to use as his example of incorrect practice; one that focuses on an ailment of the stomach rather than of the lungs.[19] Looking further into de Soto's relationship with the work of Celsus, the reader finds that our commentator frequently disagrees with the Roman encyclopaedist, as already seen in case study one.[20] Despite his humanist education and reverence for the ancient medical tradition, de Soto is often quite forceful in his disagreement with Celsus in a way that is not seen in his considerations of Hippocrates and Galen, which, arguably, further demonstrates the primacy that the doctrines of Hippocrates and Galen held in de Soto's understanding of medicine.[21]

Comment 92 continues with a discussion of pain and its remedies, namely anodynes and narcotics, as well as curing pain by solving any intemperance. This leads to de Soto's next point:

> But I myself (as I judge) think in the sickness under discussion, that moistening medicines are more suitable than the anodyne… Furthermore, narcotic medicines should not be used unless a certain great need occurs, and where the pain greatly ruins strength.[22]

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[18] Cels., vol. 1, 75. The connection lies in the fact that water can, in de Soto's understanding, pass from the oesophagus into the trachea; still, this connection is tenuous. This is important to de Soto's consideration of dry pleurisy, as if water cannot, in fact, pass from the oesophagus into the lungs, drinks would not stand as an efficient therapy for the ailment.

[19] For more information on the reception of Celsus in the Renaissance, see Siraisi, *Traditions*, who notes specifically on p. 31 that the author was "highly esteemed" by humanist physicians and authors, and Maclean, *Logic*, 31, 37, *passim.*

[20] See case study one, fns. 26-29 in which de Soto disagrees with Celsus about the healthiest number of cranial sutures. Another instance of disagreement occurs in comment 66 (ff. 47^{v}-48^{v}). Moreover, it should be noted that de Soto does not disagree with Celsus on every opportunity; in comments 35 and 81 (ff. 19-19^{v}, 56-56^{v}), de Soto agrees with the author on issues of vocabularly and in comments 102 and 123 (ff. 68-68^{v}, 78-78^{v}), de Soto relays information found in both the Hippocratic Corpus and the works of Celsus. Finally, in comment 139 (f. 85^{v}), Celsus is commended for having rightly written about curing through similars and contraries: *Quamobrem recte dixisse Celsum est existimandum in hunc modum: Quamuis perpetuum est quod fieri conuenit, non tamen id quod succedit…*

[21] Maclean, *Logic*, 31 notes that from the mid-1500s, the works of Celsus were taught primarily at Louvain and nowhere else.

[22] De Soto, 62^{v}: *Sed ego (vt existimo) proposito morbo magis opportuna censeo medicamenta humectantia, quam anodyna…Narcoticis porro medicamentis vtendum non est, nisi magna quaedam necessitas contingat, & vbi dolor maxime virtutem prosternat.* See Roselyne Rey,

Thus, in de Soto's opinion, it is best to cure the root of the pain (in this case, the dryness causing the pleurisy) rather than to numb it with anodynes or narcotics.[23] After a brief discussion about the use of expectorants in dry pleurisy, a course of treatment that he considers useless – as there is nothing to be coughed up in this condition - de Soto provides his own prescription for the disease: "I often prescribe the patient to draw up the vapour of sweet, warming water for that use."[24] Rey notes how the Galenic conceptions of pain were reliant upon a humoural physiology:

> The breaking of the tissues of flesh by bruising, incision, etc., or change in the qualities of the body were still seen, according to the Galenic representation, as a mixture of humours and qualities which implied, in order to be felt as painful, the sensibility of that part of the body and the awareness of the pain…[25]

In the case of dry pleurisy, the pain stems from the dryness of lungs; a problem that, in de Soto's opinion, can be cured by restoring moisture to the lungs, thus eliminating the associated lateral pain. De Soto ends his comments on dry pleurisy with the prognostics for the disease in comment 93. He explains that dry pleurisy is far less dangerous than its "genuine" counterpart; however, there are still some aspects of the illness that are cause for caution; namely, fever, pain and difficulty of breathing.[26] Fortunately for the patient, all of these symptoms are readily cured through moistening medications and he should recover in the next seven days.[27]

The History of Pain, trans. by Louise Elliott Wallace, *et al.* (Cambridge, Mass.: Harvard University Press, 1995) for discussions of pain in both antiquity and the Renaissance. Moreover, the glossary of Rey's work (pp. 385-387) defines anodyne medications as those that relieve pain, citing the Greek etymology. See also pp. 64-69.

[23] It should be noted, however, that both anodyne and narcotic medications would certainly have been thought to have certain qualities (hot, cold, wet, dry, etc.); however, often, their primary function would be to dull pain or induce sleep, rather than curing the humoural imbalance causing the pain in the first place.

[24] De Soto, 62^{v}: *…ad quem vsum vaporem calentis aquae dulcis aegrum haurire saepius praecipio, Hippocratis instructus doctrina I. de rat. victus...*; I was unable to find a reference in either *Regimen in Acute Diseases*, its *Appendix,* or in *Regimen I* to treating pleurisy with sweet vapours.

[25] Rey, 63.

[26] De Soto, 63: *Morbus autem de quo in praesenti oratione agitur, quia inflammatio non est (vt supra diximus) ideo morbus minime periculosus est: caeterum per se consideratus, periculo non vacat: qui enim eiusmodi morbo laborat, & febre corripitur, & dolore vexatur, difficileque respirat: quia tamen eius curatio per humectantia medicamenta facilis ac secura est...*

[27] De Soto, 63: *...ideo non est mirum si in septem diebus praedictus morbus finiatur (qui peracutorum morborum terminus est).*

3.3.3 Prognostics

As already discussed, prognostication was an integral part of academicised medicine in the early modern era. The ability to correctly determine the likely course of disease inspired both trust and awe with the patient and his carers, while also earning the physician a positive reputation. This practice was highly influenced by the Hippocratic Corpus and specifically the text, *Prognostics.* In the opening of this work, the Hippocratic author explains the utility and worth of prognostication:

> I hold that it is an excellent thing for a physician to practise forecasting. For if he discover and declare unaided by the side of his patients the present, the past and the future, and fill in the gaps in the account given by the sick, he will be the more believed to understand the cases, so that men will confidently entrust themselves to him for treatment. Furthermore, he will carry out the treatment best if he knows beforehand from the present symptoms what will take place later.[28]

The author proceeds to explain, that although prognosis may be a valuable tool, the physician must understand that some patients are incurable.[29] This practice of prognosis was adopted by Galen and continued to be a commonplace practice in learned medicine through the early modern era.[30] De Soto provides various prognoses throughout his commentary for a wide range of ailments.[31] These prognoses are dependent upon the recognition of certain signs or symptoms to identify the disease, which de Soto then assigns a therapy, frequently using critical days as markers for both prognosis and treatment. However, what is distinctly lacking in de Soto's prognoses is any consideration of astrological features that had played an integral

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[28] Hp., *Prog.*, 7. For more information on prognosis in the history of medicine, see Walter Pagel, "Prognosis and Diagnosis: A comparison of ancient and modern medicine", *Journal of the Warburg Institute* 2 (1939): 382-398; Olivio Galeazzi, "Truth, Disease, and Prognosis: An historical-anthropological analysis", *Annals of the New York Academy of Sciences*, 809 (1997): 40-55; Philip van der Eijk, "Divination, Prognosis and Prophylaxis: The Hippocratic work 'On Dreams' (*De victu* 4) and its Near Eastern Background" in *Magic and Rationality in Ancient Near East and Graeco-Roman Medicine*, ed. by Herman F. J. Horstmanshoff, *et al.* (Leiden: Brill, 2004): 187-218; as well as discussions throughout Jouanna's work on Hippocrates, Nutton's *Ancient Medicine*, and Maclean's *Logic, Signs and Nature in the Renaissance.*

[29] Hp., *Prog.*, 7-9: "It is necessary, therefore, to learn the natures of such diseases, how much they exceed the strength of men's bodies, and to learn how to forecast them. For in this way you will justly win respect and be an able physician. For the longer time you plan to meet each emergency the greater your power to save those who have a chance of recovery, while you will be blameless if you learn and declare beforehand those who will die and those who will get better." De Soto further discusses the existence of diseases stronger than known medications in comment 152, the subject of case study 5; see case study 5, fn. 45.

[30] Philip van der Eijk, "Therapeutics", in Hankinson, ed., *Cambridge Companion*, 294-295 discusses the diagnostic tools provided in the Hippocratic Corpus (specifically *Prognostics*) that were later adopted by Galen into his therapeutics.

[31] See particularly de Soto, comments 39-41 (ff. 26-29), 44-45 (ff. 29^{v}-30), 49-52 (ff. 35-38), 64 (ff. 45-45^{v}).

role in both ancient and early modern traditions of prognosis.[32] Although astrology was pervasive throughout ancient and early modern medicine, Maclean notes that there was a "growing number of opponents of astrology towards the end of the century as either flippant or only 'probable'."[33] Certainly, not all physicians in the early modern era were proponents of prognosis; one of the most prominent of these dissenters being Girolamo Cardano. According to Cardano, the best thing for a physician is to avoid all cases and practices in which a physician may fail; a recommendation that includes prognostication.[34] However, whilst de Soto omitted astrology as a prognostic tool in his commentary, he still holds prognosis to be a valuable part of his therapeutic medicine.

3.3.4 Utilitas Publica

In his dedication to this volume, de Soto tells the reader that one of his motivations in writing this commentary was to serve the public good or *utilitas publica*.[35] It is in these commentaries on the pathological and nosological paragraphs of *Places in Man* where this motivation is most clearly illustrated; as de Soto shares with the reader many of his therapies he has found to be successful in the treatment of various diseases. Just as our commentator recommends moistening medications for the treatment of dry pleurisy (including drinks, baths and vapours), similar demonstrations of his therapeutic medicine are seen throughout this thematic block, such as in his recommended treatment of dropsical children and his discussion of fevers. In comment 90 de Soto provides a specific prescription for treating dropsy in children; he explains there are “useful poultices [that] can be prepared for dropsical

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[32] Maclean, *Logic*, 91-92; For example, the onset of melancholy was often tied to certain astrological signs; see case study 4, fn. 17.
[33] Maclean, *Logic*, 91.
[34] Girolamo Cardano, *In Hippocratis Coi Prognostica...commentarii* (Basel: Sebastian Henricpetri, 1568), 3-4: *Porro liber Praedictionum, quam susceptimus exponendum, teste Galeno, tertio de Difficultate spirandi (cap. 9) solum tractat de acutis morbis, libet possit per coniunctionem aut similitudinem etiam traduci praedictio ad diuturnos. Unum vos monere volo ab illis, qui non ad unguem praecepta servant, etiam abstinendum a cura, ne dum a Prognostico: neque ex uno auxilio opportuno ad dubium propter aegri, aut astantium pertinaciam, aut timorem transeundum. Nam qui non paret, neque fidem habet, nec decorum est tibi admovere manus illi, ut plerumque dedecus tibi, illi danum ex hoc succedat...*; see also Siraisi, *Clock*, 114; although Cardano had great interest in astrology and the occult, Siraisi notes that Cardano did not necessarily believe such practices should be utilised in medicine: "In the context of the doctor-patient relationship, prognosis too, for all its centrality to Hippocratic medicine and parallels with the other predictive art of astrology, had its limitations...The lack of proper respect for prognosis was, he [Cardano] thought, largely due to its limited actual utility to the sick but also came about because many people did not believe that 'divination of this kind' existed in medicine."
[35] See ch. 2, fn. 59.

children from the oil of chamomile or dill, mixed with a little *nitrum* or salt."[36] While no measurements are provided for this remedy, de Soto still holds enough confidence in the treatment to recommend them specifically, rather than simply providing the characteristics of the diseases with vague suggestions of medicines categorised by their properties, e.g. warm medicines for those diseases caused by cold and dry for those caused by an abundance of moisture. This is seen again in comments 99 and 100, both of which are part of the discussion on fevers. In comment 99, de Soto tells the reader:

> However, I myself am accustomed to mix drugs of this kind with broth also, certainly when I recognise that bodily strength is weak and purging is necessary… Although, let [the physician] administer broths in all sicknesses, either barley water, or millet, or flour, or emmer [wheat]: and whichever of these you give for a remission of the disease, let him give them in a thin and a more cooked form, and a sweeter form rather than a salty or warmer form…[37]

While there is some ambiguity as to what qualifies as sweet or warm, de Soto explicitly recommends broths of barley, millet, flour or wheat to help regain strength during fevers. Additionally, he tells the reader that he finds it beneficial to include whatever drug may be necessary in the broth. Continuing his discussion of fevers, de Soto comes upon the topic of fevers caused by an excess of bile:

> But we expect the particular condition (as far as it is able to happen) in bilious fevers, for although a thin and warm humour demands a drink, nevertheless it is not inflamed afresh since it is in a sooty condition… Wherefore I myself am in the habit, where thirst in these people chokes cruelly, to offer warm water liberally, right at the beginning of the attack, for either it causes vomiting, or remaining within it dilutes the salt and softens the bitterness of bile, nor does it hinder an increase coming to the bodily strength in a short amount of time.[38]

Here again, de Soto is taking responsibility for a treatment of disease. Moreover, the reader can sense a concern for the patient's comfort by the author. Although offering a drink of warm water has practical benefits, either causing the patient to purge some of the offending

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[36] De Soto, 61: *Fomenta parari possunt vtilia pro puero hydropico ex oleo chamomilae, vel anethi, nitro, aut sale misto pauco...*; as per the Lewis and Short Latin dictionary (p. 1210), *nitrum* likely refers to an alkaline mineral such as soda or natrum.

[37] De Soto, 65^{v}: *Quamuis ego huiusmodi pharmaca cum sorbitione etiam miscere soleo, quando scilicet vires infirmas esse cognosco, & purgatio necessaria est… Sorbitiones autem in morbis omnibus dato, aut ptisanam, aut milium, aut pharinam, aut alicam: & quaecunque ex his dederis ad secessum, tenuia dato, & magis percocta, & dulciora potius, quam salsa aut calidiora…*

[38] De Soto, 66^{v}: *Expectamus autem statum particularem (quoad fieri possit) in biliosis febribus, nam etsi tenuis calidusque humor potum exposcat, nondum tamen ex integro accensus, fuliginosus cum fit…Quare soleo ego, vbi sitis in hisce crudeliter angit, libenter offerre, etiam in principio accessionis aquam calidam, nam vel ad vomitum proritat, vel saltem intus relicta attenuat, & acrimoniam bilis demulcet, nec impedit quominus breui ad vigorem perueniat accessio…*

bile through vomiting or softening the acridness of the humour, de Soto also aims to mitigate the "cruel choking" which the patient is experiencing. In addition to a concern for the *utilitas publica*, de Soto shares concern for the comfort of the individual patient, as well.

Still, de Soto's motivations are unlikely to be completely altruistic. In addition to providing useful practical information to the reader, de Soto may be attempting to demonstrate his success in therapeutic medicine, in order to further his career at the court of Philip II. Moreover, de Soto may be emulating the works of Galen: "Galen had, of course, set the standard of self-advertisement through his spectacular cures, especially in the *De locis affectis…*"[39] By writing his commentary, de Soto is not only able to serve the public good by clarifying the words of the Hippocratic author and providing suggested therapies for the treatment of disease, but also demonstrate his skills both in therapy and the goals of humanism, thus furthering his career as a learned physician and connecting his name to the medical literary tradition, all of which may have led to his advancement in the hierarchy at court. As has been noted by Cristóbal Pérez Pastor, and discussed briefly in his biography available in chapter one, de Soto acted as an *examinador* in the court of the *Protomedicato* in 1601 and entered into the ranks of *la casa de Borgoña* in 1602; whilst there is no way to prove that his publications helped in his advancement, it would be naive to assume that they did not play some role.[40]

3.3.5 Conceptions of Pleuritic Disease in Antiquity

An examination of the concepts of pleuritic disease in antiquity may provide further insight into de Soto's understanding of both traditional and dry variations of the disease. Although there is limited information available of the specific disease of dry pleurisy, more information may be gleaned through an examination of pleural disease in its entirety. The essays of Wesley D. Smith and Adrian Wilson both prove helpful in contextualising the ancient and early modern conceptions of this affection.[41] In his article, "Pleuritis in the *Hippocratic Corpus*, and After," Smith outlines the major discussions of pleurisy from the Hippocratic Corpus, drawing from passages in *Diseases II*, *Diseases III*, *Affections*, *Regimen*

[39] Maclean, *Logic*, 95-96. Maclean further notes that emulation of Galen's self-promotion was practiced by many Renaissance medical commentators, the best example being that of Girolamo Cardano in his *Liber de libris propriis, eorumque ordine et usu, ac de mirabilibus operibus in arte medica per ipsum factis* (1557), which may be found in volume one of his *Opera Omnia.*

[40] Pérez Pastor, *Bibliografía Madrileña*, 482.

[41] Wesley D. Smith, "Pleuritis in the *Hippocratic Corpus*, and After", in *La Maladie et Les Maladies dans la Collection hippocratique*, ed. Paul Potter, Gilles Maloney and Jacques Desaultes, (Québec: Les Éditions du Sphinx, 1990), 189-207; Adrian Wilson, "On the History of Disease-Concepts: The case of pleurisy", *History of Science* 38 (2000): 271-319.

in Acute Diseases, and, of course, *Places in Man*, in an attempt to uncover any underlying pathological framework within these Hippocratic texts and explores the impact that Hippocratic notions of pleurisy had on subsequent physicians. Wilson builds on Smith's work in his "On the History of Disease-Concepts: The case of pleurisy," in which he expands upon the classical observations and continues to follow the intellectual history of pleurisy through the early modern era. By exploring the changing understandings of pleural disease, de Soto's conception of it becomes clearer.

Through an examination of various texts from the Hippocratic Corpus and a reading of Smith's article, it is clear that pleurisy is not defined by a set presentation of symptoms. In *Diseases II* alone, the author discusses three separate types of pleurisy. In the first, "fevers and chills are present, and pain along the spine and in the chest; there are orthopnoea and coughing, the sputum is white, slightly bilious and not easily coughed up, pain is present in the groins, and bloody urine is passed."[42] From this description, the pain, fever, difficulty of breathing, and expectoration are symptoms of the disease, which will repeat throughout the Hippocratic Corpus; however, the pain in the groin and blood in the urine described in the passage are unique. Next, the Hippocratic author describes a pleurisy that presents fever, lateral pain, and expectoration of bilious matter "which, if he happens to have tears [in the lung], is also charged with blood."[43] Again, fever, pain of the side and expectoration are present, but the author adds the symptom of blood in the sputum – but only if the membrane or lung has been torn (perhaps from the lung and pleural membrane sticking and unsticking with the motion of respiration, as was discussed by de Soto). The author presents a final pleurisy, described thus:

> ...fever, chattering of the teeth, and a dry cough are present, and the patient coughs up yellow-green or sometimes livid sputum. Pain occupies his side, his back becomes reddish, and he grows warm in his head and chest, sometimes also in his cavity, feet and legs. On sitting up, he coughs more; his belly is set in motion, and the faeces are yellow-green and ill-smelling.[44]

In this description, pleurisy sets off a flux of the lower belly, while still presenting the usual symptoms. In just one treatise, there is a great diversity of symptoms that may be present in a pleural affliction.

These diverse descriptions of pleural diseases continue throughout the Hippocratic Corpus. Thus, pleurisy, rather than being seen as an individual disease, operated as more of an umbrella or category for any affliction that included a combination of fever, lateral pain,

[42] Hp., *Morb. II*, 263.
[43] Hp., *Morb. II*, 265.
[44] Hp., *Morb. II*, 265-267. The Hippocratic author may be describing a dry pleurisy; however, he does not employ that terminology.

difficulty of breathing or expectoration. This pathology is further seen in the descriptions from *Diseases III*, which provides a laundry list of variations and cures, including an account of dry pleurisy: "There are also dry pleurisies without expectoration, and these are severe. The crises are the same as in the other varieties, but these patients require more moisture in their drinks than do the others."[45] The author of *Affections*, too, states in pleurisy "there are fever, pain in the side, orthopnoea and coughing. At the beginning the patient expectorates sputum that is slightly bilious, but then by the fifth or sixth day also somewhat purulent."[46]

Places in Man is no exception. In chapter 14, the author describes a pleurisy separate from his account of dry pleurisy:

> When the flux is to the chest and there is bile, this is clear by the following symptoms: pain grips the side and the collar-bone towards the side; and there is fever; and the tops of the tongue becomes greenish; and the patient coughs up coagulated matter…When both sides are painful, and in other respects it is the same as the other disease, this is pneumonia; the other is pleurisy.[47]

The Hippocratic author continues to explain that a downward flux from the head causes the lungs to swell with moisture and adhere to the sides of the thoracic cavity. Thus, if one side is affected, the disease is pleurisy, and if both are, it is considered pneumonia.[48] The author of the text envisioned these diseases as distinct, as he has chosen to list these affections separately, not discussing the cause, symptoms and treatment of dry pleurisy until chapter 26; however, the Hippocratic author did not make an explicit distinction between the usual pleurisy and its dry counterpart.

While some of the symptomatic descriptions of the disease remained constant, after the Hippocratic era conceptions of pleurisy became more specific. Smith writes that these changes

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[45] Hp., *Morb. III*, 39-41. The author's description of pleurisy, given in the same chapter, is as follows: "When pleurisy arises, a person suffers from the following: he has pain in his side, fever and shivering, he respires rapidly, and he has orthopnoea. He coughs up somewhat bilious material the colour of pomegranate-peel, unless he has tears; if he has tears, then he coughs up blood, too, from the tears; in sanguinous pleurisy, the sputum is diffused with blood. The bilious variety of pleurisy is relatively mild, unless the patient has tears; if he has tears, it is more painful but not more mortal. The sanguinous variety of pleurisy is severe, painful and mortal."

[46] Hp., *Aff.*, 15.

[47] Hp., *Loc. Hom.*, 57; Craik writes in her commentary on p. 152: "Thus, four conditions are discussed [in chapter 14]: pneumonia, pleurisy, purulence, consumption (*peripleumonie, pleuritis, empyema, phthisis*). The ancient terms lack the precision of those used in translation… these are difficult to distinguish and the doctor's main concern is not with the names of the complaints but with their symptoms and course"; she then continues to discuss the relationship between these four conditions. See Wilson, 284-286 for a discussion of the Hippocratic emphasis on a symptomatic description of pleurisy and the shift to an anatomical description by the Dogmatics.

[48] Hp., *Loc. Hom.*, 57.

> …involve two terms that became technical terms for aspects of the disease. First, the location of the affection in pleuritis was sought by physicians, and a general understanding was reached that the disease is an inflammation in what we now call the pleura, the membrane which surrounds the lung and the rib cage… Secondly, in differential diagnosis a new element was introduced in the description of the pain as νυγματώδης, that is, sharp or piercing…[49]

The first idea is reflected in the writings of Caelius Aurelianus on the works of Soranus, who states: "Pleurisy takes its name from the part of the body that is particularly affected. For the part attacked in this disease is the side, called *pleuron* by the Greeks."[50] Aurelianus continues to explain: "Pleurisy is a severe affection in the internal lateral parts of the body, with acute fever and a cough in which fluid of varying character is given up."[51] In these two quotations, the major symptoms of pleurisy from the Hippocratic Corpus are retained (fever, lateral pain and a productive cough); additionally, the disease is firmly planted in the pleural membrane. Smith attributes the fixation of the location of pleuritis to Erasistratus, noting a debate between the Erasistrateans and the Herophileans.[52] Again, citing Aurelianus, it is seen that Herophilus, along with Euryphon, Euenor, Praxagoras and Phylotimus placed the seat of pleural affliction in the lung itself, while Erasistratus, Diocles, Asclepiades and their followers thought the disease originated in the pleural membrane.[53] Von Staden states that, indeed, Herophilus thought "Pleurisy [was] an affection of the lung – in this he disagreed with Diocles and Erasistratus, but agreed with Praxagoras."[54] Herophilus described the fever and cough familiar to the disease; however, he did not consider lateral pain to be symptomatic of pleurisy.[55] By denying the accompanying lateral pain Herophilus could sever the link between cause and symptom, thus furthering his assertion that the disease resided

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[49] Smith, "Pleuritis", 201.
[50] Cael. Aur., *CP*, 181. In the Liddell and Scott Greek disctionary, πλευρόν is defined as: a rib; πλευρά: the ribs, the side.
[51] Cael. Aur., *CP*, 183.
[52] Smith, "Pleuritis", 202; Nutton, *Ancient* provides brief biographical information on a wide range of physicians from antiquity, providing a good base for further research; for Euryphon, see pp. 47, 73; for Euenor, 128, 137; for Praxagoras, 123-129; for Phylotimus, 123-126; for Diocles, 120-126, 141; for Asclepiades, 15, 166-170. Additionally, von Staden, *Herophilus*, provides many fragments that mention these authors and their work.
[53] Cael. Aur., *CP*, 189.
[54] Von Staden, *Herophilus*, 303; most of the fragments pertaining to Herophilus' views on pleurisy are preserved in the work of Caelius Aurelianus. See also von Staden, *Herophilus*, 379-380 (F216): "The ancients also asked what place is affected in cases of pleurisy. Some said the lung is affected, and among them are Euryphon, Euenor, Praxagoras, Herophilus, and Phylotimus; others again, like Diocles, Erasistratus, Ascelpiades, and most of their followers, [said] that it is the pleural [*lit.*, 'undergirding'] membrane which girds the sides internally [that is affected in pleurisy]..."
[55] Von Staden, *Herophilus*, 303.

within the lung. Nevertheless, the understanding of the Erasistrateans prevailed and pleurisy became generally accepted as a disease of the pleural membrane.

The second new development that Smith notes is the identification of a sharp or stabbing pain, citing Archigenes, who he believes first introduced this as a necessary symptom.[56] While pain had always been noted as key in the diagnosis of pleurisy, the attempt to categorise it was new. The pleuritic pain of the Hippocratic Corpus was identified by its location – in the side, under the collar-bone, etc. – whereas this marks a shift, focusing both on the character of the pain and its location. Galen discusses Archigenes in his *On the Affected Parts*, stating the stabbing pain of pleurisy stems from a tugging of the pleural membrane: "For the same reason some people affected with pleurisy have pain in the area of the collar bone when the pleural membrane is pulled up to this spot."[57] Galen describes this pain again later in *On the Affected Parts* as "a pain as if these parts were torn apart or touched with a sharp point."[58] This text provides copious information about the diagnosis and treatment of pleurisy and thus is a good example for analysing the conception of pleurisy in the second century CE. Moreover, Galenic medicine, and this text in particular, was highly influential on de Soto.[59] Still, Galen's main purpose for the discussion of the disease seems to be the basis for polemic against the Empiricists.[60] Less attention is given to identifying and treating the disease and a basic knowledge is assumed in the attack:

> I will immediately expose it, utilizing as example an illness, which shall in this case be pleurisy (*pleuritis*)…But whether the inner lining of the ribs…is inflamed in patients with pleurisy, or whether some other part along the ribs or the pulmonary lobes are involved or the lungs are not affected at all, this knowledge is unnecessary according to those who rank empiricism above all…[61]

This is only the beginning of a quite lengthy argument noting the limitations and failures of empiricism. However, Galen later returns to the subject and begins to provide a clearer picture of the characteristics he deems necessary in the diagnosis of pleurisy. He defines the

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[56] Smith, "Pleuritis", 201. For more information on Archigenes, see Jerry Stannard, "Archigenes" in Coulston Gillespie, ed., *Dictionary*, vol. 1, 212-213.
[57] Galen, *Loc. Aff.*, 56. See Rey (1995) and Elaine Scarry, *The Body in Pain: The making and unmaking of the world* (Oxford: Oxford University Press, 1985) for wider discussions on the historical understanding and articulation of pain.
[58] Gal., *Loc. Aff.*, 147. The idea of a ripping pain is far less common; however, Galen is still making an attempt to categorise kinds of pain.
[59] De Soto refers to Galen's *Loc. Aff.* on 9 occasions; certainly, this is not the most cited work of Galen, but it was influential on de Soto and his commentary.
[60] For more information on the Empirical school of medicine, see Nutton, *Ancient*, 147-150; Karl Deichgräber, *Die griechische Empirikerschule* (Berlin and Zurich: Weidmann, 1965); and Robert James Hankinson, "The Growth of Medical Empiricism" in Bates, ed., *Scholarly Tradition*, 41-59.
[61] Gal., *Loc. Aff.*, 73.

disease as such: “Pleurisy in the strict sense of the word originates as *protopatheia* [primary disease] of the internal membrane covering the ribs... inflammations of the membranes covering the ribs and adjacent muscles…”[62] Here Galen places the disease in the pleural membrane, following the Erasistratean tradition rather than the Herophilean placement in the lung itself; thus informing the placement of pleurisy in the lungs for early modern physicians. Galen then proceeds to give a list of symptoms by which the disease can be recognised: “acute fever; a pain as if these parts were torn apart or touched with a sharp point; a fast superficial respiration; a small pulse which lets the artery appear hard and tense; a cough mostly accompanied by coloured sputum, but rarely without it.”[63] Again, he emphasised the pain as sharp, as well as the older symptoms prevalent in the Hippocratic Corpus of fever and a productive cough.

As can be seen from the discussion above, between the Hippocratic and Galenic Corpora the conception of pleurisy was in no way static or unanimous. In its earliest manifestations, pleurisy was a less specifed disease and more of an overarching category, encompassing any pain of the side accompanied by fever and often by a productive cough. As medical theory progressed, the seat of disease came under debate, as well as the necessary symptoms. The Herophileans and Erasistrateans disagreed on the placement of the disease and Archigenes insisted on a sharp or stabbing pain. To comprehend early modern perceptions of this particular affliction, and ultimately de Soto's perception of this affection and of dry pleurisy, this evolving framework must be understood.

3.3.6 Conceptions of Pleuritic Disease in the Renaissance

Adrian Wilson builds upon the foundation set by Smith, discussing not only the conceptions of pleurisy in antiquity, but also in the early modern era, noting especially Vesalius' *Venesection letter* (1539), Giorgio Baglivi's *De praxi medica* (1699), and Giambattista Morgagni's *De sedibus* (1761).[64] For the purposes of this case study, both the

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[62] Gal., *Loc. Aff.*, 140, 147. Philip van der Eijk, "Rufus' *On Melancholy* and Its Philosophical Background" in Pormann, ed., *Rufus*, 178 notes: "Another term Galen uses in this connection is *prōtopátheia*, which denotes that a specific body part is primarily affected, even though others may be affected, too." Thus using this term further emphasises the disease's placement in the pleural membrane.

[63] Gal., *Loc. Aff.*, 147. Interestingly, Galen briefly discusses another sort of pleurisy – ‘pleurisy without sputum’ or ‘pleurisy without liquefaction’, in which “the cough becomes dry and the pulse is never tense and hard at all. In addition, the fever is not equally high. Also shortness of breath annoys these patients less; but some feel pain when we press on the inflamed area from outside.”

[64] Wilson, "Pleurisy", 283; Vesalius, *Bloodletting*. For more information on Giorgio Baglivi (1668-1707), see Mirko D. Grmek, "Baglivi, Georgius" in Coulston Gillespie, ed.,

works of Baglivi and Morgagni are too late for any meaningful comparison with our author; however, taking into account Vesalius' conception of the disease may provide further insight into the sixteenth century understandings. Although Vesalius' *Letter* primarily focuses on the proper site of venesection in cases of pleurisy, he does provide some insight into what he considers to be symptomatic of the disease:

> It does not worry me that perhaps someone more contentious might contend that where I have included under pleurisy, pain in the loins or ilium [pelvis] I am using the expression 'pleurisy' incorrectly. To him I shall reply that the name of this disease belongs to the category of those which are derived from the position of the primary lesion such as nephritis, peripneumonia, ophthalmia and *coxendix.* The name pleuritis will signify to me an affection of the whole side and not of the membrane lining the ribs alone, as many who ignorantly call that membrane the pleura believe. In addition, the name pleurisy derived from the ribs, also called πλούραι, because they form the side, by no means indicates a primary position since the ancient Latin writers called the disease *dolor lateralis* rather than *costalis*.[65]

Vesalius would indeed consider de Soto's understanding of the disease to be that of an ignorant man. In contrast to de Soto's placing of the disease in the pleural membrane, Vesalius understands the pleurisy to be any pain of the side; often using the term *dolor lateris* interchangeably with pleurisy. However, the two authors would agree that the disease itself is an inflammation caused by an excess of fluid into the affected part.[66] Wilson notes that Vesalius breaks with the Dogmatic notion of a disease defined by its location; he writes: "For in fact Vesalius deployed a *symptomatic* definition of pleuritis, and moreover he was at pains to argue *against* the anatomical definition of that illness."[67] In contrast, de Soto uses

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Dictionary, vol. 1, 391-392; for Giambattista Morgagni (1682-1771), see Luigi Belloni, "Morgagni, Giovanni Battista" in Coulston Gillespie, ed., *Dictionary*, vol. 9, 510-512.

[65] Vesalius, *Bloodletting*, 70. The historical context behind the composition of this letter is particularly notable: after an epidemic of pleurisy occurring in Portugal in 1518, the debate on the proper site for venesection in cases of pleurisy was intensified. By 1537/8, the debate had become so intense that supporters of the 'new method' of venesection were likened to Lutherans; thus, in that year Charles V issued an edict banning the new method. In response to this controversy, Vesalius wrote: "Therefore, by rejecting that noble teaching of Hippocrates on the straightness and continuity of the fibres, do they not seem to you to growl and bark just like dogs among themselves? So much to that by public edict in Spain venesection in line with the affected side has been forbidden physicians. For after tedious debates held on this matter at Salamanca, those who yielded complained to the most illustrious senate of Spain (as you write) that venesection which was 'in line' causes no less a disaster to the human body than the schisms of the Lutherans to the human soul. I await the outcome with the greatest avidity whatever the decision is going to be in this quarrel; whether or not his Imperial majesty wishes it to be upheld and confirmed." See Vesalius, *Bloodletting*, 16-20, 79.

[66] Vesalius, *Bloodletting*, 22, *passim*. Unfortunately, Vesalius provides no account of dry pleurisy in the *Venesection letter*; however, Vesalius would likely consider dry pleurisy to be a true pleurisy due to the pain present in the side of the patient.

[67] Wilson, "Pleurisy", 293.

symptoms to identify pleurisies, but he defines the disease as an inflammation in the pleural membrane. Indeed, Vesalius' wider definition of the disease is more reminiscent of the pleurisies described in the Hippocratic Corpus; whilst de Soto is more influenced by the later Dogmatic and Galenic conceptions.

In his *De internorum morborum curatione*, from his compilation entitled *Praxis medica nunc primum hic in lucem edita* (1609), Luis Mercado discusses the topic of pleurisy frequently and lends the opportunity to compare de Soto's perceptions of the disease to another physician in a contemporary time-frame with a similar educational background. Mercado writes that pleurisy, which "undertakes its name from the pleural membrane surrounding the ribs, and is called the sickness of the side in Latin, is an inflammation of the membrane surrounding the ribs or the muscles between the ribs."[68] This illustrates an understanding of pleurisy as an inflammation of the pleural membrane. As can be seen by these two accounts, Mercado's conception of pleurisy is far more similar to de Soto's than that of Vesalius, stating that inflammation of the pleural membrane is indicative of the disease.[69] Moreover, Mercado's focus, like that of de Soto's, is on the location of the disease, rather than the symptomatic definition seen in Vesalius' *Letter*.

De Soto himself writes specifically about pleurisy in comment 54. In this, he describes pleurisy as an inflammation, which "comes about from every downward flow of a humour, which frequently arises from bile and bilious blood; secondly from mucus, and lastly, and rarely, from the melancholy humour."[70] Here is seen the emphasis on pleurisy as an inflammation due to flux, primarily of bile, but sometimes due to the other humours, as well. He states that "pain [which] occupies the softness of the side, and the clavicle" and "stabbing pain" are tell-tale signs of the affection, echoing what was first suggested by Archigenes.[71] Additionally, fever (which "is symptomatic of every internal inflammation and especially of those which are generated near the heart, as with pleurisy and peripneumonia"), difficulty of breathing, cough and a ragged pulse (beating "in the manner of a saw") are symptomatic to

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[68] Luis Mercado, *Praxis medica nunc primum hic in lucem edita* (Madrid: Bernardo Giunta and Giovanni Battista Ciotti, 1609), 168: *Pleuritis, quae a pleura membrana succingente costas, nomen susceptat, et lateralis morbus a Latinis appellatur, inflammatio est membranae quae costas succingit, aut musculorum intercostalium*.

[69] It is notable that de Soto's and Mercado's accounts of the disease are similar, as de Soto's explicit references to Mercado throughout this commentary are frequently in disagreement; see case study 2, fn. 66 for further discussion of this relationship.

[70] De Soto, 39^{v}: *...pleuritis, quae inflammatio est, ex omni humorum defluxu fiat, quae frequentius a bile, biliosoue sanguine; secundo a pituita, & vltimo, & rarius a succo melancholico oritur...*

[71] De Soto, 40: *...primum, dolor lateris mollitudinem occupat…tale enim (cum reliquis inferius dicendis) dolor pungens est.*

pleurisy.[72] However, what de Soto emphasises as most crucial to pleurisy is the accompanying inflammation - any suggestion that an affection without inflammation is pleurisy he considers "absurd".[73]

What, then, do conceptions of pleurisy stemming from antiquity through the Renaissance have to do with de Soto's comments on dry pleurisy? Within these comments, de Soto stresses that while dry pleurisy has been called pleurisy by the Hippocratic author, it is not a *true* pleurisy. Considering that there is very little information to be had on the history of 'dry' pleurisy, an understanding of what was thought to be pleurisy may help in comprehending what, according to de Soto, is not. Briefly discussed by Hippocratic authors in *Diseases III* and, of course, *Places in Man*, the affliction is given some attention by Galen in his *On the Affected Parts.* Galen writes:

> There are other [types of] pain of the ribs combined with fever in which respiration necessarily becomes fast and small but sputum is not produced. They resemble in this respect the 'pleurisy with sputum.' But they can easily be differentiated from the latter because of the complete absence of cough, whereas in the 'pleurisy without sputum' the cough becomes dry and the pulse is never tense and hard at all. In addition, the fever is not equally high.[74]

Galen explains that some lateral pains are accompanied by affections resembling pleurisy, which often can be classed as 'pleurisy without sputum.' As has been seen, in describing his concept of the disease, de Soto writes that dry pleurisy stems from the lung becoming dry, collapsing and sticking to the side of the pleural cavity, adhering and detaching with the

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[72] De Soto, 40: *Febris porro symptoma est omnium internarum inflammationum, & maxime illarum quae prope cor generantur, vt est pleuritis & peripneumonia…pulsus in serrae modum...*

[73] De Soto, 40: *…nisi velit dicere, pleuritidis nomen inflammationem non importare, quod esset absurdius…*; the idea of pleurisy as a specific inflammation does occur in the Galenic Corpus. For example, in Galen, *On the Causes of Symptoms II* in *Diseases and Symptoms*, 250-251, he mentions pleurisy in his discussion of the causes of cough. As a productive cough was considered one of the primary symptoms of pleurisy, Galen discusses the disease, writing that inflammations are the source of these sorts of coughs: "For invariably where the breath is checked by something, it attempts to expel it by means of a cough. This is, in fact, either moisture borne down from the head as in *catarrhs*, or collected in the bronchial tubes as in the inflammations of the lungs (*peripneumonia*), pleurisies and inflammations (*phlegmone*) of the convexities of the liver, or in the cases of roughness of the throat." Here, though in brief, Galen presents a different conception of peripneumonia in relation to pleurisy. As discussed above, peripneumonia was often seen as simply a "double pleurisy" but instead, Galen is placing the seat of the peripneumonia in the lung, while pleurisy remains a completely separate disease, as an inflammation of the membrane. The conception of pleurisy as an inflammation in the Galenic Corpus is reiterated in Galen's *MM*, with the author writing thus: "This is particularly so if [the inflammation] involves the lung, or the membrane underlying the ribs, or the stomach or the liver. For always in these parts it is not only the inflammations that are fatal for those who are weak like this in capacity, but also for those who are stronger than them. One salvation in pleurisies and peripneumonias…"

[74] Gal., *Loc. Aff.*, 147.

rhythm of respiration.[75] There is little to no expectoration and the affection itself is not caused by an excess; however, there is difficulty in respiration, cough and pain of the side.[76] So while dry pleurisy seems to demonstrate some of the classic symptoms of the disease - fever and lateral pain - de Soto writes: "that which was described at present should not be called true pleurisy, but rather pain of the side" as the disease is lacking inflammation.[77] He says that, rather, the disease should be classified as an intemperance, not pleurisy and would be better called "a pain of the side without inflammation by Hippocrates, rather than true pleurisy."[78]

3.3.7 Conclusion

In these comments is an attempt by de Soto at reconciliation between the Hippocratic conception of pleurisy, wherein it is a category of disease, and the later Dogmatic and Galenic descriptions, which are more narrowly defined. Nowhere does de Soto plainly state that the Hippocratic author is wrong in calling the disease dry pleurisy; he instead approaches the passage with the intent to clarify - treating the issue as a problem of terminology rather than one of pathology. He writes that "although these signs show the truest pleurisy" the disease cannot, technically, be labelled as dry pleurisy and then presents his suggestion for a better terminology. Nor does de Soto engage with any contemporary debate in comments 91-93. His opinions are presented in a matter-of-fact fashion: pleurisy necessitates an inflammation of the thoracic membrane, no more or less. In comparison with Galen's concept of 'pleurisy without sputum' there are some key similarities. Galen notes an unproductive cough and a lower temperature, both seen in de Soto's understanding of dry pleurisy; however, de Soto makes no mention of the state of the pulse, whereas Galen writes of a pulse,

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[75] See fns. 14-15.
[76] See fn. 13.
[77] De Soto, 61^{v}: *...nihilominus tamen haec quae in praesenti describitur, vera pleuritis dicenda non est, sed potius dolor lateris...*
[78] De Soto, 61^{v}: *...lateris dolor sine inflammatione potius appellatur ab Hippocrate, quam vera pleuritis.* See also Park, *Secrets*, 184, which notes a similar phenomenon beginning in the late Middle Ages: "Although recourse to first-hand experience may seem to modern readers like a straightforward and obvious way to resolve such disagreements, it was rare in medical and natural philosophical writing of the late Middle Ages, where the truth was assumed to lie within the text. The resolution of disputed questions, as Jole Agrimi and Chiara Crisciana have noted, was typically an exercise in hermeneutics. Even when the determiner, as occasionally happened, squarely rejected the position of one of the relevant authorities, he usually did so on grounds relating to the accuracy of the Latin translation of the Arabic or Greek text in question or to the text's authenticity." pp. 184-185; see also Jole Agrimi and Chiara Crisciani, *Edocere medicos: Medicina scolastica nei secoli XIII-XV* (Naples: Guerini, 1998), particularly ch. 3.

which "is never tense or hard at all."[79] Most importantly, Galen does not consider his 'pleurisy without sputum' to stem from an inflammation in the thoracic cavity: "In these cases a cleansing [of the airways] does not take place by expectoration, since from the start the humours which cause an inflammation do not enter the thoracic cavity."[80] Although he does not provide a clear pathology of how the affliction arises, it can be seen from this passage that inflammation is not the cause, just as de Soto's dry pleurisy is not caused by an inflammation of either the pleural membrane or the lung.

There is much that can be gleaned from de Soto's commentaries on the subject of dry pleurisy – both about de Soto and his work as an individual, and about wider trends of medical thought. Moreover, a line of thinking from antiquity to the early modern era is encompassed in his conception of pleurisy and what does, or in this case does not, constitute the disease. This is not a single, linear path of thought, but rather a tangled web of inquiry holding one point of convergence in this commentary. Through exercises such as this, the transmission of knowledge and influence of ancient authors on their early modern counterparts becomes clearer and de Soto's reception of these ideas are better understood.

[79] Gal., *Loc. Aff.*, 147.
[80] Gal., *Loc. Aff.*, 147.

3.4 Case Study 4: Precepts

The fourth case study of this work stems from the thematic block that Craik has categorised as "precepts" - or chapters containing "practical and surgical guidance."[1] These chapters are more empirical in nature, briefly providing counsel for general situations with less consideration for the exploration of internal causes.[2] De Soto's comments on these Hippocratic chapters are found in comments 108-131.[3] This case study in particular will examine the following Hippocratic passage: "In cases where patients are distressed and ill, and want to hang themselves, administer mandragora root to drink in the morning, in a smaller dose than would cause delirium."[4] Several elements are at play in this passage and de Soto's accompanying exegesis in his comment 125; many of which revolve around de Soto's interpretation of the Hippocratic author's passage as a depiction of melancholy:

> To no one is it doubtful that, in the present passage, Hippocrates speaks about melancholics. For I say that all who suffer through this disease (whether [they have become melancholics] through a concurrence of circumstances or [whether they are melancholics] through [their] essence) are seized by fear and sorrow. For if fear and sorrow have continued for a long time, it shows that the person is melancholic.[5]

This interpretation of the Hippocratic passage opens up discussions about conceptions of melancholy in both antiquity and the Renaissance and how these shaped de Soto's understanding of the disease. Moreover, de Soto's use of literary and religious texts, in addition to medical sources, lends some additional information about his education and religious life. Finally, and most importantly, de Soto's attempt to explain and validate the recommendations of the Hippocratic author by explaining the internal mechanisms of melancholy will provide further insight into de Soto's reception of ancient medical ideas and practices.

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[1] Hp., *Loc. Hom.*, 13. This section accounts for chapters 31-40 (pp. 71-77) of the Hippocratic text.

[2] There are, of course, a few chapters that include a bit more elaboration; for example, see Hp. *Loc. Hom.*, 73: "When bile breaks out spontaneously either below or above in a patient (who has taken) neither a laxative nor an emetic drug, it is more difficult to stop. For spontaneous bile is forced by a force with its origin in the body by what is inherent."

[3] De Soto, 71^{v}-82.

[4] Hp., *Loc. Hom.*, 75.

[5] De Soto, 79: *Nvlli* [sic] *dubium est, quin Hippocrates in praesenti oratione de melancholicis verba faciat. Omnes enim qui hoc morbo (siue per consensum, siue per essentiam) laborant: omnes, inquam metu, & moestitia corripiuntur. Nam si metus, & moestitia longo tempore perseuerauerint, melancholicum hominem esse significatur.* In this passage de Soto presents a dichotomy between melancholics through *consensus* and those through *essentia*. While melancholics through *essentia* may easily be interpreted as those who are melancholic by temperament, de Soto's use of the term *consensus* is problematic. It is possible that this term is meant to indicate those who have become melancholic through circumstance; thus, an 'agreement' or even a 'conspiracy' of factors has led to the condition.

3.4.1 Defining Melancholy: Humour, Illness and Temperament

Some terminology requires clarification when discussing ancient and early modern concepts of *melancholia*, as the term is polysemic.[6] The first use of the term in antiquity did, indeed, refer to melancholy as a disease. It first appeared in the Hippocratic treatise *Airs, Waters, Places*, in which the author discusses the disease in relation to the seasons, a passage that will be discussed in more detail below.[7] What should be emphasised here is that not only is this first mention of melancholy in relation to the illness, but also that the Hippocratic author provides no symptoms, discussing the ailment in a way that would suggest a familiarity with the term at this point in Greek medicine: "Melancholy originated in Greek medicine at a stage prior to Hippocrates, and its origin will remain hidden in the shadows of Greek medical prehistory. Thus the existence of the illness pre-dates the existence of black bile as an independent humour."[8] It was in the Hippocratic treatise *Nature of Man*, presumably the work of Hippocrates' student (and son-in-law) Polybus, that the idea of

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[6] For the history of melancholy, see Raymond Klibansky, *et al., Saturn and Melancholy: Studies in the history of natural philosophy, religion and art* (London: Nelson, 1964); Stanley W. Jackson, *Melancholy and Depression: From Hippocratic times to modern times* (New Haven: Yale University Press, 1986); Thomas Rütten, *Demokrit - lachender Philosoph und sanguinischer Melancholiker: Eine pseudohippokratische Geschichte* (Leiden: Brill, 1992); Jackie Pigeaud, *Melacholia: Le malaise de l'individu* (Paris: Payot et Rivages, 2008). For general information on melancholy in antiquity, see: Hellmut Flashar, *Melancholie und Melancholiker in den medizinischen Theorien der Antike* (Berlin: De Gruyter & Co., 1966); Ruth Padel, *Whom the Gods Destroy: Elements of Greek and tragic madness* (Princeton: Princeton University Press, 1995); Jennifer Radden, ed., *The Nature of Melancholy from Aristotle to Kristeva* (Oxford: Oxford University Press, 2000); Philip van der Eijk, ed., "Aristotle on Melancholy" in *Medicine and Philosophy in Classical Antiquity: Doctors and philosophers on nature, soul, health and disease* (Cambridge: Cambridge University Press, 2005), 139-168, first published as "Aristoteles über die Melancholie", *Mnemosyne* 43 (1990): 33-72. For the early modern era, see: Roger Bartra, *Melancholy and Culture: Essays on the disease of the soul in Golden Age Spain*, trans. by Christopher Follett (Cardiff: The University of Wales Press, 2008); Angus Gowland, "The Problem of Early Modern Melancholy", *Past and Present* 191 (2006): 77-120; Angus Gowland, *The Worlds of Renaissance Melancholy: Robert Burton in context* (Cambridge: Cambridge University Press, 2006); Mary Ann Lund, *Melancholy, Medicine and Religion in Early Modern England: Reading* The Anatomy of Melancholy (Cambridge: Cambridge University Press, 2010); Fernando Salmón, "Mad People's Narrative in Medical Scholasticism" in *Historia de la Psiquitría en Europa. Temas y Tendencias*, ed. by Filiberto Fuentenebro de Diego, Rafael Huertas García-Alejo and Carmen Valiente Ots (Madrid: Frenta, 2003), 45-50. For a concise overview of the history of melancholy from ancient to early modern times, see Vivian Nutton, "Melancholy" in Cancik, ed., *New Pauly*, part 1, vol. 8, 614-615 and Thomas Rütten, "Melancholy" in Grafton, ed., *Classical Tradition*, 579-580.

[7] See, for example, Jacques Jouanna, "At the Roots of Melancholy: Is Greek medicine melancholic?" in *Greek Medicine from Hippocrates to Galen* (Leiden: Brill, 2012), 232.

[8] Jouanna, "Melancholy", 233; see also Hp., *Aër.*, 103-105.

melancholy denoting the humour black bile was first mentioned, although no connection is made between the humour and the illness in this treatise.[9]

Similarly, the establishment of melancholy the humour did not immediately give way to the concept of melancholy the temperament. Whilst there are ideas of melancholy as a character trait in the Hippocratic Corpus and pseudo-Aristotle's *Problem* 30.1 it was not until much later that the idea of melancholy as one of the four temperaments came to fruition. Considering the pseudo-Soranic *Isagogue Saluberrima* and Vindicianus' *Letter*, Jouanna concludes: "...I have hypothesized that it [the theory of the four temperaments] might date to the second renaissance of Greek medicine in Alexandria in the sixth century..."[10] These diverse conceptualisations of the term 'melancholy' gave way to its tripartite definition in the Renaissance: melancholy the humour, melancholy the illness and melancholy the disposition; the latter two being dependent on the first. Ruth Padel explains: "The Renaissance used the word [*melancholia*] mainly in two ways: the name of an illness and of a temperament. But the different meanings belong together... [as] the basis of all these different meanings belong to physical black bile."[11] In his discussion of the disease, de Soto notes of both the humour and the affliction:

> Melancholy, from which this affection assumes the name, is a cold and dry humour [and] when it increases and acquires strength, it subverts the temperance of the brain and, inducing excessive dryness, produces sleeplessness and induces various and changeable delusions, so that it happens that certain persons slide into desperation..."[12]

De Soto states that the melancholic humour or black bile is the cause of melancholy the disease; however, outside of his use of *essentia* above, he does not emphasise the idea of a melancholic nature.[13]

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[9] Jouanna, "Melancholy", 229-231; Hippocrates, *On the Nature of Man*, trans. by William Henry Samuel Jones, LCL 150 (Cambridge, Mass.: Harvard University Press, 1931), 11. See also, Hippocrates, *Hippocratis De natura hominis, edidit, in linguam Francogallicam vertit, commentatus est J. Jouanna*, ed. and trans. by Jacques Jouanna, CMG I, 1, 3 (Berlin: Akademie-Verlag, 2002).

[10] Jouanna, "Melancholy", 248-249; for more information on the *Isagogue* of pseudo-Soranus, see Klaus-Dietrich Fischer, "The *Isagogue* of Pseudo-Soranus: An analysis of the contents of a medieval introduction to the art of medicine," *Medizinhistorisches Journal* 35 (2000): 3-30; Klibansky, 60, *passim* provides very brief biographical information for Vindicianus.

[11] Padel, 54.

[12] De Soto, 79: *Melancholia a qua affectus hic denominationem sumit, frigidus & siccus humor est: hic dum inualescit, & vires acquirit, cerebri temperamentum subuertit, & siccitatem immodicam inducens, vigilias parit, & varias, inconstantesque imaginationes inducit, ita vt quosdam in desperationem labi contingerit...*

[13] The term *atra bilis* or *atrabilis* was another way of referring to black bile; however, de Soto tends to use *melancholia*. Only on one occasion does he use *atra bilis*, in comment 111;

3.4.2 Ancient Melancholy

As with every topic, the Hippocratic Corpus provides a diverse range of understandings of black bile and the illness associated with it. Van der Eijk observed:

> [d]espite extensive research, the concept of melancholy in the Hippocratic Corpus remains a complicated issue. Early Hippocratic writings describe melancholy only as a disease, sometimes very specifically as a pathological change of color of the fluid bile. Significantly, these writings do refer to the so-called constitutional type of 'the melancholic' (*ho melancholikos*), yet without providing clarity on the underlying physiological theory, and in any case it is nowhere related to a bodily fluid called 'black bile.'[14]

As has been noted, particularly by Craik, *Places in Man* provides a unique example of this diversity due to its rather early and limited version of humoural theory; the physiology of this work is more focused on the movement of seven fluxes than the four humours.[15] While the author of *Places in Man* assigned importance to the fluids of the body, he did not subscribe to any theory of the four humours seen in other texts of the Hippocratic Corpus, such as *Nature of Man.*[16] Moreover, there is no mention of melancholy, either the humour or the illness, in *Places in Man.*

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however, this is likely a stylistic choice to keep continuity with the Latin used in Cornarius' translation of the passage. See de Soto, 73^{v}-74 for the use of *atra bilis*; see de Soto, 25^{v}, 33, 39^{v}, 40, 50^{v}, 66, 67^{v}, 76 for black bile referred to as *melancholia*. See also fn. 5.

[14] Van der Eijk, *Medicine*, 140. Jackson, *Melancholy*, 31 also notes the diverse understandings of melancholy in the Hippocratic Corpus: "...scattered references [in the Hippocratic Corpus] suggest that melancholia was one condition among several termed melancholic diseases, that the black bile was the key factor in causing such diseases..."

[15] Hp., *Loc. Hom.*, 14-15. Craik, in Hp., *Loc. Hom.*, 33 notes the older features of this text, stating: "The work demonstrates the intertextual character of the Hippocratic writings and other early medical texts. But on linguistic and stylistic grounds, as well as grounds of content and apparent intent, an early date and a West Greek origin are probable..." In her accompanying commentary to this passage, Craik, like the Hippocratic author, makes no mention of melancholy; focusing, rather, on the issue of suicide: "In further miscellaneous remarks, mental, as well as physical, illness is recognized. The distressed patients who wish to hang themselves are probably envisaged as female: hanging was commonly the woman's method, to which tragic heroines had recourse, whereas heroes commonly used the sword... There is a close Hippocratic analogue in this passage, on various types of depression, delusion, and derangement, involving 'more women than men, for women's nature is less spirited and weaker'." See also: Hippocrates, "Hippocrates' 'Peri Partheniôn' (Diseases of Young Girls): Text and translation", trans. by Rebecca Flemming and Ann Ellis Hanson *Early Science and Medicine* 3 (1998), 250: "First of all my topic relates to the sacred disease, and concerning apoplexies, and concerning terrors of the sort that people fear so strongly, that they are beside themselves and seem to see certain hostile spirits, sometimes by night, sometimes by day, and sometimes at both times. Then as a result of this kind of vision, many have already hanged themselves, more women than men, for female nature is weaker and more troublesome."

[16] Hp., *Nat. Hom.*, 11: "The body of man has in itself blood, phlegm, yellow bile and black bile; these make up the nature of his body, and through these he feels pain or enjoys health"; 21: "It is black bile which in autumn is greatest and strongest."

As briefly mentioned above, the first use of the term melancholy occurs in the Hippocratic text *Airs, Waters, Places*, in which the author discusses the disease in relation to the seasons:

> But if the weather be northerly and dry, with no rain either during the Dog Star or at Arcturus, it is very beneficial to those who have a phlegmatic or humid constitution, and to women, but it is very harmful to the bilious. For these dry up overmuch, and are attacked by dry ophthalmia and by acute, protracted fevers, in some cases too by melancholies. For the most humid and watery part of the bile is dried up and is spent, while the thickest and most acrid part is left, and similarly with the blood. Consequently these diseases come upon them.[17]

In this passage melancholy is not a result of an excess of the humour black bile, as it had yet to be conceived by the author of *Nature of Man*; rather, melancholy is caused by the evaporation and concentration of bile and blood in the body, leaving behind a burnt, noxious substance, which is the cause of a variety of illnesses. Again, the author provides no elaboration on these melancholies that may occur, possibly demonstrating that the illness had an established history at this point in time. It should also be noted that in this early passage, melancholy, albeit the disease, is associated with cold and dry qualities - the qualities which will later be associated with black bile. The passage also seems to plant the seed of a concept that was later more fully developed and expanded during the Renaissance: that of burnt melancholy [*melancholia adusta*]. This, in addition to the black bile presented in *Nature of Man*, established the two-fold melancholic humour embraced by Rufus of Ephesus, Galen and the physicians of the early modern era. Jouanna writes of *Airs, Waters, Places* and *Nature of Man*:

> From these two early Hippocratic treatises, we can see that there were two possible models of humoral explanation for melancholy by means of bile: either a degradation of bile, which is transformed into black bile by an excess of dryness, or black bile directly, an innate humour.[18]

As we have seen from the passage of *Places in Man* and Craik's elaboration on the text, neither of these elements were present in the Hippocratic author's words on despondency and

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[17] Hp., *Aër.*, 103-105. In ancient Greece, the Dog Star, or Sirius, was associated with the heat of the summer (hence, the dog days of summer); see Jay Holberg, "The Dog Star" in *Sirius: Brightest Diamond in the Night Sky* (Berlin: Praxis, 2007), 15-26. For more information on Arcturus, see Fred Schaaf, "Arcturus" in *The Brightest Stars: Discovering the universe through the sky's most brilliant stars* (Hoboken, NJ: John Wiley and Sons, 2008), 124-136.

[18] Jouanna, "Melancholy", 233. Additionally, authors in the Hippocratic Corpus drew connections between melancholy and epilepsy, which was characterised as a melancholic disease; Hp., *Epid. VI*, 289: "Melancholics tend to become epileptic generally and epileptics melancholic. Each of these develops more according to what the weakness inclines towards: if towards the body, epileptics, if towards the mind, melancholics." Jouanna, "Melancholy", 235 notes this may be due to the fact that trouble speaking or partial paralysis were considered symptomatic of melancholy.

suicide. If the probable timelines for the origin of these texts provided by Jouanna and Craik are to be believed, it is impossible that the Hippocratic author of *Places in Man* held a conception of black bile similar to that seen in *Nature of Man*; however, given the relative familiarity with which the author of *Airs, Waters, Places* writes of the illness melancholy, it would not be unreasonable to assume that the writer of *Places in Man*, too, had a conception of the illness melancholy and, for whatever reason, chose not to discuss it in his text.

The *Aphorisms* provide further insight into Hippocratic understandings of melancholy, as well as later interpretations of the disease. In the following passage (6.23), the author states: "Fear or depression that is prolonged means melancholia."[19] This short statement contains the two symptoms that became indicative of melancholy throughout the ancient and early modern era, fear and despondency. Moreover, this statement provides the bridge between the Hippocratic author's words in *Places in Man* and de Soto's understanding of melancholy. The author of *Places in Man* emphasises the distress of the patient, which is so intense that the patient wishes to hang himself; if this despondency is prolonged, then according to de Soto's interpretation of this aphorism, it must be melancholy. De Soto was most certainly familiar with this aphorism, as he alludes to it in the first sentence of his commentary, which is given above.[20] This perfectly illustrates de Soto's use of other texts from the Hippocratic Corpus to inform his exegesis. The *Aphorisms* were widely acknowledged in the Renaissance to be a genuine work of Hippocrates and, as de Soto told the reader in the preface to this commentary, he believed *Places in Man* to also be a genuine work; thus, in de Soto's understanding, he was using multiple works of one author to form a more complete picture of the Hippocratic disease-concept of melancholy.[21]

Still, conceptions of melancholy throughout history were not formed by the Hippocratic Corpus alone. Pseudo-Aristotle's *Problem* 30.1 provides a thorough examination of the melancholic condition, addressing the question: "Why is it that all men who are outstanding in philosophy, poetry or the arts are melancholic, and some to such an extent that they are infected by the diseases arising from black bile?"[22] In the author's examination of the

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[19] Hp., *Aph.*, 185. On this famous aphorism, which is the disease's 'première défintion', see Jacques Pigeaud, "Mélancolie" in *Dictionnaire de la Pensée Médicales*, ed. by Dominique Lecourt (Paris: Presses Universitaires de France, 2004), 725-730. Pigeaud (p. 726) provides a much more thoughtful translation: *Quand retrait* (phobos) *et abattement* (dysthymie) *durent longtemps, un tel état a quelque chose à faire avec la bile noire [ou] est en relation avec la bile noire [ou] un tel état est mélancolique*.

[20] See fn. 5.

[21] See ch. 2, fn. 120.

[22] Aristotle, *Problems*, vol. 2, trans. by Walter Stanley Hett, LCL 317 (London: William Heinemann, 1937), 277; Klibansky, 15-41, provides an excellent analysis of *Problem* 30.1 and translates the above passage thus (p. 18): "Why is it that all those who have become

above question, he presents two connected understandings of melancholy; one being physical black bile and the other, a melancholic character: "For in many such men diseases have come from this sort of mixture in the body, whereas in others their nature clearly inclines toward these conditions."[23] According to the author, melancholic illnesses occur when the black bile already present in the body becomes too cold or too warm; indeed, if the black bile grows too warm, an affliction similar to frenzy or mania occurs and if it grows too cold, the patient is afflicted with a depressive melancholy more similar to the disease seen in the Hippocratic Corpus.[24] Thus, a patient who has a melancholic disposition must take care to keep a balanced temperature and, if he is able to do so, he may likely have the capacity for greatness:

> So, to sum up, because the power of the black bile is uneven, melancholic people are uneven; for (*the black bile*) becomes both very cold and very hot. And because it is character-forming (for of the things in us, the hot and cold are especially character-forming), just like the wine being mixed in the body in greater or less amounts, it produces certain qualities of character in us... all melancholic people are extraordinary, not owing to disease but owing to nature.[25]

While it would be tempting to compare pseudo-Aristotle's depictions of the melancholic humour to the four humours of *Nature of Man*, to do so would be incorrect. Van der Eijk notes the distinct lack of the four humour theory throughout the *Problems*: "This does not mean, however, that underlying this text is the humoral system of the Hippocratic theory of the four humours, for a mixture of *humours* is nowhere mentioned."[26] Moreover, the notion that a humour can be either hot or cold is completely at odds with the theory presented in *Nature of Man*, which was highly influential on Galen and thus the physiology of the early modern era.[27]

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eminent in philosophy or politics or poetry or the arts are clearly melancholics, and some of them to such an extent as to be affected by diseases caused by black bile?"

[23] Arist., *Problems*, 279.

[24] Arist., *Problems*, 285, 287-289: "But those with whom the excessive heat is relaxed toward a mean, these people are melancholic, but they are more intelligent, and they are less eccentric, but they are superior to the others in many respects, some in education, others in arts, and others in politics. And in the face of danger, such as a state produces great variation because many of the men are sometimes inconsistent in the presence of fears"; van der Eijk, *Medicine*, 158-159.

[25] Arist., *Problems*, 293-295.

[26] Van der Eijk, *Medicine*, 159.

[27] Jouanna, "Melancholy", 241: "A single humour that can be either colder or warmer at the time of birth is contrary to Hippocratic thinking, and particularly to that of the author of *Nature in Man.* In medical thought, one and the same innate humour cannot be defined by the mixture of two opposed elemental qualities: it is not a mixture of cold and hot, but it is, by nature, either hot or cold. The same goes for dryness or wetness."

The conceptions of melancholy presented in the Hippocratic Corpus and by pseudo-Aristotle in his *Problems* come together in the works of Rufus of Ephesus. While his work on melancholy is not extant, scattered fragments can be found in the works of later physicians like Galen, Avicenna, Rhazes and Constantine the African.[28] These fragments have been collected in a single volume by Peter Pormann, along with several accompanying articles in order to build a more complete picture of Rufus and his conceptions of black bile and melancholy.[29] In these fragments, Rufus elaborates on the notion of burnt melancholy or *melancholia adusta*, pairing it with the idea of the melancholic humour as seen in *Nature of Man*, thus cementing the two-fold understanding of the humour. Pormann writes: "Yet he seems to distinguish between two types of black bile. On the one hand, there is the natural black bile... The second type of black bile is the result of burning and cooling."[30]

In addition to synthesising ideas of melancholy from the Hippocratic Corpus, Rufus is influenced by ideas of the illness seen in *Problem* 30.1, as well, subscribing to a similar idea of a natural melancholic disposition. As quoted in Aëtius, Rufus states:

> It is necessary to recognise that there are two kinds of melancholy. 1) Some of them have melancholy because of their nature and original mixture, whilst 2) others have acquired this mixture later owing to a bad diet. This [latter] kind is always [characterised by] sluggish and downcast [behaviour]. Since they fall victim to delirium because of excessive 'cooking' of yellow bile, they are bolder and more easily angered than others: they brawl and commit the most outrageous acts at the very moment when the bile is excessively cooked. With time, after the bile is burnt up, they become downcast, sad, and fearful.[31]

In this fragment Rufus asserts that some are more melancholic by nature and are thus prone to melancholic disease; however, others acquire more black bile into their systems, often

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[28] Jackson, *Melancholy*, 36.
[29] Peter E. Pormann, ed., *Rufus of Ephesus: On Melancholy* (Tübingen: Mohr Siebeck, 2008).
[30] Pormann**,** 5, 41-43 (F21): (Rhazes) "Not every melancholic vomits or shows a black liquid in his excrement. Rather phlegm appears most frequently. When something black appears in the stool, it shows that something similar predominates, and a large amount of it is present in the body. Through this their sickness abates slightly, although in some cases the illness abates through the excretion of phlegm rather than the excretion of the black humour. The black humour betrays its presence by vomiting or in the stool or urine; or through ulcers on the body, dull-white leprosy, pimples and mange, or the bleeding of haemorrhoids. How often they have varicose veins! Those in whom no black humour appears are more difficult to treat. Even when the excretion of phlegm gives them relief, the black humour still exerts control over them, and one must try to purge it. Usually melancholy does not arise from the presence of a large amount of black bile in the body, but by its penetrating the whole of the blood just as in the case of urine when its sediments do not settle. When the black bile settles, it does not cause melancholy even when present in large quantities. He said: when it moves from the blood, whatever it is like, to the exterior of the body, for instance, through mange or black leprosy, or when it is discharged from the body, for example through urine, black stool, an enlargment of the spleen, or varicose veins, no melancholy arises."
[31] Pormann, 35 (F11.22-25).

through their diet. Moreover, there is a clear distinction made between natural black bile, which is the cause of the melancholic disposition and *melancholia adusta*, an excess of (usually) yellow bile caused by a poor diet, which has been over-cooked into a charred and noxious substance. The latter of these can cause passionate or aggressive behaviours, resembling the consequences of the (pseudo)Peripatetic over-heated black bile.[32] However, the difference lies in the concept of natural black bile: in *Problem* 30.1, the over-heated black bile can be inherent to the melancholic, whilst Rufus' over-cooked humour occurs from a poor diet. Rufus' characterisation of the unnatural kind of melancholy incorporates the Hippocratic symptom of despondency, as he describes "sluggish and downcast" behaviour before an aggressive outburst followed again by a depression.

It is in the fragments of Rufus that the concepts of melancholy as an illness and humour familiar in the Renaissance, and thus familiar to de Soto, begin to solidify. Rütten summarises the important features of Rufus' account thus:

> Rufus' name is mainly associated with three phenomena. Firstly, he revived the link between melancholy and the efforts of the intellectual. Secondly, he introduced the so-called 'two substance theory', saying that melancholy can be caused by both black bile and yellow bile. He thereby laid the foundations for the tradition of 'burnt melancholy' (*melancholia adusta*, also known as *melancholia combusta*). And thirdly and most importantly, he shaped our understanding of so-called hypochondriac melancholy.[33]

The first two of these phenomena have been addressed; however, the concept of the hypochondriac melancholy warrants discussion. First put forward by Diocles, then advanced by Rufus of Ephesus, this concept envisions a melancholic illness with its root in the upper stomach, or hypochondrium. Al-Kaskarī's account of Rufus' work on melancholy provides further information:

> Rufus said the following in his book on the ailment of melancholy, that is, melancholic delusion: This disease starts out in the region beneath the rib-cartilage [i.e. the hypochondria] and at the [cardiac] orifice of the stomach. This is shown by

[32] Van der Eijk, "Rufus", 164, too, notes the commonalities between the works of pseudo-Aristotle and Rufus: "For although he seems to reverse the cause-effect relationship - intellectual study *leading to* bodily disorders rather than, as in *Problem* 30.1, an abnormal bodily state giving rise to exceptional intellectual performance -, Rufus is in accordance with the Aristotelian view in regarding the correlation between melancholy and exceptional intellectual activity as something fundamentally ambivalent, pathological and uncontrollable"; Klibansky, 51-52, notes this dichotomy between natural and unnatural black bile in the fragments of Rufus: "Thus, temporary illness was not divorced from natural constitution, but within the limits of the disease a distinction was made between an innate and an acquired form."

[33] Thomas Rütten, "Rufus' Legacy in the Psychopathological Literature of the (Early) Modern Period" in Pormann, ed., *Rufus*, 245.

> the fact that when you provide relief to the belly of the patients, their pain is diminished...[34]

The idea of hypochondriac melancholy is connected to the idea of burnt melancholy, wherein an excess of, usually, yellow bile is cooked in the stomach, boiled down to a noxious, black bile that is the source of many ailments.[35] There is an odd dichotomy between natural melancholy, a cold and dry humour, often part of the natural *krasis* of a patient, and this unnatural melancholy, the product of a poor regimen and of intense heat; still, this system had a profound influence on medical thinkers to follow.

Much of the later influence of Rufus' conception of melancholy stems from its adoption by Galen. In his *On the Affected Parts*, Galen provides what amounts to a summary of these ideas and provides the tripartite melancholy (melancholy of the brain, of the hypochondrium and of the whole body) that influenced the subsequent early modern disease-

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[34] Pormann, 31 (F6); Philip van der Eijk and Peter E. Pormann, trans., "Appendix 1: Greek text, and Arabic and English translations of Galen's *On the Affected Parts* iii.9-10" in Pormann, 277-278: "If it will suffice for me to set forth the symptoms that have been described by Diocles as accompanying it [melancholy arising from the stomach], according to the book entitled *Affection, Cause, Treatment*; for in that work Diocles wrote as follows, and I quote: 'Another [affection] occurs in the region of the belly, but it is not like the ones discussed before; some call it melancholic, others flatulent. It is accompanied by the following: after consumption of foods, especially foods that are difficult to digest and that are burning, there are sour eructations, much watery spitting, flatulency, a burning feeling near the hypochondrium, and a gurgling [which happens] not immediately but to people who wait a while. Sometimes also strong pains occur in the belly, which in some people extend to the broad of the back. These [symptoms] are alleviated when the foods have been digested, and after eating the same [symptoms] occur again. Often the disturbance occurs to people both on an empty stomach or after dinner. When vomiting they vomit raw foods and phlegms that are somewhat bitter, hot and sharp, so that also their teeth are set on edge. Most of these [symptoms] occur immediately from youth onwards, but in whatever way they occur, they last for a long time in all [cases]'." For more information on Al-Kaskarī, see Peter E. Pormann and Emilie Savage-Smith, *Medieval Islamic Medicine* (Edinburgh: Edinburgh University Press, 2007), 54, 96-96, *passim.*

[35] It should be noted that during the Renaissance, the idea of *melancholia adusta* was expanded and thought to be caused by any of the four humours rather than just yellow bile; Thomas Rütten, "Masquerades with the Dead: The Laughing Democritus in an *observatio* on melancholy by Pieter van Foreest" in *Diseases of the Imagination and Imaginary Disease in the Early Modern Period*, ed. by Yasmin Haskell (Turnhout: Brepols, 2011), 247: "Henceforth, one distinguished between melancholic, choleric, phlegmatic and sanguine melancholia, depending on the respective humoral substrate undergoing the burning process." This is exemplified by Democritus, the laughing philosopher, who was retrospectively diagnosed as a sanguine melancholic, his counterpart Heraclitus, the weeping philosopher, or Bellerophontes who were retrospectively diagnosed melancholic melancholics, or Ajax, who was retrospectively diagnosed a choleric melancholic.

concept.[36] Similar to Rufus, in discussing black bile itself, Galen differentiates between the natural and unnatural:

> Likewise the melancholic humour clearly shows different kinds of composition. One kind is like the sediment of blood and clearly manifests itself as quite thick, similar to the lees of wine. The other kind is much thinner in composition than that, and it appears acid to those who vomit or smell it...[37]

The former kind of melancholy named by Galen is similar to Rufus' natural melancholy, occurring naturally in the blood and only dangerous when it is disturbed; the latter is the unnatural product of the over-cooking of a humour.

In examining Galen's account of melancholy of the brain, similarities are seen between his account and the opening to de Soto's comment, cited above, in which the early modern commentator notes the humour's ability to "subvert the temperance of the brain"[38]:

> Just like the thick phlegmatic humour, this thick melancholic humour likewise sometimes causes instances of epilepsy, because it is contained in the places where the cavities of the brain, whether the middle or the posterior cavity, have their exit channels. But when it is present in excess in the very body of the brain, it causes melancholy, just as the other kind of humour of black bile, the one that has arisen as a result of the burning of yellow bile, results in bestial hallucinations, both without fever and with fever, when it fills the brain excessively...[39]

Indeed, de Soto makes no mention of epilepsy in his comment, but his imagery of the brain being overwhelmed by a melancholic humour is similar to descriptions of melancholy of the head. Moreover, Galen again differentiates between natural black bile and burnt melancholy, the product of burnt yellow bile, noting different symptoms depending on which humour has overthrown the brain: if it is black bile, despondency will result; if it is burnt melancholy, a frenzy will result.

Galen, too, discusses hypochondriac melancholy, citing Diocles and then providing his own account:

> It seems that there is a kind of inflammation present in the stomach, and the blood contained in the inflamed part is rather thick and melancholic. When a sooty or smoky vapour, or more generally thick vapours, rise from the stomach to the eyes, they give rise to symptoms similar to cataracts. Likewise here, too, and for the same reason, when a melancholic evaporation rises upward to the brain, like some kind of sooty or smoky vapour, the melancholic symptoms affect the thinking faculty. Indeed, we observe that the most persistent suffering of the head takes place in cases of yellow bile being blocked in the stomach, just as we see it [the head] suddenly become painless when bile has been vomited. Such pains are biting and devouring, just as

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[36] Van der Eijk, "Rufus", 172-173; van der Eijk and Pormann, trans., "Appendix 1", 265: "It is therefore possible that the following passage is little more than a Galenic summary of Rufus' ideas on the topic without proper acknowledgement."
[37] Pormann, 267.
[38] See fn. 12.
[39] Gal., *Loc. Aff.* in Pormann, 267

> some are accompanied by heaviness, others by tension or sleepiness. The best physicians agree that not only these symptoms but also epilepsy can occur as a result of the stomach. Fears always accompany melancholic people, but they do not always get the same kind of unnatural imaginations.[40]

Galen elaborates on the same distress of the hypochondrium discussed in the fragments from Rufus. He links this illness to another melancholic disease, epilepsy, and emphasises the fear that became a standard symptom of melancholics due to influence from the Hippocratic *Aphorisms.*[41] This idea of hypochondriac melancholy takes a prominent role in de Soto's commentary. In discussing the merits of mandrake root as a cure for melancholy, he notes how the cold quality of the root aids in cooling the fire in the belly, more so than sleep is able:

> ...and therefore the cold of mandrake can also provide this [sleep], however hypochondriac the affection may be, for a disease of this kind, as Galen is the warrantor, arises from inflammation and burning heat or fire of the stomach's fundus and empty parts, with heat burning the humours of these parts and lifting up dry exhalations to the brain, through which arise fear and despondency and the other things that are described by the authors as symptoms.[42]

It is notable that de Soto opts to name Galen as the authority on hypochondriac melancholy, making no mention of Rufus throughout his comment on this Hippocratic passage. De Soto was, indeed, familiar with some of the works of Rufus, making explicit references to him in the preface and comment 8[43]; but, as Rufus' work on melancholy was lost, de Soto would have been unable to know the heavy influence Rufus' work had on Galen's understanding of the disease.[44]

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[40] Pormann, 283.

[41] See fn. 18 for a discussion of epilepsy and melancholy in the Hippocratic Corpus. See also Rütten, "Rufus", 248; Radden, 63.

[42] De Soto, 79: *...id quod etiam mandragorae frigiditas praestare potest, quamuis affectus hypochondriacus sit, eiusmodi enim morbus, vt author est Galenus, ex inflammatione, atque phlogosi, vel incendio fundi ventriculi, & partium inanium oritur, vrente earum partium calore humores, siccasque exhalationes in cerebrum eleuante, a quibus & metus, & moestitia, & reliqua, quae ab authoribus scribuntur symptomata oriuntur.*

[43] De Soto, 6^{v}: *Quippe illa prima (Natura corporis principium sermonis in arte medica, quae a Ruffo Ephesio citata inuenies libro altero primo de humani partium corporis appellatione cap. I.) non aliud indicant, quam docere, corpus humanum medicinae esse subiectum*; see also ch. 2, fn. 127. It should be noted that these are not specific references to Rufus' work on melancholy; however, this does, indeed, demonstrate familiarity with the author and his works.

[44] Galen, in his work *On Black Bile*, does write of Rufus: "Among recent physicians, Rufus of Ephesus has composed the best work on melancholy"; however, this is only a brief mention. See Pormann, 27 (F3). See also Klibansky, 49.

3.4.3 Literary and Religious References in Comment 125

Whilst not as common as the medical references, de Soto makes frequent allusions to literary sources, particularly from antiquity, as has already been discussed throughout this work. In his comment on the passage under discussion, he makes two particularly interesting non-medical references: the first to the *Iliad*, the second to *Genesis*. In using the *Iliad*, he references Homer's account of Bellerophontes: "But the time came when Bellerophon incurred the enmity of all the gods and wandered off in solitude across the Aleian Plain, eating his heart out and avoiding all contact with men."[45] Whilst this reference is indeed literary, the trope of Bellerophontes the melancholic frequently occurred in discussions of melancholy. Popularised by pseudo-Aristotle in *Problem* 30.1, the author uses Bellerophontes (and the exact same passage of the *Iliad*) as the exemplar of the depressive melancholic - a great man whose melancholic nature becomes overly cool, causing grief and despondency. This passage is also quoted by Galen in his *Introduction* (13.24) in his discussion of melancholy wherein he differentiates between melancholy and mania, attributing the former to the humour black bile and the latter to adust yellow bile and recommends purging and hellebore as the treatment for both.[46] For the other side of this comparison, pseudo-Aristotle uses Ajax to illustrate the aggressive and passionate melancholic, suffering from over-heated black bile.[47] As theories of melancholy, and particularly *melancholia adusta* developed, the definition expanded to allow the burning and scorching of any of the four humours and further exemplars were attached to the diseases produced by the various burnt humours, e.g. Democritus and sanguine melancholy, Ajax and choleric melancholy, etc.[48] However, in his comment de Soto only alludes to Bellerophontes, whose melancholy was caused by black bile. Thus, it may be extrapolated that de Soto's interprets the fear and sadness described in this Hippocratic passage to be caused by black bile rather than any another humour in its adust form.

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[45] Homer, *Iliad*, trans. E. V. Rieu (London: Penguin Books, 1950), 122; de Soto, 79: *Postquam autem inuisus superis est factus, in agro/Errabat miser ipse suo, solusque dolorem/Consumens animi, atque hominum uestigia vitans.* For more information on Bellerophontes, see Tanja Scheer, "Bellerophontes, Bellerophon" in Cancik, ed., *New Pauly*, vol. 2, 587.

[46] Galen, *Le Médecin. Introduction*, ed. and trans. by Caroline Petit (Paris: Les Belles Lettres, 2009), 57.

[47] Arist., *Problems*, 277-279: "Further, there are the stories about Ajax and Bellerophon, of whom the former went completely insane, whereas the latter sought deserted places, which is why Homer wrote (*of Bellerophon*) in this way: 'But when indeed he was hated by all the gods/Verily over the Aleian plain he wandered alone/Devouring his spirit, avoiding the path of men'."

[48] See fn. 35.

The second reference, as mentioned above, refers to the scripture. In this reference, de Soto cites the story of Rachel, Leah and the mandrake fruit found in *Genesis* 30:

> In the days of wheat harvest Reuben went and found mandrakes in the field, and brought them to his mother Leah. Then Rachel said to Leah, 'Please give me some of your son's mandrakes.' But she said to her, 'Is it a small matter that you have taken away my husband? Would you take away my son's mandrakes also?' Rachel said, 'Then he may lie with you tonight for your son's mandrakes.' When Jacob came from the field in the evening, Leah went out to meet him and said, 'You must come in to me; for I have hired you with my son's mandrakes.' So he lay with her that night. And God heeded Leah, and she conceived and bore Jacob a fifth son.[49]

Quite conspicuously, this passage includes no mention of melancholy or mandrake root, nor has any ties to the ideas of despondency and suicide found in the Hippocratic passage at hand. De Soto makes tenuous connections to this passage in his consideration of the toxicity of mandrake root, asserting the warm nature of the fruit, how this warm quality is beneficial in conception and its ability to cause insanity, citing Levinus Lemnius.[50] Still, de Soto's use of Lemnius may provide some insight on his inclusion of this reference. In all likelihood, de Soto borrowed the reference from *Genesis* from Lemnius' *Herbal for the Bible* rather than from the Bible itself, as Lemnius' work includes the exact reference.[51] Thus, in using Lemnius' reference to mandrake, de Soto is able to demonstrate medicine's relevance in informing theological studies, further establishing its importance as a discipline. Moreover, the same idea may be applied to de Soto's use of classical, non-medical references; by connecting medical and non-medical texts, the commentator is able to demonstrate the ubiquity of medicine and importance to the higher faculties.

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[49] *Genesis*, 30: 14-17 (NRSV).

[50] De Soto, 79^{v}: *Vel dicendum illud debere intelligi de pomis mandragorae, quae (vt sacra Scriptura docet) Rachel expetiuit a Lia, vt conceptus fieret opportuna, Gene. 30. Omnia autem quae id praestant calida vt in plurimum sunt, eaque ratione delirare ex ipsorum esu hominem posse videtur. Quamuis Leuinus Lemnius lib. cui titulus est, De his quae in sacris libris per similitudinem arborum, seminum, & radicum dicta sunt, c. 2. id expetiuisse dicat Rachel a Lia, quoniam nimis calidam sortiebatur temperaturam totius corporis, & vteri, quam vt attemperaret, pomorum mandragorae esum appetebat*; see also Levinus Lemnius, *An Herbal for the Bible...*, trans. by Thomas Newton (London: Edmund Bollifant, 1587), 10-20; for more information on Lemnius, see Edwin S. Morby, "Levinus Lemnius and Leo Suabis in *La Dorotea*", *Hispanic Review* 20 (1952): 108-122.

[51] See Carel Maaijo van Hoorn, "Levinus Lemnius, 1505-1568", PhD diss. (Universiteit te Amsterdam, 1978), 292. On pp. 291-293, van Hoorn notes Lemnius' discussions of mandrake and its cooling and soporific properties, the forming aiding in conception and the latter acting as a narcotic for procedures. It should be noted further that Lemnius' work appears in a volume produced by Francisco Valles, a Spanish contemporary of de Soto and a colleague at the court of Philip II; see Francisco Valles, *De iis qvae scripta svnt physice in libris sacris, siue de sacra philosophia* (Lyon: Francisco le Fevre, 1588). The use of mandrake as a narcotic is also found in Perla's commentary on this passage, see fn. 89.

3.4.5 Early Modern Melancholy

In his article "The Problem of Early Modern Melancholy," Angus Gowland asserts: "In terms of medical theory, the history of melancholy from antiquity to early modernity is predominantly one of continuity rather than change."[52] Whilst there was certainly shifting and evolving conceptions of the humour, the illness and the characteristic throughout antiquity, a comparison of de Soto's understanding of melancholy with some early modern physicians may help to demonstrate the relative stability of conceptions in the early modern era.[53] A summary of de Soto's conception of the melancholy, as seen above, is highlighted by discussions of the cold and dry nature of black bile, melancholy of the head and of the hypochondrium, and the fear and sorrow associated with the illness. These concepts are consistent with many of the ideas seen in the Hippocratic Corpus, particularly *Nature of Man* and the *Aphorisms*, the fragments of Rufus of Ephesus and Galen's *On the Affected Parts.*

No examination of melancholy in the early modern era would be complete without discussing Robert Burton and his *Anatomy of Melancholy* (1621). This extensive work, published for the first time about 30 years after de Soto's volume of commentaries, was written in Burton's vernacular English; still, he was highly influenced by the works of antiquity, quoting ancient authors copiously. In his introduction to the edition of Burton's *Anatomy* edited by Thomas Faulkner, Nicolas Kiessling and Rhonda Blair, John Bamborough describes Burton's use of source material: "It is a syncretic account of all the theories and observations on the subject of melancholy - or as many of them as were available to Burton - and he believed its value to lie in making this material available to others rather than in any setting forth of his own ideas."[54] Although much of Burton's focus is on the works of other authors, he does provide some idea as to his personal conception of the illness: "He [Burton] does however accept as a working description the definition generally accepted by 'the common sort': 'a kind of dotage without a feaver, having for his ordinary companions, feare, and sadnesse, without any apparant [sic] occasion'."[55] Again is seen the emphasis on fear and

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[52] Gowland, "Problem", 86. Gowland, "Problem", 89 does note the dissenting opinions of authors such as Paracelsus, with his alchemical understanding of the disease, and Marsilio Fincino, who focused more on the ideas presented in *Problem* 30.1; however, instances such as these were exceptional.

[53] This, of course, does not include the changing conception for *melancholia adusta*, whose definition was widened through the Renaissance to include all humours in their burnt forms; see fn. 35.

[54] Robert Burton, *The Anatomy of Melancholy*, vol. 1, ed. by Thomas C. Faulkner, *et al.* (Oxford: Clarendon Press, 1989), xxvi.

[55] Burton, xxvii; Burton, 162. Bamborough also explains that the term 'dotage': "...is not almost restricted in common use to the imbecility of senescence, but Burton, again quoting from du Laurens, approves the broader sense of a pathological state ('corruption') of one of the major faculties, and especially imagination or reason; in this was included the sense

sorrow as standard symptoms of melancholic disease. Given the phrasing, influence from the same aphorism (6.23) paraphrased by de Soto in his comment is likely. Moreover, Burton takes time to distinguish melancholy from other diseases, using the authority of Aretaeus and Hercules de Saxonia:

> The *summum genus* is *Dotage*, or Anguish of the minde, saith Areteus, of a principall part, Hercules de Saxonia addes, to distinguish it from Cramp and Palsie, and such diseases as belong to the outward Sense and motions (depraved) to distinguish it from Folly and Madnesse (with Montaltus makes *angor animi* to separate) in which, those functions are not depraved, but rather abolished (without an ague) is added by all, to sever it from Phrensie, and that Melancholy, which is in a pestilent Feaver. (Feare and Sorrow) make it differ from Madnesse (without a cause) is lastly inserted to specifie it from all ordinary passions of Feare and Sorrow...It is without a Feaver, because the humor is most part cold and dry, contrary to putrefaction. Feare and Sorrow are the true Characters, and inseparable companions of most Melancholy, not all, as Her. de Saxonia, *Tract. posthumo de Melancholia, cap. 2* well excepts, for to some it is most pleasant, as to such a laugh most part; some are bold againe, and free from all manner of feare and griefe, as hereafter shall be declared.[56]

In this passage, melancholy is differentiated both from other forms of madness and from other diseases that have symptoms similar to epilepsy, a disease closely associated with melancholic afflictions. Moreover, there is emphasis on fear and sorrow are again asserted; eschewing any mention of the passion or aggression associated with 'hot' or burnt melancholy. Burton further discusses his understanding of the nature of black bile or the melancholic humour, citing Walter Bruele and supplementing this claim with the citations from Galen and Rufus of Ephesus: "The Name is imposed from the matter, and Disease denominated from the materiall cause: As Bruel observes, Μελανχολία, *quasi* Μέλαινα χολή, from black Choler."[57] Burton believes the name of the affliction to be derived from the humour that causes it. However, Burton, too, subscribes to the idea of a two-fold melancholy, the natural black bile as one of the four humours and burnt melancholy stemming from the over-cooking of one of the four humours:

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which we preserve when we speak of 'doting' on something or someone." See also André du Laurens (1558-1609), *A Discourse on the Preservation of Sight...*, trans. by Richard Surphlet (London: Felix Kingston, 1599), 87. For more information on du Laurens, see Jerome J. Bylebyl "Laurens, André du" in Coulston Gillespie, ed., *Dictionary*, vol. 8, 53-54.

[56] Burton, vol. 1, 163. For more information on Aretaeus of Cappadocia (*fl. ca.* 50 CE), see Fridolf Kudlien, "Aretaeus of Cappadocia" in Coulston Gillespie, ed., *Dictionary*, vol. 1, 234-235; for Hercules de Saxonia (Ercole Sassonia, 1551-1607), see Aldaburto Pazzini, *Storia della Medicina*, vol. 1 (Milan: Società Editrice Libraria, 1947), 697-698. For more information on Montalto, see Harry Friedenwald, "Montalto, A Jewish Physician at the Court of Marie de Medicis and Louis XIII", *Bulletin of the Institute of the History of Medicine* 3 (1935): 129-158.

[57] Burton, vol. 1, 162. For more information on the German medical writer Walter Bruele, see his work *Praxis medicinae theorica et empirica familiarissima* (Leiden: Francisco Raphelengio, 1589).

> This materiall Melancholy is either simple, or mixt; offending in Quantity or Qualitie, varying according to his place, where it setleth, as Braine, Spleene, Meseriacke veines, Heart, Wombe, and Stomacke: or differing according to the mixture of those naturall humours amongst themselves, or foure unnaturall adust humours, as there are diversly tempered and mingled."[58]

Melancholy can cause illness due to either a surplus of the humour or due to its nature, especially in the case of burnt melancholy, and where it happens to settle in the body. This description is reminiscent of de Soto's discussion of rheumatic affections in case study two, wherein he uses rheumatic disease to illustrate the various ways excesses and *dyskrasia* can afflict the body.[59] Burton's words stem from the influence of Galen and his theory of the tripartite melancholy: melancholy of the brain, the hypochondrium and of the whole body, each of which Burton handles in separate sections.[60]

Burton's notion of hypochondriac, or "windy" melancholy, is not dissimilar from de Soto's understanding of the affliction[61]:

> Hercules de Saxoniâ (to whom I subscribe) is of the same minde (which I have before touched) that Feare and Sorrow are not generall Symptomes; some feare, and are not sad; some bee sad and feare not; some neither feare, nor grieve. The rest are these, beside Feare and Sorrow, sharpe belchings, fullsome crudities, heat in the bowels, winde and rumbling in the guts, vehement gripings, paine in the belly and stomack some times, after meat that is hard of concoction, much watering of the stomacke, and moist spittle, cold sweat, *importunus sudor*, unseasonable sweat all over the body...[62]

Although not all patients will suffer fear and sorrow, they are still present in his description of the disease, in addition to the various ailments caused by the settling of a melancholic humour in the belly. The cause of such an illness, Burton attests, can be from external causes, primarily pertaining to the six non-naturals; however, he also states the illness can be caused by internal factors, such as "...feare, griefe, and some sudden commotion, or perturbation of the minde beginne it, in such bodies especially as are ill disposed."[63] Here Burton presents a dichotomy between melancholy caused by external factors and that caused by the nature of

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[58] Burton, vol. 1, 166-167.
[59] See case study 2, fns. 51-52.
[60] Burton, vol. 1, 169: "The most receaved division is into three kindes. The first proceeds from the sole fault of the Braine, and is called Head melancholy: the second, sympathetically proceeds from the whole body, when the whole temperature is Melancholy: The third ariseth from the Bowels, Liver, Spleene, or Membrane, called *Mesenterium*, named Hypocondriacall, or windie melancholy...The three precedent species are the subject of my present discourse, which I will anatomize, and treat of, through all their causes, symptomes, cures, together, and apart..."; see pp. 376-381 for the causes particular to melancholy of the head, hypochondrium and whole body.
[61] See fn. 42.
[62] Burton, vol. 1, 410.
[63] Burton, vol. 1, 379.

the patient himself. Moreover, this latter description is reminiscent of de Soto's assertion that despondent patients are, indeed, melancholic.

There are certainly consistencies between Burton's understanding of black bile and melancholic disease in his voluminous *Anatomy* and de Soto's brief comment; however, due to the differing natures of these works, a thorough comparison is difficult, as de Soto's comment is quite brief and is limited by the subject of the Hippocratic passage in question. An examination of Perla's comment on this same Hippocratic passage, may provide a better comparison for de Soto's words. Perla analyses this passage in comment 35 of his *Liber de locis in homine* (1638), opening the comment with terminology that at first may seem problematic: "In the present text at hand he is concerned with mad people [*maniacis*]..."[64] Here, *mania* can refer to either the specific illness mania, which has been briefly mentioned above particularly in reference to the story of Ajax, or the term can simply mean madness. However, Perla continues to write that this madness is caused by fiery and burnt humours or melancholy, which helps somewhat to clarify his understanding of this particular madness as *melancholia adusta*.[65] Furthermore, as noted by Fernando Salmón: "From the four main mental (i.e. brain) diseases: *litargia*, *frenesis*, *mania* and *melancholia*, this last category overshadowed the rest and by 1300, madness was equated with melancholy."[66] If this truly was the case, the 17th century Perla likely used the terms interchangeably. Moreover, as Bamborough notes, whilst Burton claimed to maintain a difference between melancholy and madness, in practice the distinction was not always held in his work: "Melancholy is also distinguished from madness, which is marked by violence and delirium... A melancholic is therefore not strictly speaking a madman, although the distinction was not vigorously maintained even by Burton..."[67] It is likely, then, even with his different choice of terminology, that Perla interpreted the Hippocratic passage in the same way as de Soto, with fear and despondency being the key signs of a melancholic affliction. Moreover, Perla's obvious familiarity with the *Aphorisms* would further strengthen the argument for this association.[68]

In all three of these accounts the authors emphasise fear and despondency as the typifying symptoms of melancholy, demonstrating the heavy influence that the Hippocratic

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[64] Perla, 338: *Maniacis praesenti hoc textu consulitur...*
[65] Perla, 338: *...qui animalibus spiritibus ab atra fervidaque adusti humoris vel malencholici* [sic], *vel biliosi caligine ob tenebratis, commotisque, mente percelluntur, imaginantur horrenda, a quibus maerent, timentque anxii et inquieti efferantur, in obuium quemque immaniter irruunt, sibi quem et ipsis vesani manus iniicere non verentur.*
[66] Salmón, 48.
[67] Burton, xxvii.
[68] See ch. 1, fn. 32.

Aphorisms had on interpretations of melancholy in the early modern era. Moreover, the notion of a two-fold melancholic humour, natural black bile and *melancholia adusta* appear in all three accounts, as well as the Galenic tripartite melancholy common in both the works of Burton and de Soto. Indeed, the Galenic systemisation of melancholy, influenced by both the Hippocratic Corpus and Rufus of Ephesus, became the standard of the early modern pathology of the disease.

3.4.6 Mandrake, Hellebore and other cures

As mentioned, this Hippocratic passage is in the thematic block that Craik has termed 'precepts', meaning that these comments provide general surgical and therapeutic advice. In this passage, the advice provided by the Hippocratic author asserts that mandrake root should be prescribed to any patient who is distressed, possibly to the point of suicide. De Soto, in turn, takes this to be a discussion of the illness melancholy and thus examines the value of mandrake root for a melancholic patient.[69] De Soto tells the reader that the most advantageous thing for a patient suffering from melancholy is sleep, because during sleep "both the brain is moistened and the bodily strengths are restored."[70] Mandrake root, indeed, will cause the patient to sleep, and de Soto believed this would allow the brain to cool to its proper temperature. Moreover, according to de Soto, mandrake root is beneficial in treating hypochondriac melancholy, as it cools the fire in the belly of the patient and the dry heat rising into the brain:

> Therefore mandrake root, because it not only induces sleep (which is especially favourable) but because it is able to adjust the aforementioned fire with its own cold, it is especially advantageous for those who are sad, anxious and wanting to hang themselves.[71]

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[69] For more information on the history of mandrake, see Daniela Fausti, "Le Metamorfosi della Mandragora. Usi Medici e Riti Magici", *Euphrosyne* 26 (1998): 81-94; Dorit Wittlin, *Mandragora. Eine Arzneipflanze in Antike, Mittlealter und Neuzeit* (Dietikon: Juris, 1999); Jean Starobinski, *Geschichte der Melancholiebehandlung von den Anfängen bis 1900* (Basel: Geigy, 1960).

[70] De Soto, 79: *Quia ergo somnus huic affectioni maxime conducit, quo & humectatur cerebrum, & vires reparantur...*

[71] De Soto, 79: *Radix ergo mandragorae, quia non solum somnum inducit (qui maxime commodus est) sed quia sua frigiditate praedictum incendium attemperare valet, ideo maxime conducit tristibus, anxijs, & se strangulare volentibus.* For mandrake as a soporific in antiquity, see Dioscorides, *De materia medica*, ed. and trans. by Lily Y. Beck (Hildesheim: Olms - Weidmann, 2005), 280: "But some boil down the roots with wine until reduced to one third, strain, and store, administering about one : "But some boil down the roots with wine until reduced to one third, strain, and store, administering about one *cyathos* to insomniacs, to those in much pain, and to those undergoing surgery or cauterization whom they wish to anesthetize. A quantity of two *obols* of its juice drunk with hydromel brings up phlegm and bile as hellebore does; but when too much of it is drunk, it is lethal."; Pliny, *Natural History*, ed. and trans. by William Henry Samuel Jones, LCL 393 (London: William Heinemann,

By this logic, de Soto is able to reconcile the Hippocratic suggestion of mandrake root for two forms of the illness - melancholy of the head and of the hypochondrium. These properties, however, can also prove unfavourable to the melancholic patient if mandrake root is presented in too great a quantity, as both melancholy and mandrake root have cold and dry properties and whilst inducing sleep is beneficial, according to de Soto, too much of the root will strengthen the melancholic illness rather than cure it.[72] De Soto is cautious of treating the patient with such a strong drug: "But in my judgment, lest we should not be able to wake up the one whom we wish to fall asleep, the potion of the mandrake root is suspect and one should resort to other safer and lighter remedies."[73] De Soto believes that although mandrake does, indeed, have the desired effect, other drugs may, too, have the same effect without the dangers associated with it. This concern is first addressed in comment 103, wherein de Soto foreshadows his discussion of melancholy in comment 125:

> And however much this seems credible, nevertheless because Hippocrates, speaking below about melancholics, mentions mandrake, with nothing about *cammaron* mentioned, an interpretation of this kind is suspect to me: so much the more, because a cure through such a drug [mandrake] is less safe than through other, more secure cooling drugs.[74]

Again, de Soto states that while mandrake root will have the desired effect, a physician may want to first choose a lighter drug such as *cammaron*, more commonly known as monkshood or aconitum.

Surprisingly, de Soto makes no mention of hellebore in his account of melancholy, as the drug was a popular remedy for the illness in both antiquity and the early modern era: "Greek doctors came to use hellebore widely as an emetic, but from the last quarter of the

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1956), 243: "When the mandrake is used as a sleeping draught the quantity administered should be proportioned to the strength of the patient, a moderate dose being one cyathus. It is also taken in drink for snake bite, and before surgical operations and punctures to produce anaesthesia. For this purpose some find it enough to put themselves to sleep by the smell. A dose of two oboli of mandrake is also taken in honey wine instead of hellebore - but hellebore is more efficacious - as an emetic and to purge away black bile."

[72] De Soto, 79: *Haec autem mandragorae radix, si aucto pondere exhibeatur, insaniam generare potest, hac ratione: ex Galeno enim, & Auicenna patet capitibus de mandragora, ipsam frigidam & siccam esse in tertio gradu, quapropter si in magna quantitate exhibeatur, affectionem (quae frigida & sicca est) augebit, & maiorem insaniam generabit: id quod non fiet, si in parua quantitate offeratur, tunc enim leuem soporem solum inducet qui ob praedictas rationes huic affectioni multum conducit.*

[73] De Soto, 79^{v}: *Sed meo iudicio ne illum quem obdormire volumus, excitare non possimus, suspecta est potio radicis mandragorae, confugiendumque ad alia securiora & leuiora.*

[74] De Soto, 68^{v}: *Et quamuis hoc probabile videtur, nihilominus quia Hippocrates infra de melancholicis loquens, mandragorae meminit, nulla de Cammaro facta mentione, suspecta est apud me eiusmodi interpretatio: tum etiam, quia curatio per tale medicamentum non adeo secura est, ac per alia securiora frigefactoria.*

fifth century popular imagination saw it particularly as a cure for madness."[75] Due to the poisonous nature of this herb, both the Greek and Renaissance doctors observed violent vomiting and diarrhoea after prescribing it to patients; however, within the physiological systems in which these men worked, this purging was considered beneficial in cleansing noxious humours from the body.[76] Moreover, the herb could often darken these excrements, giving the impression that it was black bile being purged, thus making it a logical choice for melancholic diseases. Indeed, hellebore was such a popular remedy for the cure of melancholy that it was immortalised in verse by Burton in his *Argument to the Frontispiece*, along with accompanying images on the frontispiece itself:

> Borage and Hellebor fill two sceanes,
> Soveraigne plants to purge the veines,
> Of melancholy, and cheare the heart,
> Of those blacke fumes which make it smart.
> To cleare the Braine of misty fogges,
> Which dull our sences and Soule clogges.
> The best medicines that ere God made
> For this malady, if well essaid.[77]

Mandrake and hellebore were not the only proposed therapies for melancholy, as arguments were made for a variety of things, both surgical and pharmacological. The fragments of Rufus of Ephesus show a definite preference for purging with epithyme and aloe; however, Rhazes provides a lengthy account, including many different therapies:

> The treatment. He said: Purge them with epithyme and aloe, for together they purge gently and are beneficial for the stomach; they need this [treatment] because they have indigestion. After [initial] cleansing with these [epithyme and aloe], administer to them [the patients] each day a little bit of the two [drugs]. Give them [the patients] each day two thirds of a dirham absinth juice. Do not relent purging them with what I have just mentioned, for if you do this [administer the drugs as I have said], great flatulence will not befall them, their nature will not dry out, their digestion will be good, and they will pass water. This is the best thing for them. They should take light exercise and eat good food; the best exertion for them is walking. Those suffering

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[75] Padel, 48.

[76] Padel, 49. This is not to say that doctors of both antiquity and the early modern era did not recognise the poisonous qualities of mandrake, which was prescribed with caution. For discussions of the poisonous nature of mandrake in antiquity, see Apuleius, *The Golden Ass, or A Book of Changes*, ed. and trans. by Joel C. Relihan (Indianapolis: Hackett, 2007), 215: "...I gave him the poison, but it was a sleeping poison, the infamous *mandragora*, with its well-known narcotic, stupefacient effect, supplying a sleep very like unto death." See also Aelius Promotus, *Der Traktat* περὶ τῶν ἰοβόλων θηρίων καὶ δηλητηρίων φαρμάκων *des sog. Aelius Promotus. Erstedition mit textkritischem Kommentar*, ed. by Sibylle Ihm (Wiesbaden: Dr. Ludwig Reichert Verlag, 1995), 72.

[77] Burton, lxii (8.9). Further to this, he refers to the plant on p. 232: "Black Hellebor, that most renowned plant, and famous purger of melancholy, which all antiquity so much used and admired, was first found out by Melanpodius, a shepheard..." and even makes a reference to the Hippocratic book *On the uses of hellebore*, commented on by de Soto in his volume.

> from indigestion should bathe before meals. Let them have quickly digestible food which is unlikely to generate flatulence and mild to the belly. They should drink white wine in moderation, and swallow thick vinegar before going to sleep. They should dip their food in it, for this improves digestion, especially, if it is made of squills. If this is possible, they ought to be phlebotomized, especially at the beginning of the ailment. Afterwards, when the strength gradually returns, cleanse the black [bile] forcefully through colocynth grease and black hellebore. Do not omit to employ each day things which move their bowels, in order that bowel movement continue. Epithyme is the most useful thing in this case, as well as mint, asarum, whey and constant use of absinth, for many people were cured through its constant use. Some of them have a weak stomach; if this is the case, then completely avoid vomiting. Let them eat fine and tasty food such as semolina bread, chicken and kite meat, and small rock fish. Help them by making their bodies plump, for if they put on weight they abandon their bad character and are totally cured. Those who can tolerate to drink wine have no need for any other medication, for it alone is all they need in order to treat this illness. Long and extended journeys are beneficial for them, for they change their mixture, improve digestion, distract them from thinking, and amuse them.[78]

This account begins with Rufus' favoured technique, purging with aloe and epithyme, moving on to stronger drugs, such as hellebore, if these do not prove strong enough. The author also recommends exercise and a diet that avoids melancholic foods. Finally, Rufus, via Rhazes, emphasises the importance of distracting the mind of the melancholic patient, so they are not allowed to dwell on their sorrows. This sort of psychological therapy was adopted by Burton, but is absent from de Soto's comment.

Whilst much of his understanding of melancholy stems from the work of Rufus, Galen takes a different approach in the therapy of the disease by strongly recommending venesection in the treatment of melancholy:

> For the treatment, this distinction is of no small importance: when the blood becomes melancholic throughout the whole body, it would be appropriate to start the treatment with venesection; but when only the brain is affected, the patient does not require venesection, at least not on account of this condition."[79]

Still, some similarities remain between the accounts of Galen and Rufus, especially in the emphasis on regimen, as Galen provides a list of melancholic foods that should be avoided by melancholic patients.[80] Notably neglected in Galen's discussion is any account of herbal

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[78] Pormann, 49-51 (F40.1-19). See also p. 49 (F37, 38.1).
[79] Galen, *Loc. Aff.* in Pormann, 273, 275-277.
[80] Galen, *Loc. Aff.* in Pormann, 275-277, 287: For new melancholies of the entire body, Galen "...refer[s] to friends who saw me treating such melancholy by means of many baths and a moist, juicy diet, without any other remedy, when the harmful humour had not yet been become difficult to remove as a result of lapse of time. For when the disease has become chronic, there is a need for remedies greater than the ones mentioned. This kind of melancholy occurs in addition to preceding hot conditions of the head, either as a result of burning fever, or because of an inflammatory affection within the head, or because of phrenitis; it also supervenes following worries and grief accompanied by sleeplessness."

remedies, such as Rufus' aloe and epithyme, de Soto's mandrake root and aconitum or Burton's borage and hellebore.

Burton sings the praises of borage and hellebore in his *Argument to the Frontispiece*, but throughout his work he provides copious different therapies for all sorts of melancholies and patients. Echoing Rufus, Burton emphasises the importance of a busy mind in the cure of melancholy, going so far as to tell the reader that composing his work is preventing him from falling prey to the disease himself: "I write of Melancholy, by being busie to avoid melancholy."[81] Even a cursory glance at the table of contents in the *Anatomy* gives the reader an idea of the vast number of causes and cures for melancholy with chapters on topics such as "Musicke a Remedy", "Mirth and merry Company, faire Objects, Remedies", "Against Poverty and Want, with such other Adversities" and "Against Servitude, Losse of Liberty, Imprisonment, Banishment."[82] Given the diversity of melancholies and treatments presented in his work, it may be understood that Burton saw melancholy as a disease completely individual to each patient - a conception that is lacking from de Soto's comment, which strikes the reader as narrower and more clinical.

Burton's immense work still contains more traditional recommendations, as well. In cases of melancholy of the head, he states that this is best cured through diet, followed by venesection if necessary, leaving purging as a last resort.[83] On the other hand de Soto, in response to this Hippocratic passage, advocated cure through altering drugs. In Burton's account, this changes if the melancholy is of the whole body; then the first course of action for the physician is venesection, as recommended by Galen.[84] Lastly, Burton provides his therapy for melancholy of the hypochondrium: "In this cure as in the rest, is especially required the rectification of those six non-naturall things above all, as good diet... Blood-letting is not to be used, except the patients body be very full of blood, and that it be derived from the liver and spleene to the stomacke and his vessels, then to draw it backe, to cut the inner veine of either arme..."[85] This, indeed, differs from de Soto's account, wherin the primary action against hypochondriac melancholy is quelling the heat of the belly with cooling drugs. However, Burton similarly discusses the usefulness of sleep in melancholic afflictions:

> Waking, by reason of their continuall cares, feares, sorrowes, dry braines, is a symptome that much crucifies melancholy men, and must therefore bee speedily helped, and sleepe by all meanes procured, which sometimes is a sufficient remedy of

[81] Burton, vol. 1, 6.
[82] Burton, vol 2, 112-125, 144-176.
[83] Burton, vol. 2, 238-241.
[84] Burton, vol. 2, 259.
[85] Burton, vol. 2, 260-261.

> it selfe without any other Physicke... The meanes to procure it, are inward or outward. Inwardly taken, are simples, or compounds, simples, as Poppy, Nymphaea, Violets, Roses, Lettice, Mandrake, Henbane, Nightshade or Solanum, Saffron, Hempseed, Nutmegs, Willows: with their seeds juyce, decoctions, distilled waters, etc. Compounds are syrupes, or opiats, syrup of Poppy, Violets, Verbasco, which are commonly taken with distilled waters.[86]

Burton is in agreement with de Soto that melancholic illnesses dry the brain and that the best remedy for this is sleep. Moreover, he lists mandrake amongst the herbs and plants that will cause a patient to slumber.[87] Although *cammaron* is missing from this list, it may help to inform the unnamed 'lighter' drugs to which de Soto refers in his comments about mandrake.[88]

Finally, in an examination of Perla's commentary on this Hippocratic passage, the reader sees that Perla does indeed lend mandrake root some use in melancholic afflictions; however, he employs very different reasoning. According to Perla, mandrake root proves useful due to its hypnotic and narcotic properties, which may be used to anesthetise the patient prior to venesection - a better cure for melancholic disease according to this commentator.[89] Perla's intent in putting the patient to sleep with mandrake root is not for the cooling of the brain, as in de Soto's comments, but rather to ease the discomfort of venesection; a cure for melancholy emphasised by Galen. However, like de Soto, Perla emphasises the poisonous nature of the drug and stresses that a limited quantity should be employed.[90]

It is unsurprising that de Soto would praise mandrake root in the treatment of melancholy, given the nature of his commentary and the words of the Hippocratic author; however, very little further information about melancholy is provided throughout the rest of his commentary on *Places in Man* and even in his comments for *On the uses of Hellebore*. A brief examination of this latter commentary yields little information about melancholy; rather, the premise of the entire text is focused on what a physician should not do in a variety of medical cases. Only on one occasion does de Soto refer to melancholy in the latter

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[86] Burton, vol. 2, 255.
[87] It should be noted that Burton only mentions 'mandrake' and not specifically the root or the fruit; however, he later notes (Burton, vol. 2, 372), just like de Soto, that mandrake fruit is a cause of madness.
[88] See fn. 73.
[89] Perla, 339: *His itaque optimum praescribit praesidium Hippoc. ex Mandragorae radice; quae ipnotica cum fit, narcoticaque, (unde refert Dioscor. et Plin. nonnullus eius decocto in vino ad cyanthum uti in doloribus, et ante sectione, usionesque, ne sensiantur)...*
[90] Perla, 339: *Sed quoniam radix haec immodica sui friggiditate* [sic], *quam tertij esse ordinis testatur Galen lib. 7 de simpl. med. fac., narcoticaque vi non modo stupefacere, reddereque amentem potest, animales spiritus immobiles efficiens; sed ab interitum? usque deducit, si copiose nimis exhibeatur: quantitate enim solummodo deleteria est...*

commentary: "For in the case of these things which produce hypochondriac melancholy, humours should not be drawn from a more distant place into the affected part by a strong medicine, but one should fight [them] with bland medicines: the very thing which Galen confirms in *aphor*. I.24."[91] Unfortunately, this is only in reference to hypochondriac melancholy with no mention of any other sort, perhaps implicitly suggesting that hellebore is, indeed, a legitimate cure for manifestations of the disease other than the hypochondriac form.

In short, an emphasis on purging in various forms is common to many of these accounts: Rufus recommending the emetics aloe and epithyme, Galen venesection, Burton's hellebore (amongst a variety of others). Even Perla's account, which does include mandrake, only recommends it as a means of sedation for the patient before venesection. De Soto, on the other hand, takes a different approach and, although he recommends purging for a variety of ailments through his commentary, seems to believe that melancholy is better cured by alteration.[92]

3.4.7 Conclusion

This case study provides an excellent demonstration of the ties between ancient and early modern medical theory and the intellectual history of melancholy. As was seen in the discussion of ancient texts, melancholy has a long, complicated history, beginning prior to the Hippocratic age. The Hippocratic Corpus itself contains diverse understandings of melancholy the disease and the humour. However, neither of these are mentioned explicitly in the text *Places in Man*. Thus, de Soto attempted to fill in the blanks left by the author of *Places in Man* by using other Hippocratic texts. This is illustrated most clearly by his use of *Aphorism* 6.23 as evidence that what the passage in *Places in Man* is describing is melancholy. Other ancient authorities addressed the issue of melancholy: the pseudo-Aristotelian *Problem* 30.1 envisions a disease caused by the heating or cooling of an innate black bile, drawing on the mythological examples of Bellerophontes and Ajax to illustrate either side of this coin. Moreover, Rufus of Ephesus' conception of *melancholia adusta* was highly influential on the work of Galen, and thus impacted the disease's interpretation in the Renaissance as two-fold disease caused by black bile and adust yellow bile. The latter, in turn, was expanded in the early modern era to include any humour in its adust form. Considering all of these accounts, Galen put forward his understanding of the disease in his *On the*

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[91] De Soto, *On the uses of Hellebore*, 12: *Nam in his qui melancholia hippochondriaca laborant, non debent humores a distantioribus locis a pharmaco forti in affectum locum trahi, sed blandis medicamentis certandum: id quod Gal. I. aphor. 24 confirmat.*

[92] A similar idea is seen in case study 3, wherein de Soto recommends curing the root of dry pleurisy through moistening medications rather than only providing medication for the pain of the disease.

Affected Parts, which solidified the understanding of the tripartite melancholy of the brain, the hypochondrium and the whole body, which, like Rufus' two-fold melancholy, was highly influential on the works of Renaissance physicians.

In de Soto's comment is seen a synthesis of these medical understandings, influenced by ideas from both the Hippocratic and Galenic Corpora. Using these authorities, our commentator was able to explain the pathology and the treatment of melancholy through internal causes, despite the empirical nature of the original Hippocratic passage. However, as de Soto is writing in response to a certain Hippocratic passage, he is somewhat limited in his discussion, a fact that is particularly illustrated by his discussion of mandrake root. Examining de Soto's words, it is clear that mandrake root is not the remedy he would first choose due to its toxic nature, but in order to respect the authority of the Hippocratic author, he gives the remedy proper consideration - discussing both its merits and pitfalls, and ending with a recommendation to employ lighter drugs. Moreover, de Soto uses this comment to emphasise Galenic authority: interpreting it through his four humour physiology and his tripartite understanding of the disease.

Robert Burton and Francisco Perla provided suitable points of comparison to further understand de Soto's comments. Burton's expansive vernacular text, *Anatomy of Melancholy*, discusses the disease in far greater depth than de Soto's brief comment; however, the two works do have a few points of similarity, particularly in their shared emphasis of fear and despondency as typifying symptoms of melancholy stemming from *Aphorisms* 6.23. Perla's comments on this Hippocratic passage provide a more similar comparison and whilst his overall understanding is much the same to de Soto's, their interpretations of the Hippocratic author's prescription of mandrake root differ. De Soto understands mandrake root to be beneficial in inducing sleep in order to moisten the overdried brain of the melancholic patient, whereas Perla interprets the drug's use to be in anesthetising a patient prior to venesection, which he considers to be the proper cure for melancholy. Still, whilst both authors deem mandrake root to be a dangerous drugs, neither author will discard the remedy completely.

As in other comments, de Soto employs non-medical sources to further corroborate his arguments. Within this comment in particular, he references the *Iliad* and the book of *Genesis*. These references serve two primary functions. The first is demonstrating de Soto's own erudition and ability to connect common themes throughout the sources of antiquity. The second was an attempt to demonstrate medicine's wide-ranging applicability to the higher faculties, thus enhancing its value as a discipline. These sources, along with the above medical texts from both antiquity and the early modern era, come together to aid in both the explicit and implicit goals of de Soto's commentary: making therapeutic advice more readily

available, establishing the value of the medical art and emphasising the authority of conventional Galenism.

3.5 Case Study 5: Ideology

In the final chapters of *Places in Man*, the Hippocratic author begins to bring the text to a close with a discussion of what Craik has termed 'ideology', or the author's "views on medicine and medical education."[1] De Soto's comment chosen for this case study examines chapter 46, the penultimate chapter of the Hippocratic text, which considers the nature of discovery in the art of medicine and the role of luck in relation to knowledge. De Soto's comments, in turn, discuss these issues in an early modern setting, and are further contextualised by considering the relationship between *techné* and *tuché* in both antiquity and the early modern era, as well as an exploration into medical epistemology. Moreover, de Soto uses this passage to defend medicine as an art, and more specifically, to continue his defence of humouralism, a recurrent theme throughout his commentary. This defence of medicine also raises the issue of quackery and medical regulation in early modern Castile, the latter of which was briefly discussed in chapter one of this thesis.[2]

3.5.1 Relevant Epistemology and Paths to Knowledge

The Hippocratic passage begins by asserting: "In my view, medicine has all been discovered, medicine of this kind which teaches in each case both its inherent character and proper treatment."[3] This belief in the complete state of medical knowledge raises questions about how knowledge was gained in both antiquity and the Renaissance. In the Hippocratic Corpus, two main paths to knowledge are discussed: knowledge that is gained through the eye and that which is gained through intellect.[4] The necessity of observation and the use of the senses is involved in examining the exterior of the patient - his temperature, various excrements and the state of external wounds; however, many of the ailments of the human body occur internally, hidden from the senses of the physician. Thus, the eye and the 'eye of the mind' were often utilised simultaneously and understanding was reached when intellect interpreted the causes behind what the eye had seen. The use of intellect further allowed the physician to assess the veracity of his observations; as put by Jouanna: "To know was to be

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[1] Hp., *Loc. Hom.*, 13. This does not include the final chapter itself, which focuses on the topic of gynaecology, and will not be included as a case study; see ch. 1. For more general information on epistemology in antiquity, see Lloyd P. Gerson, *Ancient Epistemology* (Cambridge: Cambridge University Press, 2009). This monograph focuses on epistemology as a philosophical discipline with no special emphasis on medical thought, having chapters dedicated to, amongst others, Platonic, Aristotelian, Stoic, Epicurean and Sceptic theories; and Wolfgang Detel, "Epistemology" in Cancik, ed., *New Pauly*, part, 1, vol. 4, 1131-1137.
[2] See ch. 1, fn. 67.
[3] Hp., *Loc. Hom.*, 85.
[4] Jouanna, *Hippocrates*, 249.

able to discriminate between what was correct and what was not."[5] For example, an empirical method of discovery is described by the author of *Ancient Medicine*; however, he does not believe this to be the only path to knowledge[6]:

> What difference, then, is to be seen between the reasoning of the one who is called doctor and is agreed to be a craftsman, who discovered the regimen and nourishment of the sick, and that of the person who originally discovered and prepared for all human beings the nourishment we make use of today from that savage and brutish regimen? To me it is evident that the method was identical and discovery one and the same. The one sought to do away with all those foods which, when ingested, the human constitution in health could not overcome on account of their brutish and unblended character, while the other sought to do away with those foods which each sick person, in whatever condition he happened to be, could not overcome. How, then, does the latter pursuit differ from the former, except that it has more aspects, is more complex, and requires more diligent effort? But the starting point was the former, the one that arose first.[7]

In this passage the Hippocratic author notes that both the medical art and its forerunners used empirical methods as a form of discovery, particularly citing the discovery of what is and is not nourishing the human body. This shared method of discovery is trial and error, followed by the observation of the subsequent effects on the body. What differentiates the physician from the layman in this process is the rationalisation that happens after the observed effect. The physician tasks himself with understanding the causes behind what has been observed, whereas the layman only cares whether something is healthy or unhealthy.

Given his great philosophical interests, Galen had much to say on the subject of epistemology. Similar to the Hippocratic accounts, Galen emphasised the role of the senses in the acquisition of knowledge and the need of intellect and logic to interpret what is observed. In *The Cambridge Companion to Galen*, R. J. Hankinson provides an excellent account of Galen's epistemology. He writes that in Galen's understanding, the path to knowledge is two-fold: "In fact, there are 'two proper starting-points for proof: things evident to the intellect and those to perception'."[8] Galen emphasised the necessity of the senses in medical observation in addition to the understanding of internal causes, and it is only through the utilisation of both that certain knowledge may be gained.[9] Still, like the Hippocratic account above, the medical

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[5] Jouanna, *Hippocrates*, 252.
[6] Appendix 1 of Hippocrates, *Ancient Medicine*, trans. by Mark J. Schiefsky (Leiden: Brill, 2005), 345-359, discusses the empirical nature of this work.
[7] Hp., *VM*, 83.
[8] Robert James Hankinson, "Epistemology" in Hankinson, ed., *Cambridge Companion*, 159. Hankinson also notes on p. 158 that Galen emphasised the understanding of what is clearly evident or *enargôs phainomenon* as the starting point of inquiry. It should be noted that de Soto frequently highlights things which he deems to be 'evident' or 'manifest'; for example, see de Soto, 6, 16^{v}, 17, 21, 26^{v}, 48, 60^{v}.
[9] Hankinson, "Epistemology", 160.

art was dependent upon the rationalisation of internal causes. For example in his work *On Critical Days*, Galen writes: "Since everything having to do with medical science is discovered and validated either through experience, through reason, or through both, let us try to confute what is erroneous, and to praise and promote what is correct, by way of both instruments."[10] Here Galen emphasises the role of both experience and reason in the acquisition of knowledge and using both to verify fact. Still, in Galen's view, the establishment of medical knowledge was no easy task:

> The basic reason for this [the fact that knowledge is not easily won], in Galen's view, is that properly founded understanding requires a systematic and exhaustive application of rational methods to the materials supplied by the senses, in order to yield robust, explanatory accounts, which in turn need to be tested by further experience in order to confirm the reliability of the theoretical substructure.[11]

Gaining knowledge was much more than observing a phenomenon and rationalising an accompanying theory, rather every new discovery had to fit within the established framework. Moreover, any medicine or medical school that did not employ Galen's strict logic was subject to his abuse.[12]

How, then, did de Soto understand knowledge to be acquired and what impact did the ideas of the Hippocratic authors and Galen have on this understanding? The notion of any early modern medical epistemology is problematic when the nature of medical learning in the Renaissance is considered. As has already been discussed throughout this thesis, one of the primary goals of medical humanism was the re-translation and reinterpretation of ancient medical texts.[13] Thus, as Wear suggests, medicine had progressed to a stage where basic knowledge was no longer in question:

> In a sense, the learned traditions of the Renaissance were at a stage where new fundamental knowledge was not the issue. Rather the emphasis lay in being true to the past and in ordering past knowledge in the best possible way... However, within learned medicine there was some room for creativity and for personally acquiring knowledge...[14]

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[10] Galen, *On Critical Days* in Hankinson, ed., *Cambridge Companion to Galen*, 177.
[11] Hankinson, "Epistemology", 165.
[12] Hankinson, "Epistemology", 165.
[13] See ch. 1, fn. 53. Further, this ties into the idea of *prisca philosophia* discussed in chapter 2; see ch. 2, fn. 33.
[14] Andrew Wear, "Epistemology and Learned Medicine in Early Modern England" in Bates, ed., *Scholarly Tradition*, 155. Wear later asserts on p. 161, that the added personal experience of the learned physician was "[a] second-order knowledge dependent on a pre-existing Galenic framework..." Moreover, this mention of 'ordering past knowledge in the best possible way' touches on one of the goals de Soto gave for writing this commentary, see ch. 2, fn. 120.

Whilst Wear acknowledges the possibility for some originality, he emphasises that learned medicine was highly reliant on the works of the ancient authors. Still, learned physicians, and in this case commentators, were indeed creating a new medical knowledge, albeit one that was heavily influenced by the Galenic model, through the process of *imitatio, aemulatio* and, particularly, *superatio.* In this conception, one of the pathways to knowledge was the further understanding of the ancient sources. As put by Rütten, "...Hippocrates was a forerunner who had set medicine on a certain course - a course which had to be followed through to the future..."[15] Thus, through the intense study and exegesis of Hippocratic works, early modern physicians could continue the discovery and improvement of medicine. Further, true to the Galenic model, *superatio* required not only a thorough understanding of the words of the ancients, but personal observation, the utilisation of the senses and an ability to intellectualise internal causes of disease.

In his comments on this passage, de Soto emphasises the role that causes play in medicine; speaking of remedies that have been discussed throughout his commentary, he asserts their efficacy: "Of course, each preceding variety of foodstuffs and medicines has its own firm and certain causes and reasons..."[16] In de Soto's view, medicines work (or do not work) because of the particular effects they have on the body; these effects are known by both their observation and the rationalisation of internal systems. Maclean notes the necessity of causes: "Without allegation of cause, medicine is reduced from a rational art to an empirical practice."[17] Again, Maclean stresses the role of the rationalisation of causes as a defining factor of an art. De Soto's emphasis on causes occurs again in comment 152: "The best medical doctrines have been written and the things that come about come about on

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[15] Rütten, "Progress", 45.

[16] De Soto, 90^{v}: *Quippe omnis praedicta ciborum ac medicamentorum varietas suas habet firmas, ac certas causas & rationes...*

[17] Maclean, *Logic*, 125. Further to this, Maclean notes on p. 265: "Causes must be known to the rational doctor through methodical examination before an illness can be known because 'scire est rem per causas cognoscere', but as contrary causes can give rise to the same 'compositi morbi', this is not easy to achieve..."; see also: Wolfgang U. Eckart, "Antiparacelsismus, okkulte Qualitäten und medizinisch-wissenschaftliches Erkennen im Werk Daniel Sennerts (1572-1637)" in *Die okkulten Wissenschaften in der Renaissance*, ed. by August Buck (Wiesbaden: Otto Harrassowitz, 1992), 147, n. 33 and Daniel Sennert, *Opera Omnia*, ed. by Charles Spon (Lyon: Jean-Antoine Huguet and Marc-Antoine Ravaud, 1676), 109: *...cum scire, sit rem per caussam cognoscere: summo studio laborandum est, ut & in Physicis operationum atque effectuum, qui in rebus naturalibus accidunt, veras & proprias caussas reddamus. Equidem dari in rerum natura quatuor Elementa, atque ea per suas qualitates, primas dictas, seu manifestas, & sensui obvias efficacia essem extra dubium est. Verum sunt effectus plurimi in natura, qui ab istis qualitatibus nullo modo deduci possunt.* For more information on causation in the Galenic Corpus, see Galen, *On Diseases and Symptoms*, 81-125; Galen, *On Antecedent Causes*, ed. and trans. by Robert James Hankinson (Cambridge: Cambridge University Press, 1998), 7-28.

account of some causes. Those who are experienced [in recognising the cause] or know these doctrines by experience merit the appropriate name of the best Doctors..."[18] De Soto agrees with the author of *Places in Man* that all of medicine has been discovered; however, in his view, this means all the principles of medicine, particularly humouralism, which aid in the explanation of causes. Moreover, those who are well versed in explaining causes are the best physicians, having the best understanding of the human body in both health and sickness.

De Soto's comment on this passage also contains ideas similar to what was seen above in the Hippocratic passage from *Ancient Medicine.* He acknowledges that often medical knowledge can be gleaned empirically from the actions of laymen; however, just as in *Ancient Medicine*, it requires a physician, capable of the proper rationalisation, to interpret the causes of the treatment's success and systematise it into medical knowledge:

> For it is very necessary to know those who have not used Doctors (if they have fallen ill and [then] become well) because they have been healed either doing something or not doing something. For they have regained health either by fasting, or abundant eating, or by very copious drinking, or by thirst, or baths or labouring, or rest, or sleep, or wakefulness, or by using all of those things indiscriminately.[19]

The latter half of this passage references Galen's six non-naturals that de Soto understands to be among the primary causes of both health and disease. As put by Luis García Ballester: "In fact, a substantial part of the causal and therapeutic system of Galenic pathology was based on them [the six non-naturals], while, at the same time, all the preventive doctrine for the preservation of health was built on them."[20] In this way, the six non-naturals and their effects act as a path of knowledge for Galenist physicians, de Soto included.

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[18] De Soto, 91: *In arte enim Medica doctrinae optimae compositae sunt, & quae eueniunt propter aliquas causas eueniunt. Has qui calluerit, dignum optimi Medici nomen meretur...*

[19] De Soto, 91: *Valde enim necessarium est nosse eos, qui Medicis non sunt vsi (si aegrotauerunt, & conualuerunt) quod aut facientes aliquid, aut non facientes sanati sunt: aut enim inedia, aut edacitate, aut vberiore potu, aut siti, aut balneis, aut laboribus, aut quiete, aut somnis, aut vigilia, aut ijs omnibus promiscue vtentes conualuerunt.*

[20] García Ballester, "Six", 105. Of the six non-naturals, Maclean, *Logic*, 252 notes: "The non-naturals are those things in the realm of nature 'not to do with the constitution of the body': some resemble circumstantiae as external factors, some relate (in a way somewhat alien to a modern outlook) to the human will, and are ordered by human nature. The following constitute the traditional list: air, food and drink, sleep and vigil, motion and rest, evacuation and repletion, and the 'passiones animi', in which sexual activity is included (it also is in part evacuation, and in part motion)."

3.5.2 Techné *and* Tuché

Another theme of this Hippocratic passage is the role of luck, or *tuché*, in the medical art.[21] The author of *Places in Man* writes:

> The man who has this understanding of medicine least depends on luck, but whether with or without luck his actions would succeed. For all medicine has advanced, and its finest established techniques seem to have very little need of luck. For luck is absolute in power and is ungovernable, and it is not its way to come in response to one's wish. But knowledge is governable and brings success when the one with the knowledge wishes to use it.[22]

The Hippocratic author re-emphasises the fact that, indeed, all the principles necessary to medicine have been discovered and thus luck is not necessary, only knowledge. What remains unclear, is whether the sort of luck or fortune needed for the empirical discovery of therapies is still necessary, or whether the Hippocratic author believes all of these to be discovered, as well. The passage continues the discussion of luck:

> Anyone who will exclude luck from medicine or any other activity, alleging that it is not those who have good knowledge of a thing who have good luck, seems to hold a view completely opposite to mine. For in my view only those who know how to do something well or badly have good or bad luck. For good luck is doing something well, and those with knowledge do this; and bad luck is doing something badly, through lack of knowledge. For how could one who is ignorant have good luck? For if he were to have good luck to some extent he would not have good luck worth consideration. For someone not doing something well would not have good luck unless he does other things appropriately.[23]

Here, the author makes a decided shift, from discussing a personified luck to equating luck with success. Craik makes note of this in the comments accompanying her translations: "The author of *Loc.* has it both ways: medicine has no need of luck (as popularly understood...); but luck is not excluded (as 'good luck' and 'success' are one and the same..."[24] Luck or fortune has always been an idea that is pluralistic in nature; this was certainly true in antiquity and early modernity, just as it is today.[25] De Soto, too, picks up on this dichotomy between a personified luck and luck equated with success; however, he is less accepting of the former: "...for fortune, [even] if it is sentient, holds no divine quality."[26] Although it is unlikely that

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[21] Jouanna, *Hippocrates*, 250, notes: "In the fifth century, this antithesis between science and chance structured discussions of the various activities that pretended to the status of art or of science."
[22] Hp., *Loc. Hom.*, 85.
[23] Hp., *Loc. Hom.*, 85.
[24] Hp., *Loc. Hom.*, 216.
[25] For more information on historical notions of luck, see Esther Eidinow, *Luck, Fate and Fortune: Antiquity and its legacy* (London: I. B. Tauris and Company, 2011), particularly pp. 45-52 for further information on Tyche. See also Duncan Pritchard, *Epistemic Luck* (Oxford: Oxford University Press, 2005).
[26] De Soto, 90^{v}: *...fortuna enim nullum numen habet, si sit prudentia.*

the Hippocratic author viewed personified luck as the goddess Tyche, the personification of chance was not unknown.[27] However, the notion of a sentient or deified luck would not have held as strongly with the Catholic de Soto; thus, he places far more emphasis on the idea of luck as success: "...so that certainly, in most sicknesses, those who are cured poorly fall into misfortune, while [those who are cured] well should be thought to have met with good fortune..."[28] De Soto again makes this connection between luck and success more explicity: "Indeed, only those men seem to me to attain good fortune, and likewise not to attain misfortune, who know how to practice correctly and how not to practice incorrectly, etc."[29] This re-emphasises his belief that those who are knowledgeable in the art and practise it well, will, indeed, be fortunate. Pushing this connection between success and luck further, a physician who is successful at his craft may be *perceived* as lucky by those around him. Moreover, for de Soto, professional success and his perceived fortune, may, in turn, make him appear blessed or speak to his piety, circling the idea of luck or fortune stemming from a higher authority, albeit this time a monotheistic God; luck itself may hold no divine will, but God would certainly be capable of blessing the knowledgeable and pious.

The notion of luck or fortune in the medical art is inextricably linked with the dichotomy between the ideas of *techné* and *tuché* and tied to the defence of medicine as an art, a topic that will be explored in more depth below. Hippocratic authors felt the need to assert the logic behind the art of medicine, rather than attributing its successes to pure chance.[30] For example, in *Ancient Medicine*, the Hippocratic author writes:

> Some practitioners are bad, while others are much better. This would not be the case if medicine did not exist at all and if nothing had been examined or discovered in it;

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[27] Jouanna, *Hippocrates*, 459 (n. 24): "There did exist a goddess *Tuché* in Hesiod's time, sometimes said to be the daughter of Oceanus (Hesiod), sometimes the daughter of Zeus (Pindar); but she was unimportant and, as the ancient sense of the word suggests, a goddess of success. By contrast, from the fourth century and especially during the Hellenistic era, another goddess *Tuché* emerged who was the personification of the notion of *tuché* in the modern sense, with its positive and negative sides; and, although a personification, she was an object of worship." See also Bernard Clive Dietrich and Noel Robertson, "Tyche" in Hornblower, ed., *Classical Dictionary*, 1566; Johannes Scherf, "Tyche" in Cancik, ed., *New Pauly*, part 1, vol. 15, 52-53.

[28] De Soto, 91: *...vt in plurimum enim morbis, qui male curantur infortunium accidit, qui vero bene, bonam fortunam nancisci est existimandum...*; it is almost certain that de Soto held the idea of luck as something resembling pure chance; however, this is not emphasised in his comments on this passage.

[29] De Soto, 91: *Mihi enim soli hi fortunate assequi, itemque infortunate non assequi videntur, qui recte, & non recte facere sciunt, &c.*

[30] For reasons of scope I have limited the discussion of luck to works of the Hippocratic Corpus; however, such discussions took place in many philosophical texts, as well, particularly Plato's *Gorgias* and Aristotle's *Metaphysics*. See Plato, *Gorgias*, trans. by Walter Hamilton (Harmondsworth: Penguin Books, 1987), 20-22 and Aristotle, *Metaphysics*, trans. by Hugh Lawson-Tancred (London: Penguin Books, 1998), 4-5.

> rather, all would be equally lacking in both experience and knowledge of it, and all the affairs of the sick would be governed by chance.[31]

According to this author, if medicine was only governed by chance, we would be unable to differentiate between good and bad physicians. Thus medicine must exist as an art or *techné*, if knowledge and study can lead to its successful practice. Similar ideas are espoused by the author of *The Art*, who is "of the opinion that when diseases are badly treated ill-luck generally follows, and good luck when they are treated well."[32] This author is keen to assert that there are indeed good practitioners of medicine and bad ones; however, he, like the author of *Places in Man*, equates success in therapy with luck. Moreover, this statement by the author of *The Art* holds an affinity with de Soto's statement above that those who are treated well have met with good fortune.[33] Further to this, the author of *The Art* argues that if fortune is the primary cause for the success or failure of therapy, why is the luck of the physician culpable for an unsuccessful therapy rather than that of the patient? "As to those who would demolish the art by fatal cases of sickness, I wonder what adequate reason induces them to hold innocent the ill-luck of the victims, and to put all the blame upon the intelligence of those who practised the art of medicine."[34]

Whilst there may be similarities between the accounts given by the authors of *The Art* and *Ancient Medicine*, the Hippocratic Corpus, unsurprisingly, holds a pluralistic view of the role of luck in medicine. For example, the author of *On Affections* affords luck a role in the discovery of therapies by both physicians and laymen:

> About medications that are drunk or applied to wounds it is worth learning from everyone; for people do not discover these by reasoning but by chance, and experts not more than laymen. But whatever is discovered in medicine by reasoning, whether about foods or medications, you must learn from those that have discernment in the art if you wish to learn anything.[35]

De Soto, too, touches on this idea when he emphasises the necessity of physicians being alerted when a man is cured without the aid of doctors and the regimen he followed explained and understood.[36] According to this notion, whilst knowledge may be governable, discovery

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[31] Hp., *VM*, 75.
[32] Hippocrates, *The Art*, trans. by William Henry Samuel Jones, LCL 148 (London: William Heinemann, 1923), 195. See also Hippocrates, *Hippocratis Indices librorum, Iusiurandum, Lex, De arte, De medico, De decente habitu, Praeceptiones, De prisca medicina, De aere locis aquis, De alimento, De liquidorum usu, De flatibus, edidit J. L. Heiberg*, ed. and trans. by Johan L. Heiberg, CMG I, I (Leipzig and Berlin: B. G. Teubner, 1927).
[33] See fn. 28.
[34] Hp., *de Arte*, 201.
[35] Hp., *Aff.*, 69.
[36] See fn. 19. This idea is also expressed by Galen in his *Therapeutic Method* (Galen, *MM* in Hankinson, ed., *Cambridge Companion*, 166): "The Empiricists are right when they assert

is not. The author of *Diseases I* allows luck an even greater role in successful or unsuccessful therapy: "Physicians achieve the following good results in their therapy by luck."[37] According to this author, although certain therapies may be helpful in the treatment of diseases, some factors are always beyond the control of the physician. Whilst this statement may seem detrimental to medicine's claim to be an art, the author of *Diseases I* spins luck's role in medicine to the physician's advantage, lending physicians some deniability if a therapy happens to go awry: "Such things occur or do not occur, not through any ignorance or knowledge of physicians, but spontaneously and by chance; and when they do occur, it may help or harm, likewise, when they do not occur, it may help or harm."[38] Rather than blaming the physician, the author claims, forces beyond his control should be held culpable.

3.5.3 De Soto's Defence of Medicine and Humouralism

As is evident from the discussions above, a recurrent theme in the Hippocratic Corpus was the defence of medicine as an art; the final passage quoted by de Soto from *Places in Man* asserts:

> Further, what need has medicine of luck? If there are drugs clearly appropriate for illnesses, I think that drugs do not depend on luck to turn the illnesses to health, if there are indeed drugs. But if there is any use in prescribing with mere luck, drugs no more than non-drugs with luck will make the patient well, when applied to illnesses.[39]

Still denying medicine's dependency on luck, the author states that if appropriate medicines exist they will cure the ailment, good or bad luck nonwithstanding. Thus, because medicine has no need of luck and because it can be learned through observation and intellect, it is, therefore, an art. Jouanna explores the debate that began in the fifth century to define what constitutes an art:

> One is astonished to discover how bitter the disputes were, how direct and how violent the assaults of those who challenged the art, and how caustic the irony of its defenders, who accused their adversaries of ignorace, innate wickedness, indeed of madness, and so transformed these denigrators of the art of medicine into sick persons in need of medical treatment.[40]

The authors of the Hippocratic Corpus sought to defend their art through a variety of means, including logical and rhetorical techniques. Further to this discussion, Jouanna uses the

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that there is for them no necessary order, either of discovery or of instruction: experience is unsystematic and irrational, and requires good fortune to arrive at the discovery of what was sought."

[37] Hippocrates, *Diseases I*, ed. and trans. by Paul Potter, LCL 472 (Cambridge, Mass.: Harvard University Press, 1988), 115-119.

[38] Hp., *Morb. I*, 115.

[39] Hp., *Loc. Hom.*, 85.

[40] Jouanna, *Hippocrates*, 243-244.

Hippocratic text *The Art* to outline the usual attacks launched against medicine's status as an art: the first, as has been discussed above, argued that medicine was dependent upon chance, noting those patients who died even with the aid of physicians.[41] De Soto makes note of this in his comment, noting that laymen often make uninformed judgments about the art:

> Since the layman judges nothing except outcomes, with no examination made and no cause investigated, due to which, men are sometimes restored to health without the ministration of the art and sometimes (even if they are given aid) die, it is not surprising if he [the layman] says that the medical faculty is not at all necessary and that those who are saved from diseases are liberated because of good fortune and those who in fact die, because of misfortune.[42]

Again, this addresses the argument of medicine's dependency on chance, emphasising the uneducated viewpoint of the layman and using this to discredit his claim. De Soto finds the layman's criticism of the medical art to be confounding: "Moreover, it is permitted to be astonished at those, who strive to tear down the art because of the calamity of those who die, who, having been agitated by no reason worthy of mention, blame the knowledge of those who exercise medicine rightly..."[43] This claim puts the knowledge and training of the learned physician against the ignorance of the layman, who does not understand the account brought before him, the causes behind the illness, or why a particular therapy may have failed. Additionally, in the above comment de Soto again stresses the role that causes play in defining what is, indeed, an art.

The second argument, which too has been briefly discussed, pointed out that sometimes a person suffering an illness will become well without the aid of doctors.[44] De

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[41] Jouanna, *Hippocrates*, 244; Hp., *de Arte*, 195: "But because not all are healed the art is blamed, and those who malign it, because there are some who succumb to diseases, assert that those who escape do so through luck and not through the art."

[42] De Soto, 90^{v}: *Vulgus enim cum non nisi euentus iudicet, nullo facto examine, nullaque causa inuestigata, ob quam saepe homines, nunc absque artis ministerio sanitati restituantur, nunc (etsi auxilientur) moriantur, non mirum est, si dicat medicam facultatem minime esse necessariam, & ex aegris qui saluantur, propter bonam fortunam liberari, qui vero moriuntur, propter infortunium.*

[43] De Soto, 91: *Caeterum eos, qui ob morientium calamitatem artem demoliri contendunt, admirari licet, qui nulla memorabili ratione commoti scientiam eorum, qui recte medicinam exercent, accusant...*; further to this, de Soto (91-91^{v}) argues that the physician is in a better state to diagnose and treat an illness, writing: *Medici namque sana mente, sanoque corpore morbos aggredientes praesentia considerant, & de praeteritis ratiocinantur...Quapropter versimilius est optimos Medicos multo magis quae conueniunt praecipere, quam aegros ijs quae imperantur obedire.*

[44] Jouanna, *Hippocrates*, 245; Hp., *de Arte*, 197: "Now my opponent will object that in the past many, even without calling in a physician, have been cured of their sickness, and I agree that he is right. But I hold that it is possible to profit by the art of medicine even without calling in a physician, not indeed so as to know what is correct medical treatment and what is incorrect, but so as by chance to employ in self-treatment the same means as would have been employed had a physician actually been called in."

Soto argues against this point when he states that those who have gotten well have done so by doing something, even if it was inadvertant, and that this self treatment should be brought to the attention of doctors in order to further medical therapy.[45] The final major attack volleyed against physicians, as noted by the author of *The Art*, stems from the fact that physicians refused to treat those who were deemed incurable.[46] De Soto discusses the argument thus: "Someone could object saying 'If the medical faculty is an art, how does it happen that it does not help all sicknesses equally, when it advises not to touch the desperate [cases]?'"[47] De Soto answers this, explicitly employing the arguments of the author of *The Art*, stating that sometimes diseases are stronger than any medicine available.[48] Often seeing the lack of intervention as a merciful act, sparing the patient any discomfort stemming from ineffective therapies, de Soto blames the disease rather than the doctor or the medicine for the lack of appropriate medications:

> Therefore, when a man is affected by a sickness that is more powerful than the instruments of medicine are, one ought not even hope that it will be conquered by medicine... therefore, the sickness is sometimes stronger than the instruments of medicine, in which case the strength of the affection is more to be blamed (certainly in my opinion) than the art itself.[49]

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[45] See fn. 19. See also Hp., *de Arte*, 197: "For even those who, without calling in a physician, recovered from a sickness must perforce know that their recovery was due to doing something or to not doing something; it was caused in fact by fasting or by abundant diet, by excess of drink or by abstinence therefrom, by bathing or by refraining therefrom, by violent exercise or by rest, by sleep or by keeping awake, or by using a combination of all these things. And they must perforce have learnt, by having been benefited, what it was that benefited them, just as when they were harmed they must have learnt, by having been harmed, what it was that harmed them."

[46] Jouanna, *Hippocrates*, 245; Hp., *de Arte*, 203: "Some too there are who blame medicine because of those who refuse to undertake desperate cases, and say that while physicians undertake cases which would cure themselves, they do not touch those where great help is necessary..."

[47] De Soto, 91^{v}: *...posset aliquis obijcere, dicens, Si* [sic] *medica facultas ars est, qui fit, vt omnibus morbis ex aequo non auxiliatur, cum deploratos ne attingere quidem praecipiat?*

[48] De Soto, 91^{v}: *...ideo respondet Hippocrates loco citato de arte, Medicam* [sic] *facultatem artem esse, quae morbos curatu possibiles in totum tollit, & quae plurimorum morborum vehementes impetus obtundit, & quae eorum, qui a morbis victi sunt, curam non habere docet...* See also Hp., *de Arte*, 203-205: "Whenever therefore a man suffers from an ill which is too strong for the means at the disposal of medicine, he surely must not even expect that it can be overcome by medicine. For example, of the caustics employed in medicine fire is the most powerful, though there are many others less powerful than it. Now affections that are too strong for the less powerful caustics plainly are not for this reason incurable; but those which are too strong for the most powerful are plainly incurable."

[49] De Soto, 91^{v}: *Cum igitur homo morbo afficitur, qui vehementior est, quam sint medicinae instrumenta, ne sperare quidem oportet, vt a medicina exuperentur... ergo morbus fortior est aliquando, quam medicinae instrumenta: quo in casu vis affectionis accusanda potius est (mea quidem sententia) quam ipsa ars.*

Still, the choice not to engage with untreatable patients was not completely altruistic, as this practice could aid in a physician's reputation by speaking to his ability in prognostication.[50] Moreover, it is remarkable how heavily de Soto relied upon the Hippocratic texts, particularly *The Art*, in his defence of the medical art, which suggests that the arguments against medicine had not seen much change.

More than just defending medicine as an art, de Soto used his commentary as a means to defend his understanding of humouralism, as has been seen throughout these case studies. In this comment, his defence continues, as de Soto believes qualities and the movement of humours to cause nearly every illness and therapy; thus, those who understand these actions are better able to understand the art of medicine. Referring to the Hippocratic author's claim that all of medicine has been discovered, de Soto illustrates this with a list of physiological principles set out by the Hippocratic Corpus, especially emphasising those actions that cure through contraries.[51] By including this list, de Soto is indicating that he agrees with the Hippocratic author that all of the principles of medicine have been discovered, even if there are drugs and therapies that can still be discovered. Thus, in commenting on the passage in this way allows de Soto to reconcile the assertion of the Hippocratic author with the discovery of new drugs.[52] In this view, any newly discovered drug will adhere to the principles of humoural medicine having either a combination of hot and cold and dry and wet qualities that may be employed as contraries against disease. Likewise, some of these newly discovered drugs may have purging properties that rid the body of excess. De Soto continues this discussion, noting that any inconsistency in the art is not a problem with the art itself, but rather that of ignorance:

> For which reason, I think it should be said that Hippocrates teaches this, so that we may understand that variation of this kind does not proceed from the uncertainty of the medical art, but from not understanding our own ignorance of these things: at what time, on what occasion, to what kind of temperament, and to what age, this or that warm or cold medicine, constituted of thin material or thick material to be presented.[53]

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[50] See case study 3, fn. 34.

[51] De Soto, 90^{v}: *Nam calida frigefacere, frigida calfacere, & haec rursus aluum mouere, illa sistere, & contra, rursus tenuantia aluum mouere, & sistere, & replentia easdem operationes moliri, & morbos ab eisdem causis fieri, & sanari docet, & multa alia, quae longa oratione superioribus sententijs prosequitur.*

[52] See case study 2, "3.2.4 Syphilis".

[53] De Soto, 90^{v}: *Quapropter dicendum existimo id docere Hippocratem, vt intelligamus huiusmodi varietatem non prouenire ex incertitudine artis medicae, sed ex nostra ipsorum ignorantia non assequente, quo tempore, qua occasione, quo temperamento, & aetate, hoc vel illud medicamentum calidum aut frigidum, tenuium partium, vel crassarum sit exhibendum.*

Thus, the comment is tied back to the dichotomy between *techné* and *tuché* with the good, or fortunate, physician being the man with knowledge and understanding.

3.5.4 De Soto's Reaction to Quackery

Another threat from which medicine had to protect itself was that of quackery, a topic that de Soto briefly addresses in his comments on this passage.[54] As has already been discussed, reforms beginning with the Catholic Monarchs attempted to help regulate the medical and surgical practitioners in early modern Castile through the court of the *protomedicato*; this included licensing and documentation for those practising in a five-league radius.[55] However, despite the court's attempts at homogeny, a pluralistic system of medicine continued throughout the kingdom of Castile, as consulting such physicians was not considered taboo and unorthodox practitioners only faced prosecution if they were unsuccessful or dangerous; as stated by Goodman: "Unqualified empirics and healers served a useful function at a time when there were not nearly enough physicians or surgeons to cover the Peninsula... They were welcome both to the crown and the towns."[56]

De Soto's participation in the regulation of the medical profession has also been discussed: as a physician of the *casa de Borgoña* he would have acted as an *examinador* in the court of the *protomédico*.[57] Thus, he would have been familiar with various types of unorthodox medicine practised throughout the kingdom of Castile, as well as the means in place for its regulation. However, de Soto provides little information as to what was considered to be unorthodox and what he considered to be true charlatanism. Were all

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[54] For more general information on quackery in early modern Europe (and especially England), see William F. Bynum and Roy Porter, *Medical Fringe and Medical Orthodoxy (1750-1850)* (London: Croom Helm, 1987); Roy Porter, *Health for Sale: Quackery in England, 1660-1850* (Manchester: Manchester University Press, 1989), which was republished under the title *Quacks: Fakers and Charlatans in Medicine* (Stroud: Tempus, 2003). Information on quackery in Spain is limited; however, Goodman, *Power*, 215-230, provides some information, as well as Enrique Perdiguero, "Protomedicato y curanderismo", *Dynamis* 16 (1996): 91-108 and Vincente L. Salavert Fabiani, "La Cultura Científica y Técnica en la España de los siglos XVI y XVII", *Bulletin Hispanique* 97 (1995): 233-259.

[55] Goodman, *Power*, 222; see also, ch. 1, fn. 12.

[56] Goodman, *Power*, 217. He also writes (p. 218) of a man named Aparicio de Zubia (*c.* 1550) who was accused of quackery by many academic physicians, but gained the endorsement of Charles V due to the success of his medicinal liquor; thus, Zubia's 'marvellous medicinal liquor' gained widespread usage through the turn of the 17th century. Moreover, two *morisco* practitioners found employment in the court of Philip II; however, these cases were exceptional, as the king preferred to employ those of old Christian heritage and *moriscos* were often suspected of "infiltrating the medical faculties of Castile, putting them in a position 'to kill more of this kingdom than the Turks and English'" (pp. 220-221). Salavert Fabiani, 245, notes that some humanists, such as Andrés Laguna, studied unorthodox forms of medicine. For more information on Laguna, see ch. 1, fn. 77.

[57] See ch. 1, fn. 35.

unorthodox methods, in his view, quackery? Or only those that did harm to their patients? Or were the terms *pseudomedicus* and *balatro* simply rhetorical tools to be used against the detractors of medicine? In his first mention of quackery, de Soto writes that "...if a sick man falls into the hands of such a man [i.e. a good doctor], good fortune will befall him, but bad fortune if he falls in to the hands of a quack or a baffoon..."[58] In this brief reference, de Soto seems to equate quackery (and bad luck) with harm to the patient, rather than unorthodoxy itself. Further in his comment, de Soto again discusses quacks in relation to luck, writing:

> So that matter will be enough, in my judgement, for those who have a healthy mind and sound judgement, so that besides, they are fearful to commit themselves to similar untaught fools and quacks, who wander through the world, since these men, in their ravings, are able to achieve nothing with good fortune.[59]

In this passage, de Soto evokes the idea of the itinerant purveyor of medicine, travelling throughout the kingdom hawking his bogus medicine. Still, these quacks are again lumped together with those (physicians) who are ignorant or foolish, suggesting ire for those who cause harm to their victims, rather than for the practices themselves.

3.5.5 Conclusion

This Hippocratic passage and its accompanying comment by de Soto provided the opportunity to explore understandings of the medical art more widely in both antiquity and the early modern era. Due to the Hippocratic author's assertion that all of medicine has indeed been discovered, this case study examined how, exactly, medical knowledge was gained by physicians in antiquity and by de Soto. Throughout the Hippocratic Corpus two paths to knowledge recur: knowledge gained through the senses and knowledge gained through intellect. A physician would first employ personal experience and observation to investigate the illness; he would, in turn, use his intellect to explain the internal causes that led to the visible signs or symptoms with which the patient is afflicted. These were used in concert to extrapolate a clearer picture of disease and therapy. This idea was reiterated by Galen, who stressed the necessity of both the senses and rationalisation of internal causes by those practicing the medical art. However, due to the authority afforded to the ancients by de Soto, his senses and his own reasoning could not be his only paths to knowledge; rather, de Soto employed the works of the ancients and through intensive study and contemplation, along

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[58] De Soto, 91: *...in cuius manus si inciderit aeger, bona fortuna illi continget, mala vero si in pseudomedici, & balatronis manus incidat...*

[59] De Soto, 91: *Quae res meo iudicio satis erit ijs, qui sanam mentem, & integrum iudicium habent, vt de caetero vereantur sese committere similibus balatronibus indoctis, & pseudomedicis per orbem vagantibus, cum nihil bona cum fortuna delirantes hi assequi possint.*

with the use of his senses and intellect, he was able to gain a better understanding of the medical art.

A further issue that arises with this Hippocratic passage and is addressed in de Soto's comments is the dichotomy between *techné* and *tuché*, or art and luck. This role of luck within in medicine was hotly debated both in antiquity and the early modern era. The passage in question provides two interpretations of luck's role in medicine: the first is a personified, unruly luck that cannot be controlled and should not be relied on for healing. In the second instance, luck is equated with success. This notion of luck was embraced by de Soto who equates the lucky physician with the successful physician, and the successful physician with the one who has great knowledge of the medical art. This relationship between *techné* and *tuché* is part of a wider defence of the medical art that was common in the medical writing of both antiquity and the early modern era. Exemplified by the authors of *The Art* and *Ancient Medicine*, three main attacks were volleyed against the medical art: the first argued that medicine was only dependent upon luck; the second, argued that because people sometimes recover without the aid of doctors, medicine is not truly an art; and the third, attacks physicians for opting not to minister to those they have deemed incurable. Although these debates had been taking place since the Hippocratic age, de Soto addresses them all within his comments on the passage, referencing Hippocratic treatises both implicitly and explicitly. This inclusion demonstrates a desire to engage with this ancient debate and the possibility that these objections were still occurring in early modern Spain.

Conclusion

Similar to the dichotomy between the universal macrocosm and the corporeal microcosm[1], Lázaro de Soto's commentary on the Hippocratic treatise *Places in Man* allows the reader a glimpse of wider medical history. De Soto's work provides insight into Castilian medicine at the end of the 16th century, an area of study that has been somewhat neglected in Anglophone literature. Moreover, de Soto himself has been the subject of limited scholarship, lacking any examination on the scale of this thesis. To more fully explore de Soto and his commentary, this thesis has employed a case study approach in order to gain a greater understanding of de Soto and his work, and thus a deeper understanding of humanist Galenism in early modern Spain.

Before embarking on the aforementioned case studies, an exploration of de Soto's biography and the accompanying historical background was necessary to better contextualise his commentary historically. In chapter one, a number of factors were appraised: de Soto's education and employment, medical humanism and commentary, and sources that de Soto utilised in constructing his comments, in particular. De Soto's education at the University of Valladolid informs his conventional Galenist reading of *Places in Man*, an influence that is prominent throughout the subsequent case studies. Moreover, his time at the University of Valladolid is likely to have piqued his initial interest in the pursuit of Hippocratic commentary, as evidenced by his thesis exploring *Aphorisms* 1.20 completed during his studies. De Soto's education culminated in a licentiate degree and his eventual employment in the court of Philip II, wherein he moved through the ranks of the court physicians, later being appointed a *médico de la casa de Borgoña* during the reign of Philip III. De Soto's employment at the court lent him access to a wide-range of possible resources, such as celebrated colleagues, various texts and powerful patrons, including the dedicatee of his work, Archduke Albert VII of Austria. De Soto was further influenced by wider intellectual trends, particularly that of humanism and the newly discovered and translated texts that accompanied the movement, and participated by constructing his commentaries and elucidating the ancient words of Hippocrates.

The paratextual case studies of which the second chapter consists provide the reader a doorway into de Soto's commentaries, lending the author the opportunity to provide the

[1] This is alluded to by de Soto in his first comment; see ch. 2, fn. 108. See also George Perrigo Conger, *Theories of Macrocosms and Microcosms in the History of Philosophy* (New York: Columbia University Press, 1922); Frédéric Le Blay, "Microcosm and Macrocosm: The dual direction of analogy in Hippocratic thought and the meteorological tradition" in van der Eijk, *Hippocrates in Context*, 251-269.

background information necessary to understand his commentary.[2] These paratexts include his dedication to the Archduke, his letter to the reader and the preface to his commentary on *Places in Man*. Within his dedication, the discussion of which makes of the bulk of the chapter, de Soto accomplishes several goals. First, as mentioned above, he is able to link himself to authority through his dedication of the work to Archduke Albert. In doing so, he includes many elements traditional in a humanist dediction, such as his praise for the dedicatee, particularly for his intellectual capabilities and piety, employing the rhetorical technique, *captatio benevolentiae.* Moreover, de Soto alludes to the famed ancient patron, Maecenas, who supported the poets Horace and Virgil. Beyond simply being a classical reference, de Soto's allusion to Maecenas may also denote a more familiar relationship between himself and the Archduke, as the term was not frequently used in more formal relationships. Additionally, de Soto uses his dedication to ally himself with the conventional Galenism through his implicit rejection of the works of the 'new science'; this is particularly evident in his rejection of the *De fabrica* of Andreas Vesalius. Positioning himself thus, de Soto asserts the primacy of the ancient authors and his belief that progress in the medical art is achieved through the restoration and study of their works. Thus, his commentary on the less frequently studied *Places in Man* is able to further the art by clarifying and expounding upon the words of Hippocrates.

Also included in chapter two is an examination of the letter to the reader. De Soto uses this paratext primarily as a source of advertisement and self-promotion, a use common to humanist works. Moreover, such a text raises the question of who, indeed, is the intended reader of the commentary? Although de Soto provides no explicit answer, due to the nature of the commentary it may be surmised that the reader of his work would likely be his colleagues or possibly medical students. The final important feature of this paratext is de Soto's stated use and preference for Janus Cornarius' translation of *Places in Man* due to its agreement with the work of Erotian. This is significant, as Erotian is the source that is temporally closest to Hippocrates and thus, in de Soto's understanding, can provide the best insight into the author's intended meaning and further aid in the humanist goal of *prisca medicina.* However, whilst de Soto considers Cornarius' translation to be the best Latin translation for *Places in Man*, as evidenced by the study of de Soto's sources in chapter one, Cornarius' works were not employed to the exclusion of others.

An examination of a final paratext, de Soto's preface to *Places in Man*, is also included in chapter two. The commentator employs this paratext as his 'statement of intent', writing that he aims to establish *Places in Man* as a genuine Hippocratic work, demonstrate

[2] The comparison utilised here was suggested by Genette, see ch. 2, fn. 1.

its proper order and prove to the reader the usefulness of the work.[3] De Soto accomplishes his first goal within the preface itself, using the authority of Galen, Caelius Aurelianus, Erotian and Rufus of Ephesus to substantiate his claim that *Places in Man* is, indeed, a genuine work of Hippocrates. However, de Soto does state that even if *Places in Man* is proven spurious, the opinions contained within it are true to the spirit of Hippocrates and thus would still be worthy of study and comment. De Soto's second aim is evident throughout the commentary with the order of the work being consistent with what is provided by Cornarius and presented *capite ad calcem.* The third aim set out by de Soto, the demonstration of the work's usefulness, is a recurring theme of de Soto's commentary. First mentioned in his paratexts, de Soto states a concern for the common good, or *utilitas publica*, and writes that he has chosen to comment upon texts that will aid in this goal. This is exemplified by his inclusion of commentaries on therapeutic, prophylactic and pharmaceutical treatises in the wider volume. Moreover, as was seen particularly in case studies three and four, this concern for the *utilitas publica* continues throughout the body of de Soto's commentary.

The five case studies that compose chapter three provide more clarity into de Soto's medical understanding on a variety of topics, specifically his emphasis of Galenic humouralism. These case studies were selected from the thematic blocks that have been suggested by Elizabeth Craik in her critical edition of *Places in Man* in order to address a wider range of topics and thus gain a wider understanding of de Soto's conceptions of the medical art. The first case study came from the anatomical thematic block and focused on a Hippocratic passage discussing the number, placement and use of the sutures of the skull. Although this topic seems relatively straightforward, this comment allowed de Soto the opportunity to engage with a topic that was the subject of much debate in both antiquity and the early modern era - particularly with regards to the proper number of sutures that should adorn the human skull. This is exemplified by his focus on the canonical placements of the sutures rather than on any anomolous constellations - the latter of which was the subject of much discussion by Vesalius in his *De fabrica.* The difference in these foci may be attributed to de Soto's reliance on textual authority in contrast to the Vesalian emphasis on personal observation. Further, this dichotomy mirrors the tension between the doctrines of the Reformation and its counter, as the former emphasised personal religious experience, whilst the latter relied on traditional authority. Lastly, case study one explored de Soto's teleological conception of anatomy, wherein all the parts of the body are designed to serve the purpose of humouralism. De Soto's emphasis on humoural physiology is key in understanding his

[3] These themes are common to many humanist medical texts of the Renaissance; see Martin, "Authentic Hippocrates", 18.

commentary on *Places in Man* - in emphasising the validity of Galenic humouralism, de Soto is able to reassert the contested Galenic authority.

Case study two, drawn from the physiological thematic block, continues this assertion of Galenic authority, moving from an exploration of the parts, which were designed to facilitate humouralism, to the fluxes themselves; movements of fluid, which by de Soto's definition, are noxious - and the primary factors of ill-health. The key to understanding de Soto's physiological comments in this case study resides in the synthesis of Hippocratic flux theory and Galenic humouralism. As the Hippocratic author describes a fairly limited flux system, based around seven descending fluxes, de Soto is able to superimpose the Galenic four-humour theory onto *Places in Man*, although the Hippocratic author would have been unlikely to understand the body in this way. This blended physiological theory serves a two-fold purpose for our commentator: in the first, de Soto was able to reconcile the physiological theory presented in *Places in Man* with the prevailing humouralism. Secondly, in combining these theories, de Soto is able to reassert Galenic authority, recently assaulted in anatomical studies, by entwining contemporary Galenic humouralism under Hippocratic sovereignty. Additionally, in a brief discussion of syphilis, termed *lues venerea* in his comments, de Soto addressed a contemporary concern, again, through Galenic authority. Although the disease is not explicitly mentioned by Galen, de Soto uses the text *On the Composition of Drugs According to Kind* to discuss treatment for the condition and was thus able to tie a contemporary disease to an ancient source. Moreover, by doing this, de Soto was also able to further the authority of academic medicine in a pluralistic environment.

A representative of the pathological and nosological thematic block of *Places in Man* is the subject of the third case study; a passage that discusses the particular disease of dry pleurisy. Whilst there is much to be gleaned from de Soto's understanding of this specific disease, his comments on this passage provide a wider view of his nosology, wherein disease is caused by a humoural imbalance or a noxious flux. Moreover, when his pathology of dry pleurisy is compared with his description of traditional pleurisy, an understanding of wider disease categories emerges, as pleurisy was understood as a sort of pathological umbrella that covers any ailment accompanied by coughing and lateral pain. Again, de Soto augments his assertions with ancient authority, relying particularly on the Hippocratic and Galenic Corpora.

Building on the previous thematic block, case study four explores how medical therapy and pharmacology fit into the physiological and nosological structure set forth by de Soto's comments. The particular passage in question examines melancholy and the cure of mandrake root, which was suggested by the Hippocratic author. In examining this comment, the reader sees that de Soto primarily relies on the therapeutic theory of contraries curing

contraries; thus, in the case of melancholy, mandrake root induces sleep, an action which moistens the over-dried brain of the melancholic patient. Whilst mandrake is unlikely to have been de Soto's first choice of therapy, this case study illustrates how he uses his commentary to reconcile ancient and contemporary medicine. Moreover, de Soto employs both religious and literary sources in this comment in addition to medical sources as a means of asserting the usefulness of the medical art to the other higher faculties.

In the final case study the focus shifts from the practical to the ideological, examining issues of epistemology and the question of whether medicine is indeed a *techné*. These issues had been debated since antiquity and de Soto continues the dialogue in this comment. By doing so, he is able to further emulate the ancient authorities and connect with this tradition. Moreover, de Soto emphasises the necessity of knowledge over luck in the ministration of medicine, thus furthering the authority of academicised medicine over the other forms available in the pluralistic Castilian society. This attempt to assert the primacy of academic medicine was further demonstrated by de Soto's scathing words for quacks and fools that end his comments on this passage.

By taking a more in-depth look at these sections of de Soto's work a clearer picture of the physician and his socio-medical environment is gained. The first major influence on de Soto was his education at the University of Valladolid, which equipped him with the humanist education, particularly in philology and medical literature, necessary to complete such a commentary. After that, de Soto is heavily influenced by his career at the court of Philip II, in which he is able to make connections and seek the support of powerful patrons. These elements come together in de Soto's implicit goal of demostrating his erudition as a means of furthering his career. Moreover, producing a work such as his volume of commentaries would have been understood to be one of the duties of a physician in the employ of the court.

However, the implicit goals of de Soto's commentary go beyond these pragmatic considerations. Throughout his comments, de Soto remains true to his Galenism, often using his comments to defend his conventional understandings. His comments frequently stand as a point of reaction against wider medical trends both locally on the Iberian Peninsula and more widely in Europe. Thus, an examination of de Soto's work allows the reader insight into Renaissance Galenism and how those who employed it navigated a world that was rapidly changing. Moreover, this thesis is situated within the larger trend of the analysis of individual Hippocratic commentaries.[4] As the Hippocratic Corpus itself is so varied, the Renaissance

[4] Other examples include Nancy Siraisi's examination of Girolamo Cardano in her monograph, *The Clock and the Mirror* (1997), Thomas Rütten's study of Peter Memm

commentaries produced in response to these works provide a uniquely diverse opportunity to explore the heterogeneous contexts and motivations of their commentators. Thus, this thesis may be employed as a point of comparison for further examinations of early modern Hippocratic commentary; and while much information still remains for exploration of Lázaro de Soto and his works, his commentary on *Places in Man* illuminates both the physician himself and wider Renaissance medicine, just as Girolamo Cardano predicted.

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entitled "Hippokrateskommentare im 16. Jahrhundert: Peter Memms Eidkommentar als Paradigma eines gegenwartsbezogenen Genres" (forthcoming in 2014) and Craig Martin's exploration of Renaissance commentaries on *De Alimento*: “The Authentic Hippocrates in the Renaissance: The case of *De Alimento*” (2004).

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