BECAUSE CONTRARIES ARE CURED BY CONTRARIES: GALENIC MEDICINE AND WOMEN'S RECIPES IN THE EARLY MODERN HISPANIC KINGDOMS

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ABSTRACT

This dissertation examines Spanish language manuscript cookbooks from the fifteenth through the mid-seventeenth centuries that combine advice on cooking, medicine, and cosmetics in order to show how academic theories about health were utilized by non-academically trained individuals for everyday use. Much of scholarship on the early modern Hispanic Kingdoms has been afflicted by the so-called "Black Legend of Spain," the idea that Spain was religiously backward, scientifically stunted, and culturally cruel and superstitious. This view was rooted in sixteenth-century accounts of the Spanish Empire and promoted by English and Dutch propaganda that pitted the Catholic fanaticism of the Spanish against the virtuous colonization efforts of the English and the Dutch. This had the effect of casting the Spanish Empire and its predecessors, the Hispanic Kingdoms of Castile and Aragon, as being outside the scientific mainstream of the rest of Europe. Other than English and Dutch propaganda that cast their empires as scientifically progressive and religiously tolerant, much of the "Black Legend" resulted from the dysfunctional nature of empires in general and the waning power of Spain in the eighteenth century.

This dissertation focuses on illustrating the ways in which the late medieval and early modern Hispanic Kingdoms and the Empire were thoroughly involved in the development of science in Western Europe by arguing that the role of women in healthcare and women's health concerns were an important facet of the growth of medical science in the period. I begin by examining the basic treatises of humoral theory by Galen, Avicenna and Dioscorides, and by tracing their development and influence through the formal academic systems of the middle to late Middle Ages. Toledo was an important translation site for Arabic medical texts into Latin. I then illustrate how important texts on women's health utilized recipes to promote humoral theories of health through food, medicine and cosmetic advice. I then continue to show how Spanish recipe books continued to copy and develop these recipes. Finally, I illustrate how early modern medical explorers' interest in women's health led them to the Americas to utilize empirical knowledge to find remedies among native plants.

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TABLE OF CONTENTS

Page

INTRODUCTION	1
Historiography	5
CHAPTER	
I. INTRODUCTION TO MEDIEVAL AND EARLY MODERN MEDICAL THEORY: PHARMACOPEIA AND MEDICAL KNOWLEDGE IN THE EUROPEAN TRADITION	0
Basics of Humoral Theory	7
Primary Sources of Medical Knowledge4	5
Medieval Medical Schools: Salerno, Montpellier, Bologna, Paris	4
Medieval Medicine in the Hispanic Kingdoms: Arabic, Hebrew and Christian Practitioners	1
Conclusion	4
II. RECIPES AND THE PROLIFERATION OF MEDICAL KNOWLEDGE: WOMEN AND THE HISPANIC KINGDOMS CONTRIBUTIONS TO HUMORAL MEDICINE BEFORE 1500	6
Medieval Documents: Regimens vs. Cookbooks vs. Women's Manuals9	0
Regimens of Health9	3
Women's Manuals10	0
Cookbooks before 150012	9
Conclusion	9

III. RECIPES, WOMEN, AND MEDICINE IN THE HOME: RECIPE MANUSCRIPTS OF THE EARLY MODERN HISPANIC KINGDOMS
The Primary Sources151
The Recipes159
Culinary159
Medicines178
Cosmetics and Cleaners185
Conclusion
IV. IMPERIAL SCIENCE IN IBERIAN HOMES: NEW WORLD PRODUCTS AND WOMEN'S HEALTH 1550-1650
Description of Sources
Scholarly Assessments of Empiricism in the New World and the Spanish Empire207
Chocolate and Tobacco
Native Medicinal Products215
Childbirth and the <i>Mal de Madres</i> 215
Bubas and Syphilis228
Native American Foods
Conclusion
CONCLUSION
BIBLIOGRAPHY256
Primary Sources
Secondary Sources

INTRODUCTION

This dissertation will address the question of how gendered ideas about health affected the medical treatment of women in the kingdoms of Castile and Aragon and contributed to medical knowledge in the late Middle Ages' and Renaissance in Europe. I primarily examine texts that combine food, medicine, cosmetics, and health chiefly to illustrate how women in the Hispanic kingdoms from various classes factored into the changes in scientific knowledge and practice in the early modern period. While there are many English language studies of French, German, Italian and English texts on health, a deeper investigation of the numerous Iberian produced texts that combine these three topics will be an important step in contextualizing Iberian medicine, cosmetics, and food within the broader late medieval and Renaissance changes in medical practice, women's perceived roles in Iberian society, and the transition from medieval ideas about food and health to later Renaissance and early modern ideas. This project seeks to remedy still prevailing ideas about Iberia, summarized as the Black Legend of Spain, that place the Catholic kingdoms of Iberia outside of the mainstream of European scientific development.¹ I will argue that scholars in the Hispanic kingdoms participated in the

¹ Beyond the Black Legend: Spain and the Scientific Revolution. Editors, Víctor Navarro Brotóns, William Eamon. (Valencia: Publicaciones de la Universitat de Valencia, 2007).

emerging Renaissance through their contributions to intellectual and scientific culture, specifically tied to ideas of wellness in women's manuals on cooking, cosmetics, and medicine. I will argue that the types of recipes collected in these texts are evidence of women's participation in the creation and use of practical medical knowledge in these three domains and constituted an important facet of the growth of science and medicine in the period of 1250-1650. The documents that I examine have enabled me to investigate how women utilized the ingredients available to them to treat their families in accordance with then current medical advice. My dissertation focuses specifically on women's utilization of European pharmacopeia in the Hispanic kingdoms and cataloging the use of *materia medica* and other ingredients in directing the maintenance of their households. I also illustrate the construction of gender and social identity in the late medieval and early modern Hispanic kingdoms through cookbooks, medieval Regimens of Health, and early modern manuscripts that are directed at women.

This dissertation project consists of articulating two main arguments: first, despite the professionalization of physicians through universities, and the rejection of women from those universities, caring for women's health was still a primary concern, and male physicians were only one part of a larger medical marketplace that included female practitioners at various levels of skill. Married women still provided the first stop in healthcare as part of their duties to their household, whether they were rich or poor, and many of the myriad healthcare jobs outside of the home were still done by women, without requiring or having access to university training. Secondly, that the ongoing reevaluation of the sources of medical philosophy, (Galen, Dioscorides, the medieval regimens of health) during the early modern period was part of a consistent process of reevaluation that had been occurring since at least the late Middle Ages, and the Hispanic kingdoms were involved in this process for the entire period. While these arguments have been made by other scholars for other parts of northern and western Europe, this dissertation examines the role of literature that pertains to women's health and women's participation in formulating and providing that care in the Hispanic kingdoms and, later, the Spanish Empire.²

Chapter one of this dissertation focuses on humoral theory, and summarizes the basic texts that I used to compare to the recipe books in the next three chapters. It also illuminates the holistic nature of humoral medical theory and its connections to ideas about gender and health. I use several texts by Galen, Dioscorides of Anazarbos, Avicenna, and the Salernitan School to argue that the fundamental ideas about health in these theoretical texts were disseminated beyond academia through texts that combine food, cosmetics, and medicine. This chapter also describes the intellectual environment of medieval medical schools and the cosmopolitan nature of medical instruction and writing in the late Middle Ages.

Chapter two investigates the history of women's manuals and the contribution of the Hispanic kingdoms to the transmission of humoral theory to the rest of Europe in the Middle Ages and up to the end of the fifteenth century. I argue that the Hispanic Kingdoms were at the forefront of new medical knowledge entering Europe, due to the

² See Ken Albala, *Food in Early Modern Europe* (Westport: Greenwood Press, 2003), Alisha Rankin. *Panaceia's Daughters: Noblewomen as Healers in Early Modern Germany.* (Chicago: The University of Chicago Press, 2013), David Gentilcore, *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800.* (London: Bloomsbury Academic, 2016).

cultural connections between Iberian Christians, Jews, and Muslims. I examine women's health manuals and argue that the recipes collected in them had a deep influence on the manuscripts that I examine in chapter three. The advice in these more academic manuals bridges the gap between academic medical theory and the household manuals that I examine in the next chapter.

Chapter three then examines the fifteenth century, focusing on manuscript collections of recipes of a cosmetic, medicinal, and culinary character. I argue that these manuals are representative of a literature of household recipe collections made by women. Comparing them to texts on humoral theory, and the medical and culinary collections from the earlier period that I examine in chapter two, I argue that they are evidence of the widespread participation of women in both utilizing and innovating within the confines of humoral medical theory.

The fourth and final chapter then looks at the late sixteenth and early seventeenth centuries and the effects of the Columbian Exchange. I argue that the exchange did not greatly affect the writing and development of recipes in women's manuals of the sixteenth and early seventeenth centuries, despite there being widespread knowledge of useful New World medicinal plants and foods in the accounts of male explorers and doctors.

The major contribution of this dissertation is more fully investigating these sources from the perspective that they are documents written by or for women, and how these documents then illustrate the use of then current knowledge about medicine and health in a commonplace context. Many of these documents, especially the ones in

4

chapter three, have no attribution of authorship, but I argue that their interest in women's health helped advance medical science in the period. Reading these documents as either written by women, or focused on a female-gendered audience enables us to look at the recipes as useful, everyday, working documents that illustrate how these types of recipes informed the gendered expectations of women at the time. They also enable us to see how ideas about health and medicine were disseminated into the wider culture outside of the traditionally male dominated universities. They represent a personal literature that illustrates the holistic outlook of the dominant humoral medical system of the period 1350-1650 in Iberia.

Historiography

A great deal of scholarly writing has been done on medicine, food, cosmetics and science and the development of the Scientific Revolution in Europe over at least the last forty years. I will summarize this here in order to place my project in the context of this scholarship.

Nancy Siraisi illustrates the complex ways in which Renaissance medical scholars acquired and utilized scientific knowledge, particularly their utilization of historical sources. In *History, Medicine, and the Traditions of Renaissance Learning,* she argues that there were many influences on the thinking of individual scholars and that all of these different influences need to be taken into account by historians of the period.³ These influences were deeply contextual and idiosyncratic, both to the individual scholars

³ Nancy Siraisi, *History, Medicine, and the Traditions of Renaissance Learning*. (Ann Arbor: University of Michigan Press, 2007)

and to the time and place that those scholars inhabited. She argues that previous historians have oversimplified the nature of Renaissance learning as either continuing with scholastic (or Medieval) philosophy, or switching to a humanistic (the unique contribution of the Renaissance) philosophy. Siraisi argues against this sharp break with the past, arguing that it was not so simple for medical scholars and physicians. Siraisi argues that medical careers were not strictly job training or medically focused; teaching during the sixteenth and seventeenth centuries was primarily based on texts, and individuals with medical training could and did move into other adjacent careers frequently. The studia humanitatis was more interested in the study of history than previous teaching. Siraisi illustrates the ways in which Renaissance physicians contributed to reinterpretations of traditional medical knowledge derived from Galen and Hippocrates, as well as the discovery of new methods by critiquing their ancient sources. Her discussion of European scholar's relationship to their foundational scientific texts and the evolving nature of science in this time period informs the basic theme and methodology of this dissertation.

Alisha Rankin and Alix Cooper have both worked on medical, cosmetic, and culinary literature in Germany in the early modern period. While much of the previous literature on the subject has focused on the encounter between Europeans and the outside world, or the Columbian Exchange, Rankin, Cooper, and a growing number of scholars have begun to look at how Europeans reimagined their own indigenous products, botanical and otherwise, in a process of re-evaluating the advice and knowledge of ancient scholars. Like Nancy Siraisi, they argue that European's reaction to the discovery

of the Americas and the increasingly direct integration of Europeans into global trade and the products that brought to Europe was the impetus for a reassessment of European authorities like Aristotle and Galen that had been taken for granted for over a thousand years. Rankin focusses her attention on German noblewomen and their reputation as herbalists in the sixteenth century, arguing that noblewomen were an important facet of the medical marketplace that spurred an impetus toward empirical medicine. They could use their reputations as elites to promote ideas about medicine that would have been dismissed by academics had they come from lower ranked women.⁴ Cooper examines the conceptualization of local knowledge centered on early modern Germany, in the context of ever-expanding knowledge of the world outside of Europe. This includes studies of local flora and fauna, minerals, and the natural riches of "indigenous" Europe, a conscious turning inward after the discovery of the Americas and their very different and new flora and fauna.⁵ Both Rankin and Cooper focus on Germany and its participation in the sixteenth century turn toward empirical knowledge, and this dissertation seeks to take a similar approach to science and empiricism in the Hispanic Kingdoms.

Scholars like Monica Green have re-evaluated the medieval literature on health and wellness, asserting the importance of women's health and of women as health providers in medieval society. Green, like Rankin, Cooper, and others illustrates through her study of the *Trotula* the long-standing participation of women in healthcare

⁴ Alisha Rankin, *Panaceas Daughters: Noblewomen as Healers in Early Modern Germany*. (Chicago: University of Chicago Press 2013), pg. 19.

⁵ Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (Cambridge: Cambridge University Press 2007), pgs. 10-15.

throughout the medieval and into the early modern period in Europe.⁶ Susan Broomhall similarly argues that in early modern France, women dealt with almost all of the healthcare issues of not only their immediate families, but also were an integral part of healthcare workforce of the medieval and early modern worlds.⁷ Women as active members of the healthcare profession, but not university trained, are a potential source of practical knowledge uncoupled from dogmatic humoral theory that still needs to be explored more thoroughly. Both Green and Broomhall's work are able to illustrate the participation of women in the medical marketplace in Europe outside of the Hispanic kingdoms, and this dissertation seeks to expand that perspective into the Iberian peninsula.

Paula De Vos focuses more specifically on the Iberian empires from the seventeenth century onward, and this project focuses on the centuries leading up to her work. This dissertation builds off her work in cataloguing the simple medicines used in Dioscorides and other medical texts and applying that knowledge to women's recipe manuals.⁸ I especially want to extend her assertion that Iberian science and the collection of botanical specimens was one of the major purposes of the Spanish Empire's efforts in

⁶ Monica Green, *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology* (Oxford: Oxford University Press 2008), and Monica Green, ed. *The Trotula: An English Translation of the Medieval Compendium of Women's Medicine*. (Philadelphia: University of Pennsylvania Press 2002)

⁷ Susan Broomhall, *Women's Medical Work in Early Modern France* (Manchester: Manchester University Press 2004)

⁸ See Paula De Vos, "European Materia Medica in Historical Texts: Longevity of a Tradition and Implications for Future Use." Journal of Ethnopharmacology. (2010 October 28) 132(1): 28–47. doi:10.1016/j.jep.2010.05.035. and De Vos, "The Science of Spices: Empiricism and Economic Botany in the Early Spanish Empire" Journal of World History, Vol. 17, No. 4 (2006). 399-427.

the Americas and Asia.⁹ This project adds to the existing literature about the use of local ingredients and the expansion of medical knowledge beyond references to Dioscorides, Galen and Hippocrates filtered through Arabic texts. While Alix Cooper, De Vos, and others look at state efforts to make use of local ingredients, my dissertation focuses more on the use of ingredients by non-state actors.

William Eamon has argued that early modern Books of Secrets containing recipes for all sorts of useful products were part of a literature that stretched back into the twelfth century. He argues that there was a change in how secrets were perceived that occurred by the seventeenth century. Before then, secreta referred to two different kinds of phenomena, both of which were characterized by their unpredictability: things produced by occult or unknown reasons, and those produced by artificial rather than natural causes.¹⁰ Scientia or science was tasked with revealing regular, certain, and reproducible natural phenomena. Scientia worked on logic, while understanding secreta required a deeper knowledge, the kind often hoarded by guilds and individuals, but which was miraculous or unexplainable through natural laws. When printing allowed the greater dissemination of knowledge, books of secrets became more readily available to a vulgar public, and thus *secreta* lost their mystique. A shift in meaning occurred where the type of knowledge covered by the term *secreta* was exposed to public scrutiny, and began to be evaluated according to universal, natural laws. This dissertation builds off of Eamon's work by showing that in the Hispanic kingdoms, much of the literature on cosmetics,

⁹ Paula De Vos, "The Science of Spices: Empiricism and Economic Botany in the Early Modern Spanish Empire" *Journal of World History*, Vol. 17, No. 4 (2006): 399.

¹⁰ William Eamon, "Books of Secrets in Medieval and Early Modern Science." *Sudhoffs Archiv* 69, no. 1 (1985): 31. http://www.jstor.org/stable/20776953.

medicine and food witnessed a similar explosion of interest that exposed the public of the Hispanic kingdoms to new ideas about the manufacture of these types of products. This literature is important to this dissertation project as evidence of a continuing process of experimentation that questioned ancient, dogmatic knowledge.

A useful volume of essays that has proven helpful in preparing the ideas behind this dissertation project is Women Healers and Physicians: Climbing a Long Hill, edited by Lillian R. Furst. Debra L Stoudt, in her essay "Medieval German Women and the Power of Healing" examines the role of medieval women in the application of the healing arts in medieval German society. She writes that "scholars have assumed that medieval women healers served exclusively as midwives, an assumption not borne out by contemporary accounts...it is apparent that women were involved in all aspects of the healing arts"¹¹ She divides her essay into two parts: the first is an overview of German laywomen's medical activity in the thirteenth century; the second part focuses on the role of religious women in the healing arts, highlighting the evolving relationship between religion, magic, and medicine.¹² Her study is relevant to mine in that she also seeks to add to a growing literature that illustrates the ubiquitous role that women played in healthcare in Germany in the period. While Stoudt and others focus on Germany, their methodology and basic theory can be applied to the Hispanic kingdoms as well. Her focus on religious women's role in healthcare, along with concerns about witchcraft are

¹¹ Debra L. Stoudt, "Medieval German Women and the Power of Healing" in *Women Healers and Physicians: Climbing a Long Hill*. Edited by Lillian R. Furst. (Lexington: The University Press of Kentucky, 1997), 13.
¹² Ibid.

also relevant to the social environment of the Hispanic kingdoms that I also study in this dissertation.

In another relevant essay from this volume, Nancy P. Nenno, in "Between Magic and Medicine: Medieval Images of the Woman Healer" examines the figure of the woman healer in two medieval courtly epics from the early thirteenth century: Hartmann von Aue's *Erec* and Gottfried von Strassburg's *Tristan*. Nenno writes that "Both participate in a larger discussion about the status of the woman who practices healing prior to the inquisitions of the fourteenth and fifteenth centuries."¹³ She seeks to answer the question of why women healers were demonized. Like I do in this dissertation, she makes a contrast between academic medicine of the privileged class based on Greek and Arabic texts, and the practical knowledge of herbs that was the purview of women healers, and available to the poor and unimportant. She argues that the demonization of women healers was because herbal healers were seen as a threat to the hegemonization of medicine by academic male practitioners. She cites a complex combination of anxieties; superstition, religion, and women's independence from male authority that are revealed by her analysis of these texts.¹⁴

Michael Solomon in "Women Healers and the Power to Disease in Late Medieval Spain" asserts that "In early Middle Ages, learned practitioners operated in relative harmony, or at least in harmonious indifference, alongside and in a conjunction with empirics, quasi-professional practitioners, and folk healers. Many of these subaltern healers were women who were well-known for their abilities to set bones, remove

¹³ Nancy P. Nenno. "Between Magic and Medicine: Medieval Images of the Woman Healer" in *Women Healers and Physicians*, 45.

¹⁴ Ibid. 46-47.

bladder stones, cure eye diseases, relieve the pains of gout, and treat all kinds of gynecological and obstetric disorders. The major European courts often employed these women healers, allowing them to participate in virtually all aspects of medicine."¹⁵ He makes the point in this article that women were involved in all aspects of health care at all levels of society. But he also refers to these healers as "subaltern" making use of the term first coined by G.C. Spivak to refer to people in the historical record that do not actually write history themselves. In this article, he tries to make these medical subalterns "speak" by looking at the writings of intellectuals writing about them, an "against the grain" approach. He examines the writings of Jaume Roig and Fernando de Rojas, two educated Iberian scholars who wrote treatises denouncing unlicensed women practitioners of medicine in the fifteenth century. Like the previous authors that I have discussed from this volume, he offers an answer to the question of why women healers were derided as charlatans by the academic physicians of their time. Solomon writes:

I contend that the ultimate goal of medical legislation and its subsequent marginalization of women healers in the later Middle Ages was less an attempt to protect the public from incompetent practitioners than an effort to control the tremendous social power of medicine. In the later Middle Ages, the licensed practitioner began to define himself in contrast to a body of women practitioners whose goals and techniques were shown to resist those of authorized healers. If medical authorities could not clearly and consistently demonstrate that their methods or their learning were effective, they could at least fortify their claims of legitimacy by casting a shadow on the activities of subalterns."¹⁶

While Solomon examines the writings of these two elites, he does not examine the religious aspects of the situation, but instead focuses entirely on gender. Solomon focuses

¹⁵ Michael Solomon. "Women Healers and the Power to Disease in Late Medieval Spain" in *Women Healers and Physicians*, 79

¹⁶ Ibid., 81.

on a confrontation between the sexes over the social power of medicine and the removal of that social power from the hands of lower class women into the hands of upper-class elite men. Similarly to Solomon, Nenno and Stoudt, this dissertation seeks to enable the subaltern to speak by examining seldom studied manuscripts on health, cosmetics and food that make assumptions about what Iberian women might make, or have made in their efforts to fulfil the role of healer in Iberian society.

Healing in the Middle ages and Renaissance was not only done through herbs, diet, and bloodletting, of course. Kristy Wilson Bowers in *Renaissance Surgeons: Learning and Expertise in the Age of Print* writes that "surgery has often been overlooked as a medical field for the 16th and 17th centuries. Unlike earlier centuries, for which medical scholars have long provided rich and layered analysis, much remains unknown about the contours of surgical education and practice in the early modern era."¹⁷ She focuses her book on a group of elite and highly educated *cirujanos latinos:*

"The core set of learned surgeons who are at the heart of this study were nine men, innovators whose use of experience and observation led to improve various surgical methods and to develop new surgical instruments. They expanded the surgeon's expertise not only in education and training, but also in what conditions fell under the purview of surgery... these surgeons were all university educated and then chose to practice surgery, a profession that at the time they started their careers, did not require university training. Most of them went on to achieve high positions at court or universities. They offered their treatises as active surgeons who generally sought to expand and elevate treatment, knowledge, and perhaps to elevate the reputation of surgeons."¹⁸

Bowers focuses the book on elite male practitioners who she uses to disprove various

aspects of the Black Legend of Spain. Many historians had argued that Spain was

¹⁷ Kristy Wilson Bowers. *Renaissance Surgeons: Learning and Expertise in the Age of Print.* (New York: Routledge, 2023), 1.

¹⁸ Ibid., 8

backwards and provided no new innovations in disciplines like surgery or medicine, which were considered the kind of things that were innovated in Italy, France, Germany, or England rather than in Spain. By focusing on the writings and innovations of each of these nine surgeons, she counters the Black Legend by showing that learned physicians in this time period in Spain were actively involved in the expansion of medical knowledge in the same fields as the rest of Europe. Her book does not discuss women practitioners, however, which is an important aspect of the Hispanic Kingdom's participation in the renaissance and scientific revolution that she leaves out of her narrative. What it does provide is further evidence that the Hispanic kingdoms were on a par with other European kingdoms in their development of surgical techniques, and that they did this while also engaging with the higher level theoretical medicine that was the purview of elites across Europe.

Olivia Remie Constable in *To Live Like A Moor*, illustrates the social problem of identity in sixteenth century Spain for the Moriscos, or Muslim converts to Christianity who remained in the Hispanic Kingdoms after the expulsion of the Moors at the end of the fifteenth and beginning of the sixteenth century. Important indicators of Muslim identity in sixteenth century Morisco practice were at first discouraged and later outlawed and persecuted, but Constable argues that even during the period before the sixteenth century, laws in the Hispanic kingdoms had frequently attempted to segregate Muslims and Jews from Christians, and that the laws and expulsions after the conquest of Granada in 1492 only continued this trend to its logical end.¹⁹ She points out specific outward

¹⁹ Olivia Remie Constable, *To Live Like a Moor: Christian Perceptions of Muslim Identity in Medieval and Early Modern Spain.* Edited by Robin Vose. (Philadelphia: University of Pennsylvania Press, 2018), 10.

signs of identity as being specifically targeted, which she breaks down into 3 categories; clothing and appearance, bathing and hygiene, and food and foodways. The last category is most useful for my project, and Constable describes the pervasive problems that laws against Muslim foodways represented for the subject of her work, a Morisco named Francisco Núñez Muley. She writes that "many foods and foodways that had been seen as unremarkable and acceptable (and in some cases delicious and luxurious) in the 13th century, were perceived as disgusting, unchristian and unacceptable three centuries later."²⁰ Food was clearly a deep indicator of religious and social identity, and women of the period were the main producers, processors and creators of food inside their homes. Constable does not discuss women specifically beyond the issue of veiling, however.

Thomas Glick in *From Muslim Fortress to Christian Castle: Social and Cultural Change in Medieval Spain* writes about the transition to feudalism in the Hispanic kingdoms, offering a critique of the historical establishment of his time, the midnineteen-nineties. Using archeological data, he critiques both the Nationalist historians and the Arabist historians that dominated the historiography of the subject, attempting to write a social history of the transition of Spain from the period of the early Middle Ages to the late Middle Ages.²¹ Like David Vassberg, who focuses on Golden Age Castile, and Allyson Poska, who focuses on eighteenth century Spain, Glick's work is important to this dissertation project by providing a further understanding of the complex demographic and social character of the Hispanic kingdoms, and how many different

²⁰ Ibid. 104.

²¹ Thomas Glick, *From Muslim Fortress to Christian Castle: Social and Cultural Change in Medieval Spain.* (Manchester: Manchester University Press, 1995)

social factors affected the settlement patterns and use of technologies over the course of the mid-to-late Middle Ages in Spain.

Allyson Poska, in Gendered Crossings: Women and Migration in the Spanish *Empire*, critiques the narrative of colonization being a primarily male endeavor, being led by single, male adventurers looking for fortune and glory in the New World. She describes the Patagonia project of the late eighteenth century, arguing that the leaders of that venture envisioned it as a settler-colonial project that required the participation of families, necessarily involving the input of women and their childbearing potential. She also critiques the idea of the "honor code" in Iberian society, arguing that this concept had little efficacy outside of the upper classes, and that even then was a rigid, idealized concept that few actually submitted to.²² She goes on to describe how the social and economic conditions of the regions of Galicia, Asturias, and northern Castile affected the ability of the leaders of the project to attract the type of migrants they hoped for the settler-colony. Specifically, the ability of women to inherit land and the prevalence of households led by women with absent husbands made it difficult for the project to draw families to the project, particularly young families with few or no children. Part of the problem also involved the leaders attitudes about demographic differences in the region, namely that it was perceived to be overpopulated in contrast to regions further south like Castile and Andalusia. One of the stated goals of the project was to help lessen these population pressures. But in this particular case, as Poska shows, women's relative economic freedom led to them not being particularly interested in migrating, forcing the

²² Allyson Poska. *Gendered Crossings: Women and Migration in the Spanish Empire*. (Albuquerque: University of New Mexico Press), 2016, 2.

leaders of the Patagonia project to expand their search beyond those regions to more southern parts of Spain. This led to myriad other problems, where single women and men signed up for the project, and the organizers encouraged many of them to marry each other because the leaders of the expedition were attempting to (gently) impose their idealized set of social mores on these peasant migrants. What Poska illustrates with this book is the complex interaction of gendered relationship ideals and Imperial policies; in her words: "women's ability to turn men into fathers and individuals into families made them the lynchpin of the imperial project."²³ Poska also references women as the transmitters of culture, morality, and of idealized femininity, referencing Ann Laura Stoler's Foucauldian argument that women are integral to imperial projects because they reproduce not just children but also forms of power.²⁴

In "Women and Gender: Structures and Roles (1400-1820)" from the volume of essays *The Iberian World 1450-1820*, Allyson Poska and Kirsten Schultz argue in a similar fashion to Poska's *Gendered Crossings* that while the predominant cultural paradigm dictated that women needed to be controlled by restricting their freedoms, nevertheless in Iberian society in general women were prescribed active roles, and what they call "extensive female autonomy"²⁵ They argue that many of the cultural ideals of chastity and submission to men were not generally a part of the actual lived experience of

²⁴ Ibid., 7. I paraphrase both Poska and Stoler here, but Stoler's *Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule.* (Berkeley: University of California Press, 2002) is another important work about the role of women in reproducing imperial power structures and hierarchies that, while being about colonial Indonesia and not Renaissance Spain, still has important conceptual content that I feel is relevant to this dissertation project.

²³ Ibid., 6.

²⁵ Allyson M. Poska and Kirsten Schultz. "Women and Gender: Structures and Roles (1400-1820)" in *The Iberian World 1450-1820*. Edited by Fernando Bouza, Pedro Cardim, and Antonio Feros. (New York: Routledge, 2020), 166.

women in the period, and were essentially the rhetoric of particular thinkers like Juan Luis Vives. Clerical authors, cultural commentators and playwrights may have asserted these values, but they were ideals that were only one part of a wider discourse on women and did not wholly reflect reality. The majority of the essay then is about the complicated and uneven application of those ideals onto women of the period and the reality of their lived experiences. One example is the practice of partible inheritance and dowries for women that ensured some measure of financial independence for Iberian women in the period. Women were allowed to sue men who reneged on marriage proposals and they were allowed to control their own wealth and property. Royal and aristocratic women were able to influence politics, in rare cases directly as the leaders of their households, or, famously, like Isabel of Castile, as a queen in her own right. Even if they were not directly involved in politics, the authors argue that they had a duty to their household to defend the power and privileges of their noble families. They were expected to administer lands with equal authority when their husbands were away. Lower class women and slaves had legal rights that they were able to defend in courts. Illegitimate children both in Europe and the New World colonies were required to be provided for by fathers, and there were few negative consequences of illicit sexual activity. The authors emphasize throughout the essay that all of the institutions of Iberian civilization in the period expected women to play an active role in society, despite the negative cultural discourse. The essay acts as a critique of that discourse and the dominant role it has played in prior scholarly understanding of Latin Societies. It even acts as critique of important ideas

associated with the "Black Legend" of Iberian backwardness about their treatment of women.

In another essay from the same volume, "Religious Conversion and Identities in the Iberian Peninsula" by James S. Amelang and Mercedes Garcia-Arenal, the authors examine the ability of people during the period to change their positions in the social hierarchy of Spain. They examine how a person's station at birth affects their options in society versus the avenues open to them to improve their position. They argue that Iberian societies were not that different than the rest of Europe in the ideas that they held about individual identity, one's identity was as determined by circumstance of birth as well as religious or ethnic categories, and these could be resisted or asserted as freely in Spain or Portugal as anywhere else.²⁶ However they identify three ways in which early modern Iberians diverged from the rest of Europe in the conceptualization of their individual identities: a pluralist identity of local factors that goes against the assumptions of unity by outsiders (there are many Spains, for example, not one), a metropolitan sense of identity from the acquisition of overseas empire, and a continuing religious heterogeneity that went against the assumption (and image projected by the crown and church) of strict Catholic orthodoxy in Spain and Portugal and their Empires. This essay specifically mentions and seeks to critique the idea of the Black Legend, while acknowledging its importance in affecting the ways Iberians saw themselves and how outsiders perceived them. They contrast the perception of outsiders of Spain and Portugal's treatment of religious minorities as brutal subjugation and expulsion with the

²⁶ James S. Amelang and Mercedes Garcia-Arenal, "Religious Conversion and Identities in the Iberian Peninsula" in *The Iberian World 1450-1820*, 246.

many political opportunities that conversos and other 'new Christians' were able to take advantage of before the rise of 'blood purity' laws that excluded many from public office and certain professions.

From the perspective of food as a part of imperialist policy, Sidney Mintz's Sweetness and Power examines the history of sugar consumption in Great Britain between 1650 and 1900. While Mintz was an anthropologist, Sweetness and Power is a text that aims at a fusion of anthropology and history, and is still frequently referenced by historians. He argues that it is sugar, more than anything else, that is the most important commodity that connects the Caribbean to the then emerging world market. He mentions early on the difficulty of reconciling the perspectives of the metropole and the periphery, and how looking at systems of control and dependence from the perspective of either makes the other seem less clear. He also criticizes anthropologists and historians who in the past have attempted to divorce the study of their "primitive" subjects from the influences of Europeans and modernity, instead arguing that the study of a food item like sugar is a step in the direction of an "anthropology of modern life."²⁷ The main question that Mintz sets out to answer is how sugar became such an important commodity for the West, given that sweetness, even though recognizable by any normal human being, is not a taste that is uniformly desirable to everyone. It is also not a taste that is confined to sugar itself, yet it came to be produced in massive quantities during the early modern period in the colonial Caribbean to be consumed almost exclusively in the metropole. The book functions as both an exploration and a critique of world-system theory, and the then

²⁷ Sidney Mintz, *Sweetness and Power: The Place of Sugar in Modern History*. (New York: Penguin Books, 1986), xxviii.

current theories of the development of global capitalism. It also represents an attempt at a fusion of anthropology with social and cultural history, where Mintz argues that "Social phenomena are by their nature historical... the relationships among events in one "moment" can never be abstracted from their past and future setting."²⁸ Mintz is critiquing structuralist approaches to anthropology, arguing that an appeal to human beings' innate qualities is not enough to explain the creation of a new commodity and the demand for it from nothing. He argues that the demand for refined sugar as a commodity arose within a particular historical context that evolved over the early modern period. Mintz argues that the consumption and production of sugar, the demand and the supply, grew in relationship to each other, inextricably linked to the colonial project. While refined sugar had been known and consumed as early as 1100 CE in England, it remained a rare and elite product until well into the eighteenth century, when it became an everyday necessity across social strata.

Sweetness and Power is an influential text, and has had many historians commenting on and critiquing it since its publication. David Wheat has critiqued its assumption that the colonial project, especially in the early Iberian colonies, was necessarily centered on sugar production from the beginning, arguing that the early Iberian colonies were more interested in the resettling of land left vacant by the destruction of native populations and the expansion of more traditional subsistence agriculture and resource extraction.²⁹ Molly Warsh has looked at the early Iberian colonial project from the perspective of wealth extraction through the harvesting of

²⁸ Ibid., xxx.

²⁹ David Wheat, *Atlantic Africa and the Spanish Caribbean*, *1570-1640*. (Chapel Hill: University of North Carolina Press, 2016).

pearls.³⁰ Jane T. Merritt has examined the English and colonial American consumption of tea, and owes part of her argument about the creation of the market for tea in the Thirteen Colonies to a critique of Mintz's argument in *Sweetness and Power*.³¹ Many other studies have followed in the footsteps of Mintz by looking at the effects of the production of various commodities that worked along with sugar to help explain the rapid rise in the popularity of sugar and other commodities like coffee, tea, and chocolate.

Numerous authors have examined the ways in which food production was at the core of social organization and its relationship to power over the past forty years. In *Land and Society in Golden Age Castile,* David Vassberg focuses on a bottom-up approach to illustrating the ways in which farming provided the vast wealth that fueled the Habsburg empire. His book is a work of social history, whose sources are used to illuminate the world of the rural peasant in contrast to previous authors that focused on diplomatic and military history. These sources include documents like censuses, notarial records, and the court transcripts of lawsuits. Vassberg laments the lack of more direct sources which have kept prior historians from examining rural life in the period, as many rural people were illiterate, and those that were literate were not interested in chronicling the day-to-day life of peasants.

One of the main arguments of this book is that customs of ownership were complicated and were not uniform across the Kingdom of Castile. Vassberg purposely leaves out Asturias and Galicia from his study, arguing that their systems of land

³⁰ Molly Warsh, *American Baroque: Pearls and the Nature of Empire 1492-1700.* (Chapel Hill: University of North Carolina Press, 2018).

³¹ Jane T. Merrit. The Trouble with Tea: The Politics of Consumption in the Eighteenth-Century Global Economy (Baltimore: Johns Hopkins University Press, 2017).

ownership were so different from the rest of Castile that they should be treated as separate. He argues that given that, the customs across Castile varied widely as well. The book is roughly divided into two halves, with the first three chapters dealing with the communitarian traditions that governed publicly owned lands. Chapters Four through Six then deal with privately owned lands. The first three chapters could be summed up by stating that the mixing of public and private ownership was highly complex.³² The chapters examine how specific lands were utilized. Through examining the various customs surrounding the use of these lands however, Vassberg reveals a complex system of land management that blurs the lines between public and private ownership. Particularly in chapter two, when Vassberg treats on the customs surrounding municipal property, it becomes clear that peasants and townsmen had a much larger role in the apportionment and use of land than historians had previously allowed. Chapter three then illustrates the precarious nature of the many, often conflicting, rights claimed by the numerous individuals and organizations (like the Mesta) that used communal land in addition to privately owned land. Chapter four specifically looks at privileged owners, the nobility, and the types of taxation that they were subject to, while chapter five looks at peasant landowners. Chapter six then examines the changes that occurred in methods of production and customs of ownership over the course of the late sixteenth century. A seventh chapter ends the book by looking at how all that wealth was distributed, arguing that the vast majority was siphoned away by the upper classes.

³² David Vassberg, *Land and Society in Golden Age Castile* (Cambridge: Cambridge University Press, 1984), 56.

In looking at the conflicting rights and privileges of various classes of people in Castilian society, Vassberg's argument follows in the footsteps of studies like Elizabeth A.R. Brown's *Tyranny of a Construct: Feudalism and Historians of Medieval Europe*, which in 1974 critiqued the oversimplification of medieval relationships of land, service and power by medievalists. Brown's article looked at the problem from the top down, and would eventually be followed up by Susan Reynolds' *Fiefs and Vassals*, a book-length critique of the idea of feudalism as a system. Reynolds pointed out the complexities of the many customs of land ownership, service and class distinction across western Europe, but did not examine the Spanish kingdoms. Vassberg fits between these two works as a bottom-up approach to the problem of depicting medieval and early modern societies as much more complex than previous studies of diplomatic and military history allowed.

Another volume of essays that provided useful background to this dissertation is *A Companion to the Spanish Renaissance*. In her introduction to this volume of essays, "A Renaissance for the Spanish Renaissance?" Hilaire Kallendorf does not attempt to define the Renaissance as any one, reified concept or period in time. She, in fact, embraces the idea that the term can mean many things to many different people in many different contexts. Kallendorf states that this volume of essays was assembled to illustrate those many multiple meanings and perspectives. Many of the historiographical essays in this volume follow the development of different conceptualizations of Spanish identity and the ways in which Spain did or did not participate in the "Renaissance." Kallendorf's introductory essay offers a sweeping survey of the historiographic debate over what to even call the period of the Spanish Renaissance given that some historians have characterized Spain as not having participated in it at all. She deftly illustrates the various contending definitions, while arguing in post-modernist fashion that the issue at hand is determined as much by each individual historian's choice of sources as by the content of the sources themselves. She thus argues for a more relativistic, perspectival and multi-valent definition of "renaissances" and Spain's uneasy relationship with the rest of Europe.³³

In "Ethnic Groups in Renaissance Spain" Mayte Green-Mercado's essay on the different ethnic cultures of Spain the early modern period, illustrates an ethnographic critique of the idea of one Spain and the one religious culture imposed on it after the fall of Granada. She illuminates the complexity of Spain's religious and ethnic identity by examining the ways in which the Spanish characterized identity and belonging through religious affiliation and descent from different religious groups of pre-modern Spain rather than biological "race." She attacks the use of the term "race" as anachronistic, preferring the use of the word ethnicity while arguing that this too is an imperfect label for the Spanish's ideas about identity in the period. She looks specifically at *moriscos* and *conversos* as New Christians who were constantly held under suspicion of secretly following their ancestors' religion. She then contrasts their treatment with the Romani people, Africans and *indios* that were describes more in terms of their geographic origins and physical characteristics rather than their lineage. Green-Mercado illustrates the lack of a single ethnic identity for early modern Spain.³⁴

³³ Hilaire Kallendorf. "A Renaissance for the Spanish Renaissance?" in A Companion to the Spanish Renaissance. Edited by Hilaire Kallendorf. (Boston: Brill, 2019), 1-27.
 ³⁴ Mayte Green-Mercado, "Ethnic Groups in Renaissance Spain" in A Companion to the Spanish

³⁴ Mayte Green-Mercado, "Ethnic Groups in Renaissance Spain" in A Companion to the Spanish Renaissance, 121-140.

Elizabeth Lehfeldt's essay, "Daily Life and the Family in Renaissance Spain" then examines the role that social standing, religion, gender, and geography had in shaping the everyday lives of Spaniards in the period. She eschews the use of the word class as too static and laden with modern post-Marxist connotations to be useful in illustrating the complexity of early modern Spanish society. She argues that the daily lives of individual Spaniards did not fall easily into generalizations. For example: she argues that women, while not generally having the same social status as men, had much more control over their lives depending on their social status and the customs of the community they were born into. Customs varied over the geography of Spain, and women in rural regions had much more freedom of movement than their urban counterparts. Lehfeldt argues for a more nuanced view of Spanish society than has previously been argued for.³⁵

Cristian Berco's essay examines inquisitorial accounts of disease and injury in order to illustrate the ways in which the conceptualization of disease affected punishment of heretics and criminals. He argues that through disease historians can explore multiple different aspects of the early modern experience. He examines the multiple perspectives on disease from victims of the inquisition to their accusers and captors. He argues that status and wealth had implications on the characterization and especially the social function of diseases. He argues that disease could be a tool to petition for clemency and ineligibility of a person to be subjected to torture or other punishment. Berco thus illustrates different ways in which disease was perceived and how that perception

³⁵ Elizabeth A. Lehfeldt. "Daily Life and the Family in Renaissance Spain" in *A Companion to the Spanish Renaissance*, 143-157.

changed as the inquisition took on more medical responsibility and subsequently its victims sought to escape its punishments.³⁶

Finally, Michael J. Levin examines the "Black Legend" of Spain and how the perception of Spain and its colonial enterprise has changed over time. The Black Legend itself was the invention of a Spanish journalist, Julian Juderias who argued that a vast foreign conspiracy had falsely painted the Spanish as religiously and scientifically backward fanatics. Levin examines this claim and describes the historiographic reception of Juderias' argument. He argues that while the Black Legend remains a hotly contested topic to this day, it nevertheless has its roots in long standing perceptions of Spain and its participation in the Renaissance. Beginning in the sixteenth century, foreigners both Catholic and Protestant had argued that Spain was different, sometimes in positive ways, other times in negative ways. He further argues that the Black Legend has been used recently to both condemn and to praise Spain as an exotic place, different from the rest of Europe. The truth about Spain is somewhere more in the middle, not evil and 'other' compared to the rest of Europe, but in many ways not directly comparable to other European nations as well.³⁷

I include further and more precise historiographic context in each of the next chapters, but the previous authors represent a general context in which I seek to position this project. The previous historiographical essay is thus in no way exhaustive, and there are numerous scholars that I have drawn from to help me understand this subject. You

³⁶ Cristian Berco, "Fashioning Disease: Narrative and the Sick Body in the Spanish Inquisition" in *A Companion to the Spanish Renaissance*, 205-232.

³⁷ Michael J. Levin, "Historiography and European Perceptions of Spain" in A Companion to the Spanish Renaissance, 531-548.

will find those not overtly mentioned here or in the following chapters in the bibliography at the end of this dissertation.

The main goal of this project fulfilling is to broaden knowledge of the Hispanic kingdoms participation in the Renaissance and Scientific Revolution's turn toward empiricism and the participation of women in the practical application of pharmacological knowledge, much like the scholars mentioned here, who essentially accomplish similar goals to expand knowledge of the Hispanic kingdoms participation in the Renaissance within their own respective spheres. The niche that I hope to position this project into is one in which the concept of gender in medical treatment is seen as integrated as a major component part of the entire program of medical knowledge in the period of 1250-1650 in Europe. This project seeks to look at women's health concerns and the type of healing that they were expected to administer as an essential part of the whole of healthcare and its relationship to society and power. Where previous scholars have not much regarded the importance of food, medicine, and cosmetics together as part of the holistic system of healthcare, as modern people generally see these as separate practices that may or may not contribute to health, I argue that people of this period did see them as essentially connected practices that involved the same ingredients, production processes, and medical philosophy that contributed to the health of the individual. And that each of these three types of "medicine" were considered the task of women to produce and administer points to the importance of women in Iberian society in maintaining the strength and health of their families, and thus their societies. In other words, understanding women's health, and their role in administering healthcare, is

integral to understanding how these societies functioned. Our understanding of the Hispanic kingdoms' role in producing and transmitting healthcare knowledge and contributing to the wider European Renaissance would be incomplete without understanding the contributions of women in healthcare.
CHAPTER I

INTRODUCTION TO MEDIEVAL AND EARLY MODERN MEDICAL THEORY: PHARMACOPEIA AND MEDICAL KNOWLEDGE IN THE EUROPEAN TRADITION

This chapter lays the groundwork for my investigation into how gendered ideas about health affected the medical treatment of women in the kingdoms of Castile and Aragon and contributed to medieval and Renaissance science by illustrating the basics of humoral theory and pharmacology. The purpose of the chapter is to provide an introduction to the topic of humoral theory in late Middle Ages and early modern Europe and how it relates to the later texts on women's health and beauty that derive their theory and ingredients from Ancient Greek and Roman sources. I use in this chapter chiefly Galen's *On the Properties of Foodstuffs*³⁸, the medieval *Regimina sanitatis salernitanum*³⁹, and Dioscorides' *De medica materia*⁴⁰. I also use Avicenna's *Canon of Medicine*⁴¹ and Galen's *On the Natural Faculties*⁴² to help further illustrate the theory

³⁸ Galen. *Galen: On the Properties of Foodstuffs*. (Cambridge: Cambridge University Press, 2003)

³⁹ Regimina Sanitatis Salernitanum: Code of Health of the School of Salernum. Translated and edited by John Ordronaux. (Philadelphia: J.B. Lippincott & Co., 1871)

⁴⁰ Dioscorides, *De materia medica*. Translated and Edited by TA Osbaldeston and RPA Wood. (Johannesburg: IBIDIS Press, 2000)

⁴¹ Avicenna, *The Canon of Medicine, Part One*. Edited by O. Cameron Gruner. (London: Luzac and Co., 1930)

behind humoral medicine and its connection to the food, medicine and cosmetics that appear in the cookbooks and women's manuals that I examine in later chapters of this project. I also seek to connect the ancient theories about the humors and their relationship to health with medieval medical schools by including a discussion of the development of medieval medical schools in the latter part of the chapter.

This chapter focuses on the aforementioned pre-modern texts, charts the various ingredients cited in them, and illustrates their supposed humoral effects on the body. I analyzed these texts and created charts that enabled me to reference the effects of the various ingredients they cite as therapeutic. This has allowed me to easily reference and cross-reference ingredients and their effects against the later texts that I examine throughout my project. It also provided me a detailed understanding of the pre-modern system of medicine that linked food, medicine, and cosmetics to overall health in a holistic system that includes the environment and mental state of the individual as well as drugs and diet.

This chapter is thus an introduction to the medical theories that I will use to analyze Spanish documents beginning in the remaining chapters of this dissertation. The primary documents in this chapter are all ancient and early medieval in origin and formed the basis for many of the medical and culinary documents that would proliferate throughout the Islamic world, and eventually into the European world through the work of translators in Iberia over the course of the later Middle Ages, specifically the so-called Toledo School of Translators. They are themselves documents that changed over time for

⁴² Galen. On the Natural Faculties. Translator, Arthur John Brock. (New York: G.P. Putnam's Sons, 1916) https://www.gutenberg.org/files/43383/43383-h/43383-h.htm

various reasons, chiefly that they were copied and handed down, sometimes piecemeal and reassembled, and translated from their originals into Latin, Arabic, and later vernacular European languages. This process of copying and recopying comes with alterations in meaning and questions of reference that are inevitable with pre-modern documents. Especially with the modern version of *De medica materia* that I use in this chapter, there are often questions of what specific plant Dioscorides is referring to, as his descriptions do not neatly correspond to modern taxonomical categories. While I do not go into the particular historical changes in these three documents, as that has been adeptly done elsewhere, it is important in the scope of this dissertation to recognize that I have no illusions about working with the definitive document of humoral theory, whatever that might be. I simply intend to use these documents as a reasonably thorough base from which to analyze the application of humoral theory in the cookbooks and recipe collections that I examine in later chapters. I frequently note where the author's mention (or in some cases fail to mention) women to connect the theories of health that the authors describe to women's health concerns in the later primary documents that I examine. I chose these specific documents on the humors because they are authored by the major thinkers that medieval and early modern medical scholars and practitioners looked to for guidance, and because they also specifically discuss humoral theory in relation to food, medicine, and cosmetics. Dioscorides focuses on herbs, resins, spices, aromatic substances, and some of the compound medicines that could be made from them. His book is mainly useful for the study of medicine and cosmetics. Galen expounds on theory in On the Natural Faculties, but his On the Properties of Foodstuffs focuses

specifically on foods and their effects on health. The *Regimina sanitatis salernitanum* is a poem that condensed medical knowledge down into easily remembered rhymes and was in common use throughout the early modern period into the nineteenth century. Avicenna's *Canon of Medicine* focuses mostly on theory and was one of the most important medical texts in medieval and early modern Europe.

In order to properly examine the history of humoral theory and its relationship with food, medicine, and cosmetics, it is necessary to approach the subject from the longue durée, like Paula De Vos does in her book *Compound Remedies: Galenic Pharmacy from the Ancient Mediterranean to New Spain.* From the starting point of investigating the contents of an eighteenth-century Mexican pharmacy, De Vos focuses on what she calls "Galenic pharmacy," the combination of Galenic humoral principles and pharmacology, that she says is "little understood" by modern historians of medicine.⁴³ She writes that "A study of what the pharmacy contained, and why, reveals the layers of that tradition and how it developed over time, reflecting a global history of the transmission of materials, knowledge, and techniques over centuries. That the first millennium of this development was largely centered in the Near and Middle East demonstrates the intertwined history and multiple bases of the Western scientific and medical tradition, and the false dichotomy often made between "orient" and "occident" in the establishment of that tradition."⁴⁴

De Vos argues that Galenic pharmacy constituted a recognizable and coherent tradition with a relatively consistent set of materials, ideas and techniques from the time

⁴³ Paula De Vos, *Compound Remedies: Galenic Pharmacy from the Ancient Mediterranean to New Spain.* (Pittsburgh: University of Pittsburgh Press, 2021), pg. 6.

⁴⁴ De Vos, *Compound Remedies*, pg. 4-5.

of Galen. However, it was also a dynamic tradition that first moved throughout the Mediterranean through a series of highly important translation enterprises, first from the Greek, then to the Arabic, then to the Latin tradition of late medieval and early modern Europe. Then later in the 16th century, Galenic pharmacy was brought to Mexico under the Spanish Empire. Finally, in the 17th century it merged with alchemical pharmacy, which then became modern chemical pharmacy. The purpose of De Vos's book is to trace the origins and development of the main components of the Galenic pharmacological tradition over time, leading to the particular collection of materials found in the Herrera pharmacy and the ideas and practices associated with them. Each chapter then identifies one aspect of this tradition and identifies key steps that took place through a series of stages over time to account for the materials and practices found in this Mexico City pharmacy. The study of these key steps over centuries is meant to reveal the significance of pharmacy to the Western scientific and medical traditions.⁴⁵

De Vos identifies six stages in the development of Galenic pharmacy. The first began with ancient Greek teachings, starting with the Hippocratic corpus, Dioscorides *De medica materia*, and the works of Galen, and the spread of those ideas across the Roman Empire. In the second stage of development of Galenic pharmacy, Galen's work was redacted and collected by Byzantine scholars like Paul of Aegina and translated by Arabic authors during the Abbasid Caliphate in Baghdad. Dioscorides was translated as well. The Arab scholars not only translated important pharmacological texts, they also added new "simples" from Asia and invented a new genre of pharmaceutical writing, the formulary, also known as a *grabadin* in Latin. Arab writers added greatly to the corpus of

⁴⁵ De Vos, pg. 7.

writing about pharmacology and developed theories about the workings of simple and compound medicines that Galen had left unanswered. Avicenna is perhaps the most important of these thinkers in that his *Canons of Medicine* was the most influential on European thought. The third stage of the development of Galenic pharmacology that De Vos identifies is the stage in which Galen, Dioscorides and the Arabic innovators were then disseminated through the translation centers of Salerno in Italy and Toledo in Spain, into the medieval universities at Montpellier, Paris and Bologna. The fourth stage is characterized by the Galenic pharmacological innovation from Mexico through the Spanish conquest, which brought in numerous new simples. The fifth stage was the cooptation of alchemical pharmacy in the late seventeenth century, termed the "chemico-Galenic compromise." De Vos argues that this lasted into the early nineteenth century when chemistry as we know it and chemical medicine replaced humoral explanations of disease and the action of medicines on it.

Throughout each of these phases, De Vos stresses that the medical tradition was stable yet responsive to new insights. Each phase brought new ideas and innovations into the Galenic pharmacological tradition. She argues that this constant movement across cultural and geographic boundaries illustrates the contributions and influences of nonwestern scholars. Her approach seeks to shatter the dichotomy of metropolis versus periphery, eastern versus western and elite versus common. She insists that the study of Galenic pharmacology from a Mexican perspective reveals more about the history of science in general than how Eurocentric science changed to suit a colonial environment. Looking at the longue durée of Galenic pharmacology thus places its contributions to early modern and modern science into a perspective that shows how the development of science was multifaceted and decidedly non-Eurocentric.

I agree with De Vos's argument that the compartmentalization of the history of science has led to a consistent bias against early modern medicine, particularly the place of humoral theory and Galenic medicine in the development of modern medicine. By studying the subject across the longue durée, and from a perspective outside the traditionally accepted European centers of scientific innovation, we can understand the actual ways in which modern science, and in this specific instance, drugs and medicine, developed from multiple sources and influences. De Vos argues how the Herrera pharmacy, with all its Afro-Eurasian ingredients, Arabic and alchemical instruments and Greco-Roman theoretical underpinnings could exist in the environment of a Spanish cosmopolitan city as one of many different options for medical treatment.

While I wholeheartedly agree with De Vos on the need to look at Galenism as an evolving series of practices over a long period of time, De Vos does little to utilize the category of gender in her assessment of Galenic pharmacy. This is where my project aims to add some important insight into the practice of medicine in the Iberian world in the period that I cover. Like De Vos, this project also seeks to look at medicine in the Iberian world over a broad period of time, but this project more specifically focuses on the period straddling the beginnings of the encounter of Europeans with the Americas and their entrance into the wider world of trade and cultural exchange after 1492. This chapter focuses on the formulation of the Galenic theory of medicine but includes texts by other authors that utilize that theory from Antiquity into the Middle Ages. Where appropriate I

note where Galen et al. mention women and women's health, but the primary focus of this chapter is to provide a broad explanation of Galenic medical ideas and the ways in which those ideas were spread through medical training, primarily in universities and through translators.

Basics of Humoral Theory

Humoral theory in the ancient world starts with the work of Hippocrates, the famous Greek physician, but it reached its fullest expression in the work of Galen. Galen of Pergamon was a Greek physician and philosopher of the second century CE. Born in 129 CE, he was a Roman citizen who directly treated the emperors Commodus and Septimius Severus and witnessed the recurring Antonine Plague. While he did not invent humoral medicine, he became an enthusiastic promoter of the theory, coupling its philosophical ideas with practical experience. Galen performed dissections on animals and treated gladiators in order to gain deeper insight into the internal functioning of the body. While many of his ideas about the internal workings of the body have since been debunked, Galen, unlike his contemporaries, advocated the use of empirical study and reason to ascertain the causes and effects of diseases. He was both a philosopher and a surgeon; rather than speculating and appealing to divination and prayer to diagnose and treat disease, he argued for using both experience and theory to determine the underlying causes of disease.⁴⁶

⁴⁶ Luis Garcia-Ballester. "Galen as Clinician: His Methods in Diagnosis" in *Galen and Galenism: Theory and Practice from antiquity to the European Renaissance.* Eds. Jon Arrizabalaga, Montserrat Cabré, Lluís Cifuentes, Fernando Salmón (Hampshire: Ashgate Publishing) 2002, pg. 1645.

He argues this at the beginning of On the Properties of Foodstuffs when he mentions the competing philosophies of Dogmatists and Empiricists, the former arguing that medical practice must be based on the understanding of hidden causes passed down from Hippocrates, and the latter arguing that all medical practice had its basis in observation.⁴⁷ The first essentially privileged knowledge from theory or reasoning while the second privileged individually observed knowledge. The problem that Galen purports to solve is that of how the same treatment can have differing effects on different individuals. Dogmatists would argue that the physician's understanding of hidden causes of the internal workings of the body, or lack thereof, determined the effectiveness or ineffectiveness of a treatment. An Empiricist would credit a physician's ability to understand the external effects of the disease and to treat that, based on their observations of the individual patient's symptoms and the effects of treatments. For a Dogmatist, the causes of disease were the key to its treatment; to an Empiricist, whatever cures the disease is what matters. Galen's innovation was to combine these two philosophies in his medical practice.⁴⁸

From the time of Hippocrates in the fifth century BCE until the late nineteenth century, European medical theory insisted on the existence of four "humors" that regulated the health of the individual. The regulation of the balance of the humors was the basis of medical practice, as "derangement" or imbalance of the humors was understood as the root cause of disease. The humors of the body were affected by numerous factors, organized by Galen's followers into three categories: natural

⁴⁷ Galen. *Galen: On the Properties of Foodstuffs*. Owen Powell, Translator. (Cambridge: Cambridge University Press) 2003, 29-30.

⁴⁸ Ibid.

substances (those already part of the body, and associated with the four Empedoclean elements), the six non-naturals (outside influences on the body, specifically the air, food and drink, sleep and waking, strong emotions, motion and rest, repletion, and evacuation), and the anti-naturals, which were illnesses and their causes and effects. According to this system, each person has an individual humoral nature, an inborn imbalance that they had to "amend" in order to maintain health, and this inborn imbalance was discernable by an individual's personality. The four humors themselves were blood, yellow bile, black bile, and phlegm, (also called sanguine, choler, melancholy, and phlegm, respectively) and each was associated with four qualities, hot, cold, wet, and dry. Each humor was a combination of these opposing qualities, blood was hot and wet, choler was hot and dry, melancholy dry and cold, and phlegm was cold and wet. As each of these natural substances had qualities, so did all of the non-naturals; everything that could affect the body affected it through the interaction of these qualities. Galenic physicians attributed at least one of these four qualities and frequently more to all food and drink, tying these qualities to the effects of that food or drink, and all diseases were the result of an overabundance of some particular quality in the body, leading to an excess of that particular humor and a consequent need to purge that excess to heal the disease caused by that excess.⁴⁹

⁴⁹ David Gentilcore, Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800. (London: Bloomsbury Academic) 2016, 14-15 is a good summary of these basic ideas. Also see Ken Albala, Eating right in the Renaissance, pgs. 5-6, and Paula De Vos Compound Remedies: Galenic Pharmacy from the Ancient Mediterranean to New Spain. (Pittsburgh: University of Pittsburgh Press, 2021), pg. 6: "Galenic pharmacy was named after, and largely founded upon the teachings of Galen, a physician from Pergamon in the Roman Empire, whose medical system came to dominate Western medicine for almost two millennia. Galenic medicine taught that the human body was composed of four humors, which were themselves a product of a combination of four fundamental elements -earth, air, fire and water- that made-up all terrestrial matter. Each of these elements in what is called the four element

One of the reasons phlebotomy, or bloodletting was so popular in this theory of medicine is because blood was believed to contain all of the four humors to some degree, and so excesses of any of them could be relieved through removing some of the blood. It was not used in all cases, however. Other means of purging excesses were also employed, like laxatives and emetics. Generally, the first thing a physician would try to do was to administer food or drugs to counteract the excess, then employ purgative methods in cases of acute distress. Of course, many diseases could not be alleviated by purgative treatment, and physicians held no illusions that administering drugs and bloodletting alone would solve all medical problems. Broken bones were treated much the same way as they are today, kidney, bladder and gall stones sometimes required surgical intervention, physical injuries like lacerations would need to be sewn up, etc. In the Middle Ages, university trained physicians generally ceded this type of work to bonesetters and surgeons, who were not university trained, but physicians oversaw their work and treated infections that might arise afterwards.⁵⁰

theory was in turn associated with a combination of qualities -hot, cold, wet or dry- that were imbued within all earthly matter (depending on its elemental composition), including the humors. The particular combination of elements and qualities within matter was called its "mixture", later translated as "complexion" or "temperament." In a healthy body, the humors and the elemental or primary qualities that made up this complexion were in balance, referred to as *krasis*; illness resulted when one or more of the humors, as manifested in their qualities, grew out of balance, a state of *dyskrasis*. Galen argued that drugs, like all other matter, had their own complexions and the application of a drug of opposite qualities to the diseased body will restore balance and thus health. Those drugs were said to cure by altering the body's complexion, other drugs called purgative, secured by purging the overabundant humor. In this way, Galenic pharmacy was tied to fundamental issues in natural philosophy concerning the composition and nature of matter and its behavior, and thus was central to some of the most important philosophical debates of the ancient, medieval, and early modern periods."

⁵⁰ Alisha Rankin. Panaceia's Daughters: Noblewomen as Healers in Early Modern Germany. (Chicago: The University of Chicago Press) 2013, 5-6, and Susan Broomhall, Women's Medical Work in Early Modern France. (Manchester: Manchester University Press) 2004, pgs. 18-39.

Galen and his followers' theories became the predominant medical paradigm in the Middle Ages and well into the early modern period, but their ideas were eventually challenged. During the sixteenth century, owing to the climate of change spurred on by the discovery of the Americas, the religious upheaval of the Reformation, and the growing availability of printed material, some scholars began questioning every aspect of their inherited medical knowledge. While this did not at the time completely erase Galenism, in fact in many ways it became stronger and more popular, it did change it and the practice of medicine in many important ways.⁵¹

The main radical thinker that is usually associated with challenging Galenic medical orthodoxy in the sixteenth century was Paracelsus. Historians generally mention Paracelsus when discussing medicine in the sixteenth and seventeenth centuries in order to contrast his theory with Galenic theory, and to presage the changes to medical science that come later in the seventeenth and eighteenth centuries. Bruce Moran has described Paracelsus's medical theory thus: "rather than defining disease as a general imbalance of humors, it described each illness as a distinct entity related to a specific part of the body. Each illness, in other words, had a specific cause and required a specific remedy, and those remedies could be made from any of the parts of nature – animal, vegetable, or mineral. Most importantly this new medicine required knowing how the body worked not just on the basis of anatomy, but on another foundation entirely -- namely chemistry."⁵² Paracelsus proposed three basic substances that composed all things; sulfur, salt, and mercury. Rather than four humors that could be identified with four qualities, it was these

⁵¹ Ken Albala, *Eating Right in the Renaissance*. (Berkeley: University of California Press, 2002), pgs. 284-294.

⁵² Bruce T. Moran *Paracelsus: An Alchemical Life.* (London: Reaktion Books) 2019, pg. 35.

tria prima, or "first three" that composed all matter, and the body acted as an alchemist in converting these three substances into a healthy body.⁵³ The body was composed of these substances through a chemical process, and the cure for diseases was the application of chemical cures rather than the purging of excessive humors. While humoral medicine relied on treating opposites with opposites, (hot against cold, dry against wet), Paracelsus advocated the application of like with like, in his case devising chemical cures that utilized small doses of the substance that he determined was the cause of disease.⁵⁴ His theory thus envisioned disease in terms of poisoning by specific substances, rather than a bodily imbalance of abstract humors, and his insistence on medical knowledge coming from practice rather than theory was both revolutionary and a product of his time.

Theophrastus von Hohenheim's, or Paracelsus's, as he later called himself, life falls squarely in the middle of the period that I examine. He was born in 1493 in a small village in what is now Switzerland, to a father who was a chemist, and a mother who was a nurse at a nearby abbey hospital. After his mother died his father moved to Carinthia in what is now the Austrian Alps, and he received medical training at the University of Basel and got his medical doctorate from the University of Ferrara in 1515.⁵⁵ His rustic upbringing influenced his later practice of medicine; he eschewed the learned academic physicians and their emphasis on memorizing and applying the knowledge of the ancient authorities like Galen and Avicenna, emphasizing that true knowledge came from experience.

⁵³ Charles Webster, *Paracelsus: Medicine, Magic and Mission at the End of Time* (New Haven: Yale University Press) 2008, 132-142.

⁵⁴ Webster, pg. 149.

⁵⁵ Moran, pgs. 11-13.

The practice of medicine was undergoing a change in Renaissance Europe toward empirical investigation, particularly in the study of anatomy.⁵⁶ Paracelsus, however, took this to a much greater extreme than most of his contemporaries, attacking humoral theory, and proposing a completely different system of understanding health and its relation to nature. Paracelsus' main claim to fame in his time was the revival from near death of the printer Johannes Frobenius, the famous friend and publisher of Erasmus, in Basel, Switzerland.⁵⁷ Paracelsus taught at Basel for a short time, leaving in early 1528, but his time there was marked by unconventional teaching methods and confrontational stunts directed by him against the academic establishment.⁵⁸ Paracelsus wandered widely in the German-speaking world, though many of the stories of his travels are considered by scholars to be later embellishments.⁵⁹ He attempted for most of his life to get his treatises on medicine and theology published, but much of his work would remain unpublished until after his death in 1541. Paracelsus became much more famous after his death, and in scholarly circles in England and Germany, in the late sixteenth and early seventeenth centuries.⁶⁰ Much of his ideas about nature, religion and health were purposely inflammatory and anti-establishment, but we should not see him as a paragon of empiricism and materialism in the modern senses of those terms. Paracelsus was

⁵⁶ Moran, pgs. 24-28, Kristy Wilson Bowers, *Renaissance Surgeons: Learning and Expertise in the Age of Print.* (New York: Routledge, 2023), pgs. 76-77. Nancy Siraisi, *History, Medicine, and the Traditions of Renaissance Learning.* (Ann Arbor: University of Michigan Press, 2007), pg. 262, and David Gentilcore *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800.* (London: Bloomsbury Academic, 2016) pgs. 4-5.

⁵⁷ Moran, pg. 29.

⁵⁸ Paracelsus taught in German, rather than Latin, and invited non-academic medical practitioners like bonesetters and apothecaries to demonstrate for his students. He also publicly burnt copies of academic texts, like an edition of Avicenna's Canon of Medicine. This type of behavior soured his reputation with the other physicians in the city and he moved on to Nuremburg soon after. Moran, pgs. 12-13, 34. ⁵⁹ Ibid., pg. 29.

⁶⁰ Ibid., pg. 168.

deeply religious, and his medical theory was heavily steeped in spirituality, particularly influenced by the Renaissance Neoplatonism of Marsilio Ficino and Pico della Mirandola. He was an astrologer and a hermeticist, believing that the purpose of the physician was to heal by revealing the secrets of nature as revealed by God. He believed that human beings and the heavens were linked by shared substance, the aforementioned *tria prima,* and that the body mirrored the heavens in its form as well.⁶¹

I mention Paracelsus in this dissertation because he is often held up by historians of science as an example of a trend of changes in medical orthodoxy away from humoral theory and was a contemporary of the writers of the documents that I investigate in Chapters Two and Three. But the fact remains that it is difficult to connect Paracelsus or his influence to any of these documents. Paracelsus never travelled to Iberia, and I cannot find any evidence in the primary sources that I have analyzed or in the historiography to suggest that his ideas influenced Iberian medical theory. Moran argues that Paracelsus seems to have benefited from a boost in popularity that occurred well after his death, and his unconventional religious ideas and anti-establishment attitudes lionized him among audiences of scholars in circles opposed to Spanish and Catholic ideologies.⁶² While not himself a professed Protestant, his later supporters mostly were, and his memory among them is portrayed as a precursor to Protestant-led empirical science.⁶³ While his ideas may very well have influenced the Scientific Revolution, like many renaissance scholars,

⁶¹ Webster, Paracelsus: Medicine, Magic and Mission at the End of Time, pg., 143

⁶² Moran.,

⁶³ Moran, pgs. 166-191.

we cannot easily separate his practical ideas from his theological ideas.⁶⁴ For these reasons I will mention Paracelsus sparingly throughout the rest of this dissertation, and my main focus will remain on humoral theory.

Primary Sources of Medical Knowledge

The *Regimina sanitatis salernitanum*, Dioscorides' *De medica materia*, Galen's *On the Properties of Foodstuffs* and *On the Natural Faculties*, and Avicenna's *Canon of Medicine* are the five texts that this dissertation will use as its baseline theory of Galenic medicine. All five represent the theory available in the types of texts that would have been available throughout the Middle Ages and early modern periods to university trained physicians, but also available to anyone who could read as printed editions in Latin, and eventually vernacular languages, starting in the late 1400's. Examining these books shows us what types of recipes and ingredients were thought to be useful by the authors of these texts when they were written. In terms of humoral theory, all three generally take for granted that the reader is well versed in the terminology of the humors and their qualities. Part of the work of making charts that allowed me to reference the qualities of each of these ingredients has involved deciphering what the authors meant by describing ingredients with words like costive, diuretic, glutinous, etc. These types of

⁶⁴ "For a while, at the end of the sixteenth century and well into the century following, his status was that of a medical prophet, a Renaissance figure who inspired new practices in medicine and aroused the interests of mystical theologians. The practical side of his medical ideas in particular – understanding the body chemically and fashioning chemical medicines to cure chemical diseases – served to create a new group of so-called 'chemical physicians,' called iatrochemists." Ibid., 168. See also, Allen G. Debus. *The English Paracelsians*. (New York: Moffa Press, 1966), pgs. 41-42, and Mary Lindemann, *Medicine and Society in Early Modern Europe*. (Cambridge: Cambridge University Press, 2010), pgs. 84-120, David Gentilcore *Food and Health in Early Modern Europe: Diet, Medicine and Society, 1450-1800*. (London: Bloomsbury Academic, 2016), pgs. 30-32.

terms are more frequently used in these five texts than the more straightforward cool, warm, dry, and wet that are often used to describe the humors proper. This is partly due to the humoral system of medicine being holistic in its outlook; everything is affected by everything else, and opposites negate opposites. This added greatly to the complexity of the humoral system; not only did the system follow a theory, but the theory is also tied directly to empirical effects, e.g., dry things are actually drying to the body, wet things add moisture, etc. Certain ingredients have different effects on the body when cooked with certain other ingredients, or cooked with a particular method, meaning that most single ingredients do not retain their original qualities. No ingredient is always drying or warming, etc. Its qualities can be altered or mitigated by the cooking process and the ingredients that are used to balance the extremes of the final product to be consumed. There are examples where an ingredient that has certain particular effects on the body can be changed to have the opposite effect if treated properly. The use of terms like costive, diuretic, glutinous, etc. are meant to convey more complex information than the four qualities, and a careful reading of these five texts has enabled me to more deeply understand the complexities of humoral systems of health.

Complicating this even more, though, is the descriptions of some herbs or other substances that cure poisons or have a specific effect that is not meant to be balanced in food; simple medicines (frequently just called "simples") that the authors give little explanation for as to why they work other than to say something like, "this is good for stomach pains." Sometimes Galen or Dioscorides will attempt to explain this effect by theorizing that it is moistening or drying, or cooling to a hot stomach, etc., with the main reasoning being that the ingredients and cooking methods balance each other. But in some circumstances some ingredients are just stated to have a certain effect, with no extra explanation. Clearly humoral theorists were observing the effects that certain things had on the people consuming them, and theorizing why those effects occurred, but they had very limited ability to witness those effects in vivo, and no ability to observe microscopic or chemical changes. Their theories functioned well enough for their satisfaction, however, and generally followed the received wisdom of thousands of years of experience with the panoply of Eurasian flora and fauna, with little new insight.⁶⁵

Describing ingredients as costive, diuretic, etc. was a way to describe them in more practical and descriptive terms than the four qualities, because these words both describe the inherent qualities, their degree of effect, and the immediate effects of those qualities on the body. Diuretic means that something provokes urination, something that has a costive effect is drying, laxatives are moistening, etc. From a practical perspective, the most common ailments that physicians encountered had to do with excesses of evacuation, (diarrhea, excessive bleeding or urination) or a lack of evacuation. Beyond diseases that affected the bowel, many diseases also became apparent from their manifestation as skin blisters or boils that seeped fluids, or alternatively edemas or growths that held moisture in the body. It makes sense that ancient physicians thought of health as deriving from these four qualities, and that a balance of them creates a balanced person that was neither losing fluids too quickly nor unable to evacuate those fluids.

⁶⁵ These thousands of years of experience include the works of Islamic scholars, many of whom were known by Christian Europeans over the course of the Middle Ages. I will investigate these sources further in my discussion of Avicenna.

Galen is particularly concerned with these effects in On the Properties of Foodstuffs. From his descriptions it becomes apparent that proper digestion of foods is paramount to health, and that this requires a careful balancing of qualities in the foods we eat. Hard dry foods like glutinous breads can be greatly nourishing, but can also constipate, meaning that "crude humors" can develop while that food is trapped for too long in the bowel.⁶⁶ These humors can build up and affect the liver, kidneys, and spleen, leading to disorders. Although hard breads are suitable for those who work strenuously, like laborers and athletes, they will only harm more sedentary folk, who need to work up a sweat to be warm enough to concoct these cool, dry loaves. Wheat mixed with milk is the worst kind of bread, even if it is lighter and more leavened, because milk is full of nutriment that adds to the thickness of the wheat. It will produce stones and block the passages in the kidneys causing inflammations. Milk already does this on its own, as Galen notes in his discussion of the various different kinds of milks and their relative merits.⁶⁷ Does wheat specifically cause inflammations and kidney stones if it is not prepared properly? No, but it is hard to eat or digest a handful of raw flour, or kernels of uncooked wheat, and Galen and others were trying to figure out why in ways that made sense to them using their observations.⁶⁸ Cooking these things involves making them edible by applying heat and occasionally adding or removing moisture, so that the four qualities that underlay humoral theory are intimately related to the transformation of raw

⁶⁶ Galen. *Galen: On the Properties of Foodstuffs*. (Cambridge: Cambridge University Press, 2003), pgs., 39-44.

⁶⁷ Ibid., 123-126.

⁶⁸ Allergies and sensitivities to certain ingredients were not unknown to Galen and his contemporaries, but this is not specifically what he is referring to here, and my discussion here is about the way in which the metaphor of cooking is used to describe digestion.

foods into safe, cooked food. Medieval and early modern medical theorists extended these concepts to digestion, envisioning digestion as the body "cooking" food to prepare it for distribution to the rest of the body.⁶⁹

It is important to insert here a discussion of what constitutes good and bad foodstuffs for Galen. Galen takes great pains to explain that all of his recommendations and pronouncements made about the qualities of foodstuffs are restricted to the best examples of each, meaning not rotten or contaminated foods. He goes into detail when talking about different types of fish that no one should eat any fish that feeds on human or animal excrement in rivers that drain city sewers or fields, that fish that live in stagnant waters whether in the sea or in rivers are also bad, and that ocean fish are generally better than river fish for the same reason.⁷⁰ His discussion here illustrates that the ancients and later people who sought the advice of these texts were well aware that rotten or substandard quality foodstuffs would cause sickness and that they knew that no amount of spices, pepper, cooking or adulteration of any kind would make them safe.

Another example of this awareness is in more of Galen's discussion of wheat. Galen discusses what constitutes a good wheat kernel suitable for making bread, writing that those that are "loose textured and porous produce little nutriment from great bulk."⁷¹ He also talks a bit about common weeds that can infest grain fields and how important it is to pick these out of the harvest before using the grains. Many of these weeds still infest fields of grain, and the consumption of their seeds can cause various health problems in

⁶⁹ Albala, *Eating Right in the Renaissance*. pg. 57.

⁷⁰ Galen, 135-137.

⁷¹ Galen, 39.

humans if they are not carefully removed.⁷² Galen was clearly quite savvy about food quality and knowledgeable about very specific defects in their foodstuffs. His discussion of these many different ways that food quality (meaning whether a particular foodstuff is in ideal condition to be eaten or not) affects health is strong evidence that people did have a sophisticated and useful understanding of food as a vector for disease without an understanding of germ theory. Ancient, Medieval, and early modern people were not stupid; health and wellness and the science behind it was and still is extremely complicated. It took a lot of observation, experiment and in many cases luck to discover the interactions between food and sickness, as many of the interactions are not necessarily apparent even now. Writers like Galen did make the connection between food and sickness and used that connection to build a theory of health that was remarkably robust.

This dissertation project is concerned with how women influenced medical science and humoral theory, *On the Properties of Foodstuffs*, unfortunately, barely mentions women. The text is primarily concerned with what types of foods are good and which are not based on the qualities that Galen argues they have. He argues the existence of these qualities based on the effects that they seem to have on the body, specifically, its digestion. There is no mention in this particular treatise about the basic humoral qualities associated with men and women (that men are ideally hot and dry and women are cool and wet) and only one mention of an ingredient that affects women differently than men;

⁷² Galen, 69-70.

Cretan alexander, a plant related to celery and parsley, is noted to induce menstruation in women.⁷³

There is only one other mention of women in *On the Properties of Foodstuffs*, and that is in his description of jujubes:

I am unable to give information about these, either as a preservative of health or a cure for disease. For it is a meal for women and children at play that is poorly nutritious and difficult to concoct, and at the same time bad for the stomach. It is clear that the fruits themselves give little nutriment to the body.⁷⁴

Considering that this is the only direct mention of either women or children in *On the Properties of Foodstuffs* Galen's tone here indicates that he has little concern for women or children or their health. It is peculiar that this one foodstuff is the one that he consigns to being only for women and children, and that he regards it with such disdain that he says he cannot give any opinion on whether it is good or bad, then immediately does just that. His disdain for jujubes as food is readily apparent. Consigning it to only women and children illustrates his opinion of them as well; they are the only people foolish enough to waste their time eating this "poorly nutritious and difficult to concoct" food.

In order to understand the underlying theory to Galen's remarks about food, one must look toward a more philosophical text. Galen's *On the Natural Faculties* takes the form of a polemic against earlier scholars in which he corrects their mistakes in relation to the philosophy of medicine. Specifically, he talks about the so-called natural faculties, meaning genesis, growth and nutrition. By genesis Galen means the beginning of creation, by growth he means the movement from embryo toward full maturity, and by

⁷³ Galen, 105.

⁷⁴ Galen, 95.

nutrition he means the maintenance of the body once maturity is reached. He cites Hippocrates as the first philosopher of medicine, writing that, "of all those known to us who have been both physicians and philosophers Hippocrates was the first who took in hand to demonstrate that there are, in all, four mutually interacting *qualities*, and that to the operation of these is due the genesis and destruction of all things that come into and pass out of being. Nay, more; Hippocrates was also the first to recognize that all these qualities undergo an intimate mingling with one another; and at least the beginnings of the proofs to which Aristotle later set his hand are to be found first in the writings of Hippocrates."⁷⁵ Galen here gives Hippocrates the distinction of being the progenitor of even Aristotelean thought on health. He also points out the four qualities, and how the mixture of them is a complex process that gives rise to physical being.

Both Galen and Avicenna use an Aristotelian philosophical framework, one that uses four causes, and seeks to explain change as the action of those causes on a particular thing. The four Aristotelean causes are the formal, efficient, material, and final causes. In short, the formal cause is the form a thing takes, like the form of a man, a chair, etc. The efficient cause is that which acts on the thing to bring it into being, a child's efficient cause would be its parent, the chair's efficient cause would be the chairmaker, etc. The material cause is the stuff that makes up the thing; the person is made up of flesh and bone, the chair is made of wood. The final cause is the purpose of the thing, that for which it exists; The child is born to be whatever the parents want them to be, the chair

⁷⁵ Galen. *On the Natural Faculties*. Translator, Arthur John Brock. (New York: G.P. Putnam's Sons, 1916) https://www.gutenberg.org/files/43383/43383-h/43383-h.htm, Book I, Part II.

exists for people to sit on.⁷⁶ All of Galen's treatise *On the Natural Faculties* is meant to explain health as an aspect of motion and change through this Aristotelean framework.

Galen thus starts with Hippocrates and relates Aristotelean thought on creation and growth as an elaboration of Hippocratic ideas. He mentions in the previous quote that there are four qualities, and he describes them here:

Let us speak then, in the first place, of Genesis, which, as we have said, results from *alteration* together with *shaping*. The seed having been cast into the womb or into the earth (for there is no difference), then, after a certain definite period, a great number of parts become constituted in the substance which is being generated; these differ as regards moisture, dryness, coldness and warmth, and in all the other qualities which naturally derive therefrom. These derivative qualities, you are acquainted with, if you have given any sort of scientific consideration to the question of genesis and destruction. For, first and foremost after the qualities mentioned come the other so-called *tangible* distinctions, and after them those which appeal to taste, smell, and sight. Now, tangible distinctions are hardness and softness, viscosity, friability, lightness, heaviness, density, rarity, smoothness, roughness, thickness and thinness; all of these have been duly mentioned by Aristotle.⁷⁷

Here Galen describes the process of creation being a movement of a substance to a new form through alteration and shaping, starting with a seed, and proceeding to build parts that can be differentiated by their qualities, starting with four major ones; moistness, dryness, coldness, and warmth, and then proceeding to derivative qualities that are various combinations of those four basic qualities. These derivative qualities are tangible, they can be understood through the senses and observation. They reveal that Galenic medicine is more complex than the combination of the four abstract qualities. These

⁷⁶ The final cause of a person is a bit more fluid and subjective than a chair, so I have only included one example here for the sake of brevity.

⁷⁷ Galen, *On the Natural Faculties*. Book I, Part VI.

qualities are merely a basic framework through which to order the complex, tangible,

observable qualities of real things.

Galen continues:

Therefore, if you wish to know which alterative faculties are primary and elementary, they are moisture, dryness, coldness, and warmth, and if you wish to know which ones arise from the combination of these, they will be found to be in each animal of a number corresponding to its *sensible elements*. The name *sensible elements* is given to all the *homogeneous* parts of the body, and these are to be detected not by any system, but by personal observation of dissections. Now Nature constructs bone, cartilage, nerve, membrane, ligament, vein, and so forth, at the first stage of the animal's genesis, employing at this task a faculty which is, in general terms, generative and alterative, and, in more detail, warming, chilling, drying, or moistening; or such as spring from the blending of these, for example, the bone-producing, nerve-producing, and cartilage-producing faculties ...⁷⁸

Galen here is making it clear that the body is formed through the actions of the four qualities. The body can be described by combinations of those qualities, both as a whole and its various parts. Direct observation is the key to determining these qualities in medical practice, and each part of the body has a relative composition of each of these qualities. This blending of the qualities allows Galen and other humoralists to describe the complexities of the human body with a general framework, while admitting that a theoretical system must always be grounded in observation. The four qualities never really exist in isolation, they are always blended in complex ways that enable humoralists to shape their theory around what they observe.

Galen goes on to argue that each of the organs are made of one substance, each having a special alterative faculty particular to them, such as the liver, kidneys, stomach, arteries, and intestines. All of these are originally generated from the mother's menstrual

78 Ibid.

blood, and the substance of that blood is altered according to special activity that each organ is meant to perform.⁷⁹ Galen writes that "As for the actual substance of the coats of the stomach, intestine, and uterus, each of these has been rendered what it is by a special alterative faculty of Nature; while the bringing of these together, the combination therewith of the structures which are inserted into them, the outgrowth into the intestine, the shape of the inner cavities, and the like, have all been determined by a faculty which we call the shaping or formative faculty; this faculty we also state to be *artistic*—nay, the best and highest art—doing everything for some purpose, so that there is nothing ineffective or superfluous, or capable of being better disposed."⁸⁰ Each of these organs and all the parts of the body have a purpose, a reason to exist, and growths which do not have a purpose would then be the tangible results of illness.

Galen then asks "How, then, could blood ever turn into bone, without having first become, as far as possible, thickened and white? And how could bread turn into blood without having gradually parted with its whiteness and gradually acquired redness?"⁸¹ Essentially, he asks how could one substance become another; what is the action through which this occurs? He asserts that this is why there are so many organs that affect the alteration of food. Many kinds of food of different qualities need to be changed, and this is where the different organs come in.⁸²

Galen starts with the causes of generation, namely that the alterative faculty of the seed and menstrual blood of the mother cause the creation of the embryo and the parts

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Ibid., Book I, Part X.

⁸² Ibid.

that will eventually become a new person. Galen sees this as a process that is driven by the seed being planted, and the uterus as the soil that nourishes the seed. He then continues by discussing the faculty of growth. He begins by saying, "this is present in the foetus *in utero* as is also the nutritive faculty, but that at that stage these two faculties are, as it were, *handmaids* to those already mentioned, and do not possess in themselves supreme authority... What, then, is the property of this faculty of growth? To extend in every direction that which has already come into existence..."⁸³ This statement is important in showing that the faculties act differently at different times to fulfil a purpose specific to the needs of the organism at that time. In this case the faculty of growth exists from the time of initial generation until adulthood for the purpose of expanding the parts of the body. Their purpose already exists, in philosophical terms their essence precedes their existence, and the growth faculty just enlarges them. Galen goes on to argue that only nature through this faculty can do this properly; humans cannot alter the body without damaging it.

Galen then discusses the third natural faculty, nutrition. In order for a body to grow properly it must receive nutriment. Galen argues that this quality is different than genesis, saying that "the kind of activity here involved is also an *alteration*, but not an alteration like that occurring at the stage of *genesis*. For in the latter case something comes into existence which did not exist previously, while in nutrition the inflowing material becomes assimilated to that which has already come into existence. Therefore, the former kind of alteration has with reason been termed *genesis*, and the latter,

⁸³ Ibid. Book I, Part VII.

assimilation.^{**4} This assimilation is handled by the organs through their particular faculties and converts nutriment to the individual tissues that the nutriment flows to. For Galen this includes organs like the veins, arteries and other channels through which nutriment flows as well as the liver, stomach, intestines, spleen, etc.

There are also organs that deal with superfluities as Galen calls them, or things that cannot be used as nutriment. Superfluities enable Galen to answer why some animals can obtain nourishment from some things and not others. Humans cannot eat grass but cattle can, for example.⁸⁵ It also enables him to explain how the body rids itself of water (in the form of urine) and why we defecate and not just absorb everything. Galen posits that there are organs for many functions, some that nourish or prepare nutriment, and others that separate nutriment from superfluities and either store or expel superfluities. For the rest of Book I, Galen goes into detail about one specific organ and its action on superfluities: the kidneys on urine. As an organ whose function is to remove water from the body, this is a prime example of how organs in the body function along the lines of the four qualities, in this case, the kidneys dry the nutriment the body takes in through the stomach, stores superfluous water in the bladder, and expels it from the body. Galen argues that there must be some reason that superfluous water flows to the kidneys and not elsewhere, positing that the kidneys exert an attractive force on the superfluous water. He argues that all of the organs attract the substance that they are designed by nature to attract, and it is this force that governs the functioning of the body.⁸⁶

⁸⁴ Ibid., Book I Part VIII.

⁸⁵ Ibid., Book I Part X.

⁸⁶ Ibid.,

Galen examines the role of women in the genesis of the embryo and in extensive discussion of the process of birth with regard to the attractive and retentive faculties of the uterus. He discusses this in comparison with the retentive and eliminative faculties of the stomach:

We may expect, then, to detect the retentive faculty in the uterus more clearly in proportion to the longer duration of its activity as compared with that of the stomach. For, as we know, it takes nine months in most women for the foetus to attain maturity in the womb, this organ having its neck quite closed, and entirely surrounding the embryo together with the *chorion*. Further, it is the utility of the function which determines the closure of the os and the stay of the foetus in the uterus. For it is not casually nor without reason that Nature has made the uterus capable of contracting upon, and of retaining the embryo, but in order that the latter may arrive at a proper size. When, therefore, the object for which the uterus brought its retentive faculty into play has been fulfilled, it then stops this faculty and brings it back to a state of rest, and employs instead of it another faculty hitherto quiescent—the *propulsive* faculty. In this case again the quiescent and active states are both determined by utility; when this calls, there is activity; when it does not, there is rest.⁸⁷

There follows an extensive discussion of the process of childbirth, where Galen makes it clear that he is at least tangentially aware of the role of midwives and the muscles and physiology of parturition.⁸⁸ All of this description is in the service of his theories about the natural uses of each organ, in this case the uterus. Each having its particular use; its form follows its function. Where he notes that an organ deviates from its proper function, this is a sign of illness.

Galen describes miscarriage in these terms as well, writing that "if anything goes wrong in connection either with the chorion or any of the other membranes or with the foetus itself, and its completion is entirely despaired of, then the uterus no longer awaits the nine-months period, but the retentive faculty forthwith ceases and allows the

⁸⁷ Ibid., Book III, Part III

⁸⁸ Ibid.

heretofore inoperative faculty to come into action. Now it is that something is done—in fact, useful work effected—by the *eliminative or propulsive faculty* "⁸⁹ in the next section he compares this to digestion, in that both involve the action of organs that retain some substance and transform it before then expelling it.⁹⁰ Galen in this text thus reduces women to the role of essentially a vase that germinates a seed. It is still somewhat ambiguous what Galen's opinion of women really is. This example is meant to illustrate his philosophy of birth and nutrition, and to argue that different parts of the body have specific uses. His description of the uterus and its purpose is not particularly revealing of his views on women if we take it solely at face value.

All of this description forms the basis of Galen's philosophical understanding of the natural motions of substances through the body from birth through life. For Galen it is a process of attraction, retention, and expulsion. He argues against the idea that all of this is the result of solely muscular movement. He argues that there must be some transformation that occurs. In the case of the stomach the transformation is to remove nutriment from superfluities, and the stomach is only one of many locations where this occurs. So where do the humors factor into this? Precisely as the thing that the nutriment of food is transformed into. According to Galen this occurs everywhere the nutriment flows to in the body, so that there is a constant digestion throughout the organs and tissues of the body. The nutriment is transformed into the humors at the places where it is needed, "There cannot, then, be food which is suited for the animal which is not also correspondingly subdued by the qualities existing in the animal. And to be subdued

⁸⁹ Ibid.

⁹⁰ Ibid.

means to undergo *alteration*. Now, some parts are stronger in power and others weaker; therefore, while all will subdue the nutriment which is proper to the animal, they will not all do so equally. Thus the stomach will subdue and alter its food, but not to the same extent as will the liver, veins, arteries, and heart."⁹¹ Here Galen is trying to explain how certain animals can eat certain things that others cannot, explaining it as being the result of the different qualities of the animal and of the organs of the body. This is partly an explanation of how the organs affect a transformation of nutriment into the appropriate humors. The humors do not exist outside the body; they are not something in the food. They are the result of the body transforming nutriment into the humors by action of the four qualities.

Galen explains the genesis of the humors proper in an extended diatribe against Erasistratus. In between arguments about how wrong Erasistratus is about the humors, Galen writes:

Now in reference to the genesis of the humours, I do not know that anyone could add anything wiser than what has been said by Hippocrates, Aristotle, Praxagoras, Philotimus and many other among the Ancients. These men demonstrated that when the nutriment becomes altered in the veins by the innate heat, blood is produced when it is in moderation, and the other humours when it is not in proper proportion. And all the observed facts agree with this argument. Thus, those articles of food, which are by nature warmer are more productive of bile, while those which are colder produce more phlegm. Similarly of the periods of life, those which are naturally warmer tend more to bile, and the colder more to phlegm. Of occupations also, localities and seasons, and, above all, of natures themselves, the colder are more phlegmatic, and the warmer more bilious. Also cold diseases result from phlegm, and warmer ones from yellow bile. There is not a single thing to be found which does not bear witness to the truth of this account. How could it be otherwise? For, seeing that every part functions in its own special way because of the manner in which the four qualities are compounded, it is absolutely necessary that

⁹¹ Ibid., Book III, Part VII.

the function should be either completely destroyed, or, at least hampered, by any damage to the qualities, and that thus the animal should fall ill, either as a whole, or in certain of its parts. Also, the diseases which are primary and most generic are four in number, and differ from each other in warmth, cold, dryness and moisture.⁹²

Here Galen specifically notes how the humors arise from the action of the four qualities of warmth, cold, wetness, and dryness in the veins as the nutriment travels throughout the body. He attacks Erasistratus's argument that the movement of these humors is caused by their relative thickness to others, arguing about the thickness of each humor and how Erasistratus's arguments do not match observed experience. All of this to say that Galen believed to have demonstrated with tangible evidence that the humors originated in the body, they were a product of the body's alteration of substances in food into substances of the body (the blood, bones, organs, etc.)

To summarize *On the Natural Faculties*, the natural qualities of the body, organs, environment, occupation, season, and even the mental temperament of a person or animal acted on the substances that they took in as food via four qualities to transform them into the four humors, then those humors nourish and replenish the body. This is a process that started at conception, utilizing its environment and the raw materials present for it to produce an embryo, that subsequently grows and expands until natural forces cause it to be born, which then continues to grow to maturity, and then maintains its health until age or outside influence alters its humors in such a way that the organism grows sick and dies. This is all governed by natural forces of attraction and repulsion, again a product of heating, cooling, drying, or moistening.

⁹² Ibid., Book II, Part VIII.

Galen's examples involving women in each of these two treatises, (*On the Nature of Foodstuffs* and *On the Natural Faculties*) generally exist as a way to prove his points about natural forces, and not to show any special concern with their particular health challenges, unlike some of the other documents that I examine in this dissertation project. This contrasts with the treatment of women's health in Dioscorides *De medica materia*. Dioscorides repeatedly references the usefulness of ingredients to women for various reasons, mostly, but not exclusively, related to childbirth and postpartum care. In the very first entry in his first chapter on aromatic plants, Dioscorides notes that iris taken in a drink with wine will bring out the menstrual flow.⁹³ He references the inflammation or frigidity of female anatomy as problems that can be solved by poultices, tisanes, hip baths, and through the inhalation of the smoke from burning herbs and gums, showing that at the height of the Roman Empire the health concerns of women were an important issue, even for male writers.

Dioscorides Pedanius predated Galen, living in the first century CE. He came from the city of Anazarbos in Cilicia, in what is now eastern Turkey, near Tarsus. He claimed to have been a physician attached to the Roman army, and *De medica materia* primarily catalogues the medicinal plants, animals and the products derived from them of the eastern Mediterranean where he was from.⁹⁴ Divided into five books, Dioscorides offers an encyclopedia of almost every imaginable substance that he thought could be useful as either a food or a medicine. Book One discusses aromatic plants; growths that provide oily, gummy, or resinous products for use in salves and ointments; then the

⁹³ Dioscorides, *De materia medica*. Translated and Edited by TA Osbaldeston and RPA Wood.

⁽Johannesburg: IBIDIS Press, 2000) 1.

⁹⁴ Dioscorides, xx-xxii.

fleshy fruits, even if not aromatic. Book Two begins with animal products of dietetic and medicinal use, continuing with cereals and garden herbs. Book Three covers roots, juices, herbs, and seeds used for food or medicine; and Book Four includes narcotic and poisonous medicinal plants. Book Five mentions vines, wines and metallic ores. He even includes general recipes for the creation of oils and compound medicines from many of these ingredients.

De materia medica is by far the longest of the three texts that I use as a baseline of humoral medicine and also the oldest, having been written about a century before On the Properties of Foodstuffs. While it predates Galen, its theory is derived from the same Hippocratic tradition, but its subject matter is less about an open discussion of theory like Galen than it is a statement of medicinal practice. It is the best preserved of the texts as well, having never fallen out of use since its publication. There are still extant Greek versions and copies of it from the sixth century, and it was the basis for Greek and Arabic pharmacopeias into the early modern period. A Greek version was sent to the Spanish Caliph Abd al-Rahman III, the first Caliph of Córdoba, by the Byzantine Emperor Romanos II in 948 CE.⁹⁵ Latin and vernacular versions existed all over Europe after its fame exploded with the first printed Greek edition produced by Aldus Manutius in 1499 and a Latin translation by Jean de la Ruelle. The widespread use of the text was not without problems and debates, however. Dioscorides' names and descriptions leave much to be desired, leaving later scholars to speculate as to the identity of many of the plants that he describes. Dioscorides might not have had any occasion to travel outside of the Mediterranean, and probably did not travel much beyond the eastern part. Many of the

⁹⁵ Ibid., xxx-xxxi.

plants he mentions have ceased to exist or have so little description of them that later scholars have called different plants by the same name. The fame and widespread usage of the book beyond the Mediterranean have also led later scholars to use his names for plants that could not have been known to him, particularly northern European ones.⁹⁶

Dioscorides frequently specifies the humoral qualities of each substance. For example, he frequently refers to aromatic substances as warming, a quality that often causes movement or change in the body. Warming is one of the essential qualities tied to digestion as well as gestation and menstruation. Many of the aromatics that he describes as warming have an abortifacient effect that Dioscorides cites explicitly. Cinnamon is cited as have this effect, as well as being an antidote to poisonous animal stings and bites, a freckle remover, a cough suppressant, and just generally effective for many things.⁹⁷ This example is one of many that illustrate that while the humoral qualities of each substance are given explicitly, many of their uses are broader than what we might expect. Dioscorides lists the uses of each with only a little regard for how the substances theoretically work. His text is more of a compendium than an illustration of theory like Galen's. I include it for its popularity and its practical usage, and for the breadth of its material. It is unique among the three texts that I discuss in this chapter in that it discusses remedies for women's health problems so frankly, in contrast to the other two that mention women hardly at all.

Medieval Documents of Galenic Medicine

⁹⁶ Dioscorides, xxvii-xxxiv.

⁹⁷ Dioscorides, 18-19.

Avicenna writes on the very first page of his *Canon of Medicine* his definition of medicine: "it is the art whereby health [the beauty of the body—long hair, clear complexion, fragrance and form... is conserved and the art whereby it is restored, after being lost."⁹⁸ Avicenna thus equates health with appearance, naming specific outward signs of health and defining medicine as the restoration of these outward signs. In this way he combines in this one statement all three of the categories of recipes that are discussed in this dissertation project. One treats the body holistically. What we might call internal medicine restores the body to health, and one knows that the body is healthy by these outward signs. These outward signs also conform closely to the recipes on cosmetics that I will examine later in this project. Hair dyes, lotions for the hands and face, wart, pimple and blemish removers, soaps for cleaning the hair, lotions that restore lost hair, depilatories to remove unwanted hair, and many others all address issues with the outward signs of health that Avicenna mentions here.

Avicenna has an extensive discussion of the temperaments in relation to various factors that could conceivably affect the body. His longest section, on age, argues that the young are more hot and moist, given that they are more energetic and they are growing, noting that "the moistness is shown in the softness of their bones, nerves and other members."⁹⁹ Older people are colder and drier, owing to "the hardness of their bones, the roughness of their skin, and the long time which has elapsed since they produced semen, blood, and the vaporal (ether) breath."¹⁰⁰ His argument here fits the holistic view of

⁹⁸Avicenna, *The Canon of Medicine, Part One*. Edited by O. Cameron Gruner. (London: Luzac and Co., 1930), Book One, Part One, pg. 25.

⁹⁹ Avicenna, pg. 74.

¹⁰⁰ Ibid.
medicine as laid out by Galen, generally agreed upon since at least the Hippocratics: that the composition of the body (its temperament) is affected by many factors, the body is connected to and part of the larger world through the humors and the qualities ascribed to them.

He also talks about temperament in relation to geographical position, occupation, and – important to this project – sex. Here Avicenna argues that the "female is of colder temperament; that is why the female is smaller than the male. The female is also moister."¹⁰¹ He asserts that both this coldness and the habits of women account for the accumulation of "excrementitious matters" in the female, an allusion to menstruation. Their flesh is finer than men's, though men's is more well-formed due to being more balanced in its admixture. Avicenna thus includes a definitional statement about what differentiates men and women physically as a difference in both humoral quality and their habits. This definition of temperamental opposites will be referred to frequently in medieval texts on women's health, the coldness and moistness of women needing to be accounted for in properly diagnosing illnesses.

Avicenna describes the humors in detail, explaining where they come from, what purpose they serve in the body, and their qualities including color, viscosity, and taste. He also describes each in terms of normal and abnormal types, or in other words ones that are healthy and ones that indicate disease. His descriptions are mostly in line with Galen's, except that he disagrees with Galen that blood is the only normal body fluid.¹⁰² He argues that the different tissues of the body must be composed of different humors or

¹⁰¹ Ibid., 75.

¹⁰² Avicenna, 87.

else they would all be the same. Since bone is different than flesh, then the substance that creates it must be different from the substance that creates flesh. He compares brain tissue to flesh saying that "brain would not be softer than the flesh were it not for the presence in the blood of the soft serous humor which nourishes the brain."¹⁰³ It would stand to reason then that because women have different parts than men, they should have a different humoral composition.

Avicenna backs up his argument about the different humors being present throughout the body by using another example. He argues that blood withdrawn into a vessel "contracts and allows various portions visibly to separate out-a foam (the yellow bile), a turbid faex (the atrabilious humor), a part like egg-white (the serous humor), and a watery part (the aquosity), which passes out through the urine."¹⁰⁴ Each of these parts has purpose but not all correspond to a formal humor. The first three are yellow bile, black bile, and phlegm, but the last is another substance entirely. Avicenna writes that a humor is a nutrient, or something that is assimilable to into the likeness of the human body. Aquosity or water, is "simple", and thus not a nutrient like the "complex" humors.¹⁰⁵ Its purpose is to dilute and enable the humors to permeate the tissues of the body. A nutrient can be derived from both food and drink, while water comes only from drink.

In both of these examples we can see how humoralists, and Avicenna in particular, theoretically envisioned the relationship between the humors and the body, and where new humors could be introduced to the body. Namely, through food and drink,

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

providing nutriment to the body and potentially unbalancing the humors if excessive and causing disease. Different bodies had different balances of humors that were healthy, for various reasons. But Avicenna also argues that the humors "must maintain a constant quantity" in relation to the body itself, not just in relation to each other.¹⁰⁶ Here Avicenna is arguing against excessive bloodletting to cure humoral imbalance, but also adding nuance to the idea of the humors needing balanced. One can have a derangement of the humors, and one can have an excess amount of blood or a deficient amount of blood. This is much more nuanced than the simplified idea of medieval medicine that we are used to hearing, that bloodletting was the cure for everything.¹⁰⁷

Avicenna then describes how the humors get from food into the tissues by describing his theory of digestion. He states that the mouth is continuous with the stomach, and so digestion starts there with mastication and mixing with saliva, where the "innate heat" of saliva digests the food partially. Then when food reaches the stomach, "true digestion occurs"¹⁰⁸ This happens because of the warmth projected on the stomach and its contents by the surrounding organs, the liver, spleen, "omentum," and the heart. In the stomach, this heating creates the "chyle" which he describes as "thick as sodden barley"¹⁰⁹ A portion of this chyle is diluted and moves into the intestine, which then enters finer and finer vessels on the way to the liver which then finishes digestion and converts it into blood. This nutriment could not pass through these narrow channels

¹⁰⁶ Ibid.

 ¹⁰⁷ Pop culture seems obsessed with the idea of medieval medicine involving "barbaric" practices, with bloodletting being the chief victim of criticism. Examples are numerous.
¹⁰⁸ Ibid., 88.

¹⁰⁹ Ibid.

without being diluted first by what Avicenna calls "water consumed in excess of the strict requirements of the body."¹¹⁰

This is not the last digestion, however. Avicenna ultimately claims a third and fourth digestion occurs. When the blood leaves the liver through the vena cava, it travels next to the kidneys where excess water is removed and then to the blood vessels where it is distributed throughout the body. While in the blood vessels another digestion occurs, and then another last digestion occurs in the tissues themselves.¹¹¹ Any residues, or that which is not properly digested in the first and second digestions is excreted through the intestines or through urine. The residues from the later digestions are excreted in various ways, some healthy and some not healthy, but also the hair and nails are formed from these residues. This last digestion is where both sweat and inflammations and eruptions from the skin can occur.

Avicenna determines that all the substances and tissues of the body must originate in a prior form. His discussion of pregnancy and the origin of sexual difference involves more theorizing about fluids and their contribution to the embryo. He describes the different members or parts of the body and their origin, writing that "some members take their origin from the semen...others come from the blood... other members come from both male and female 'sperm'"¹¹² He postulates both a male and female sperm, and compares the process of generation of an embryo to cheesemaking. Just as cheese requires both rennet and milk to form, so does an embryo. This is the beginning of the process of generation, but the embryo must utilize the blood of the mother to grow, by

¹¹⁰ Ibid. 89.

¹¹¹ Ibid., 91

¹¹² Ibid., 99.

turning the blood that would have been evacuated during menstruation into the new members of the body. Part of the blood is turned into the "likeness of the substance of the sperm and the members derived therefrom. This is the nutriment which enables growth to take place."¹¹³ The two other types of member created are flesh and fat, and what Avicenna calls "effete material," which is his explanation for all of the material that is not part of the fetus and expelled at birth along with it.

He connects the blood of the mother to the infant more directly by noting that blood of the infant takes the place of the mother's blood after birth, generated in the liver, which itself was originally made from the mother's blood.¹¹⁴ Avicenna is here and in the previous example attempting to mediate a position that would be debated throughout the Middle Ages and early modern period, that of how much the mother and father contribute to their child. He argues here that each has an equal but different contribution in the creation of a new being. He writes that "the flesh of the infant is derived from the gross blood, congealed by heat and dryness…the fat of the infant is derived from the aquosity and unctuosity of the blood, which cold has congealed and heat dispersed."¹¹⁵ This last statement reveals that Avicenna theorizes how generation is also a function of humors and the four qualities. He argues that the body must derive its tissues and members from both parents but that each contributes different types of humors and qualities to that generation; the male contributes that which is hot and dry, and the female contributes that which is wet and cold.

¹¹³ Ibid., 100.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

In further musings about the nature of the humors, Avicenna argues that it is heat that moves things through attraction, and cold represses or restrains the flow of humors.¹¹⁶ Heat is the primary driver of digestion; heat derived from the portions around the stomach moves the aliment forward through the stomach and intestine, it forces it through the small veins of the liver, kidneys and heart, and then through the body through the veins and capillaries to nourish the various tissues of the body. It is heat that separates the nutriment of the chyle from the excrementous matter, and heat is also the source of emotions and passions of the body. Cold congeals, and in excess, clogs the veins and capillaries and prevents humors from continuing with their further digestions in the veins and in the tissues properly. This then leads to a buildup of abnormal humors which the body then must deal with by means of inflammations, localized heating that breaks through blockages caused by cold. Avicenna and humoralists who follow from him thus equate heat with movement, vitality, and healthy appetite and attraction, and equate cold with the opposite.

As demonstrated by these examples, Avicenna's theory follows Galen very closely. His theory of generation comes straight from Galen, as does his theory of nutrition. Avicenna was the chief source of Galenic thought for medieval Europeans who were taught in the medical schools of the Late Middle Ages. The *Canon of Medicine* was so important that it was one of the texts that Paracelsus burned in order to illustrate his break from the established medical tradition of university-trained doctors.

The *Regimina sanitatis salernitanum* is a document addressed to the Anglo-Norman king Robert Curthose who had a claim to rule England in the late eleventh

¹¹⁶ Ibid., 142.

century CE. It is a product of the Salerno or Salernitan School of southern Italy. Though the Salerno School of medicine did not achieve a degree-granting status until a decree by Frederick II of Naples in the thirteenth century, it was famous throughout Europe for almost nine hundred years. The *Regimen* is a compendium of medical knowledge written in a rhyming poetic form in Latin that was eventually edited and annotated by Arnau of Villanova, an Aragonese physician and theologian in the 13th century CE. The original author is unknown, but it has been attributed to John of Milan. It was extremely popular as its rhyming form makes it easy to remember, and it was translated into numerous vernacular languages in manuscripts even before it was first printed. After 1480 when it was first printed in Latin in Venice, it became even more popular; nearly forty different editions were produced before 1501¹¹⁷

The *Regimen* is essentially a distillation of Galenic medical thought. It is neither exhaustive nor innovative; its primary merit lies in the fact that it was easily remembered and covers a broad range of subjects. It is by far the smallest of the three texts that I discuss in this chapter, but because it was so well-known and covers such a broad range of medical topics, it is essential to utilize it as a basic treatise on humoral medicine. The *Regimen* does not make any explicit reference to women or their health issues, other than to say that leeks make women fertile.¹¹⁸ It does however make many references to classical medical writers like Pliny and Asclepias, showing that the writer knew something of humoral medicine beyond Galen and references to him. It follows the

¹¹⁷ Regimina Sanitatis Salernitanum: Code of Health of the School of Salernum. Translated and edited by John Ordronaux. (Philadelphia: J.B. Lippincott & Co., 1871) pg. 29, and Melitta Weiss Adamson, *Food in Medieval Times*. (Westport: Greenwood Press, 2004), pgs. 205–232.

¹¹⁸ *Regimina*, 105.

advice of Galen and the Hippocratic thinkers, for example, echoing Galen when it says, "When fish are soft, the largest you should prize; When hard, most healthy those of smallest size."¹¹⁹ This echoes (but simplifies) Galen's remarks on fish in *On the Properties of Foodstuffs*.¹²⁰

Throughout the *Regimen* one can find more examples of humoral medical ideas, all simplified to make them easy to remember and simple to administer. The complex nature of balancing humors that Galen discusses at length in *On the Properties of Foodstuffs* is simplified to the point of a few trite rhymes. For example, Galen discusses cabbage and the different properties it has when cooked in different ways. His discussion is meant to bridge the gap between the observed result of cooking and eating cabbage and the theory of the humors by showing that treating the cabbage in different ways can bring about contradictory results. The *Regimen* simplifies this to:

In cabbage we strange contradictions find; Its broth will loose, its leaves in contrast bind. But broth and leaves, when used together, prove A laxative, and thus the bowels move.¹²¹

Galen's nuanced discussion of cabbage treated with oil and fish sauce or twice boiled and their effect on the degree of drying or moistening is reduced here in the *Regimen* to the strange contrast between broth and leaves. While this simplification does not completely remove the content of Galen's advice, it does not give the scholar much of an understanding of the underlying theory that that advice is based on. Physicians would

¹¹⁹ Ibid., 69.

¹²⁰ Galen, 135-142.

¹²¹ *Regimina*, 93.

have needed and indeed did receive more training in Galen and the other preserved ancient and medieval scholars.

Similarly to Galen's works, the *Regimina sanitatis salernitanum* is representative of a genre of texts that became wildly popular in the sixteenth century throughout Europe. Printing made medical advisory texts much more accessible to the general public, and there was an explosion of interest in regimens of health that were previously confined to medical professional use. Unlike Galen's work, regimens of health were easy and straightforward to understand, and required no understanding of the complexities of humoral science. While Galen's complete corpus of works was also popular in print, it was much more technical and philosophical, requiring a much greater level of education to interpret. For the common person who was able to read, regimens of health were more than enough advice.¹²²

Medieval Medical Schools: Salerno, Montpellier, Bologna, Paris

Regimens of health like the *Regimina sanitatis salernitanum* arose out of the mostly informal training of medical doctors in the early Middle Ages. As Arabic texts of Greek and Latin originals were translated into Latin, the idea of a corpus of medical texts that could be used in the formal teaching of medical professionals led to the formation of centers of medical training near those translation centers. Salerno was thus the first "medical school" of Europe, but that term can be misleading. When we think about a school in the Middle Ages we either think about cathedral schools or we think about

¹²² Ken Albala, *Eating Right in the Renaissance*, pg. 24, and Melitta Weiss Adamson, *Medieval Dietetics: Food and Drink in Regimen Sanitatis Literature from 800 to 1400* (Frankfurt-am Main: Peter Lang, 1995).

universities, or the "studium generale."¹²³ These types of schools were far less formal than their modern equivalents, and the "school" at Salerno in its early days must not be misconstrued as anything so formal as either a modern medical school or a medieval university. "In referring to the "School" of Salerno in the twelfth century, historians actually mean an informal community of masters and pupils who, over the course of the twelfth century, developed more or less formal methods of instruction and investigation; there is no evidence of any physical or legal entity before the thirteenth century."¹²⁴ Monica Green describes Salerno as one of many prosperous southern Italian cities situated on trade routes that kept it in constant contact with north African Muslims and their cultural conventions.¹²⁵ Paul Oscar Kristeller and Green agree that the "school" of Salerno got its start probably around the mid-tenth century, with the city of Salerno having gained a reputation of having a population of learned physicians there. This fact did not necessarily separate Salerno from other cities in western Europe in the Middle Ages, as Naples, Paris and other cities would have had populations of medical workers. But Salerno was referenced in many sources as having a particular reputation for its physicians going back to the tenth century,

¹²³ The term "studium generale" referred to a legally recognized school that had a degree granting status, which taught students from outside of its community, and had a community of masters that taught a particular subject. Another important feature of the studium generale was that its masters had the privilege of being qualified to teach anywhere else they desired, not just at the school that they received their degree from. A university in the Middle Ages was a corporation or guild of learned masters; it meant something closer to how we think of a college or even the faculty of a particular department. There could be many universities in a city, each having their own specialty field with little association with the other universities in the city.

¹²⁴ Monica H. Green, ed. *The Trotula: An English Translation of the Medieval Compendium of Women's Medicine* (Philadelphia: University of Pennsylvania Press, 2002), pgs. 9-10.

¹²⁵ Monica H. Green, The Trotula, 7.

Paul Oskar Kristeller described the school and its history in detail, arguing that it existed from sometime in the middle of the tenth century as a group of "clever medical practitioners" known for their practical skill, and reached its heyday after 1077, when a large number of Arabic medical texts were translated by Constantinus Africanus.¹²⁶ These Galenic and Hippocratic translated texts, of both ancient and Arabic innovations, then formed the basis of textbooks and commentaries that determined the curriculum in universities in Paris, Naples and beyond. However, the Salerno School of medicine did not achieve the legal status of a school until a decree by Frederick II of Naples in the thirteenth century.¹²⁷

Kristeller writes that before the 11th century it is difficult to describe Salerno as a "school" because the documents that are ascribed by later historians to Salernitan masters from this period cannot be effectively shown to have come from this time.¹²⁸ Even Constantinus Africanus likely never taught medicine at Salerno, having only spent a brief time there before joining the monastery at Montecasino where he commenced his translations. That Salerno was a center for medical learning in this period can be inferred from mentions of its reputation in other types of literature, however what specific form that took can only be speculated at.¹²⁹ Constantine translated medical texts like the *Pantegni* of Haly Abbas, the *Viaticus* of Al Jazzar, and Isaac Judaeus' s treatises that, among other texts, would be transmitted to Salernitan scholars and thus to the rest of

¹²⁶ Paul Oskar Kristeller, "The School Of Salerno: Its Development and Its Contribution to the History of Learning." *Bulletin of the History of Medicine* 17, no. 2 (1945) 145–94.

 ¹²⁷ Ibid. 171. And according to Vern Bullough, Salerno did not even become a stadium generale until 1290.
Vern L. Bullough, "The Development Of The Medical University At Montpellier To The End Of The Fourteenth Century." *Bulletin of the History of Medicine* 30, no. 6 (1956) 509.
¹²⁸ Ibid. 147-151.

¹²⁹ Ibid. 148.

Europe.¹³⁰ Constantine's translations of Greek Hippocratic and Galenic texts from Arabic was also an important contribution to western medicine. At the time Arabic medicine was much more sophisticated than that existing in western Europe, either at Salerno or elsewhere.¹³¹

Neither of these literatures was immediately absorbed and utilized by Salernitan scholars, however. Constantine's translations were brought to Salerno by one of his students, Johannes Afflacius. And it was not until the middle of the twelfth century that Constantine's translations inspired an efflorescence of original medical texts from Salerno that can definitively illustrate the emergence of a more formal medical community in the city. Much of the literature after this time was written specifically for teaching medicine or at least mentions students and their instruction.¹³² Thus, even though it can be shown that Salerno had a reputation outside of Italy as a place where medical practitioners congregated as far back as the end of the tenth century, it really began to take on the more familiar features of a school only after the middle of the twelfth century. The importance of Arabic texts to this new Latin medical literature cannot be overstated.

The development of medical schools elsewhere in western Europe follows a similar pattern as the development of the one at Salerno. Prior to the founding of schools like Montpellier, Bologna, and Paris, medicine was practiced by a multitude of different practitioners with varying levels of professionalization. Learned medicine, especially

 ¹³⁰ Ibid. 154, Monica H. Green, ed. *The Trotula: An English Translation of the Medieval Compendium of Women's Medicine*. Philadelphia: University of Pennsylvania Press, 2002. pg. 11.
¹³¹ Ibid. 152.

¹³² Kristeller, The School of Salerno. pgs. 155-156.

literate medicine, was practiced primarily by monks and consisted of herbals and faith healing. Though knowledge of humoral medicine existed through some remaining texts, knowledge of medicine was distinctly bereft of a theoretical discourse. Literate medicine was confined to clerical practitioners, whose ability to read and write made them uniquely capable of reading the literature on medicine in circulation. But until the twelfth century there was no literature that involved a detailed discussion of the theoretical suppositions of medicine. This type of writing originated in Salerno with the compilation of medical knowledge starting with Gariopontus's *Passionarius*.¹³³ Green writes that "The medical writings of twelfth-century Salerno fall into two distinct categories... either theoretical or practical. Salernitan medicine was distinguished by its emphasis on what can properly be called a "philosophical medicine."¹³⁴ After the translations of Constantine, there arose an increasing literature that commentated on the accepted medical works of both the Arabic scholars and Galen and Hippocrates, and elaborated more on the theory of medicine, rather than just on compiling practical cures.

At Montpellier, a school of medicine developed beside the schools of law, arts and philosophy for the first time in the twelfth century and took its form and content from the school of Salerno. Many Salernitan masters went to Montpellier to teach.¹³⁵ Vern L. Bullough describes Montpellier as having a similar environment to Salerno in that it was a port town well connected with Mediterranean trade routes that also had communities of

¹³³ Green, *The Trotula*, pg. 11.

¹³⁴ Green, *Trotula*. pg. 11.

¹³⁵ Vern L. Bullough, "The Development of The Medical University At Montpellier To The End Of The Fourteenth Century." pgs. 508 and 511.

Jewish physicians and attracted Muslim and Christian physicians from Spain and Italy.¹³⁶ By the thirteenth century the medical school at Montpellier was given the privilege of "studium generale," one of only three in Europe at the time, Paris and Bologna being the other two. Montpellier began to take on a markedly more ecclesiastical character after the Albigensian Crusade led to control of degrees granted by the school and the chancellorship to be determined by the masters and the bishop of the city.¹³⁷ No one could teach at Montpellier without the Bishop's approval.

Montpellier had a set curriculum that involved the study of specific medical texts, most translated by Salernitans like Constantine, or by Gerard of Cremona at Toledo in Spain. Included in these were works by Galen, Isaac Judaeus, Rhazes, and Avicenna, including the *Tegni* of Galen and the *Aphorisms* and *Prognostics* of Hippocrates. The variety of the texts and the source of their translations is proof that the medical universities of the Late Middle Ages held a heavy debt to Jewish and Arabic medical knowledge and to the school of Salerno. At Montpellier, by the fourteenth century, medicine became a subject equal to law and philosophy, and some of the modern organization of universities is owed to the development of the field there.¹³⁸

At Paris, the university most lauded in the Middle Ages was its theological school. But Paris also had a well-established medical university, the earliest official mention of which comes from the year 1213.¹³⁹ At Bologna, the law school was the most highly regarded, but it too had a medical university, generally accepted to have been

¹³⁶ Ibid. pg. 510-511.

¹³⁷ Ibid. pg. 512.

¹³⁸ Ibid. 523.

¹³⁹ Vern L. Bullough, "The Medieval Medical University at Paris." *Bulletin of the History of Medicine* 31, no. 3 (1957) 199.

founded by Taddeo di Alderotto after he began teaching at Bologna after 1260.¹⁴⁰ In both cases it is likely that some form of medical instruction had existed in these cities prior to the foundation of medical universities, but that those schools had no formal legal basis on a par with their philosophy schools. Many of the Masters of both medical schools had either studied at Salerno or Montpellier or went on to teach at those schools. Both Paris and Bologna were archetypical medieval universities, meaning that later universities took from them their organizational methods and curriculums, including Montpellier and Salerno's later formal establishments as universities. Whereas Salerno was the first place in which the teaching of medicine was the primary endeavor of its scholars, it took a long time to organize itself along the lines of a medieval university as we normally think of it, and it did not attain that legal status until after the foundation of the universities of Paris, Bologna, and even Montpellier.

In short, when we think about medieval universities, and especially medical universities, we generally think of the universities of Paris, Bologna and Montpellier. Salerno, however, had begun to decline in importance before it finally was organized as a university.¹⁴¹ What Salerno had done is serve as a conduit through which a wealth of literature on medicine was acquired and debated, and then transmitted to the mainstream centers of learning in medieval Europe.

¹⁴⁰ Ibid., 202.

¹⁴¹ Bullough, "The Development Of The Medical University At Montpellier" pg. 509.

Medieval Medicine in the Hispanic Kingdoms: Arabic, Hebrew and Christian Practitioners

One of the major formative influences of the schools at Salerno and Montpellier were their proximity to trade routes and the resident populations of Jewish and Muslim traders in those cities. The Iberian Peninsula was another Mediterranean region that had a large resident population of Jews, Muslims and Christians living in close contact that led to it becoming another center of translation of medical texts at the cathedral library of Toledo. Beginning in the twelfth century and continuing into the thirteenth, Christian scholars flocked to Toledo to translate medical, philosophical, scientific, and mathematical texts from Greek and Arabic with the help of Mozarabs, Jews and Muslim translators. This effort began under the guidance of Raymond of Toledo from 1126 to 1151, and then expanded under the orders Alfonso X the Wise of Castile. Gerard of Cremona translated many mathematical and philosophical treatises with the help of Jewish, Mozarab, and Moorish assistants. While under Raymond translations had been made into Latin, Alfonso demanded the new works be legible by the broader public, and so mandated they be translated into Castilian, thus starting a new vernacular literature as well as continuing to introduce Muslim and Ancient Greek and Roman texts into Europe. None of the new scientific literature would have existed without the work of Muslim and Jewish scholars.

These texts did not just circulate in the Hispanic kingdoms, of course. One important importer of translated medical texts was Arnau de Villanova, who studied at and then was a teacher at the medical school in Montpellier, along with being the personal physician of Peter III of Aragon and Pope Clement V. He translated many Arabic texts by Avicenna and Galen into Latin and Valencian Spanish as well as writing his own, including the *Regimen sanitatis ad regem Aragonum*, a document that I will investigate later in the next chapter. Having Arabic documents to translate, and Arab speakers to help in the translation presupposes a population of learned Arabic speakers and writers making the original documents. There was a vast marketplace for medical recipes, theory and practitioners that had existed since the Muslim conquest of the peninsula. There was a system not unlike the Christian system of teaching in the early Middle Ages to teach medical practitioners in madrassas alongside Muslim religious leaders, as well as teaching Jewish physicians alongside religious leaders. Reading and writing were associated with higher level thought and philosophy, and so theology, medical knowledge, and science were all part of the same well of knowledge. Learned physicians would have been the very top of a medical hierarchy that involved the unlicensed labors of many different practitioners including barbers, surgeons, apothecaries, midwives, nurses, phlebotomists, dietitians, and others, all providing care for various ailments at various price points and levels of expertise. Working women would have been employed in these roles both inside established and respectable jobs as well as outside accepted society as herbalists and workers of witchcraft and hedge magic.¹⁴² As the *Reconquista* came to an end, and Muslims, Jews and even their overt

¹⁴² For a discussion of the medical marketplace of the Hispanic Kingdoms see: Luis Garcia-Ballester, "A Marginal Learned Medical World: Jewish, Muslim and Christian Medical Practitioners, and the Use of Arabic Medical Sources in Late Medieval Spain" in *Practical Medicine from Salerno to the Black Death*. Luis Garcia-Ballester, Roger French, Jon Arrizabalaga and Andrew Cunningham, eds. (Cambridge: Cambridge University Press, 1994), Luis Garcia-Ballester, *Medicine in a Multicultural Society: Christian, Jewish and Muslim Practitioners in the Spanish Kingdoms, 1222-1610*. (Aldershot: Ashgate, 2001), and Luis Garcia-Ballester, "Academicism versus Empiricism in Practical Medicine in Sixteenth-century Spain

cultural practices were suppressed throughout the Hispanic kingdoms, the informal system of teaching gradually gave way to more formal, professionalized and Christianized medical training in the Hispanic universities.

The women being addressed in most of the texts that I discuss later in this dissertation were generally wealthier, and likely would have had servants dealing with most of the more dangerous or dirtier aspects of the production of simple and complex medicines. Nevertheless, Hispanic society expected them to understand and oversee the production of these recipes, or else they would not have written them down. One of the duties that Christian society expected of noblewomen was the care of their lord's domain, including all of its people, and Hispanic society, Muslim, Jewish or Christian, expected women to be knowledgeable about not only their own personal hygiene, but the nourishment, care and health of everyone that was dependent on them.¹⁴³ The intended audience of the women's manuals in particular would have had to be at least wealthy enough to purchase the materials and to be able to read the contents of the manuals. These manuals thus serve as evidence as to the role of women of means in Hispanic society.

With Regard to Morisco Practitioners" in *The Medical Renaissance of the Sixteenth Century*. A. Wear, R.K. French and I.M. Lonie, eds. (Cambridge: Cambridge University Press, 1985)

¹⁴³ For a more thorough discussion of this aspect of Christian European society, see Alisha Rankin, *Panaceia's Daughters: Noblewomen as Healers in Early Modern Germany.* (Chicago: The University of Chicago Press, 2013), and Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe.* (Cambridge: Cambridge University Press, 2007)

Conclusion

The five texts discussed in this chapter thus form the basis of my comparative work on the culinary, medical, and cosmetic literature of the early modern Hispanic kingdoms. They broadly represent the combined wisdom of ancient and medieval medical science. They are not meant to be an exhaustive representation of that science, as there are many more treatises on various subjects from the period but give a broad understanding of the sources of medical knowledge that was bequeathed to the late Middle Ages, the dispersion of that knowledge across classes and geographic extent, and the basic arguments and controversies involved in medical theory and how those relate to class and gender. All five benefit from either having been readily available and familiar to medical practitioners of the late medieval and early modern Hispanic kingdoms, or being the direct inspiration for works that were available to medical practitioners.

From these five texts I made Microsoft Excel spreadsheets that organized their contents by ingredient or substance, its humoral qualities, and its reported effects on the body. Sometimes the author explicitly noted the humoral qualities of these substances, sometimes I had to interpret these qualities from the effects that they had on the body. By organizing these texts in this way, I created an easily referenced and searchable document that can be used to compare the content of these basic humoral medical treatises with the cookbooks, regimens of health, cosmetics manuals, and books of secrets of the Hispanic kingdoms that I examine in the next three chapters. By comparing the medical literature on women in the Hispanic kingdoms of the late Middle Ages and the early modern period to these treatises I then show to what extent humoral theory and Galenic medicine influenced the formulation of the recipes that were intended for the use of women. I specifically chose three of these documents (Galen's *On the Properties of Foodstuffs*, Dioscorides', and the *Regimina sanitatis salernitatis*) because they offer direct practical illustrations of humoral thought through descriptions of the ingredients that later cookbooks would use to build their recipes. The other two offer explanations of humoral theory that inform the descriptions of ingredients in the other three, linking theory with practice.

One of the points that this dissertation project is attempting to make is the link between theory, practice, and how those ideas were disseminated to the wider public. My section on medieval medical schools and their development in this chapter shows how "schools" developed slowly over the early Middle Ages out of local necessity, drawing on the expertise of medical practitioners of varying levels of knowledge and expertise. As translations of ancient and Islamic humoral literature were created and became available to Europeans, first in cities with close cultural and demographic ties to the wider Mediterranean world, and then later in the more important cities of northern Europe, the practice of medicine became more and more regulated and professionalized. This chapter has thus illustrated the links between ancient theories of health, the practice of medicine, and the beginnings of the professionalization of medicine that will be further examined in chapter two.

CHAPTER II

RECIPES AND THE PROLIFERATION OF MEDICAL KNOWLEDGE: WOMEN AND THE HISPANIC KINGDOMS CONTRIBUTIONS TO HUMORAL MEDICINE BEFORE 1500

This chapter examines the early history of recipe books and cookbooks, and what they reveal about Iberian ideas about women's health in the late medieval period. I will sketch out the intellectual environment that preceded the creation of early modern cookbooks and manuals in the Hispanic Kingdoms by looking at the similarities between Iberian medieval manuals and their recipes and the literature on humoral theory from the Middle Ages known to have existed in the Hispanic Kingdoms during the same time period. This chapter features books and treatises written by both men and women, and books written in Latin, Catalan, and Castilian. Specifically, I examined the *Trotula* ensemble, a gynecological text from the late Middle Ages that also includes recipes for cosmetics; Arnau de Villanova's *Regimen sanitatis ad regem Aragonum* and the *Regimen sanitatis Salernitanum* from the last chapter, both part of a literature of Regimens of Health that circulated widely in the Middle Ages; the *Flores del Tesoro de la Belleza*, a late medieval treatise on medicine and cosmetics from the early fifteenth century; the *Manual de mugeres en el qual se contienen muchas y diversas receutas muy buenas* (The Handbook For Women in Which is Contained Many and Diverse Very Good Recipes), a set of recipes for foods, cosmetics, and medicine from the late fifteenth century; the *Kitab al tabij fi-l-Maghrib wa-l-Andalus fi `asr al-Muwahhidin, li-mu'allif mayhul* (The Book of Cooking in Maghreb and Andalus in the Era of Almohads, by an Unknown Author), a hispanic Muslim cookbook from the fifteenth century, but comprised of recipes collected from as far back as the tenth; and finally the *Llibre de Sent Soví*, or Book of Good Cooking, a Catalan cookbook from the early fourteenth century.¹⁴⁴

Many of the recipes in these books are translations of Arabic texts made available to Christians after the conquest of Muslim territories during the Middle Ages. I will show that the connections between the different types of recipes in these genres is an important feature of medieval thought on health. The connection between physical appearance, food, and women's issues of childbirth and family planning are a long-standing and important feature of European medical thought. I argue in this chapter that the prevalence of examples of documents that are aimed at transmitting health information about women in the Hispanic Kingdoms is a strong indication that women were an important part of the creation of medical knowledge in this time period. Particularly in dealing with women's

¹⁴⁴ Monica Green, ed. *The Trotula: A Medieval Compendium of Women's Medicine*. (Philadelphia: University of Pennsylvania Press) 2001; Arnau de Villanova, *Regimen Sanitatis ad Regem Aragonem*, and *Regimines sanitates salernitates: Code of Health of the School of Salernum*. Trans. John Ordronaux, (Philadelphia: J.B. Lippincott & Co.), 1871; *Manual de mugeres en el qual se contienen muchas y diversas receutas muy buenas*. Alicia Martinez Crespo, editor. (Salamanca: Ediciones Universidad Salamanca), 1995; Manuel Dies de Calatayud. *Flores del tesoro de la belleza: tratado de muchas medicinas o curiosidades de la mujeres: manuscrito no. 68 de la Bib. Un. de Barcelona, folios 151 a 170*. (Palma de Mallorca: J.J. de Olañeta), 2001; *Kitab al tabikh fi-l-Maghrib wa-l-Andalus fi `asr al-Muwahhidin, li-mu'allif majhul: The Book of Cooking in Maghreb and Al-Andalus in the era of Almohads, by an Unknown Author. Ed. and translated into English by David Friedmann and republished by Candida Martinelli. PDF file. 6/17/2021. http://italophiles.com/andalusian_cookbook.pdf; and <i>The Book of Sent Sovi: Medieval Recipes from Catalonia*. Ed. Joan Santanach i Suñol, Trans. Robin M. Vogelzang. (Barcelona: Barcino-Tamesis), 2008.

appearance, reproductive health, and their role in family and household management, the documents in this and my next chapter seem to advise women on complex and difficult medical and chemical tasks, tasks which the writers expected women to be well-capable of. The variety of tasks that are collected in the recipes and advice of the women's manuals in this chapter illustrate the breadth of knowledge that was considered the purview of women in the period before 1500.

In the previous chapter I discussed the development of medieval medical teaching from Salerno to Paris, Montpellier, and Bologna, the three main medical universities of the late Middle Ages. It is important to place the primary sources that I will investigate later in this dissertation into the context of the development of learned medicine and the contributions of Arabic medicine. Classical Galenic and Hippocratic medicine was generally lost to Europeans of the Early Middle Ages (though there were some texts circulating)¹⁴⁵, and its reintroduction in the eleventh and particularly twelfth centuries came through the translation of Arabic texts. Muslim writers had interpreted and added to Ancient Greek and Roman knowledge, and their contributions became part of European medical curriculums. I described the intellectual environment of the Hispanic Kingdoms and scholars' role's there in translating and transmitting medical knowledge to the rest of Europe. The *Reconquista* in Iberia led to important centers of Islamic learning falling into the hands of Christian rulers who were eager to benefit from Islamic science.

In this chapter I will be examining several different types of documents in order to investigate the role women's health issues played in medical knowledge being translated and transmitted to Iberian audiences from the major medical schools of Europe.

¹⁴⁵ Monica Green, *The Trotula*, pg. 2.

Important considerations that must be kept in mind when reading these documents include: Firstly, can we tell who wrote these documents? Did a man write them for women? Or is the document a compilation of recipes collected by women for women? Some of these documents have an author named for them but others do not, and the manuscripts often have more than one handwriting. Secondly, in light of the use of expensive and rare ingredients, who was the audience for these documents? Third, many of these documents include recipes for common ailments along with recipes for cosmetics and/or food. Why combine these different recipes in one text? This question goes back to the question of authorship and to gender ideals that evolved over the longue durée. Fourth, given that many of these recipes presuppose women were expected to attend laboring mothers, what kind of knowledge about gynecological issues do they contain? Who is writing these gynecological recipes and who is their audience? What is the expected scope of that knowledge? Fifth, if all of these texts are essentially about health and the roles of men and women in keeping themselves and others healthy (primarily their families), how do the recipes in these texts illustrate that?

The documents that I examine in this chapter are strong evidence that women throughout the Middle Ages and the early modern period in the Hispanic Kingdoms were expected by the writers of these documents to provide health care for their households, cook or oversee the cooking of healthy and delicious meals, and to care for their own health and appearance. Collections of recipes of food, medicine, and cosmetics might have been considered part of women's work and taken out of their original context. At least one of the documents I examine in this chapter is addressed to women but includes recipes for making women beautiful and presentable to men (*Flores del Tesoro de la Belleza*). Another has extensive recipes and advice for gynecological problems, while another has a larger selection of recipes for cleansers and cosmetics than for food or medicines (the *Trotula* ensemble and the *Manual de Mugeres*, respectively). At the very least, these collections represent many different viewpoints on what types of recipes would be interesting to women, particularly women of some means, from the varied perspectives of multiple people over a long period of the Middle Ages. As for the last two questions, these manuscripts illustrate a vast knowledge of washing, child-rearing, cooking, and practical healing with a deep debt to Hispanic *convivencia*.

Medieval Documents: Regimens vs. Cookbooks vs. Women's Manuals

There are three sorts of interrelated texts that I will examine in the rest of this chapter: Regimens of Health (*regimen sanitatis*), cookbooks, and women's manuals. Of these three Regimens of Health are the oldest and have their origins in Islamic practice.¹⁴⁶ They were generally written by a physician or group of physicians to direct the diet and habits of wealthy patrons, but a few became famous and were copied and spread around beyond their original origins. The two that I look at in this chapter are the most famous of this genre, one from Salerno and the other later one from Aragon. Neither of these is written specifically for women, but both were used as general health guides for both men and women. These examples show that there was an incentive for academically trained physicians to transmit their knowledge of proper health practices to a lay

¹⁴⁶ Caroline Nadeau, *Food Matters: Alonso Quijano's Diet and the Discourse of Food in Early Modern Spain.* (Toronto: University of Toronto Press), 2016, pgs. 19-20.

audience. While much of the advice is general, some elements of women's health and its perceived difference are present in these documents. I argue that even though this knowledge is not directed at women per se, the theory behind it is applicable to women, and many recipes would later be found in documents that did specifically address women.

The next genre that I look at is women's health manuals. These documents were much less popular documents, in the sense that they were generally intended for the use of either academically trained physicians or individual anonymous women and passed down through their families as compilations of useful recipes.¹⁴⁷ While the ones intended for academics have many extant copies, showing that they were widely used and copied, the second type were not the type of documents that would have circulated or would have been published outside the home. Being manuscripts, they were the work of individuals for individual use, not a wide audience.

The oldest text that I look at in this genre is the *Trotula* ensemble as collected and annotated by Monica H. Green. It is a medical text on gynecology combined with cosmetic and health guide that Green convincingly argues was originally three separate texts combined over the course of the Middle Ages.¹⁴⁸ It is different from the other texts in this section in that it was not originally written as a household text but as a compilation of learned medicine. Another text that I examine was written anonymously, the *Manual de mugeres en el qual se contienen muchas y diversas receutas muy buenas (A Handbook For Women In Which Is Contained Many And Diverse Recipes That Are Very Good)*. It has been argued that this book was a household text made by a woman and added to over

¹⁴⁷ Nadeau, pg. 19.

¹⁴⁸ Green *Trotula* pg. xii.

time, eventually finding its way to the Palatine Library in Parma in Italy.¹⁴⁹ The last text that I look at in this section is called the *Flores del Tesoro de la Belleza: Tratado de muchas medicinas o curiosidades de las mujeres (Flowers Of The Treasury Of Beauty: A Tract Of Many Medicines And Curiosities For The Women)*. Originally written in Catalan in the fifteenth century, it is attributed to the veterinarian and royal companion of Alfonso the Magnanimous of Aragon, Manuel Dies de Calatayud. The attribution of the text to Manuel Dies is somewhat questionable and it is more likely that the book was originally several different manuscripts that were eventually collected and misattributed to him by a later librarian.¹⁵⁰ Like the other two documents in this section, it is organized in a way that makes it hard to believe that it was written by a single author, and, as manuscripts, had to pass through the hands of many people who each altered them for their own uses over time.

Finally, I examine cookbooks and their connections to each other and the women's manuals. Cookbooks began to become popular at the end of the Middle Ages and especially after the fifteenth century. Many manuscript cookbooks of the late Middle Ages eventually became published after the advent of printing and became best-selling books.¹⁵¹ The ones that I will look at in this dissertation were popular vernacular literature before they became printed books and were some of the earliest vernacular literature in the Spanish languages. Directed at wealthy patrons and their cooking staff, many of the recipes have been passed down for generations, evincing the influence of

¹⁴⁹ Martinez Crespo, *Manual de Mugeres*, 11-28.

¹⁵⁰ Flores Del Tesoro, pgs. 23-26.

¹⁵¹ Ken Albala, *Eating Right in the Renaissance*. (Berkeley: University of California Press), 2002, pg. 1, and Regimines *sanitates salernitates: Code of Health of the School of Salernum*. Trans. John Ordronaux, (Philadelphia: J.B. Lippincott & Co.), 1871, pgs. 11-14.

humoral theory combined with the traditions of Muslim and Jewish cooking.¹⁵² The first book that I look at is the *Kitab al tabikh fi-l-Maghrib wa-l-Andalus fi `asr al-Muwahhidin, li-mu'allif majhul: The Book of Cooking in Maghreb and Al-Andalus in the era of Almohads, by an Unknown Author,* a compendium of recipes that was originally many different texts that was then combined at a later date. I use it as an example of cookbooks in the Hispanic Kingdom's Islamic origins. It also provides evidence of food and health advice being combined into the same texts, a theme that will carry over into the women's manuals of the next chapter.

The other cookbook that I look at in this section is the *Llibre de Sent Soví*, a cookbook of Catalan origin. The recipes it contains illustrate the transmission of Islamic ingredients and cooking methods to a Christian audience. Both it and the *Kitab al-Tabij* are primarily cookbooks, and I include them here to illustrate the connections between Islamic culinary and health practices and the recipe manuals of the fifteenth and sixteenth centuries.

All three genres that I look at in this chapter are interrelated, in that they all deal with health, social status, and the role of women in Hispanic society in the late Middle Ages. All of these texts would be influential in the creation of the recipes that I will be examining in my next chapter.

Regimens of Health

Regimens of Health were treatises that simplified humoral theory and were generally used by learned physicians to explain humoral theory to their wealthy

¹⁵² Albala, *Eating Right in the Renaissance*, pg. 7.

patrons.¹⁵³ As discussed in the previous chapter, the *Regimen Sanitatis Salernitanum* was originally written for a king of England but gained fame as a general guide for health that could be easily memorized by physicians and applied widely to patients.¹⁵⁴ It is probably the most well-known *Regimen* to English scholarship. Similarly, the later *Regimen Sanitatis ad regem Aragonem* was written for the king of Aragon, Jaime II, by Arnau de Villanova, a Valencian physician, astrologer and alchemist, sometime before in 1307.¹⁵⁵ Arnau included an additional section at the end specifically for remedies for hemorrhoids, an ailment that Jaime was known to have suffered from. In including a section like this, Arnau was tailoring the text for his specific patron while also including general advice.

Much of the general medical advice has a clear basis in humoral medicine, as we see in the following passage in the *Regimen Sanitatis ad Regem Aragonum*: "For in the regime of health we advise only those to bathe who, owing to the omission of exercise and copious refreshment, a multitude of excess fluids gather in the muscles and intracutaneous regions."¹⁵⁶ This is a good example of Galenic ideas about diseases being caused by an excess of fluids gathering in the regions that are afflicted due to blockages caused by the putrefaction of overproduced humors. Disease was connected with inflammation here just as I have shown in Galen in the previous chapter. Exercise was meant to help move these fluids through and out of the body, and if one does not exercise, alternative means of purging these fluids is necessary, in this case, baths. Many

¹⁵³ Regimen Sanitates Salernitatis, pg. 19, Nadeau, Food Matters, pg. 19.

¹⁵⁴ This was actually Robert Curthose, Duke of Normandy, who travelled to Salerno on his way to the First Crusade. His brother, William Rufus, who was king of England, died while Robert was on crusade and Robert rushed back to England, but he never officially became king of England. He instead died imprisoned by his younger brother who became Henry I. *Regimina Sanitatis Salernitanum*, pg. 29. ¹⁵⁵ Nadeau, pg. 20.

¹⁵⁶ Arnau de Villanova, Regimen Sanitatis ad Regem Aragonum, Chapter Three

of the women's manuals that I examine later in this chapter have copious recipes for baths or cleansers; there is little advice about exercise for women. Here we can see how the advice in this document for men differs from that for women. Baths not only made you clean and smell better but were purported to cure specific ailments as well. Exercise, however, was necessary for men.

Arnau de Villanova discusses food and its qualities later on in the Regimen:

Chapter Seven: Of nourishing food and drink

It is generally appropriate to talk specifically about nutrients and remedies against hemorrhoidal stones. The nutrients, first of food, secondly of drink because certain aliments are taken in food, some, however, in essences and sauces, therefore I will discuss food first. Much we take from the earth when we are born. But some from the animals, although the animals are higher in dignity than the plants, nevertheless, because they are the food of the animals, because they are nourished by them, therefore the birth of the earth is prior to the animals by nature and by reason of nutrition. But when they spring from the earth, they are taken as food in the first order, namely bread grains, such as wheat, barley, rye, millet, oats, panicles, and rice, secondly, vegetables, thirdly, fruits, and fourthly, the leaves of vegetables and herbs. But cooked grains should not be frequented, because it multiplies worms. It generates and disposes of the deposits for blockages in the kidneys and bladder. And similarly, sausages made from wheat flour and anything made from fixed or cooked paste. And the same judgment is made of the three which are commonly called the three wings. The starch may be lighter than the others but it is not expedient for a temperate body to use these. And if by chance they may be taken on days of fasting, while it pleases them, they should be seasoned with much milk of almonds and should first be strongly cooked. But if it be said, it is less harmful to all, and the straining will still be less, than if it is first cooked with a lot of milk. However, it will be more useful to make a sieve made from cleaned barley before being cooked until the rapture. Then washed with and cooled afterwards pistachios and cooked with a lot of almond milk until moderately soft, for such food is very suitable for patients with throbbing hemorrhoids. And in like manner a sieve must be made of cleaned oats, if it pleases more. Although it is less useful than the aforesaid sieve. Or even if it is made from rice with a lot of almond milk, it is always good for temperate bodies. However, to avoid constipation of the stomach, it should be eaten last. In all cases it is necessary to be

careful that they are not corrupted by old age or approaching corruption, and therefore flour and sour cream and the same that have been more than seven months should be avoided by temperate and choleric bodies and starch if it has been more than twelve months and rice if it has been outside the husk for more than eighteen months, and especially in warm regions. In general, however, caution must be taken from those who, if the aforesaid grain are perceived to have a smoky smell, or to have a sharp taste or earthiness, they are always to be avoided.¹⁵⁷

We find in this chapter a combination of general and specific advice that was

what made Regimens of Health relatively popular documents that outlived their

original purpose. The chapter starts by discussing the usefulness of food as a

remedy for hemorrhoids, and much of the instructions for preparation involve

making grains "lighter" or less hard to ease their passage. But the reasoning

behind this follows very closely to Avicenna and Galen's reasoning that hard

foods need to be cooked well, almost too much, in order to be more easily

¹⁵⁷ de nutrientibus scilicet cibus et potibus: generalia convenit specialiter loqui de nutrientibus et remediis contra lapius emorroydarum. et internutrientia primo de cibis secundo de potibus sed quia ciborum quidam sumuntur in alimentis. quidam vero in saporem et condimentum. ideo prius erit sermo de alimentis quorum quedam sumunt ex terre nasccetibus quedam vero ex animalibus licet animalia dignitate priora sint plantos tamen quia materia sunt animalium ideo quia nutriunt ex eis ideo terre nascientia priora sunt animalibus per naturam et ratione nutritionis ex terre vero nascentibus assumuntur in alimentum quidem per ordine primo scilicet grana panifica ut frumentum ordeum siligo milium avena panicum et rizum secundo legumina Tercio fructus quarto folia scilicet olerum et herbarum quinto radices ut sunt postri et cepe et cetera que sub terra suscipiunt incrementum frumentum autem coctum frequentari non debet quoniam lumbricos multiplicat oppilationes generat et disponit ad calculum in renibus et vesica et similiter pultes de farina frumenti et quisquid sit de pasta fixa vel elixa et idem iudicium est de tri quod vulgariter dicitur ala tria et de amido licet sit levius ceteris temperato tamen corpori non expedit istis uti et si forte diebus ieiuniorum inter dum placverit sumere condiantur cum multo lacte amigdalarum et prius fortiter coquantur simula vero minus predictis omnibus est nociua et adhuc colatura sursuris minus que si prius cum multa coquatur a que deinde cum multo lacte amigdalaum erit in diebus ieiunorum temperatis at que colericis cibus levissimus et etiam utilis Utilius tamen erit serculum factum ex ordeo mundato prius cocto usque ad rapturam deinde loto cum atque frigida postmodum pistato et cocto cum multo lacte amigdalarum usque ad mediocrem dempsitatem talis enim cibus est valde conveniens patientibus emorroydas pulsantes Et simili modo fieri debet cerculum ex avena mundata si placverit magis Licet sit minus utile quam predictum serculum. aut etiam ex rizisi fiat cum multo lacte amigdalarum semper est utile corporibus temperatis ad vitandum tamen ventris constipationem ultimo debet sumi In paedictis omnibus est cavendum ne vetustate sint corrupta vel appropinquent corruptioni et ideo farina et sursur et simula et tri que plusquam septem mensibus fuerint reservate vitari debent a corporibus temperatis atque colericis et amidum si plusquam duodecim menses habuerit et rizum si plusquam decemocto mensibus fuerit extra corticem referuatum et maxime in regionibus calidis Generaliter vero cavendum ex quem si predicta oima fumosi odoris percipiantur esse vel acuti saporis aut terrei semper sunt evitandi. Regimen Sanitatis ad Regem Aragonum, Chapter Seven.

digestible. The nutriment from them would thus be more easily digested in the body and less heat needed in the body to transform it. As we have seen in the last chapter, being more easily digested means less of a buildup of hard blockages in the veins and tissues of the body, here believed to be a cause of hemorrhoids. Almond milk here is presented as healthier and a good alternative to milk on fasting days. It is a popular ingredient that appears throughout cookbooks like the ones I examine later in the chapter.

Galen argues that grains are hard and nourishing but difficult to pass through the body without exercise.¹⁵⁸ He even argues that making wheat bread with milk is even more harmful.¹⁵⁹ The Salernitan *Regimen* describes bread thus:

Of Bread

Nor Fresh nor old be bread, but spongy, light, Tasteful, well-baked, of wheat freed of all blight. Nor yet forget, when'er you take a bite To shun the crust, lest some dark flux should smite. Wholesome is raised, well-baked and seasoned bread; None other should upon thy board be spread.¹⁶⁰

This is a good example of the shared theory behind the Regimens and the classical author's theories on food's effect on the body. Bread and grain in all three is nourishing and heavy and must be lightened during the cooking process. The grain must not be too old or young and must be clean. Each describes different methods for altering the grains, however. This shows the flexibility of the humoral system of medicine.

¹⁵⁸ Galen. *Galen: On the Properties of Foodstuffs*. (Cambridge: Cambridge University Press), 2003. pgs. 39-43.

¹⁵⁹ Ibid. pg. 45.

¹⁶⁰ Regimen Sanitatis Salernitatis, pg. 65.

There are also general guidelines to the consumption of food in this chapter that echo Galen and the Salernitan *Regimen*. Grains were hard and needed cooking, but also eating too much would cause other health problems. Like the Salernitan *Regimen*, Arnau urges moderation in the consumption of grains, and eating too much of them will "multiply worms" and cause blockages in the veins. The Salernitan *Regimen* also includes multiple passages urging moderation in eating, both of specific foods and generally. There is even advice on how much to eat during each season:

The Appropriate Diet for each Season

Slender in Spring thy Diet be, and spare; Disease, in Summer, springs from surplus fare. From Autumn fruits be careful to abstain, Lest by mischance they should occasion pain. But when rapacious Winter has come on, Then freely eat till appetite is gone.¹⁶¹

And there is advice for how much to eat at meals in general:

The Rule for Apportioning Meals

Eat not again till thou dost certain feel Thy stomach freed of all its previous meal. This mayst thou know from hunger's teasing call, Or mouth that waters-surest sign of all!¹⁶²

Comparing these passages to Arnau's Regimen, we can see a marked interest not just in

the content of the meal, but also in the quantity. Moderation is an important aspect of

humoral medicine in order to maintain a proper balance of the humors.

¹⁶¹ Ibid., pg. 61.

¹⁶² Ibid., pg. 53.

Like the Salernitan *Regimen*, Arnau's *Regimen* takes a holistic approach to health. Neither confine themselves to discussions of just food or medicine although there are no recipes in these texts. Arnau's *Regimen* also has chapters devoted to discussions of sleep and rest, healthy waters and when to drink, good versus bad air, exercise, and moods, as well as chapters on various types of foods.¹⁶³ These chapters are not specifically gendered, but as the whole document is addressed to a man, it can be construed as being advice specifically for male humoral constitutions with the assumption that men were predominantly hot and dry in nature, and women the opposite. The advice in these chapters is presented in prose rather than the verse of the Salernitan *Regimen* as it was originally specifically for his patron the king of Aragon. While the Salernitan *Regimen* is shorter and presented as a more general guide with pithier quotes, both *regimens* are directed at a lay audience, the elites in this case.

Regimens of Health were thus general guides that bridge the gap between the academic literature of learned medicine and an audience that had very little to no medical training. They worked to both transmit medical knowledge to the patrons of the physicians who wrote them and to provide a quick reference for the physicians themselves to use while working. Regimens are thus important examples of how academic medical knowledge was transmitted to the public, much like the documents in the rest of this chapter.

¹⁶³ *Regimen sanitatis ad Regem Aragonem*, chapters five, seventeen, one, two, six, and seven through sixteen, respectively.

Women's Manuals

I use the term "women's manuals" to refer to a loosely defined group of documents. Many of these were collected in forgotten manuscripts in disparate libraries. They are usually handwritten by the author and passed down to daughters and granddaughters through families.¹⁶⁴ Because of this many did not end up in libraries, and the ones that did, did so by chance. Some of these texts could have been the notes of physicians in training, which would have been copied and passed around to other physicians. Manuscripts have a way of being copied and edited by the copiers in ways that are useful for the person copying them, but that change the meaning of the text or combine disparate texts together.¹⁶⁵ I examine three manuals of women's health in this section. The main thread that connects each is a tendency to combine medical advice with recipes on medicine, cosmetics, and sometimes food. One is anonymously written but arguably was written for men by male physicians, the second is attributed directly to a male author, while the third is a compilation of recipes likely written by women.¹⁶⁶

The *Trotula* ensemble is a primarily gynecological text but also included sections on therapeutic waters and cosmetics. It was the most important collection of recipes that was most likely made by a man (or men), for male physicians, as Green argues, but that included treatments of gynecological concern as well as cosmetics; it is both about health and beauty, and childbirth and the complications thereof. As Green argues in her introduction to her translation: "Rather than looking through the lens of modern biology,

¹⁶⁴ Jodi Campbell, *At the First Table: Food and Social Identity in Early Modern Spain*. (Lincoln: University of Nebraska Press), 2017, pgs. 64-65.

¹⁶⁵ Ibid., and Green, *The Trotula*,

¹⁶⁶ The Trotula, The Flores del Tesoro de la Belleza, and the Manual de Mugeres, respectively.

a history of medicine – and not merely of disease – tries to explore medical systems of the past on their own terms. These societies saw a different body than we do, not necessarily because the physical body itself differed significantly, but because their intellectual structures of explanation and their social objectives in controlling the body differed. The task of history is to reconstruct an image of what they saw, a sensation of the body as they experienced it."¹⁶⁷ Like the *regimen sanitatis* manuscripts, the *Trotula* ensemble contains a very different type of medicine than we are used to, but which functioned within the scientific and cultural milieu of its time. Like the other documents that I look at in this chapter, the *Trotula* ensemble combines recipes for things that modern readers might think of as separate subjects, but which the medieval reader would have seen as interrelated and connected by their shared basis in humoral theory and how they are all considered related to women and women's health.

The *Trotula* ensemble went through many transformations over its history, being at first separate texts and then collected together by the late Middle Ages, and the authors' identities being obscured to the point that the name of the texts became the name of the presumed author, assumed by later medieval and early modern scholars to be a woman named Trota of Salerno.¹⁶⁸ Green holds back from arguing that the author or authors were male or female, only that the text was produced by a long historical process of revision, addition, and editing over time. Like many medieval manuscripts, the copyists acted as editors, copying down what was useful to them and adding their own entries as they pleased. Later, other copyists wrote these additions down as canon, and

¹⁶⁷ Green, *The Trotula*, pg. 1.

¹⁶⁸ Ibid., pg. 56.
sometimes removed parts that they deemed redundant or useless, or edited parts to clarify the recipes. What the *Trotula* ensemble as presented by Green represents is a collection of recipes and advice that again assumes that it has utility for women and contains redundancies that illustrate the haphazard process of copying and re-copying.

Green argues from the evidence of these texts and others that learned medicine had always had men employed in treating women's gynecological problems, usually the ones that required more drastic intervention than the normal course of childbirth and postpartum care.¹⁶⁹ Green argues that the popularity of the Trotula ensemble (over 126 extant manuscripts both in Latin and the vernacular) owes much to their adherence to Galenic theory and to the fame of the Salernitan school that they were associated with. Copies of it can be found throughout Latinate Europe and are strongly associated with universities, with prominent examples still found at the Sorbonne, Padua, and Montpellier. Extant copies exist as far as Poland and eastern Germany.¹⁷⁰

The first section of the *Trotula* ensemble presents numerous remedies for various gynecological problems that would have necessitated intervention, from pain relief to everything just shy of surgical intervention. Throughout the Middle Ages and especially after the rise of medical universities in Europe, learned physicians generally considered themselves of a higher class than surgeons, although there were certainly exceptions to this in different parts of western Europe, namely Bologna.¹⁷¹ There was a hierarchy in

¹⁶⁹ See Monica H. Green, *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology.* (Oxford: Oxford University Press) 2008.

¹⁷⁰ Green, *The Trotula*. Pgs. 51-62.

¹⁷¹ See Vern L Bullough, "Medieval Bologna And The Development Of Medical Education." *Bulletin of the History of Medicine* 32, no. 3 (1958): 201–15 and Michael Mc Vaugh, "Surgical Education in the Middle Ages." in DYNAMIS. Acta Hisp. Med. Sci. Hist. Illus. 2000, 20, 283-304.

medical care, where certain ailments were dealt with by different groups of practitioners. Since the Trotula ensemble never mentions surgery, we can make certain assumptions about who the knowledge contained in it pertains to.

But can we argue that women themselves read and used the *Trotula* ensemble? Green argues that "the medical evidence in no way supports such a supposition: most written knowledge about women's bodies is to be found in texts composed by male physicians and surgeons, for male physicians and surgeons... and incorporated into volumes owned by male medical practitioners or other male literates."¹⁷² What the Trotula does show is that there were men who were interested in caring for women who took the time and effort to collect recipes and advice that would specifically deal with issues of women's health. Where this knowledge came from Green argues is a relevant problem with seeing the Trotula as a document that accurately portrays health practices among women. She argues that documents like the Trotula represent literature by professional male physicians when they were called upon to do tasks that midwives could not, generally during difficult births. The recipes collected in the Trotula ensemble represent this well. So while these recipes might not have been collected by women, later writers would draw from them when making their own collections of advice on women's health.

While there are copious allusions to Galen and his advice in the Trotula ensemble, there is no direct exposition on theory beyond mention of male-female difference. The very beginning of this section explains that men and women have opposite natures in order to properly mix to produce offspring:

¹⁷² Monica Green, Trotula, pg. 19.

When God the creator of the universe in the first establishment of the world differentiated the individual natures of things each according to its kind...He created the male and female with provident, dispensing deliberation, laying out in the separate sexes the foundation for the propagation of future offspring. And so that form them there might emerge fertile offspring, he endowed their complexions with certain pleasing commixtion, constituting the nature of the male hot and dry. But lest the male overflow with either one of these qualities, He wished by the opposing frigidity and humidity of the woman to rein him in from too much excess... And God did this so that by his stronger quality the male might pour out his duty in the woman just as seed is sown in its designated field, and so that the woman by her weaker quality, as if made subject to the function of the man, might receive the seed poured forth in the lap of nature. ¹⁷³

This is a reference to both Galen's and Avicenna's theorizing that men's natural qualities are primarily hot and dry and women's are cold and wet. Beyond this assertion, however, there is little discussion of theoretical concepts. Like the Regimens, the *Trotula*'s theory is found in the recipes and the advice itself.

The rest of the first section contains both herbal remedies and what we modern readers might consider to be less practical remedies for health problems. A recipe used to ensure conception involves making the prospective mother drink a mixture of wine and powdered boar's testicle.¹⁷⁴ The *Trotula* also recommends three different kinds of amulet to aid a woman who does not want to have children. One involves the womb of a barren goat, another involves holding or tasting a stone of jet, and still another recommends carrying the testicles of a weasel close to her bosom in order to forestall conception.¹⁷⁵ Practical guides by the standards of their time, but not necessarily "scientific" medicines as we might hope to find in a treatise on humoral theory. We

¹⁷³ Green, pg. 71.

¹⁷⁴ Green, pg. 97.

¹⁷⁵ Ibid.

cannot judge the writers of these recipes by our standards, however. For them all of these different methods are tied together by humoral theory, which centers around the idea that everything has particular qualities that act on everything else in what they thought of as practical ways. The mechanisms of their theory allowed for practices that we might consider questionable, but we must understand them in the context of their time.

The next section of the *Trotula*, entitled *On Treatments for Women*, collects more recipes for the treatment of women, most of which are more practical and less magical in nature. Many of these issues are cured with baths and steam baths involving various herbs, a continuing practice from the *regimen* literature.¹⁷⁶ This section was clearly written as a separate text, as it not only repeats advice from the earlier section, it also includes recipes for cosmetics, as well as home remedies for eye pain, lice and scabies, warts, cancer and mouth and tooth ailments, all of which appear in the next section as well.¹⁷⁷ It also includes treatments for male reproductive issues.¹⁷⁸

This section also contains a notable treatment for menstruation:

For Provoking the Menses

For provoking the menses, take vervain and rue, and pound them heavily, and cook them with bacon, and give them to the patient to eat. Afterward, grind root of delicate willow and root of madder, and give the juice to the patient with wine.¹⁷⁹

¹⁷⁶ Ibid., pgs. 89-96.

¹⁷⁷ Ibid., pgs. 95-112

¹⁷⁸ Ibid., pgs. 95 and 96.

¹⁷⁹ Ibid., pg. 153.

This is an example of an abortifacient. The belief that women had to menstruate regularly in order to maintain the balance of their humors was common in the Middle Ages.¹⁸⁰ In the first section of the Trotula ensemble there was were several pages of recipes on menstruation; how often women should menstruate, what to do if they could not, etc. that included bleeding from the vein in the arch of the foot in order to help them regain their "color and their heat."¹⁸¹ This recipe is simpler than many of the ones in the first section, but like many recipes in the Trotula, it follows the same theoretical concepts; it uses herbs and other substances to correct an imbalance to the patient's humors. In using herbs to correct imbalances, this recipe is much indebted to Dioscorides, who wrote that rue not only provokes the menses, but also "extinguishes conception."¹⁸² Root of madder is also noted by Dioscorides to be an efficient abortifacient, noting that, "the root (inserted as a pessary) is an abortifacient, and draws out the menstrual flow and afterbirth."¹⁸³ While none of the recipes in the Trotula are explicitly written or named abortifacients, their effects were well-known, and simple decoctions of them must have been obviously strong abortifacients. Both the Flores del Tesoro de la Belleza and the Manual de *Mugeres* contain recipes with similar ingredients and uses.

The third and final section of the *Trotula* ensemble is entitled *On Women's Cosmetics.* It begins with:

In order that a woman might become very soft and smooth and without hairs from her head down, first of all let her go to the baths, and if she is not accustomed to do so, let there be made for her a steambath in this manner. Take burning hot tiles and stones and with these placed in the

¹⁸⁰ Ibid., pgs. 19-22.

¹⁸¹ Ibid., pg. 75.

¹⁸² Dioscorides, pg. 423.

¹⁸³ Ibid., pg 532.

steambath, let the woman sit in it. Or else take hot tiles or hot black stones and place them in the steam bath or a pit made in the earth. Then let hot water be poured in so that steam is produced, and let the woman sit upon it well covered with cloths so that she sweats. And when she has well sweated, let her enter hot water and wash herself very well, and thus let her exit from the bath and wipe herself off well with a linen cloth.¹⁸⁴

Right from the beginning the author gives us an idea of what a woman should look like in order to be considered beautiful in their time, as well as starting off with baths and steambaths as a treatment. It is also important that the bath be very hot and that it causes her to sweat. Women were already presumed to be predisposed to being cold by nature; hot baths were used to correct an excess of coldness that could produce ill-humours. Any bad humors accumulated prior to the bath could be expelled by sweating, which is why a sweat bath is the first step in this process. Then a hot bath where the woman "washes herself very well" would remove those humors completely and raise the general temperature of the body.

The next recipe in this section is a depilatory involving the use of quicklime, a caustic that can cause chemical burns if left on too long (as the original author notes).¹⁸⁵ There are two more variations on depilatories after that one. The first uses quicklime and orpiment, also known as arsenic sulfide. The second involves the same ingredients but with botanicals added like squirting cucumber, almond milk, galbanum, mastic, frankincense, cinnamon, nutmeg and clove. This recipe explicitly states that it is an ointment for noblewomen.¹⁸⁶ For all three recipes there are extensive instructions on how to prepare the quicklime and orpiment that involve cooking, boiling and sieving the chemicals into a powder. The noble depilatory includes the use of many different and

¹⁸⁴ Ibid., pg. 167.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid., pg 169.

expensive substances that make it "smell sweetly and it is gentle for softening the skin" and states that "Salernitan noblewomen are accustomed to use this depilatory."¹⁸⁷ There are also explanations of how to use the depilatories and how to help with any burns that might be caused by it. This mostly involves taking steambaths while using it, washing the ointments away with warm or lukewarm water, and coating the skin with bran, or henna and egg whites.

The rest of *On Women's Cosmetics* follows with similar content to the previous two sections though with fewer entries. Throughout there are a few examples of recipes and advice for non-cosmetic uses. One is for both constricting the vagina and for remedying excessive menses, another is for healing fistulas. As its name suggests this section of the Trotula is about appearances but utilizes humoral theory and herbs and vegetable ingredients to cure some problems that are tangentially related to appearance as well. The recipes appear to have the same haphazard organization that the previous sections also did, suggesting that they were also a separate text that was then added to the others before the whole text was regularized.

To sum up, once again we can see in these cosmetic recipes in the *Trotula* ensemble the influence of the *regimens* in prescribing baths as one form of mild purgative, and that much of the advice is directed at elites, in this case noblewomen. The author also assumes that women would be capable of dealing with caustic chemicals and complex processes of production. There are a plethora of recipes throughout the three sections of the *Trotula* ensemble that deal with ending unwanted pregnancy using ingredients long known to have that effect as well as aiding in miscarriages and difficult

187 Ibid.

births. The recipes in the Trotula ensemble represent the state of the art of gynecological knowledge of the late Middle Ages, and the popularity of the texts suggest it was well-known in the Hispanic Kingdoms. These recipes would be very familiar to the writers of the *Flores del Tesoro de la Belleza* and the *Manual de Mugeres*, as we shall see.

Flores del Tesoro de la Belleza has a lot of interesting recipes that deal with women's concerns, be they cosmetic or gynecological, and include many of the same ingredients and procedures that the *Trotula* ensemble does, though less systematically presented. Collected by a man (either Miguel Dies de Calatayud or by the Royal Archivist of Aragon, D. Miguel Carbonell) it primarily contains recipes for cosmetics, home remedies, and aids for complications of childbirth, but no food. The collection of recipes was originally written in Catalan but was translated into Castilian early in the nineteenth century.¹⁸⁸ The authorship of the collection is somewhat obscure. The only extant copy of *Flor de Tresor de Beutat* is included in a collection of other documents that all have different authors, and the attribution of the text to Miguel Dies de Calatayud comes from the inscription on the manuscript made by the collector in the eighteenth century.¹⁸⁹ Similarly to the authorship of the *Manual de Mugeres*, the manuscript that we

¹⁸⁸ Flores del Tesoro, pg. 26.

¹⁸⁹ "Manuel Dies de Calatayud Baron de Andilla, was a Valencian writer. He represented the Parliament of the Kingdom of Valencia in the Compromise of Caspe in 1412. Steward of King Alfonso the Magnanimous, he accompanied him, in 1443, to the conquest of Naples. He wrote several treatises on veterinary medicine. Among them are De les qualitats dels cavalls i sas malalties and Tractat de les mules e illurs malalties, whose importance lies, even today, in the terminology used. Also, if we follow the notes of manuscript 68 of the University Library of Barcelona, he was the author of Flos de medicines o receptes del tresor de beutat… In fact, manuscript 68 contains, in addition to the Tractat… some fragments of the Libre dels Bons Amonestaments of fra Anselm Turmeda, veterinary books…In our Tractat, we can distinguish the handwriting of four different amanuenses (one of them the one who made the annotations in the margins, which appear in the translation between parentheses), although Francisco Miquel in his inventory… already cited gives us news of the handwriting of two amanuenses, intermingled in almost all the treatises. Some initials, in the writing of only one of the amanuenses, are drawn in red." in Miguel Dies de Calatayud,

now have has gone through some different hands and ownerships over time, and the current manuscript was collected with others by someone in the past. Specifically, translator Oriol Comas, identifies four different sets of handwriting in the original manuscript, and notes that the whole manuscript is part of a larger collection of manuscripts on veterinary medicine by both Manuel Dies and a Fra Anselm Turmeda.¹⁹⁰

The text begins with an introduction that extolls the virtue and purpose of the

document:

Imagining that to you, most honorable ladies, I will do some service with the present book, I have composed it of various recipes that I have taken from the Treasury of Beauty, whose most noble and proven [recipes], by the experience of some notable people, I have chosen. It is for this reason that, in the present book, entitled Flowers of the said recipes, ladies, we believe that in it you will find what is necessary to procure the beauty, gentleness and purity of your persons. Those of you, among the other women, who have been sufficiently endowed by God, can rejoice in such grace, but I have made and composed the book for you so that you can use it and help you for the care and help of your persons and gentleness when, by some accidents that occur, you see the said graces diminished. I beg your kindnesses, ladies, to take my service with pleasure, not for what its value deserves, but according to the good liking and will with which the said service has been done for you by me. And since in the said Treasury, from which I took this composition, mention is made of baths and steam baths, of depilatory substances and other things to cleanse the dirt of the body, and you already know the way to do these things, I have tried to treat only some baths and steam baths that are medicinal for some necessary things to know and do, and of some singular way of depilatory; and also of the beauty of the face and other parts of the body, as you will see in the present recipes.¹⁹¹

The stated purpose of this document is thus to gather the best of the past literature of

recipes pertaining to women and to present it to the "most honorable ladies." The recipes

Flores del Tesoro de la Belleza: Tratado de muchas medicinas o curiosidades de las mujeres. Edited by Jose J. Olaneta. Barcelona, 2001, pgs. 23-24, 26.

¹⁹⁰ Ibid.

¹⁹¹ Miguel Dies de Calatayud, *Flores del Tesoro de la Belleza*, 29-30.

chosen by the author of this introduction are baths, steambaths and depilatories, as well as treatments for the face and other parts of the body. The text includes many recipes for these but also many home remedies that do not necessarily have to do with beauty, including ones for headaches, earaches and some dealing with childbirth. The author also states that "you already know the way to do these things," assuming again that women of character and of a certain class would already know how to make themselves beautiful through baths and other means. Why then does the author feel the need to collect these recipes? As he says in the next line, he tried to include recipes that were either novel, or ones that had a specific medicinal purpose.

The first four recipes of the current collection deal with the problem of feminine hygiene, with titles like: "To make washings to tighten the soft flesh, that it may smell good and be delightful; and it is very suitable for the intimate parts." and "Perfume to release the humors and to make the intimate parts smell good and tighten them," the collection begins with superficial concerns about beauty and attractiveness.¹⁹² And there are many recipes for depilatories, perfumes, baths, tooth powders and cosmetics including face whiteners, rouges and eye shadows. There is a marked concern with appearances and smells that is an important insight into the gender expectations of men and women in the period. The book being ostensibly written by a man and addressed to the noble women of the realm appears to inform the reason some recipes were included in the collection. Especially in recipes where it explicitly says that the recipe will make you "like a virgin" again, it seems like these recipes were written with entirely male concerns

¹⁹² Ibid. pgs. 30, 32.

for women.¹⁹³ Overall there are 50 recipes out of 93 that deal with women's appearances in the *Flores del Tesoro*.

This recipe for hair dye is particularly interesting:

Good dye to keep the hair black regardless of where they are

Apply to the hair finely chopped oak gall that has been cooked in oil, until it is quite thick, and cover your hair with a cloth, which is well wrapped and keep it so wrapped a night and a day, then wash it with cold water and you will have very black hair. This is a recipe often used by the Moors.¹⁹⁴

Unlike many in this collection, this is a simple recipe that uses oak gall, widely used as ink in the Middle Ages, to darken the hair. Particularly interesting is the attribution of the recipe to Moors. While it is unclear how this recipe was used by Moors, (Did dark hair denote Moorishness, thus being used to signify identity? Or was it simply a technique that the author copied from them) it is important to note that the author explicitly states where the recipe came from. This shows that the author was influenced by Muslim ideas even though this recipe is relatively simple. It is still unclear what the author means to imply here about the recipe being often used by Moors, however.

Another recipe explains how to make your hair blonde:

To have blond hair, so that they look like gold

Turn into ashes and then into lye the stems of peeled white ivy. And wash yourself with this lye twice a week. And at the end of the month the hair will have become superbly beautiful. But the hair has to dry by itself and if it can be done, in the sun.¹⁹⁵

¹⁹³ Ibid. pg. 32.

¹⁹⁴ Ibid., pg 36-37.

¹⁹⁵ Ibid., pg. 35.

The wording of this recipe is particularly interesting. It involves making bleach from ashes, a basic chemical technique, but one that involves some practical knowledge of handling ashes and expects the reader to know how to make them into lye without having to spell that out to the reader explicitly. It specifies a particular source of the ashes, like many in the *Flores del Tesoro*, denoting a belief in the particular qualities of the ivy and how they are altered by burning them. And particularly telling, the result is that the hair will become "superbly beautiful."

Male concerns about women's appearance tend to also be women's concerns of course, and the recipes in *Flores del Tesoro* would still be useful to women in the time period that I examine. The recipes use a bewildering amount of herbs, resins, woods, and chemical ingredients in order to fix problems with women's appearances in various ways that illuminate the kind of appearance women were expected to have in Iberian society. Appearance was and still is equated with health, and so recipes in this collection often combine both health and appearance. Like in this example:

How you can remove the redness of the eyes and make all yellowness and blood disappear and expurgate all kinds of sores and oozing sores.

Take seventy drachms of fresh roses; and twenty-four drachms of clean and burnt mastic; and six drachms of saffron; and three drachms of opium; and two drachms of antimony; verdigris, copper cake, lavender, five drachms of each; and half an ounce of juice of celandine. Prepare it as you would lentils, with fennel or rose water, or with breast milk; and put it in your eyes morning and evening.¹⁹⁶

The title clearly shows that the recipe is intended to both make the eyes look better, but also to heal all manner of other ailments that were seen as having the same cause. It also utilizes a multitude of different ingredients to alter the qualities of the body, in this case

¹⁹⁶ Ibid. pg 52.

from the outside, through purging them. In this case redness and yellowness are excesses that can be purged by use of this eye water, just as sores and oozing sores need to be purged and dried.

Many later recipes in the collection deal not only with these superficial concerns but also with home remedies for headaches, earaches and blindness that are particularly practical. The longest chapter in the *Flores del Tesoro*, Chapter 60, entitled "About headache, both for men and women," contains three pages of headache remedies collected all together in one place.¹⁹⁷ Chapters on tooth powders and skin whiteners are scattered throughout the text, suggesting that the chapter on headaches was written by the same person, perhaps added to over time and then later collated as one chapter of a larger text, while the other recipes were written separately. The chapter on headaches is also addressed as being for both men and women, suggesting that this guide for women also involves the maintenance of the health of both, as a function of women's role in society as healers and mothers.

There are 27 recipes for various generic ailments that could apply to both men and women, from earaches to toothaches, gum decay, sores, fistulas, cancer, cataracts, blindness, and deafness. One for blindness instructs:

For the person that cannot see, prick, with a copper needle, the eyes of young swallows when they are in the nest, so as to blind them, and mark them with a sign to recognize them; and after three days, the swallows will see; then cut off their heads with a knife with a handle like a fig tree, then hang them from a fig tree, and powder the heads and mix them with balsam and put it on your eyes and you will be healed. For the same thing take juice of the Tunis herb with fennel juice and powdered flax; all this mixed and put on the eyes undoubtedly restores sight.¹⁹⁸

¹⁹⁷ Ibid. pgs. 58-61.

¹⁹⁸ Ibid. pg 63.

This recipe combines both herbs and a seemingly magical element: pricking the eyes and removing the heads of swallows. A dried powder is made and applied to the eye, which purports to restore sight.

Three recipes for deafness involve a similarly folksy kind of logic:

To improve hearing

For the person who cannot hear, and for improving the hearing, take cilantro juice and heat it in an onion wedge, and put it warm in your ear.

For a deaf man

For a person who has become deaf, mix pig's feces with breast milk and put it in your ear and you will heal.

For those deafened by ear pain

For a person who has become deaf from ear pain, put in their ears this mixture: tender calf's gall melted with honey, and you will be cured.¹⁹⁹

These recipes involve a much less expensive set of ingredients and much less involved process of production and application than the previous, but nevertheless these types of recipes were collected next to more involved and "scientific" recipes. This indicates that the writers who collected them saw them as equally useful, and that generally this text and others like it were meant to be practical guides that could be referenced when looking for specific advice and added too when new recipes and advice were found.

Another section of seven recipes focuses on complications of childbirth, particularly still birth and miscarriages. Some of these are practical, involving ways to remove the fetus (without surgery) and some are folk remedies that involve more faith or

¹⁹⁹ Ibid., 64-65.

magical thinking than practical methods. One recipe for difficult childbirth is for a baby who will not come out and involves writing a Latin phrase on a piece of paper and hanging it around the woman's neck. The phrase is addressed to the baby and exhorts them to come out and be born like Jesus and Mary and other saints did from their mothers.²⁰⁰ Again, it is not useful for us to judge the writers for resorting to invocations or prayers when other seemingly more practical remedies have failed. Humoral theory was not a mechanistic theory of health that presented a secular theory of nature. The writers and medical scholars of the time were also devoutly religious, and humoral theory, as a holistic system, included that religious worldview in its theory of health. As demonstrated in the first chapter with reference to Galen and Avicenna, and in the *Regimen* literature, humoralism presents a medical system that takes the macrocosmos into account, and everything from the stars, seasons, and the immediate environment of the individual must be taken into account in order to heal the afflicted and maintain good health. The *Flores del Tesoro's* eclectic recipes reflect this worldview in which prayer and sympathetic magic are just as effective as herbs and food. Cosmetics are as much a part of maintaining health in this system of thought as poultices and electuaries.

Before this recipe are recipes that deal both with frequent miscarriages and one for someone who wants to have their period (Para la mujer a quien no venga su periodo).²⁰¹ After this there is a recipe that deals with expelling a stillbirth.²⁰² These

²⁰⁰ "To the woman who is unable to expel the child, place this writing around her neck, copied, and she will give birth: 'Qui dicunt mi examinite usque ad fundamentum in ea leo peperit leonem, Anna peperit santam Mariam, Maria peperit Christ infantas exi foras, Epus clamavit ab eo. O gloriosa filia de Joacchim, eu filia et dona engendrada de pietat de Josep, et a Jesu Christo conatu fou Cristus' Let it be put around their neck and take care that they do not wear it except when necessary." Ibid. pg. 58.

²⁰² Ibid.

recipes show that women's health still involved not only the care of women's appearances, but also dealing with difficult births and even ending unwanted pregnancies. These are similar to recipes in the *Trotula* ensemble, and their presence here illustrates the continuing influence of that text as well as the popular interest in these types of recipes and cures. The writer of these recipes expected to use them, or expected their readers to use them, not being satisfied to allow a male physician alone to handle these aspects of care. Women were thus involved in the *artes de partear* in this limited fashion. There are no instructions for surgery in these chapters, so at least that aspect of medicine would have been intended to be performed by someone else. Also, there are only these few recipes in this text, unlike in the *Trotula* where there are many on many aspects of gynecology.

All of these recipes involve dealing with rare and hard to find ingredients that would have required a detailed knowledge of botanical and pharmacopoeic lore. Many involve dangerous substances like lye, mercury, minerals like alum and lead of different types, (feather alum vs. white alum), and gums and spices from distant lands. Many of these ingredients could be found in the pharmacopoeic texts of the Greeks and Romans and the translations of Arabic texts. They involved ingredients from both near and far, and the author (or authors) clearly expected the women using the recipes to have access to and knowledge of the properties of each of the substances in them. If this manuscript was collected and published by a man alone, then he clearly intended women to have this knowledge already in order for the book to be useful to them. And if the book was collected, as I suspect, by a number of different women, then it should be taken as granted that women did have this sort of knowledge available to them.

In the *Manual de mugeres* there are several similarities to the *Flores del Tesoro* text. The complex character of some of the preparations, like the *solimán* used in many of the recipes, again suggests that women were expected to be knowledgeable of alchemical procedures and to at least oversee the manufacture of dangerous caustic substances. There are many difficult and toxic chemical processes that women were expected to have knowledge of and carry out, as well as have a discerning eye for difficult to obtain ingredients. The ad hoc and unorganized nature of the recipes also suggests a working text that has been added to over time.

One of the more important and complex recipes in the text is a recipe for the

previously mentioned solimán:

Para una onza de solimán tomad dos ochavas de azogue. Y lavad el azogue con una migaja de pan hasta que se ponga el pan blanco, y luego moled el solimán. Y desque esté molido, echad con él el azogue. Y traedlo a una mano siempre hasta que se embeba el azogue en el solimán. Y luego amasadle con leche de mujer, que sea de hijo, y cubridlo muy bien con ropa y dejadle que se linde como masa. Y después de lindo, tornadle a traer a una mano hasta tanto que se ponga de color que no sea blanco ni negro. Y tornadlo a amasar con la misma leche, y tornadlo a cubrir, y dejadle estar hasta otro día. Y luego otro día, tornadle a traer hasta que esté blanco. Y como esté blanco, le echaréis agua llovediza dentro en el mortero, y se la mudaréis nueve veces. Y como la hayáis mudado, dejadle secar en el mortero. Y después de seco atadlo en un paño de lino, que sea nuevo, doblado. Y tomad una gallina, que sea negra, y sacadle el papo y los menudos. Y meted el paño dentro de la gallina, y poned la gallina en una olla, y una docena de canillas de manos de carnero quebrados con ella. Y henchid la olla de agua, y ponedla a cocer, y sea el agua llovediza. Y cueza hasta que se deshaga toda la gallina. Y luego sacad vuestro paño, y puesto sobre un plato, haced peloticas del solimán. Y si quisiéredes hacer albayalde lo haréis también de la manera.

For an ounce of *solimán*, take two ochavas of quicksilver. And wash the quicksilver with a crumb of bread until the bread is white, and then grind the solimán. And if it is ground, throw (more) quicksilver with it. And always mix it with a hand until the quicksilver is immersed in the solimán. And then knead it with the milk of a woman, who has a son, and cover it very well with a cloth and let it come together as a dough. And after it looks right, mix it by hand until it gets a color that is not black or white. And turn it to knead with the same milk, and turn it to cover, and let it be until another day. And then on another day, mix it again until it is white. And as it is white, you will pour water in it inside the mortar, and you will move it nine times. And once you have moved it, let it dry in the mortar. And after it has dried tie it in a linen cloth, make it new, folded. And take a hen, that is black, and take out the entrails and the giblets. And put the cloth inside the hen, and put the hen in a pot, and a dozen mutton bones broken with it. And fill the pot with water, and put it to cook, and let the water be rainwater. And cook until the chicken is gone. And then take out vour cloth, and put it on a plate, make little balls of solimán. And if you want to do this with white lead, you will do it the same way.²⁰³

This recipe is arguably the most complex of the ones included in the manuscript,

utilizing several steps and filtering processes to produce small balls of a corrosive substance essential to many of the other recipes, especially face washes and skin softeners. This particular substance uses mercury and/or powdered (white) lead, both known as dangerous poisons in the present day, but used in cosmetics and medicinal preparations well into the nineteenth century. Mercury itself was used as a "cure" for syphilis throughout Europe in the sixteenth century. The name of the substance seems to be a reference to King Solomon, and is an example of alchemical practice.²⁰⁴ The purpose of *solimán* in these recipes seems to be as a caustic cleanser, which worked alongside lead across European cosmetics in making the skin whiter. White skin at the

²⁰³ Manual de Mugeres en el qual se contienen muchas y diversas receutas muy buenas. Alicia Martinez Crespo, editor. (Salamanca: Ediciones Universidad Salamanca, 1995), 48. I have included the original Spanish here because the recipe is especially strange and difficult to understand.

²⁰⁴ *Mercury Pollution: A Transdisciplinary Treatment.* Edited by Sharon L. Zuber and Michael C. Newman. (New York: CRC Press, 2012) pgs. 17-19.

time was believed to be more beautiful, and was associated with upper-class status, so it seems probable that the recipes that utilize *solimán* to freshen the face might be desirable for upper-class women and those who aspired to higher status alike. It is also important to note that whitened skin might have been connected to one's status as a *cristiano viejo*, an "old Christian" The complex production process is dirty, and requires working directly with the ingredients by hand. Upper-class women might not want to perform this work themselves, and in any case, social customs would have dictated that procuring the ingredients would have involved going through male or lower-class female servants. The intended audience of this recipe collection would still have expected to be intimately aware of the process and the ingredients involved, which would have required a considerable amount of wealth.

Solimán is used in twelve recipes in the *Manual*, all of which pertain to treatments for the face. What is important to note in the case of *solimán*, as with many of the recipes in the *Manual de mugeres*, is that there are several recipes that are supposed to produce fairly similar effects. A few examples are:

Water for the face

For half a cup of water, two ounces of pumpkin seeds very well mashed, pouring water in the mashed mixture. Throw them in a cloth and take out the milk, and throw that in a vial. And return to grind the seeds, and turn them again in the cloth to remove water, and draw milk. Do this many times until the water turns white. Put in the water enough *solimán* stone as a chick-pea, and a little camphor, and also a little honey -that here is below- and a white verdigris. And shake well and then cure it nine days left alone in the sun.²⁰⁵

²⁰⁵ Manual de mugeres, 52.

The recipe for honey mentioned in this recipe also contains solimán as well, thus

increasing the potency of this particular preparation. ²⁰⁶

Another recipe for water for washing the face contains solimán as well:

Water for washing the face

Put in a glass an azumbre and a half of water that is river water. And throw in it some very hot pebbles. And when they are cold, remove them, and put in the water two maravedis of camphor, and two of borax, and two of clarimente, and one of *solimán* stone, and two of raw white lead, and one of verdigris, and two of cuttlefish, and a fistful of pumpkin seeds and a little myrrh: all these things ground; and half bowl of raw honey. Put the water in a barrel, and put the barrel in the sun for nine days, and you will shake it every day. And as the nine days are past, you will have made your water.²⁰⁷

This one contains both mercury-based *solimán* and additional white lead, along with pumpkin seeds like the last recipe, and a different mix of chemical and aromatic substances. Another uses vinegar as its base, another red wine.²⁰⁸ *Solimán* seems to be such an important part of the cosmetics in the *Manual* that it must have been a fairly common ingredient in the cosmetics production process. The inclusion of a recipe to make the substance at home points to women being much more involved in the process of chemical (and alchemical) production. The fact that *solimán* does not appear in the recipes in the *Flores del Tesoro* text suggests that the writer of that document was either unaware of the substance, or that it was not available to them. Also the fact that so many recipes in the *Manual* contain it also suggests that the writer was perhaps experimenting with its use and that the recipes are examples of different approaches.

²⁰⁶ Ibid.

²⁰⁷ Ibid., 57.

²⁰⁸ Ibid., 80.

Another different issue with the *Manual de mugeres* is that there are only two recipes in the text that deal with childbirth and its complications. Similarly to the *Flores del Tesoro*, each seems somewhat folksy and based on a more common-sensical way of dealing with the frequently life-threatening event and its after effects. Both deal with the post-partum health of the mother, but not the baby.

Unction for the breasts of women who have recently given birth

Eight ounces of violet oil, half an escudilla of mint juice and the same amount of parsley juice, one ounce of vinegar and eight of rose water. Boil everything together in a stewpot until there is no more quantity of oil. Cook it with a little wax. And after the woman has given birth, four or five hours, smear it on the breasts, and put on each nipple a wet cloth where it leaves the breast. And wrap it with a clean cloth, and put it above a few cloths soaked in rose water. And do this once every day until she can express milk. And when milk does not come, put on the breasts a waxed cloth, and seed oil, and kid tallow; and another on the belly with wax and sweet almond oil, and goat tallow. And bring these cloths wherever you will.²⁰⁹

Remedies for the afterpains when they have just given birth

Give the woman to drink, once she has just finished giving birth, theriac dissolved in orange blossom water. And put on her belly a goat membrane and change this fabric every three days. Eight egg yolks fried in chamomile oil and dill, and the other of Mecca straw, and another of cinnamon. Make it all into powder and dust the yolks with them, putting half on the belly and the other half on the hips, warm it as much as can be tolerated. Cook a hen with a lot of caraway, sesame, and parsley, and a little saffron. And let her drink an escudilla of that warm broth.²¹⁰

Both recipes seem useful for the type of post-partum care usually performed by women,

though here that is confined to helping the new mother deal with pain and regain her

strength and ability to care for the newborn. These are recipes for a poultice and a drink

²⁰⁹ Manual de mugeres, 69.

²¹⁰ Manual de mugeres, 69.

to give to a mother who has just given birth, not any of the elaborate gynecological preparations of the *Trotula* ensemble.

Another recipe deals with a common health problem for women, but it is ambiguous as to what it is precisely for:

Remedy for the flow of blood

Take a cuarta of southernwood resin, and another of mastic, and a pomegranate, and three ground-up walnuts and a half-dozen cloves. Grind all these things and pass them through a sieve. And the woman who has infirmity, take two roasted eggs, which are soft, and empty the whites, and fill it with these powders and drink them. Do this nine mornings and you will be healed of this infirmity.²¹¹

This recipe is likely a "remedy" for menstruation, but whether it is to stop bleeding or to make it start is unclear from the text. The text really only refers to an "infirmity" without stating exactly what it is. This recipe reads very much like ones from the *Flores del Tesoro de la Belleza*, recipes that are much more clearly abortifacients. The fact that there is only this one recipe for a general health issue pertaining to women, along with the very limited number of recipes for issues relating to childbirth, at least supports the idea that the writer of this manuscript was only partially aware of and tangentially involved in the *artes de partear* that were the exclusive province of women practitioners.²¹² The "nine days" wording appears in numerous other recipes as well as this one, and seems to be an element of folk magic, in other words a set formula that has universal power in these recipes, rather than an empirically necessary length of time to produce its intended effects.

²¹¹ Manual de mugeres, 43.

²¹² Ortiz, 95-108.

Like the Flores del Tesoro and the Trotula, the author includes many

products in the manuscript that seem of particular use to women in maintaining

their social status and ideals of beauty:

Plucker to pull out the hair

A quarter of turpentine, half an ounce of new wax, one ounce of mastic. Put it all together in a stew-pot on the fire and give it two or three boilings, so that it all melts. Strain it through a thin cloth into a clean basin. And before it is just congealed, form it into little loaves.²¹³

Lye for washing the head

Half a celemín of vine-shoot ash, and another half of oak ash, half a pound of burnt and ground-up white argol, another half pound of ground-up sesame, six maravedís of bone ash. Put this all in a pot horizontally and press it well. Add a pitcher of water and leave it to rest two or three hours. And then cook it until it is strong, as much as is necessary. Put half a celemín of ash in a colander, pass this lye through it and cover the vessel into which you strained it, so that no vapors can escape. And after straining put with it an escudilla of honey.²¹⁴

Both of these recipes, and others that deal with washing the face with solimán, all involve the use of caustic chemicals and complicated and involved processes that would likely have been performed by lower-class workers, not elite women. But the products that are produced by them are specifically desirable to women with money and the need to maintain their high status through their physical appearance. The focus on products that could deal with superficial feminine problems is an important aspect of the *Manual*, and points to the possible social status of the author.

²¹³ Manual de mugeres, 55.

²¹⁴ Manual de mugeres, 74.

There are a number of recipes that deal with dental hygiene, beginning with the

very first recipe in the Manual de mugeres:

Powder for the teeth

Five ounces of alabaster, and four ounces of porcelain, and six ounces of fine sugar, and an ounce of white coral, and another of cinnamon, and a half of pearl, and a half of musk. All done to dust. Clean your teeth with these powders and rinse your mouth with tepid white wine.²¹⁵

One can see here again the interest in whiteness and bleaching, this time of the teeth

through white ingredients. When maintaining dental hygiene failed, there were recipes to

help with toothaches as well:

Remedy for tooth decay

Take ginger, and crushed walnut, and cloves, and heart of pine, and nutgalls, and mastic, and sage, and rosemary, and rock alum; of all these things equal parts. And to the quantity of one azumbre of white wine, which is very fine, you will put in a quantity of a half ounce of each thing. And you will cook it in an earthenware pot until it measures from four parts to three (cooked down by a quarter). And as it is cooked, put in an escudilla and pass it, by a strip of linen in the other. And as it is strained, he who has tooth decay should wash his mouth with this concoction nine mornings I urge and it will kill everything.²¹⁶

For pain of the teeth or molars

You will take the peppermint seed and put it on the coals. And receive the smoke of it in the mouth. It will take away the pain and it will kill the worms.²¹⁷

These instructions illustrate that people in sixteenth century Spain saw cavities in the

mouth and believed that they were caused by worms boring holes into the teeth. The first

recipe makes a mouthwash of white wine, spices, herbs, and rock alum meant to "kill

²¹⁵ Manual de mugeres, 37.

²¹⁶ *Manual de mugeres*, 49.

²¹⁷ Manual de mugeres, 46.

everything." The second recipe represents a common folk remedy that uses a pungent smoke to kill these worms. There are other recipes in the *Manual de mugeres* to help a toothache as well that did not claim to kill worms however:

Powders to clean and heal the teeth

Take red coral, and sea cockles and weeded soil, of each of these things the weight of a half real; and of pearl, the weight of a real; and of meerschaum, the weight of a real and a half. Make all these things into powder. After having cleaned the teeth with these powders, wet a thin linen cloth in tepid white wine, and smeared in these powders, bring it gently to the teeth and do not rinse the mouth.²¹⁸

This last recipe does not claim to relieve toothache but is meant to be used as another toothpaste to maintain the health of the teeth.

The long list of tooth treatments illustrates that early modern Spaniards were just as interested in maintaining the hygiene of their mouths, however they understood it. Modern readers will appreciate the fact that many of these preparations contain some form of sugar, which would only help to rot their teeth, but the author seems unaware of this problem. Their belief in worms that ate into teeth and left holes in them meant that they could not have known that this was the case. Nevertheless, there are quite a few recipes that deal with dental hygiene, and none of them evince a Galenic theoretical understanding. The first recipe seems to be simply a list of white powders that are meant to whiten the teeth (again, using white sugar). The porcelana indicated in ingredients is most likely not the porcelain associated with fine china, an extremely rare and expensive object. It seems more likely that this was cowrie shell, the original meaning of the word. Through its use in Italian, we get our English word for fine china, and this seems like a

²¹⁸ Manual de mugeres, 73.

likely source for the Castilian form of the word as well. Cowrie shell would have been vastly cheaper and readily available through Arab trade routes from the Indian Ocean. Porcelain would possibly have been available through the same route but would have been far too expensive to be ground up for toothpaste.

The *Manual* also includes recipes on food, something that sets it apart from the previous two documents. Twenty-nine recipes in the *Manual de mugeres* are food related. The combination of food, medicines, and beauty items in one manuscript supports the idea that this book was intended for a woman in charge of running a household; all of these recipes would be useful to someone in that position. Nineteen of the twenty-nine recipes are for sweets, including pastries, and preserves. Both savory and sweet recipes evince a connection to Spain's Muslim past in the ingredients and preparations used, though all have been altered to suit Christians, and those who wanted to project Christian identity.

Food was also an important indicator of religious identity in Spain in the period. Pork especially became an important symbol of Christian status. Beginning in the latter half of the fifteenth century the Inquisition was inordinately interested in the eating habits of *nuevos cristianos*. Jodi Campbell relates a story in which a woman denounced her neighbor before the inquisition for throwing out a blood sausage she had offered her as a gift.²¹⁹ The very first food recipe in the *Manual de mugeres* is for pork chorizo sausage²²⁰ This recipe and others display a combination of influences that illustrate the syncretistic

²¹⁹ Campbell, 78-80.

²²⁰ Manual de mugeres, pg. 53.

nature of Spanish society. The author includes an "Olla Morisca" or Moriscan stew in the collection as well.²²¹

Another group of recipes with Islamic ties involve sugar:

Peaches in sugar

Take peaches that are not very ripe and clean them and take out the seeds in the manner that leaves the peach whole. And put the sugar to the fire to clarify. And while the sugar is clarifying, put the peaches in cold water. And after clarifying and skimming the sugar, take out the peaches and, drying the water from them well, put them in the sugar. And put the sugar to the fire and cook it on a low fire until they are well cooked, take a puntel and jab them; and if the puntel passes through, they are done cooking. And when they are cooked, take them out of the sugar one by one. And put them on your plates, put them in the sun until they are dry. And when they are dry, return them to clarify in the sugar at a high temperature, and put in it a little bit of musk. And when the sugar is clarified, pass them one by one through it with a fork; and return them to the plates. And dry them in the sun and keep them.²²²

This recipe bears resemblance to electuaries, or herbs and fruits preserved in sugar that

were meant to be eaten after a meal. The Islamic cookbook that I examine in the next section includes many recipes for these types of sweets. While the Islamic recipes for these sweets have a particularly medical explanation as part of their description, the ones in the Manual de Mugeres do not mention any health benefits. One can see recipes like this one as a continuation of Islamic food types either stripped of their medical purpose entirely or simply not mentioned by the author of the Manual because they were not interested in it.

Most of the recipes contained in the *Manual* deal primarily with superficial aspects of female identity. The products of these recipes were apparently desirable to

²²¹ Manual de mugeres, pg. 58.

²²² Ibid., pg. 86.

women, especially ones that wanted to maintain a high level of hygiene and beauty practices, but the attitudes toward physical appearance illustrated by these recipes should not be observed in isolation from male attitudes towards women's value in society.

The fact that there are so many recipes for soaps, perfumes, lotions that soften the hands, waxes to remove hair, and washes that "whiten" the face, and yet so little information about recipes that attend to women's health issues, seems to point to a writer that was not well acquainted with the *artes de partear*, and certainly not a university-trained physician. The writer could have been a woman, or multiple women, who collected from various sources recipes that seemed useful to them and that were not specifically from any specific book of learned medicine, and a male author found these manuscripts, collected them together and then gave them a title for the purpose of indexing them in their library. That being said, the author of the Manual did include recipes that had a medical purpose, and the short nature of the text, along with the haphazard collection and lack of organization of the recipes suggests that this text, unlike the others in this chapter, was the work of a non-professional that collected recipes that were useful to them. Unlike the Trotula ensemble, the writer(s) of these recipes did not expect to attend births personally, but did intend to be helpful post-partum.

Cookbooks before 1500

In the two Iberian cookbooks that I examine in this chapter I will illustrate the influence of Islamic medical theory on food in the late Middle Ages before the final conquest of the last bastion of the Muslim rule on the Iberian Peninsula at Granada.

Cooking has always been in some way women's work, and even though these cookbooks may not explicitly state that their audience is meant to be women, women were undoubtedly both involved in the preparation of these recipes and consumers of the products of these recipes.²²³ Like the *Regimen Sanitatis* literature, women could not help but be influenced by them and their dietary pronouncements.

Kitab al tabij fi-l-Maghrib wa-l-Andalus fi `asr al-Muwahhidin, li-mu'allif mayhul (The Book of Cooking in Maghreb and Andalus in the era of Almohads, by an unknown author) is primarily a large cookbook with more than five hundred recipes, and its ingredients and methods of cooking illustrate both a connection to Greco-Roman medical theory and to later Iberian recipes. There are numerous mentions throughout the text of the advice of Galen and Hippocrates that guide the choices of ingredients, cooking methods, and the intended eater of each dish.²²⁴ The book was a working text, and as such was, like the other manuscripts in this chapter, the product of multiple authors compiling the recipes and adding their own as time went on.²²⁵ The English version of the work has been translated by Charles Perry, and he organized it into sections based on content, but the original text from the fifteenth century was almost completely

²²³Jodi Campbell, *At the First Table*, pgs. 62-70, and Ken Albala, *Food in Early Modern Europe*. (Westport: Greenwood Press), 2003, pg. 107.

²²⁴ "According to Hippocrates...It is fitting to choose, among foods for the sick, that which will be the most pleasing. Galen says in his commentary that the significance of this saying of Hippocrates is that the most pleasing is the food that the sick man desires and to which his spirit is inclined, and even if it is wanting in quality or by its condition produces a harmful humor, the man, taking it gladly and with gusto, keeps it in his stomach, his spirit accepts it and his nature is accustomed to it. Cook it completely and it will be perfectly digested and much praised, and the harm will be changed to profit. Many sick men have been seen to improve with harmful foods, if they took them gladly." *Kitab al tabikh fi-l-Maghrib wa-l-Andalus fi `asr al-Muwahhidin, li-mu'allif majhul: The Book of Cooking in Maghreb and Al-Andalus in the era of Almohads, by an Unknown Author*. Ed. and translated into English by David Friedmann and republished by Candida Martinelli. PDF file. <u>http://italophiles.com/andalusian_cookbook.pdf Accessed 6/17/2021</u>, pg. 6. ²²⁵ *Kitab al Tabij*. Pg. 1.

unorganized and includes recipes collected elsewhere in other cookbooks as well as original recipes that can be found nowhere else.²²⁶

One notable collection of recipes is for different types of electuaries, candied herbs and spices used for medicinal purposes.²²⁷ All of these recipes refer to humoral medicine and are meant to act as both medicine and as sweets. An electuary of mint "cuts phlegmatic vomiting, excites the appetite, heats the stomach, and if taken before eating, constipates the intestines; it is useful," while an electuary of ginger and pepper eaten after a meal "excites the meal and digests it, expels gas and dissolves phlegm, aids in dropsy, and provokes urine and menstruation."²²⁸ Electuaries such as these are great examples of food as medicine, and their effects, based on humoral principles, are applicable to both men and women. Like Galen, Dioscorides, and the writers of the *Trotula*, *Flores del Tesoro*, and *Manual de Mugeres*, the writer makes a point of noting the abortifacient qualities of one of the recipes, illustrating that this issue was even important to Muslim writers of the time.

The *Kitab al-Tabij* also includes recipes for people with different types of illnesses and humoral dispositions: "A Dish of Meat Juice Effective on the Day of Fever for Illness, after the Illness Decreases; A Dish of Safarjaliyya, Good for the Stomach; Sikbâj of Veal, Used for Young People in Summer; A Dish of Pullets Suitable for the Aged and Those with Moistness; and A Dish Suitable for Autumn."²²⁹ These recipes are explicit about their usefulness in remedying humoral imbalance by using specific

²²⁶ Carolyn A. Nadeau, *Food Matters*, pg. 10.

²²⁷ Kitab al-Tabij pgs. 25-26.

²²⁸ Ibid., pg. 25

²²⁹ Ibid. pgs. 27-31.

ingredients. In following with Galenic ideas about how the humors are produced from the

nutriment of the foods that we eat, each of these recipes assumes that the particular

ingredients should be able to produce healthful results for those who are sick, or have

specific problems, or for remedying the prevailing qualities of particular seasons.

Like in Galen and Avicenna, dishes are described in terms of their qualities:

Another Dish Which Strengthens the Stomach Before Heat

Take sexually mature chickens and clean and put in a pot. Put with them the juice of sour pomegranates, quinces and apples and oil and onions and cilantro. When it is about done, throw in a little mint and some cassia and dry coriander, and cover with ten peeled and pounded almonds and serve.²³⁰

And also:

Recipe for the Dish Mentioned by Al-Razi

Gives strength to the sick and those weakened by lengthy disease, and benefits those of a bilious disposition.

Take meat of a plump calf shoulder, chest, neck, entrails and stomach and its fat and bone marrow, and put it in a new pot with a little salt, coriander, cumin, pepper, saffron, cinnamon, some onion, a little rue-leaf, celery leaves, and mint and citron and lemon leaves, and oil. Cover it with strong vinegar without water and cook until the meat softens and falls apart. Then moisten with its fat a tharîda [breadcrumbs] of the crumb of leavened bread, which shall have been made with fine white flour. This is said to be an excellent dish.²³¹

Both these recipes purport to aid the sick by modifying the qualities of their body, thus

balancing the humors. The first uses sour ingredients and spices to counteract heat, and

the second uses the same to both fortify a sick person and to counteract a bilious, or warm

and dry disposition.

Another dish counteracts winter cold and cold illnesses:

A Dish Made in Winter for Those with Cold Illnesses

²³⁰ Ibid, pg 29.

²³¹ Ibid, pg 30.

Take fat young meat and put in a pot with water. Put with it *murri*, oil, salt, pepper, galingale, cinnamon, an onion pounded with cilantro and pounded peeled almonds, walnuts and pistachios, and cook until done. Take the yolks of ten eggs and beat them with a like amount of honey and throw on them lavender, cloves and saffron. Cover the contents of the pot with this and let it set, and ladle out, God willing.²³²

Like the recipes for counteracting heat, the ingredients in this dish are meant to have qualities that, combined, counteract the excessive coldness of the body, whether that cold is the result of an illness or the result of the outside environment (winter).

There are five dishes identified as Jewish in their titles, illustrating the presence

and importance of Jewish cuisine to the author.²³³ Four are poultry dishes, one is a

casserole, and the last is an eggplant dish stuffed with meat. What particularly makes

these dishes Jewish is not clear, though of course none of them involve pork or pork fat in

them. One of them, the casserole, is possibly a sabbath dish made to be prepared the

afternoon before and then uncovered and eaten on the sabbath without breaking the rule

against cooking:

A Stuffed, Buried Jewish Dish [casserole]

Pound some meat cut round and be careful that there be no bones in it. Put it in a pot and throw in all the spices except cumin, four spoonfuls of oil, two spoonfuls of penetrating rosewater, a little onion juice, a little water and salt, and veil it with a thick cloth. Put it on a moderate fire and cook it with care. Pound meat as for meatballs, season it and make little meatballs and throw them in the pot until they are done.

When everything is done, beat five eggs with salt, pepper, and cinnamon; make a thin layer [a flat omelet or egg crepe; literally "a tajine"] of this in a frying pan, and beat five more eggs with what will make another thin layer.

Then take a new pot and put in a spoonful of oil and boil it a little. Put in the bottom one of the two layers [of eggs], pour the meat onto it, and cover with the other [egg] layer. Then beat three eggs with a little white flour, pepper, cinnamon,

²³² Ibid.

²³³ Ibid. pgs. 65-67.

and some rosewater with the rest of the pounded meat and put this over the top of the pot.

Then cover it with a potsherd of fire until it is browned [brown it on top], and be careful that it not burn. Then break the pot and put the whole mass on a dish, and cover it with mint, pistachios and pine nuts, and add spices. You might put on this dish all that has been indicated and leave out the rosewater and replace it with a spoonful of juice of cilantro pounded with onion, and half a spoonful of murri naqî'; put in it all that was put in the first [from the previous recipes], God, the Most High, willing.

[The translators suggest this is a dish that is left in the oven on Friday night, buried in the ashes, so that the family can eat it on Saturday, the Sabbath, without the women needing to violate the Sabbath by cooking.]²³⁴

This dish is quite elaborate; it is put together almost like a lasagna or pastitsio in layers of egg, meat and sauce. While the translators write that it could be left in the (woodburning) oven overnight and finished the next day, there are no instructions to do this in the recipe. There are just the instructions to leave it covered with a lid, (the potsherd) covered in ashes, but to mind that it does not burn; how hot are these ashes if they can be left to warm this dish overnight and not burn it? Breaking the pot likely means to unseal it, though the instructions here do not mention a seal of any sort. Breaking a pot with food in it makes the food inedible (little shards of ceramic or glass would be in the food), so I think there is an error in translation or there is something left unsaid here. It could certainly have been made Friday afternoon before sundown, and eaten that night for dinner, then perhaps left to cool and eaten in the morning.

Many of the cooking methods involved in these dishes are similar to the dishes in the other recipe and cookbooks that I look at throughout this dissertation project. Cooks pounded meats and aromatics together in mortars and seasoned them with rosewater, spices, salt and various aromatic vegetables, chiefly onion and garlic. Ground entrails,

²³⁴ Ibid., pg. 66.

eggs, and wheat flour or breadcrumbs were used to thicken sauces here as in other medieval and early modern cookbooks. These methods and ingredients would have been familiar to Christian cooks in the later Middle Ages as well as their Muslim neighbors. The ingredients involved in the recipes of the *Kitab al-Tabij* amply represent the produce of the Mediterranean world and the recipes provide a fascinating representation of the social and cultural make-up of Al-Andalus. This effect was achieved by the long process of compiling recipes and collecting them in this text.

Similarly, the *Llibre de Sent Sovi* is a cookbook that both its editor Joan Santanach and scholar Carolyn Nadeau agree was most likely compiled from recipes of multiple cooks in multiple kitchens.²³⁵ It is the earliest example of Catalan cuisine; the only extant manuscript having been written in the first half of the fourteenth century. Many of its recipes are similar to or clearly share a common theoretical basis to recipes in the *Kitab al-Tabij*. Like the other cooking and women's health manuscripts that I have looked at in this chapter, the text shows evidence of being the result of multiple writers who borrowed and modified recipes from earlier sources.

In terms of ingredients, there are multiple uses of almonds, lemons, saffron, cinnamon, ginger, and cloves, and sauces with vinegar and verjuice added along with sugar, much like in the *Kitab al-Tabij*. A recipe for stuffed eggplant resembles one for the same in the *Kitab al-Tabij*:

Aubergines (Eggplants)

If you want to make aubergines, boil them with salt and water. First, however, one cuts them into three or four parts lengthwise. When it has boiled a lot, take them

²³⁵ Nadeau, pg. 12, and *The Book of Sent Soví: Medieval Recipes from Catalonia*. Ed. Joan Santanach i Suñol, Trans. Robin M. Vogelzang. (Barcelona: Barcino-Tamesis) 2008, pg. 13.

out; choose those that you find are not as well boiled and press them firmly between two wooden plates. And take those that are more cooked, and onion, parsley, mint, and marjoram, and chop it all together on a plate. Put eggs and grated cheese on a plate; then take raisins and cooked garlic. Grind it all together and mix in good spices. Then stuff each one [of the aubergines slices] with this [mixture]. Take an onion and put it on the bottom of the casserole dish. The head of the aubergines goes at the bottom and the tail at the top. Take almond milk made with good broth, and a little oil, and a little grease, and pour it over the top. And it goes in the oven.²³⁶

Tharîda of Meat and [Stuffed] Eggplants

Cut up meat and put in a pot [with water], and put with it onions, spices, salt, oil and vinegar. When it boils, pour on it water to cover, and crumble bread for it. [Boil the meat, remove it, then add breadcrumbs to the liquid.] Take eggplants and remove their calyxes [cut off the tops] and insides and what is appointed of their meat [hollow them out]. Take that and put it together with the meat, and cut up with it onions, and throw on it spices and cilantro and a little salt, and rue and murri, and pound all fine, and stuff [the eggplants] with it, and return the calyxes [tops] with thin pieces of wood [like toothpicks to hold the tops on], and put on the fire [bake] until done. And when it is done, garnish with [the soaked] breadcrumbs [set the baked, stuffed eggplants on the soaked breadcrumbs]. It can be made otherwise by sprinkling with pepper and cinnamon.²³⁷

There are key differences between these two recipes for stuffed eggplant, notably the use of grease in the Christian version. This would have probably been pork fat, but it is not specified exactly in the *Llibre de Sent Sovi*. The Christian version is also baked in an almond sauce that is similar to another (more elaborate) one for Jewish style eggplants in the *Kitab al-Tabij*.²³⁸ This dish is simpler but still shows some important parallels with older Iberian recipes through its ingredients and cooking methods. The choice of spices and other flavorings is similar to the ones in the *Kitab al-Tabij*.

²³⁶ The Book of Sent Soví: Medieval Recipes from Catalonia. Ed. Joan Santanach i Suñol, Trans. Robin M. Vogelzang. (Barcelona: Barcino-Tamesis, 2008), pg. 115.

²³⁷ *Kitab al-Tabikh*, pgs. 45-46.

²³⁸ This one was composed of "grated onion, spices and aromatics, a sprig of thyme, another of rue, citron leaf, two stalks of fennel, two spoonfuls of oil, almonds, soaked garbanzos, some half a dirham of ground saffron, and three cut garlic cloves. Add in sufficient water until it boils several times and throw into it the rest of the stuffed eggplants." Ibid., pg. 67.

Llibre de Sent Soví also differs from the *Kitab al-Tabij* in that the instructions are intentionally vague:

Chicken Broth

If you want to make chicken or goat broth, take well-crushed almonds and verjuice and strain through a bag into a pot; the chickens are put in raw and are well butchered; as they are cooked, if it is too clear, cut the livers and they go inside the pot; half saffron and ginger and whatever you want; the cooked chickens, cleaned, put them back in the pot with the sauce, and add a pound of almonds for two pairs of chickens in bowls so that they are thick, and verjuice because it tastes good, what a good flavor it gives; and here it is the same with goat, and, if it is thrown in with the green sauce, it is no less worth for the verjuice.²³⁹

This recipe is more of a sketch rather than a detailed instruction on how to make chicken broth. It does not describe the process of making broth at all; it assumes you know what a broth is and how to make it, and this recipe tells you how to make a variation of that by adding almonds, verjuice, and how to handle the chicken. The first part tells you to strain crushed almonds and verjuice through a bag but leaves out the part where you must crush them together in a mortar with a pestle; the bag is meant to strain out any larger bits and make the resulting sauce smoother. This sauce is added later when the chickens and broth are made and put into bowls with the cooked chicken. This recipe then is not really about the broth but the garnish added to it to create a stewed chicken (or goat) dish.

Almonds are an important ingredient in this recipe and many others in the *Llibre de Sent Soví*, added to drinks and sauces like the previous recipe. Three recipes for *ordiat*, known as *horchata* in Castilian, involves almonds as well:

²³⁹ Llibre de Sent Soví, pg. 20.
<u>Ordiat</u>

If you want to make ordiat, you need barley and clean it and make flour; when you open the almonds and make some milk and remove the starch with the flour and put it in a clear cloth and cook it down to half; make sure that the milk is clear, that it can be cooked to a boil, and, like a thick and well-cooked syrup; season it with salt for a person who does not have a fever, and white sugar in the bottom, and make it in bowls, and, as it will be bowled up, it must be all crushed.

<u>Ordiat</u>

Another method of ordiat; you make almond milk as above, place half of it in a bowl; crack well prepared and clean barley that does not taste bad and has no other flavor and cook it in a pot with water. And, as it will have boiled for a while until dry, take it out and press it a little between two cutters and cook it with milk of almonds as above.

Ordiat In Another Way

Another ordiat method; you take barley that is parched and half to boil it, and, as it will be boiled, put it in a mortar, and, as it will be well crushed, tear it apart and wash it and cover it with a beautiful thick cloth and half to bake it like this on top as it is said. I use white sugar in everything.²⁴⁰

All three recipes involve the intensive cleaning, crushing, sieving, boiling, and thickening

of barley into a thickened base that is flavored with sugar and almonds. It is assumed here

what you will do with the product of these preparations. Horchata is a drink today,

usually spiced with cinnamon and sugar, while the related orgeat is an almond, orange

blossom and rose water syrup used mainly as a cocktail flavoring today. The making of

healthy food could be an arduous process with many steps, much like the production of

chemicals for cosmetics and for medical use. They often used the same tools and

ingredients and followed the same methodologies and theoretical ideas.

²⁴⁰ Ibid., pg 21.

These two cookbooks are great evidence of the combination of food, medicine and even identity in the late Middle Ages of the Hispanic Kingdoms. While the much older *Kitab al-Tabij* combines food and medicine explicitly, the *Llibre de Sent Soví* does not mention the health benefits of the recipes it contains on health. While the *Kitab al-Tabij* represents a literature much like the Regimens of Health that explicitly combines food and health, the *Llibre de Sent Soví* represents a break with that tradition in that it presents recipes only and is primarily the work of cooks in the employ of the elites. The *Kitab al-Tabij* and *Llibre de Sent Soví* have a different audience and different purpose, but both can be shown through comparison to have common ingredients, methods of production, and underlying theory about what ingredients should go together.

Conclusion

As Joan Santanach writes, cookbooks like the *Llibre de Sent Sovi* created in the Middle Ages were always the result of years of accumulation of recipes and trial and error. There were multiple writers for each manuscript, and the texts were working texts used in the kitchen. They were also used as *aide memoires*; their recipes were meant to remind the cook of techniques and ingredients used in each dish, but not to be explicit instructions for the use of non-professional cooks. This makes these texts somewhat difficult to read beyond just translation and scribal errors. What you are reading are essentially the notes of a cook about how they went about creating a particular dish or sauce without any explanation of what any of the terms necessarily mean. These texts were not meant to teach the reader how to make a recipe but to remind the writer how it

is made. This is different from modern recipes that are meant to serve as detailed instructions that can be deciphered by non-professionals. Especially when we look at manuscripts made by women that were passed down to their daughters and granddaughters and added to over time, we must always be aware that these texts were not produced for mass consumption and education like many modern cookbooks. Some of these books were jealously guarded secrets, others cherished family care guides, still others medical texts produced for the eyes of learned professionals only. Nevertheless, these texts all remained in a dialogue with each other, through the long history of literature on medieval and early modern ideas about health, well-being, and the place of women in the maintenance of health within European society.

The literature of the Regimens of Health is primarily focused on the practical application of humoral theory and transmitting that knowledge to a lay audience. There was no marked distinction between the treatment of men and women because the humors function the same for both, and the advice contained in them focused on the humors and the qualities that produced them and altering them in healthful ways. Women and men's qualities being different does not change the fact that heat counters excessive cold, moisture counters excessive dryness, etc. Thus, the advice in the Regimens of Health is generally applicable to both sexes unless specifically stated otherwise. The *Regimens* also combine advice on food, medicine, and environmental factors in the maintenance of health, not separating them into different categories like modern physicians would, reflecting the holistic nature of humoral medicine passed from Islamic to Christian

physicians. Regimens of Health are one of the conduits through which humoral theory is transmitted from Islamic physicians, through Christian physicians to the lay public.

The gynecological literature that was directed at women and women's unique health concerns was primarily a literature concerned with the mechanics of health in women, rather than humoral theory. Humoral theory was the underlying explanation of causes and cures for diseases, but the examples that I have examined in this chapter show that the primary concern of the authors was to heal whatever ailment women were suffering from, rather than to expound theory like in Galen and Avicenna. The *Trotula* ensemble and the *Tesoro de la Belleza* both focus on practical treatment without explaining the reasoning behind that treatment. They focus on the 'how' rather than the 'why' of treatment. The *Manual de Mugeres* does this also but includes recipes for food as well as cosmetics and medicines. All three are firmly focused on conveying recipes that would be useful to women, regardless of who the author was.

The two cookbooks that I looked at in this chapter illustrate a marked change in the literature by the end of the Middle Ages. The *Kitab al-Tabij* explicitly included medical advice for many of its recipes. It also made note of the origin of its dishes, particularly Jewish ones. Like Regimens of Health, the author(s) of that collection were interested in presenting their recipes to an elite audience and the recipes reflect that in content and complexity. The writer(s) of the *Llibre de Sent Sovi* were similarly interested in conveying methods of cooking dishes to an elite audience (or their cooks), but differ in that there is no reference to the qualities of the recipes or their ingredients and their effect on health. It is what we would recognize as a cookbook concerned with the execution of recipes for meals. Many of its recipes reflect the elite nature of its audience, but also reflect the debt of the authors to Islamic and Mediterranean cooking methods and ingredients.

I argued in this chapter that women were an important part of the creation of medical knowledge in this time period by illustrating the multitude of examples of documents that were aimed at transmitting knowledge about women's health in the Hispanic Kingdoms. Particularly in dealing with cosmetics, reproductive health, and their role in family and household management, the documents in this and my next chapter advised women on complex and difficult medical and chemical tasks, tasks which the writers expected women to be capable of. The variety of tasks that are collected in the recipes and advice of the women's manuals in this chapter illustrate the breadth of knowledge that was considered the purview of women in the period before 1500. Combined, the documents examined in this chapter represent the different types of writing and recipes that would influence the creation of the recipe manuscripts that I will examine in the next chapter. Chapter three's recipe manuscripts all combine recipes for food, medicine and cosmetics, and draw from this chapter's recipes and their physical and theoretical underpinnings.

142

CHAPTER III

RECIPES, WOMEN, AND MEDICINE IN THE HOME: RECIPE MANUSCRIPTS OF THE EARLY MODERN HISPANIC KINGDOMS

This chapter examines Iberian manuscripts of recipes for food, medicine, and

cosmetics from the sixteenth century. I examine here three manuscript collections, called

Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas (ms. 1462)²⁴¹,

Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes,

ungüentos y medicinas para muchas enfermedades (ms. 6058)²⁴², and Recetas

experimentadas para diversas cosas (ms. 2019)²⁴³. These manuscripts are collections of

recipes in several different handwritings, written in Portuguese and in Spanish dialects.

They are a hodgepodge of different individuals' personal notes and recipes, and each

manuscript thus has multiple authors. My analysis will demonstrate that these types of

http://bdh.bne.es/bnesearch/detalle/bdh0000145867.

²⁴² Manuscript Recetas v memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica

http://bdh.bne.es/bnesearch/detalle/bdh0000145867.

²⁴¹ Manuscript Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica

²⁴³ Manuscript Recetas experimentadas para diversas cosas. Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243.

recipes were written by women and were thus interesting to women directly, unlike recipe collections in the previous chapter which were made by men for (or about) women and their health issues. From the manuscript titles themselves it is clear that there are recipes for food, cosmetics and medicine collected together in the same document, and by looking at the recipes themselves it becomes clear that the people writing them were well versed in pharmacology and in performing various chemical reactions, utilizing numerous ingredients to produce their intended results. Analyzing these recipes as written by women enables me to argue that women had an important role to play in Iberian empirical science as consumers and producers of domestic chemical goods.

The documents in this chapter taken along with the documents from last chapter illustrate the wide distribution of ideas about health and wellness and the role society expected women to play in maintaining the health and wellness of members of their households in the early modern period in Iberia. Like the manuscripts from chapter two, these manuscripts were never published or printed for a wide audience of readers. These documents were the personal notes of individuals that were eventually collected in archives and given names by archivists (who were most likely men) based on their content. I do not argue that these documents were themselves influential to others, but that they are evidence of the influence of noble households, convents, established medical and culinary norms, and idealized examples of womanhood that existed in Iberian society. In other words the documents examined here are not the influencers, they are the evidence of influences on women. Unfortunately, there are no heroic individual women of science here blazing new trails with new discoveries. There are, however, women utilizing scientific knowledge (in the early modern sense of that phrase) to make products that were useful to them, in the context of their social, cultural, and gender milieu. Recipes in these three manuscripts offer a glimpse into the types of foods medicines and cosmetic substances that were commonly produced in the home as well as in convents, hospitals, and workshops.

These three manuscripts contain few notes on the authorship of their recipes, so it might be easily said that they could have been written by men or women. However, there are many reasons to argue that women wrote them. One of the main differences between these documents and ones that I have previously argued to have been written by men is that their over-all titles not directed in some way toward women specifically. Unlike manuscripts like *Manual de Mugeres* or *Flores del Tesoro de la Belleza*, they are not named something like 'recipes for women,' nor are their collectors or editors openly stating somewhere in the text that these are women's recipes, except in specific instances. Had they been written originally by men and intended for women readers, they would likely have borne some type of title somewhere that indicated this. These documents do not bear any such titles, and furthermore, do contain titles that indicate contents but not an intended audience inside the body of the manuscripts.

In terms of their content, however, these manuscript collections are very similar to older documents like the *Manual de Mugeres*. This might lead some to continue to argue that they could just as well have been written by men, but I would argue that the content of these manuscripts and the fact that they were collected together just like similar, older, documents that were more specifically directed at women is indicative that these are at least collections of recipes that would have been useful to women. Many of the recipes from the earlier collections that I examined in the last chapter appear in these collections, at least in terms of the recipe's names and types of advice. Also many of the recipes in these collections have titles that attribute them to noble women or to convents. I argue that this strongly indicates that the recipes were at the very least directed at women originally, before they were collected in their present form, and that it is very likely that they were written by women themselves. The authors of the recipes in each manuscript have little reason to point out that the recipes are from or used by important women unless that somehow adds meaningful content to the recipe.

The way that handwriting changes across the different documents also illustrates that these collections are composed of larger pieces that were written over time by individuals with possession of the original manuscripts. Some of the recipes must have been written by one person, then another added their recipes and notes to the same and adjoining pages, then another added to that page in a sequential fashion. One explanation of this could be that multiple authors or editors found some notes by someone else and added their own to the previously written-on pages.

But why would someone (or multiple someones) do this? I argue that the most likely explanation is that each of the discrete sections of these manuscripts were handed down to the next writer and then at a later date these different sections were collected together by an archivist who saw that they had similar subject matter. One way that this could be done is if a master wrote the original texts and then passed this down to an apprentice who added their own notes and recipes. However, if this was the case why not leave more explicit evidence of the gender of the writer somewhere in the text? Like I have shown in the last chapter, at least one of the collections (the *Flores del Tesoro de la Belleza*) is directly attributed to a male author. None of the three manuscripts give any explicit mention of male authors of any recipes, and on the contrary, mention women as the creators of many (but not all) of the recipes.

Given the content of the manuscripts, the overlap of content from older manuscripts directed at women, and the way the handwriting changes across the manuscripts, I argue that these documents are most likely to have been written by women, for their own personal use, and then collected into larger manuscripts by archivists at a later time. Given the subject matter, it would make the most sense that these recipes were originally written by women, passed down within their families, and then collected by archivists in the form we know today.

There is at least one instance where a set of recipes that appear in one handwriting are then re-written in another late in the document. To me this suggests that the original recipe is either the first one in the manuscript that was then copied, or that both recipes were copied from somewhere else. The recipes from the beginning of *Recetas experimentadas para diversas cosas* for marzipans, up to the recipe for *pan de leche* were copied verbatim by a different writer before they continued with other recipes. This indicates that someone copied recipes from earlier up to a certain point, then continued with other recipes that they personally found useful, rather than just trying to copy the

whole document. This indicates some process of selection and editing by the later author.²⁴⁴

These manuscripts also differ in two important ways from printed cookbooks from the same time period. The first is that from the late Middle Ages onward, court cookbooks were written that focused specifically on the preparation of dishes that would be served at the courts of elites. These began as manuscripts before the advent of printing but were quickly picked up by printers and became broadly popular with the general book-buying public. Cookbooks like these focused entirely on food and offered no explicit connection to health or the care of children or women.²⁴⁵

The second way that the manuscripts that I examine in this project differ is that they are not dietary treatises written by physicians, although they include many recipes for medicines. Dietary manuals were generally very popular with early modern European readers, just like cookbooks.²⁴⁶ Dietary manuals included extensive discussions of foods, herbs and medicines that were informed by academic physician's ideas deriving from humoral theory. These books usually included direct references and quotations from the ancient physician Galen, and to medieval developments of his ideas about health, especially medieval Arabic physicians. As discussed in previous chapters, many of these ancient treatises were originally translated in the medieval Hispanic kingdoms, so that Spain was at various times on the cutting edge of medical theory. The manuscripts I

²⁴⁴ Recetas experimentadas para diversas cosas, pgs. 11-13, and 250-252.

²⁴⁵ The Book of Sent Soví from the last chapter is a good example of this, also Roberto de Nola, *Libro De Guisados, Manjares Y Potajes: Intitulado Libro De Cozina* (Madrid: Espasa-Calpe, 1971), Diego Granado Maldonado, *Libro del Arte de Cozina*, (Madrid: Luis Sanchez, 1599), and Diego Hernandez de Maceras, *Libro del Arte de Cozina*. (Salamanca: Antonia Ramirez, 1607).

²⁴⁶ Bartolomeo Platina's *De Honesta voluptate et valetudine*, originally published in 1475, is a prime example.

examine in this chapter, while informed by these other types of literature on similar subjects, are unique in their form and the ways that they treat their content.

Having said all of this, it is impossible to understand the content of these documents fully without looking at their context, that of humoral medicine and the place women as healers had in a society where medical theory was officially dominated by academics and guild-based physicians. Beyond official medicine there was a vast marketplace of unlicensed medical practitioners that plied their trade in early modern Europe. Even so, individuals generally had less access to quality medical care than modern people. The unique form of these documents is an important indication of how women and society saw health as involving a combination of food, medicine, and physical hygiene, and why the women who originally collected these recipes were interested in recipes for all three. Modern women might make their own cosmetics, but its unlikely. They may keep recipe books and cook from scratch, but they have other options as well, like fast food, premade foods, canned goods, et cetera. They may try to manage healthcare themselves but are much more likely to seek professional help from a licensed doctor. The women who wrote these manuscripts were tasked with handling all three of these concerns themselves, and their society considered health a duty of women, especially women with households to maintain.

Montserrat Cabré has argued that traditional historic inquiry into health care in the late Middle Ages focused on individuals with specific job titles, which has underrepresented the real work of women in healthcare.²⁴⁷ I would agree and argue that this is a general and ongoing problem of historical inquiry that is only starting to be remedied within the last 20 years. Sharon T. Strocchia's recent work on Renaissance Italy has illustrated the various ways in which women were responsible for healthcare outside of the traditionally male dominated guild and academic medical mainstream.²⁴⁸ Like women in Italy, Hispanic women could be nuns who nursed the poor, they could be midwives, and many other jobs that involved the production of food and medicines. Women are still often left in charge of healthcare in the home, without any specific formal training, and the magnitude of their work is often hidden or forgotten by society for being ubiquitous. Women frequently keep recipe collections of food, home remedies, and sometimes cosmetics or "beauty secrets" passed down from their mothers and grandmothers. In modern times, the internet has enabled women to keep virtual recipe books through websites like Pinterest, as well as blogs and TikToks that enable certain knowledge to be disseminated virally. Even in modern society women frequently are still expected to take care of domestic chores like cooking, cleaning, and childcare, without any formal compensation. Much of the collection of knowledge about these types of work is still gendered as female and remains outside of the notice of men, unless men make an effort to pay attention to it specifically.

²⁴⁷ Montserrat Cabré "Women or Healers? Household Practices and the Categories of Health Care in Late Medieval Iberia" *Bulletin of the History of Medicine*, Volume 82, Number 1, Spring 2008, The Johns Hopkins University Press, pp. 18-51

²⁴⁸ Susan T Strocchia, *Forgotten Healers: Women and the Pursuit of Health in Late Renaissance Italy.* Cambridge: Harvard University Press, 2019.

Allyson Poska has also recently pointed out the great strides made by feminist scholarship on women's agency in the early modern Spanish Empire.²⁴⁹ She highlights the various ways recent scholarship has utilized diverse source bases to dispute the traditional narrative that women in the Spanish Empire were constrained by law and custom into passive roles in society. Recent focus on women's agency and intersectional analysis has enabled scholars to reveal a diverse Iberian society with women frequently acting independently of men and utilizing Spain's legal systems, institutions and social expectations to lead lives of their own choosing.²⁵⁰

The Primary Sources

The first manuscript I examined was *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* [Book of recipes for powders, pill tablets, perfumes and preserves]. Preserved in the Biblioteca Nacional de Madrid, it starts with recipes in Portuguese, but the bulk of the recipes in the manuscript are in Spanish dialects.²⁵¹ The text is a collection of one hundred and eight recipes on sixty-six pages dated to the sixteenth century, but there is not much information about the manuscript beyond this. It is clearly a collection of different recipes, although who specifically collected them in

²⁵⁰ Anne J. Cruz and Maria Galli Stampino, eds. *Early Modern Habsburg Women: Transnational Contexts, Cultural Conflicts, Dynastic Continuities*, Women and Gender in the Early Modern World (Farnham, UK: Ashgate, 2013), Eva Mendieta, *In Search of Catalina de Erauso: The National and Sexual Identity of the Lietenant Nun* (Reno: Center for Basque Studies, 2009), and Francois Soyer, *Ambiguous Gender in Early Modern Spain and Portugal: Inquisitors, Doctors and the Transgression of Gender Norms*, The Medieval and Early Modern Iberian World, vol. 47 (Leiden: Brill, 2012).

²⁴⁹ Allyson M. Poska, "Hidden in Plain Sight: Recent Scholarship in Women's History, Gender History, and Sexuality Studies," *Bulletin for Spanish and Portuguese Historical Studies:* Vol. 47: Iss. 1, Article 7, (2022).

²⁵¹ Manuscript of *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica http://bdh.bne.es/bnesearch/detalle/bdh0000039040.

their current state is not known. Handwriting shifts occur in the middle of pages, and vary, evidence that the recipes at least went through multiple hands before they were collected together here. Like in the other manuscripts examined in this chapter, this is also evidence that parts of the manuscript were used as working texts by multiple people. The beginning section in Portuguese, consisting of fifteen pages, seems to have been a carefully written manuscript, with decorated initial capitals for some recipes and easily legible handwriting. The name of the whole manuscript comes from the handwritten title page of this section. After this section, a more cursive script appears just under the last Portuguese recipe. After this all the rest of the recipes are in Spanish, and the old handwriting never returns. This manuscript thus appears to be a working text, with at least the initial Spanish writer having been familiar with the Portuguese recipes. On the next page a much less legible hand shares the page with this initial cursive Spanish, and from then on the handwriting varies every few pages, sometimes filling the page and at other times with only a recipe or two on a page with large blank spaces on the page in between recipes. There are even pages where someone was seemingly practicing their handwriting.²⁵² This manuscript could have been a family heirloom; a prized collection of recipes passed down through a family and added to over time.

The second document, *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades.* [Recipes and memoirs for stews, confits, fragrances, waters, cosmetics, skin softeners, ointments and medicines for many ailments] also preserved in the Biblioteca Nacional,

²⁵²Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas (ms. 1462), pgs. 62 and 64.

contains 207 recipes, 150 of which pertain to food.²⁵³ It is also dated to the sixteenth century and like the aforementioned *Livro de receptas*, the recipes collected here show evidence of having been at least partly taken from working texts. The first section of this manuscript is written in the same handwriting up until the fifteenth page when the handwriting changes slightly, and on the seventeenth page the original handwriting stops and is replaced with several pages of recipes each written in a different hand as if an original text was added to by later writers. This continues until the twenty-fifth page where a handwritten title appears: *Libro en que seallaran diversas memorias para azer confituras (sic): Book in which various recipes were found to make preserves*. The first section is entirely of recipes for food, featuring multiple versions of recipes for *bizcochos*, marzipans, *almojábanas*, eggplants, *buñuelos*, carrots, and a whole host of sauces. After a break, the old handwriting returns and the section continues with preserves of peaches, quinces, and various flavored waters. Also, there are more *bizcochos*, marzipans and preserves of edible flowers.

Then on page 46, the handwriting changes again from a careful hand-printed style to a messy cursive with ink that bleeds through the page. The first recipe here is one for mustard, not fitting the previous theme, but the content of the rest of this short section varies from a few recipes to a prayer to St. Anthony of Padua against worms.²⁵⁴ This then switches back to the original hand-printed and most legible handwriting until page 62

²⁵³ Manuscript Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica http://bdh.bne.es/bnesearch/detalle/bdh0000145867.

²⁵⁴ Manuscript *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica http://bdh.bne.es/bnesearch/detalle/bdh0000145867. Pg. 55.

when the other handwritings begin again. This third section of the text begins on page 54 with another title page that describes it as a *Libro enque seallaran diversas memorias ansi para adobar guantes como para azer muchas y diferentes ollores Agua almizcada y otras aguas y cosas de buena ollor* (sic) (Book in which are to be found diverse recipes for lotioning hands, how to make many and different smells, mixed waters and other waters and things for good smells). This section does indeed contain the types of recipes that the title describes, but again the later written-in recipes vary in their content, with one being a recipe for hypocras (a spiced and honeyed wine) and others for *almojábanas*, as well as various cosmetics.²⁵⁵

Recetas experimentadas para diversas cosas [Proven recipes for diverse things] is also clearly a collection of different documents written by different people.²⁵⁶ It mixes recipes for food, cosmetics, and home remedies like the *Manual de Mugeres* and *Flores del Tesoro de la Belleza*, and the other two manuscripts discussed in this chapter, but it is much longer, with over seven hundred recipes and over two hundred and sixty-two pages. The text is more straight-forward than *Recetas y Memorias*; it starts with a nine page section of the same handwriting, then the handwriting changes frequently throughout, but it has no title pages, and there is a large gap of empty pages between page 140 and 147. From pages 199 to 242 the handwriting stays mostly the same before that section ends and a spidery scrawl replaces it for three recipes and then resumes with a more legible hand. There is frequent repetition of previous recipes, and in sections that maintain the

²⁵⁵ Almojábanas are a type of fried bread, now most often made with cheese.

²⁵⁶ Manuscript *Recetas experimentadas para diversas cosas*. Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243.

same handwriting there are multiple sections where the author presents alternative recipes for the same product. These features of the text suggest to me that this manuscript is a collection of different recipes brought together at some point because of their similar content rather than being a single text written into by multiple people over time. Where similar handwriting occurs, it is clear that these sections were written all at once or over a relatively brief period of time, as they tend to follow a theme and collect similar recipes. Where the handwriting changes, I believe this is where a third party added separate texts. Each of these sections could still represent the working text of an individual, but the variety of handwritings and recipes, and the frequent sections of blank pages evince a manuscript that was assembled from multiple distinct parts.

Recetas Experimentadas contains many of the same recipes that are in the other two manuscripts that I will discuss in this chapter, with some modifications here and there, but the influence of Galenic and Hippocratic theory is evident in all three texts. As I have illustrated in the two previous chapters of this project, humoral conceptions of health were the main medical theory of the period and extended beyond the maintenance of personal health into the holistic understanding of the self as a part of the environment. All aspects of the environment could affect health, including food, drink, the air temperature and quality, the emotions of the individual, among other things. The appearance of health was perceived as more than just surface level; it indicated the equilibrium of the individual's humors connected with their equilibrium with their environment, both macrocosm and microcosm. Thus, food, medicine and cosmetics worked together to produce a healthy individual, as appearance on the outside was indicative of health on the inside. All three types of recipes in these manuscripts are meant to be practical instructions on how to temper the humors and control one's individual health.

There are two other texts that I will discuss in this chapter that are very important for contextualizing these three recipe manuscript collections. The first is Doctor Andres Laguna's (1511-1559) translation of Dioscorides' *De medica materia*.²⁵⁷ Published in 1555 in Castilian, it was derived from the Latin translation by Jean Ruelle and printed in Alcalá de Henares by Antonio de Nebrija in 1518. Laguna added annotations to each of the entries, updating Dioscorides' entries with contemporary Galenist ideas. Laguna's text provides a detailed understanding of how Dioscorides' ideas continued to be used by Renaissance Iberian medical practitioners, and how those ideas were modified to work within the early modern world's understanding of medicine.

Like many Renaissance translators of classical texts, Laguna not only copied down ancient ideas, but modified them to suit new knowledge. Laguna was also a frequent translator and commentator on the works of Galen, and adhered to the humoral theory of medicine, while criticizing Galen if what he said was true did not fit with what Laguna himself had observed while touring Europe as a doctor to the aristocracy of the Habsburg Empire.²⁵⁸ I use his translation of Dioscorides' *De medica materia* to illustrate how Dioscorides continued to be used during the Renaissance and early modern period

²⁵⁷ Dioscorides Pedanius of Anazarbos *De Materia Medica* Trans. into Spanish by Andres de Laguna as *Acerca de la materia medicinal y de Venenos Mortiferos*. no. 8514 in the Biblioteca Nacional de España. https://bdh.bne.es/bnesearch/detalle/bdh0000037225

²⁵⁸ "Andrés Fernández Velázquez Laguna" Real Academia de la Historia, Historia Hispanica. https://historia-hispanica.rah.es/biografias/16567-andres-fernandez-velazquez-laguna. Accessed December 5, 2024.

by academics in the Iberian Kingdoms. It provides a wealth of explanation of ingredients from the perspective of learned Iberian physicians that is somewhat different from the original ancient source. Laguna's identity as a cosmopolitan and well-connected *converso* physician is also important to understanding how medical theories and texts spread through Europe in the period.²⁵⁹

The second invaluable reference text that I used in this chapter is Sebastian de Covarrubias's (1539-1613) *Tesoro de la lengua castellana o española*, published in 1611.²⁶⁰ It is the first major monolingual dictionary of a modern language.²⁶¹ The *Tesoro* consists of about 11,000 entries in alphabetical order, though there are gaps and inconsistencies in this organization. One reason for this is that Covarubbias had decided to reduce the number of words after the letter C, fearing he might die before finishing the project.²⁶² Spelling in the *Tesoro* is also inconsistent. Like many early modern languages, Spanish spelling prior to the establishment of the Royal Spanish Academy, in 1713 was inconsistent and mostly phonetic, so that a single word may be spelled several different ways in different sections of the book. This actually makes the *Tesoro* more useful for this project because many of the writers of the manuscripts that I examine in this chapter spell words inconsistently as well.

Another important thing about the *Tesoro* that makes the book useful for this project is that it includes regionalisms (especially from Castilla la Vieja, Toledo, and

²⁵⁹ Conversos were Iberians who previously practiced Judaism but were forced to convert to Christianity after the conquest of Granada in 1492 and the expulsion of Jewish Iberians by the Catholic Monarchs in the Alhambra Decree that same year.

²⁶⁰ Covarubias, Sebastián de, *Tesoro de la lengua castellana o española*. Madrid: Luis Sanchez, 1611, https://archive.org/details/A253315.

 ²⁶¹ "Sebastian de Covarubbias" Real Academia de la Historia, Historia Hispanica. https://historia-hispanica.rah.es/biografias/13292-sebastian-de-covarrubias-orozco. Accessed December 5, 2024.
 ²⁶² Ibid.

Andalusia), jargon, and archaisms. The manuscripts that I examine in this chapter include many different jargon words that do not retain their sixteenth and seventeenth century meaning today, or that are no longer in use, making a modern Spanish dictionary particularly unhelpful. However, some entries are organized by lexeme, including several words with the same root, which made searches difficult.

The structure of each entry is likewise inconsistent, featuring a mixture of linguistic and encyclopedic data. Covarubbias included direct definitions, examples from literature, Latin equivalents, etymology of words, explanations and descriptions of the thing to which the word refers, issues relating to symbolism, excerpts of texts that illustrate the topic, moral judgments, and trivia. The typical content of each entry is simply the definition and etymology, however. Covarrubias's intention, as stated in the publishing contract that the author signed with the printer, was to develop an etymological dictionary to trace the origins of Castilian, modeled on the work of Isidore of Seville, who had done the same for Latin.²⁶³ Covarrubias's etymologies were prone to speculation, in line with other etymological work of the time. Like many renaissance scholars, he was interested in connecting Spanish words to Hebrew, with the belief that it was the original language of humanity²⁶⁴

Covarrubias spent a long career as a priest and as chaplain to Philip II of Spain. He held many prominent positions at court and in the Church, but late in his life fell out of favor after he was unable to establish churches in the Morisco towns of the

²⁶³ Ibid.

²⁶⁴ Ibid.

Archbishopric of Valencia.²⁶⁵ After 1609 he spent the remaining four years of his life working on the publication of his written works. Thus the *Tesoro* is useful to this project because Covarrubias had connections both to the world of the Spanish aristocracy and the Church. It is rumored that he was also the son of a *converso*, and regardless of whether this is true, he was deeply connected to the society of the Morisco regions of Spain in the century of the great evangelizing and forced cultural conversion efforts of the Inquisition in Spain. Though printed late in the period that I examine in this chapter, and with only one thousand copies produced before 1670, the Tesoro nevertheless is an invaluable reference to understand the content of the manuscripts in Chapters Two, Three and Four of this dissertation.

The Recipes

Culinary

A large number of the recipes in each of the collections examined in this chapter are for foods, both from fresh ingredients, and to make preserves of some sort. Preserves, sausages, and dishes cooked in sugar syrups are part of a long tradition of recipe collections that are focused on households and the women charged with maintaining them. This differs from court cookbooks mentioned earlier in this chapter that would present recipes for predominantly fresh ingredients integrated into dishes to be served immediately after cooking, generally at large banquets. Both types of cookbooks might include similar ingredients and use the same tools for preparation but represent different

²⁶⁵ Ibid.

use-cases and thus different audiences. Food being served immediately at a banquet would be prepared primarily by master cooks in the kitchens of lords and royalty, and their ingredients, preparation methods, and the descriptions of their placement at table are geared toward that type of audience.

Manuscript collections like the ones that are examined in this chapter focus a great deal of their attention on preserved foods, something that would have been useful for all households, but particularly useful for households on a much lower budget than elites. This is why manuscript collections are more useful for studying the work done in households, as they give us a window into the lives of people from a broader spectrum of society.

The most common of the preserved foods recorded in all three manuscripts are

preserved peaches, and *membrillo* or quince paste:

To make sugar dried sweet peaches

Take the peaches and peel them and then remove the skin and divide them in the manner of dried apricots, and have clarified sugar with two egg whites and add the peaches into them so that there are three other effluents and then remove each one by itself and put them on a table in the sun and return them from one part to another and heat this sugar every day and give them a bath for nine days and keep them in good sun and then return them to dry until they are dry and candied²⁶⁶

White quince preserve

²⁶⁶ "Para azer duraznos secos de azucar zucosos: Tomar los duraznos y monda los y despues saco les el cueso y aran amanera de orejones y tener azucar en punto clarificada con dos claras de huevos y echar en ellas los duraznos queden allidos otres eruores y despues sacallo cada uno por si y pone los en una tabla al sol y volve los de una parte a otra ande calentar cada dia este azucar y dan les un bano por nueve dias y andestar a buen sol y despues torna los a poner a secar asta que queden secos y confitados." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg., 36.

They will take the quinces that are very good and from mid-August onwards and cut them into four pieces and remove the core very well and peel them so that they are all very clean six ounces of quince, eleven of sugar and take the juice that they make out to make oil²⁶⁷ four ounces and take the quince along with the sugar, and chop it very quickly so that it does not take color and put it in the pot along with a quantity of the juice and put it on the fire and give it its point as it appears that the quince that is cooked has the flavor, and dry it that if they are new in the fire they will take color, and the fire will be moderate²⁶⁸

These two recipes use sugar to preserve fresh fruits for a long time either by drying or candying them. Sugar was a product of Arab influence, and Spanish and Portuguese colonies were founded to propagate its growth in the Canary Islands and Madeira previous to bringing it to the Americas. There are numerous recipes for *membrillo*, or quince preserves throughout the three manuscripts and *duraznos*, or peaches also appear frequently. Preserving fruit would have been a particular duty of householding women to produce and maintain given the ubiquity of these recipes. These recipes would have enabled households to enjoy fruits long past the season in which they were harvested.

Quince pastes were also an important agricultural product of the Mediterranean, and Iberia particularly. All three manuscripts contain variations on the same simple recipe:

To make Royal quince pastes

²⁶⁷ The liquids that come out of fruits preserved in sugar are still used to this day to flavor things such as cocktails. One made with citrus peel is still called oleo-saccharum, which means oil-sugar.
²⁶⁸ "Conserva de membrillos blanca: Tomaran los membrillos que sean muy buenos y ande ser de medio agosto adelante y azerlos an quatro pedazos y quitarlesan el corazon muy bien y pelarlosan que queden de todo muy limpios a seis onzas de membrillo once de azucar y tomaran del zumo que sacan para azer oelea quatro onzas y tomaran los membrillos junto con el azucar y picarloan muy presto porque no tome color y ponerloan en el perol junto con cantidat del zumo y ponerloan en el fuego y darlean su punto como espareciere que tenga el sabor el membrillo que sea cozido y aruientan que siestan nuevo en el fuego tomaran color y el fuego adeser moderato." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg., 40.

Take the whole quinces and boil them in water and after they are cooked remove the rind and take the juice from the flower and chop it and after chopping it add half a pound of sugar with rose water and quince juice and add ten and a half ounces of sugar and season it like the other Royal pastes²⁶⁹

This "royal" paste recipe is very similar to the white quince preserve from earlier in the same manuscript. Both involve boiling the flesh and removing rind and seeds, then cooking with sugar to produce a paste that has as little color as possible. The excess liquid is drawn off for other uses though some is added back for consistency. Both are mashed quickly and carefully cooked. The royal paste has rose water added and we are told to season it like other royal pastes, though we are not told what that means. Unprocessed quince flesh is white, but changes color easily like apple flesh when exposed to air, so part of the admonition to chop it quickly is to perform a difficult and mindful culinary maneuver that shows off the skill of the cook.

Membrillo could also be made to have color and not be kept white:

Red benbrillo flesh

For six pounds of flesh, take eight pounds of sugar... and strain them until they are well cooked. Then, cut the benbrillos into quarters and put them in the sugar and then cook them and then with the ladle take out six quarts of juice from the benbrillos and add them little by little until the meat is done.²⁷⁰

²⁶⁹ Para azer pastas Reales de membrillos: Tomaran los membrillos enteros y cozerlos en agua y despues que estuvieren cozidos quitarles la corteza y tomar de la flor del zumos y piquenla y aquella despues de picada ternan media libra de azucar de ritido con agau ros y zumo de membrillo y seban de membrillo a diez onzas y media librar de azucar y darle el punto como a las otras pastas Reales. Manuscript *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica http://bdh.bne.es/bnesearch/detalle/bdh0000145867. pgs. 83-84.
²⁷⁰ "Carne de benbrillo colorada: A seis libras de carne ocho libras de azucar tomar la ... y colarlo han y de que esta bien apumo Ande tener cozidos los benbrillos en quartos y echarlos an en el azucar y ya los

This recipe does not specify anything other than the simplest handling of the quinces involved. The title is our clue to how this simple preparation produces a different product, a colored or red paste. This recipe comes from the *Livro de receptas* and represents a slightly different philosophy on what *membrillo* should look like. The fact that it is referred to as *colorada* is important in comparison to the previous recipes, which specify a particular look that is harder to produce. Each of these recipes represent variations on a similar theme. *Membrillo* was an important enough household product that it has many different variations based on how much effort could be put into producing it. In these three recipes one can see varying levels of household wealth, with the royal paste being the most refined and with the least amount of explanation, the white being close but more thoroughly explained for those who do not know how to do it already, and red "benbrillo" being the simplest most economical.

Another important thing to notice about these recipes is how the astringent quince is balanced by sweet sugar. In Galen and Dioscorides quince is considered cooling and drying and so in order to balance this sugar or honey is added. Cooking also tempers the excess drying nature of quinces, especially if the quinces are not fully ripe.²⁷¹ So not only is there a culinary explanation for sugar in the pastes there is also a medical reasoning

despues haciendo con el cucharon y ande tener por su parte sacados seis quartillos de zumo de los benbrillos y yz de la echando poco a poco hasta que este hecha la carne" Manuscript of *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, pg. 43.

²⁷¹ Galen, On the *Properties of Foodstuffs*, pg. 89-90, and Dioscorides, *De medica materia*, pg. 165.

behind it. Peaches, quinces and apples are all considered cold and drying, and thus conducive of melancholy if eaten raw by the *Regimina sanitatis salernitatis*²⁷²

Another type of food that women were charged with producing in this period were cured meats and sausages:

Of the honey sausages that are made at the house of Doña Isabel

Of honey take six pounds and four pounds of almonds to be shelled, these should be cracked and not too much ground two pounds of bread crumbs toasted over the fire with butter two pounds of roasted nuts with two ounces of cinnamon and half an ounce of cloves a quarto of ginger, and it should be done in this way: put the honey strained over the fire and boil it until it foams and then add the ginger and also the cloves and then remove it from the fire and add the nuts and then the cinnamon and once all this is done put them into the guts and cook them in water after they are cooked and prick them with a pin after they are so cooked take them out and put them where they are cooked even if they give them some smoke.²⁷³

This recipe calls these sausages *morcillas*, which is a blood sausage, though the recipe does not specifically mention blood. The ingredients in this recipe are traditional thickeners for blood sausage however. Breadcrumbs and nuts help congeal the blood and give it a more pleasing texture and flavor, while the spices and honey also enhance the flavor. Modern recipes typically use rice to thicken blood sausages, but this recipe does not mention rice. These sausages are even given a little smoke flavor after they are boiled. We are meant to assume that blood would be a component in this recipe and that

²⁷² Regimen Sanitatis Salernitatis, 52-53.

²⁷³ "De las morcillas de miel que se hazen en casa de la senora dona Isabel: De miel tomen seis libras y quatro libras de almendras por mondar estas ande ser quebradas y no muy molidas dos libras de pan rallado tostado sobre el fuego con manteca dos libras de nuezes quebradas con las dos onzas de canela y media de clavos una quarta de gengibre an se de hazer de esta manera ponerla miel sobre el fuego colada y hierva hasta que alceespums y echar luego el gengibre y asi mismo los clavos y quitarlo luego del fuego y echarle las nuezes y despues la canela y echo todo esto ennasenlas tripas y cuezanlas en agua despues de pasadas y puncenlas con un alfiler desque scefan ques tan cozidas saquenlas y ponganlas a donde se coreen aun que les de algun humo." *Recetas experimentadas para diversas cosas* (ms. 2019), pg. 210.

the amounts listed for each ingredient are based on a predetermined amount of blood. The recipe does not specify how much gut is needed for casings either. These types of sausages were rustic preparations designed as a way for a household to utilize a perishable resource that otherwise might be wasted. Blood does not last long, even with refrigeration, and pre-modern peoples would have tried to use as much of a slaughtered animal as possible to get the most nutrition out of it. This recipe is a great indication that at least some of these recipes were utilized by poorer households or at least those that were relatively budget conscious.

Another feature of this recipe is that it is attributed to a particular person, Doña Isabel. There are quite a few recipes scattered throughout these three manuscripts that either mention a name or a place associated with the recipe. Most frequently these appear in the *Recetas experimentadas para diversas cosas*, which supports the argument that that particular document is a hodgepodge of different working texts mixed together. Recipes attributed to various people and places must have been collected by someone with an interest in adding to their established repertoire, showing intent and growth. That they are not particularly gathered in one place in the text illustrates that either the manuscript was put together from many separate texts over time, or that the writers acquired the recipes haphazardly. Where there is a name associated with a recipe it is always a woman's name, usually a Doña, or a noblewoman. There is a recipe for rose sugar attributed to the Condesa de Oropesa, and her name appears on many cosmetic recipes as well.²⁷⁴ A number of recipes are attributed to Santo Domingo el Real, a convent in Toledo.²⁷⁵ This

²⁷⁴ Recetas experimentadas para diversas cosas (ms. 2019), pg. 217.

²⁷⁵ Recetas experimentadas para diversas cosas (ms. 2019), pg. 215-217.

evidence strongly suggests that these recipes were intended for the use of women, having

been created by important and authoritative women.

Vegetables

Not just fruits and meats were being preserved in these recipes, but vegetables as

well, particularly eggplants and carrots:

Honey and vinegar eggplants

You will take small aubergines and remove their beards and divide into four quarters and split the nipple and remove the core and put them to boil with cold water and a little salt according to the amount of aubergines and to see if they are cooked try the still soft ones and put them in a garbell (a wide mesh drum sieve) and pour over a pitcher or two of cold water and for a hundred aubergines ten pounds of honey and if it lacks add honey and put them with the honey when it is boiled and cook them with a small fire and to know that they are made is that the honey has a good point and put cinnamon and six cloves.²⁷⁶

Preserved carrots

Cut the carrots in the quantity that you most want and boil them in water with a tenth part of good vinegar and when they are in turn remove them immediately and put them in cold water and they are in this water for one night or ten hours and more if you see what is necessary for the quantity and then clarify the honey that you see that you need for the quantity of carrots with two parts of water, put it hot over the carrots that will be in a clay pot and they will be in this honey for ten hours and return the honey to the saucepan and heat it again and turn it over. You will do this six or seven times on top and then you will take the honey and carrots all and in a gentle fire cook them until they are browned and add cinnamon to them.²⁷⁷

²⁷⁶ "Alberenjenas de miel y vinagre: Tomareis alberenjenas pequenas y quitarles an las barbas y aran quatro quartos y partiran el pezoncillo y quitaran el corazon y ponganlas a ervir con agua fria y una poco de sal segun la cantida de las alberenjenas y para ver si estaran cozidas tentarlas an questen blandicas y ponanlas en un garbell y echaran por encima un cantaro o dos de agua fria y a un ciento de alberenjenas diez libras de miel y si falta a segiran miel y ponanlas con la miel quando estara esbromada y cozerlas an con poco fuego y para conocer que son echas es que tenga la miel buen punto y ponan canela y seis clavos." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg. 43.

²⁷⁷ "Conserva de zanahorias: Partirlas zanahorias en la quantidad que mas quisieredes y hervidlas en agua con una decima parte de vinagre bueno y quando estuvieren turnas quitarlas de luego y echar las en agua fria y esten en esta agua una noche o diez oras y mas si vieredes quesmenester para la quantidad y despues

Alberengenas and *zanahorias* appear frequently throughout all three manuscripts. Both are vegetables introduced by Muslim farmers during the Middle Ages. Both of these recipes are pretty straightforward in how to prepare these vegetables, but still require several steps of cutting, blanching and clarifying, evidence that these are not rustic dishes. The eggplants and carrots are quartered and blanched in boiling water first, then bathed in cold water, a process now referred to as blanching and shocking. This is common practice today that helps cook the vegetables but also retain both a brilliant color and not overcook them so that they retain their shape. The eggplants are blanched in salted water and the carrots in vinegared water, again not uncommon practice nowadays to season boiled or blanched ingredients.

The next steps are similar for both; you are meant to boil the blanched eggplant in honey water until the water boils away. The carrots are left in honey water for ten hours, presumably to let the hot mixture cool and absorb into the carrots like a brine would. Then right before you are ready to serve them you place them in another saucepan and heat them until the honey reduces and the vegetables slightly brown. The spices might be added during this process or after, although we are not told to grind them up. It is possible that they are meant to be added whole during the final cooking and season the honey water while it cooks the vegetables.

clarificar la mie que vieredes quesmenester para la quantidad de las zanahorias con dos partes de agua lo poneis calliente sobre las zanahorias que estaran sobre un barrenyon de barro y estaran en esta miel diez oras y tornad la miel al cazo y tornele acalentar y tornaldo a echar encima esto hareis por seis o siete veces y despues tomareis la miel y zanahorias todo y en manso fuego cozer las es hasta que esten turadas y poner les eis canela." *Recetas experimentadas para diversas cosas* (ms. 2019), pg. 65.

The eggplant recipe resembles a very simple caponata, a sweet and sour eggplant dish. The author assumes you know when to add the vinegar, or it might be sprinkled on at the end. The carrot recipe is a more complicated glazed carrots recipe where the carrots are repeatedly bathed in honey water over an extended period of time.

There are a few assumptions being made of the cook in these recipes that are relevant to this project. First that these recipes are being made for fairly large numbers of people. The eggplant recipe references a hundred eggplants being cooked in its note about proportions. The carrots are meant to be cooked for nine to ten hours, and the cook is meant to be aware of proportions of carrot to honey, though the recipe does not give any advice on ratio itself. The cook could scale the recipe up or down based on their preference, a trait common to medieval and early modern recipes.

Secondly, there are a few references to utensils that we should not assume were common to many households, notably the *garbell*, a type of drum sieve, and the *barrenyon de barro*, which is a type of clay pot. Thirdly, the involved process of blanching, shocking, cooking with honey and water, the repeated straining and reintroducing of hot honey water to the carrots for hours, and the quantities that are implied by both recipes indicate that these recipes were originally intended for a cook of relatively high social status. The writing down of these recipes in the first place would require a certain level of education, and the quantities and tools involved would have been accessible to a household above a certain level of wealth. These recipes therefore illustrate the cross societal appeal of recipes that can be revealed by these sorts of documents. There are more recipes for vegetable dishes that reflect the societal interest in the

foods of the elite and of convent cooking as well:

To make grated carrots like the majordomo of the house of Toledo

Take the carrots and peel them, so that they are not grated and washed very well and then juice them and grate them and squeeze them very well from that water and then add four pounds of honey and the orange peel, a lot, and then put it in water and cook it a little and then squeeze it from that water and put it again in another boiling water and do this three times and the fourth cook it for a good while and then take it out of that water and squeeze it and cut it and mash it and put it back with the carrots together and take a good pound of toasted almonds and peel them and toast them dry and strain their honey and put them in when it is already half cooked and take a dried orange peel and grind it and sift it and when removing it from the fire sprinkle it with it.²⁷⁸

To make eggplants like in Santo Domingo el Real

Take out the stems and the tips of the little tops and cut them into quarters as you would cook them and then cook them in water and after they are cooked and removed from the water, add honey and water according to the quantity of the eggplants and once they are cooked, add cloves and after they are cold, add the almonds between the quarters.²⁷⁹

Both of these dishes are from convents or monasteries that would have been at the

time known for both their culinary excellence and their medical wisdom. The first

²⁷⁸ "Para hazer zanahorias ralladas como el mayordomo de la casa de Toledo: Tomarlas zanahorias y mondarlas quenoscan raydas y muy lavadas y en jugarlas y rallarlas y estrujarlas muy bien de aquel agua y ande echar a quatro libras de miel y la naraja an la de mondar mucho y an la de echar en agua y cozer la un poco y despues estrujarla de aquel agua y tornarla a echar en otra agua hirviendo y hazer esto tres vezes ya la quarta cozerla un buen rato y despues sacarla de aquel agua y esprimirla y cortarla y majarla y volverla con las zanahorias junto y tomar una buena libra de almendras tostadas y ande ser mondadas y anse de tostar en seco y cansu miel y echarlas dentro quando este ello ya medio cozido y tomar una cascara de naranja seca y molerla y cernirla y en quitandola del fuego polvorearlo con ella." Manuscript Recetas experimentadas para diversas cosas. Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243, pg. 215. ²⁷⁹ "Para hazer berengenas como en Santo Domingo el Real: Sacarles os palicos y las puntas de los capellicos y hazerlas quatro quartos como las echan a cozer y despues cuezan las en agua y despues que esten cozidas y sacadas de agua echarlo en miel y agua segun la cantidad de las berengenas y cozidas echenles clavos y despues de frias an les de echar sus almendras entre los quartos." Manuscript Recetas experimentadas para diversas cosas. Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243, pg 216.

recipe most likely refers to the Noble house of Toledo, the and the second could refer to either a convent that was in Madrid by that name or one that was in Toledo. The importance of attributing these recipes to religious houses, and specifically convents is that these establishments had a long standing mission to maintain knowledge through the copying of texts, and much of that knowledge was medical as well as theological or philosophical.

Both of these recipes are similar to the earlier ones that were not attributed to any particular author. They involve the processing of carrots and eggplants to make them more digestible and nutritious by amending their qualities to produce healthy humors in the body. In both they are cooked with honey, because raw vegetables were considered by humoral theorists to be cold and dry, having come from the ground, and thus productive of dangerous black bile.²⁸⁰ The act of boiling and sweetening adds heat and moisture to these vegetables, thus making them more easily digestible and softening them. They also both have almonds added, an indication that they are more elevated and elite recipes.

One can look to Dioscorides for a more Galenic reasoning for the way these recipes are composed. Dioscorides identifies several plants that are similar to carrots, but none of these are actually modern carrots. The edible vegetables that Dioscorides identifies were likely either similar to parsnips, or more closely resembled small heirloom varieties of carrots that we would see today. He does not mention the color of the root, as

²⁸⁰ Galen On the Properties of Foodstuffs, pgs. 76 on fruits in general, pgs. 77-92 on various fruits. See also *Regimen Sanitatis Salernitatis*, pgs. 52-53 on fruits causing melancholy and dyspepsia.

these plants were cultivated more for their leaves and seeds than for the roots.

Dioscorides describes them as having:

"a rough upright stalk with a tuft similar to dill on which are white flowers... the root is the thickness of a finger, sweet-smelling and edible boiled as a vegetable... The seed induces the menstrual flow, taken as a drink (or inserted as a pessary), and is good in liquid medicines for frequent painful urination, dropsy, and pleurisy, as well as for the bites and strikes of venomous creatures."²⁸¹

A wine made from carrot is also attested to be "good for disorders of the chest and womb, it expels the menstrual flow."²⁸² Dioscorides does not mention the root as having any medicinal value, but the seed is clearly very useful.

In his translation of Dioscorides, Andres de Laguna adds that "The parsnip is that common plant, whose root is called carrot in Castilian: of which there are two species: namely, the garden variety, and the wild."²⁸³ He goes on to describe four varieties of domesticated carrots distinguished by color, which are white, red, orange and one that is very black on the outside and bloody red on the inside.²⁸⁴ His descriptions are much more useful to us than Dioscorides' because they can be much more readily identified as carrots that we might recognize. With Laguna it is still hard to decipher exactly which plant we are talking about, however. He begins by calling the plant *pastinaca*, or parsnip. although this is a related plant to carrots, modern day parsnips are quite different from carrots, and are considered a different species. He refers to the root as *zanahoria* which is the modern Spanish word for carrot, but its clear that the early modern word refers to a

²⁸¹ Dioscorides, *De Medica Materia*, pg. 435.

²⁸² Ibid. pg. 776.

²⁸³ "La pastinaca es aquella planta vulgar, cuya raiz se llama en castilla zanahoria: de la qual se veen dos especies: conviene a saber, hortense, y salvage." Laguna, De medica materia, pg. 303.
²⁸⁴ "una produze la rayz blanca por todas partes: otra la haze roja: otra de color narranjado: y finalmente

otra por de fuera muy negra, y por de dentro sanguinea." Ibid.

few different types of plants with similar shapes of roots and leaves. Laguna gives a list of names for the plant in different languages, with versions of *pastinaca* for other Latin languages, *carrottes* for French, and *zanahoria* for Castilian only.²⁸⁵ Regardless of the name, the plant that he refers to was quite popular with the writers of these three manuscripts.

As for eggplants, there is no evidence in Dioscorides' for cultivation of them for their edible fruit. He describes several varieties of *strychnon* which have been identified with modern *solanum*, or nightshades, which are related to eggplants. But the only non-poisonous one is noted for the usefulness of its leaves as a cooling medicine for skin ailments and for drying menstrual flow and stomach inflammations²⁸⁶ Laguna describes this plant as *solanum hortense* or garden nightshade. He also gives its common name as *yerba mora* or moorish herb in castilian.²⁸⁷

Laguna ascribes *berenjenas*, or the plant we would call aubergine or eggplant, to a separate plant from the *solanums*. He writes about them instead as part of the entry for mandrakes. He writes that *berenjenas* were called *mala insana* in reference to the dullness of their flavor and not because they caused insanity or foolishness.²⁸⁸ They were mistaken as a variety of mandrake because the Greek name of that plant was *morion*, meaning foolish, which translated into Latin is *insana*. Laguna then goes on to describe the familiar eggplant as having the fruit that we would recognize today. He states that Toledo was very well known for their eggplants, and describes their humoral qualities as

²⁸⁵ Ibid.

²⁸⁶ Dioscorides, pg. 616-619.

²⁸⁷ Laguna, pg. 424.

²⁸⁸ Laguna, pg. 424-425.

cold and moist, like many insipid vegetables. He warns that if eaten too often they will cause a melancholy humor, cause headaches, and cause the face to lose all color.²⁸⁹

Here then we can see the importance of the ingredients that are used to temper the qualities of carrots and eggplants and thus the influence of humoral ideas on these recipes. While there are no explicit references to humoral qualities in the recipes themselves, they were clearly developed with humoral ideas in mind. The fact that many were attributed to famous convents illustrates the point that the writers believed that their recipes were medically sound and endorsed by the learned women of those religious establishments.

Sweet Recipes

Sweet recipes are as prominent in these manuscripts as they are in the documents from the last chapter. There are numerous recipes for marzipans of diverse types, a popular sweet from the Late Middle Ages throughout Europe. Marzipan was brought by Muslim cooks to Iberia and from there spread to the rest of Europe:

In order to make large marzipans

For six pounds of almonds and three of sugar and in each one two *cucharas* of sugar with its rose water and the sugar that remains put it in a new casserole with rose water that covered it with this same sugar you will remove six ounces and well sifted put it with rose water in a bowl that is good they are facing the marzipans and you put the casserole with sugar on the fire and boil so much that sugar takes its point and you will take the paste from the marzipans and throw it into pieces on a large plate and add the syrup to the casserole as hot as it can be and cover it with your hands and little by little knead everything very well and mix the marzipans and put them on your plates and pour them face down with the sugar and rose water from the bowl and send them to the oven.²⁹⁰

²⁸⁹ Ibid. pg 425.

²⁹⁰ "Para azer marzapanes grandes: para seis libras de almendras y tres de azucar y en cada picada dos cucharadas de azucar con su agua rosada y el azucar que quedara pone lo en una cazuela nueva contata
This recipe is a bit confusing, and I think that is because this was written by someone who was trying to remember how to make these marzipans rather than someone trying to impart this knowledge on others. What is meant to happen here is that you are meant to make a marzipan paste with rosewater, then set up a casserole that is coated in a sugar and rose water syrup or crust, that you then add the marzipans to in order to coat them in the syrup/crust. They are then baked and the marzipans then come out of the oven with two different textures; the crumbly and soft interior of marzipan and the crunchy exterior of sugar. This recipe also assumes that you are making these for a lot of people; they are described as large and the amounts used are several pounds of almond and sugar combined. This would have likely been a recipe for a banquet, and for high status eaters, as the ingredients were not cheap.

Another interesting preparation of marzipan from *Recetas y memorias* is this one:

Sugar shells

Take as many almonds as you would like to make eleven ounces of sugar in a pound of almonds and sugar, mix it with rose water, and when you take it out with your fingers, it will stick well and cook. Let the almonds cook a little with the sugar, and if you want to add cinnamon or ginger or

agua rosada quelo cubia de este mismo azucar quitareis seis onzas y bien cernido poneislo con agua rosada en una escudilla que este bien son para cara a los marzapanes y poneis la cazuela con azucar al fuego y yerva tanto al aquel azucar tome su puntico y tomareis la pasta de los marzapanes y azer la pedazos en un plato grande y echar el xarabe de la cazuela tan caliente como la podra y cufirenlas manos y poco a poco amasarlo todo muy bien y azer los mazapanes y pone los sus platos y echarlos la cara del azucar y agua Rosada de la escudilla y enbiarlos al horno." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg. 45.

if you want to make them white, it is up to you, and when they are ready, make the shells with the paste and then add the rest.²⁹¹

The previous recipe was more involved and provided more detail in its

instructions, but both use essentially the same ingredients. In both it is clear that

the marzipan is meant to be molded into shapes and decorated with sugar and

spices. Multiple other recipes for marzipan throughout these manuscripts attest to

its popularity. The processes involved here of grinding, sifting, and molding

powders that are then cooked into a final shape are the same as are used

throughout the recipes in the manuscripts for medicines and cosmetic products.

The only real difference between food recipes and those recipes is the ingredients.

There are some interesting examples for baked and fried bread recipes in these

manuscripts as well, for example:

<u>Almojábanas</u>

First, take half a bowl of water and half of oil and half of white wine and half of hot water, put it all in a pot and put it on the fire that is moderate and then take it out to cool a little and add the flour that is thick and return it to the fire of that grass, a little later roll it in a stone mortar and chop it very well and add the eggs, chopping them until it is a soft paste and take an iron pot lid and brush it with oil and fry like rolls with the coating in the pan and bathe and heat them and the cold bath.²⁹²

²⁹¹ "Cascas de azucar: Tomareis tantas almendras como quieras hacer a una libra de almendras onze onzas de azucar y azucar mezclalo con agua rosa que sacandolo con los dedos haga lo y se apegue bien y cozido que sea porneis las almendras que cuezan un poco con el azucar y si querreis poner canela o gingebre o las querreis azer blancas es a vra voluntat y quando esten sebas azer las cascas con la pasta mes y adieba" Manuscript *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* Mss. 6058, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica http://bdh.bne.es/bnesearch/detalle/bdh0000145867 pg. 83.

²⁹² "Almojábanas: Primeramente tomar media escudilla de agua y media de aceite y media de vino blanco y media de agua ardente echarlo todo en una ollica y meterlo al fuego que yerba y despues sacarlo que se enfrie un poco y echarla arina que este espeso y volverlo al fuego que yerba un poco despues bolbarlo en un mortero de piedra y picarlo mui bien y echarlo huevos yndolos picando hasta que este una pasta blanda y tomar una cobertera de hiero y untarla con aceite y rechando como rollos con la cobertera en la sarten y baña y los calientes y el baño frio" *Recetas y*

Modern *almojábanas* are a cheesy bread shaped like a ball, sometimes fried and sometimes baked depending on where they are being made. This recipe has no cheese in it, but the wording at the end makes it seem like it is either fried or baked and then cooled. There are quite a few recipes for *almojábanas* and *buñuelos* both more frequently encountered today as fried foods in these manuscripts. This particular recipe is one of the extra handwritten recipes at the end of *Recetas y memorias para guisados*, hastily written on a blank page. This makes it one of the recipes in this collection that seems most suited to a poorer, more popular audience, as almojábanas are still a common street food. It is likely that the author of this recipe was writing this recipe down for their own personal use given the way that it was written in.

There are also recipes in these manuscripts that we might interpret as both food and medicine, ones that resemble the electuaries examined in the last chapter:

To make a rose electuary that Dona Maria Giron showed me

Remove the petals from the roses and pass them through a sieve until there are no seeds left and then weigh them and for one pound of rose you have to add two pounds of honey and go take the rose and put it in some pots and have boiling water and pour it on top of the rose and cover the pots very well and the water that is in the pots add it with the honey and skim it at the beginning and see that it is cooked as you can see in the syrup until you let it cook well.²⁹³

memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades (ms. 6058), pg. 80.

²⁹³ "Para hazer letuario de rosas que me mostro Dona Maria Giron: Es hojar las rosas y pasarlas por un arnero como no quede ninguna simiente y despues pesarlas y una libra de rosa s anse de echar dos libras de miel y ande tomar la rosa y echarla en unas collizas y tener agua hirbiendo y echarla encima de la rosa y atapar las ollas muy bien y el agua que estibiere con las ollas echarla con la miel y espumarla al principio y vese de que esta cozido como se vee en el arrope an lo de dejar bien cozer." Manuscript *Recetas experimentadas para diversas cosas.* Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243, pg. 216.

There are many preserves like this one, as well as waters and honeys that preserve the flavors and potentially potent humoral qualities of various flowers and herbs throughout the manuscripts. Rosewater and honey flavored with roses frequently appears in recipes for both food, medicine and cosmetics.

Dioscorides wrote that roses were drying and cooling, and good for eye salves and curing skin inflammations.²⁹⁴ Covarrubias mentions rose's use in making rose flavored sugar, oils, and electuaries.²⁹⁵ Each of these was produced with similar equipment and by the same people who produced food. The methods of production, the tools and utensils involved, and the ingredients themselves were all utilized by the same people, that is, women in households.

Another important fact to point out is that the recipe explicitly states that it is a recipe that Doña Maria Giron showed to the writer. So it was a recipe either made by Doña Giron or passed to her and then to the author. This should be a good indication that the writer of this recipe was a woman, but at the very least it is obvious that a woman endorsed this recipe. And not just any woman, but a Doña, or someone who was the matron of a household.

The food recipes in these three manuscripts are numerous but mostly repeat similar dishes, ones suited for large scale production and preservation of perishable goods or fruit. The women originally finding and writing these recipes down sought them out because they were useful in running their households, not specifically noting anywhere their overall healthiness or health effects. Additionally to the large scale recipes are

²⁹⁴ Dioscorides, pg. 129.

²⁹⁵ Covarrubias, *Tesoro de la Lengua Castellana*, pg. 1271.

numerous instances like the almojábanas that are written sometimes hastily on the backs of, or in the blank spaces after, other recipes. These recipes are more likely to be the work of women seeking to add to a collection of recipes that may have been handed down, and who were observing the work of someone else.

Medicines

Purely medical recipes are much less prominent in these documents. However,

there is a page of recipes for women in childbirth in Recetas experimentadas.²⁹⁶ This one

specifically deals with either labor pains or post-partum pain:

Very helpful poultice for mother's pain

Have ground cloves and mother of cloves and cinnamon and combine these powders and caraway by itself and spread the navel with turpentine and a pore around the navel and sprinkle over it with caraway and then with the other powders and dip some towels in hot water and put them on top until they feel hot and when you put this plaster on, they will cover you well and if you can sleep you will feel great benefit and if you take a bowl of broth with caraway before you sleep, they are fine, very good.²⁹⁷

This recipe uses several warming spices and heat to try to soothe pain caused by childbirth. Warmth was a frequent remedy to what was perceived as the hardening and stiffening effects of cold humors that caused pain and swelling. Dioscorides frequently recommends the use of cinnamon to cure pain and to promote dilation of the uterus and

²⁹⁶ See *Recetas Experimentadas*, pg. 239 for recipes for difficult births and stillbirths.

²⁹⁷ "Emplasto muy provechoso para mal de madre: Tener molido clavos y madre de clavos y canela y juntar estos polvos y alcaranea por si y untar el onbligo con trementina y un poro al rededor del onbligo y por vorear encima con alcaranea y luego con los otros polvos y mojar unas sodanas en agua ardiente y ponellas encima hasta que las sientan calientes y en poniendo se este emplasto seande aropar bien y si pudiere dormir sentira muy gran provecho y si tomare antes que sea duerma una escudilla de caldo con alcaranea estan bien muy bueno" *Recetas experimentadas para diversas cosas* (ms. 2019), pg. 176.

menstrual flow.²⁹⁸ Generally, anything that was considered warming was prescribed to counteract blockages of any type. Cinnamon, caraway, turpentine, and the heated wet towels all are warming in quality according to Dioscorides.²⁹⁹ All of which would have been able to soothe tired muscles, relax the mother and enable the easier passage of the fetus.

The other four recipes that handle difficult births and stillbirths are, like the recipes from the Trotula ensemble from the last chapter, not particularly interventive. They involve making a purgative drink from simple herbs and roots. Like the recipes from the Trotula, they do not involve surgical expertise or any complex understanding of anatomy. They remain the type of recipe that might be useful to a woman working alongside a midwife, and leave any more involved intervention to male doctors. These recipes' existence here proves that the collection of recipes was not made for the purpose of doctors, who would have much more extensive knowledge of methods to handle a difficult birth.

Mental health was directly linked to physical health in the medieval and early modern periods but the only recipe in these three manuscripts that deals with it directly is this one from *Livro de receptas*:

For those who are crazy

To heal the insane, the seed of the nettle is good, drunk with very well aged white wine. If the ivy and rue and fennel are cooked with this wine and then drunk, they make the brains turn and if the one who has lost his brains takes the seed of the rue saying the pater noster and ave maria and

²⁹⁸ Dioscorides, *De materia medica* pgs. 18-19, 93.

²⁹⁹ Galen, On the Properties of Foodstuffs, pg 112, Dioscorides, De Medica Materia, pgs. 17-19, 440, and 762.

drinks it, he will heal and they should give it to him while saying the pater noster and creed. And have for the crazy ones take the cilantro and the grain of the pennyroyal and nettle leaves and mix it all in wine and then take some aged wine and herbs all in one together in a pan and put it in the well and it will heal. And for this very reason, the juice of the ox tongue³⁰⁰ is very good, mixed with wine, drunk on an empty stomach, and have the marrow of broken bones roasted and made into powders and tempered with vinegar and drunk for four days, it will heal all madmen.³⁰¹

This recipe combines two methods of healing, the use of herbs and wine to handle physical health and prayers to handle spiritual health. This recipe is thus a good example of the medieval and early modern idea of holistic health. Mental health was so distinctly tied to maintaining physical health through the balance of the humors that a remedy for madness, the extreme derangement of the humors, would have required a very rare but necessarily potent recipe to treat it. Ivy, rue, fennel, pennyroyal and nettles, mixed with wine and drunk on an empty stomach would have strongly purgative qualities intended to expel ill-humors. The counteraction of melancholy, considered the source of madness, would have been an important aspect of the choice of ingredients as well.

The previous recipe made use of ox tongue, which was most likely not a part of the animal, but a flowering plant, and another good example of recipes of preserves made of non-culinary plants that can be found in the manuscripts:

³⁰⁰ This is probably the juice produced by a flowering plant, sometimes also called lengua de buey, lengua de bovina, echio and buglosa. A recipe for a preserve of this flower follows.

³⁰¹ "Para los que están locos: Para sanar los locos es buena la simiente de las orgas bebida con muy bien vino blanco anejo. Si la yedra y ruda y hinojo fueren cozidas con esto vino y despues bebido hazen tornar el seso y si el que ha perdido el seso cogiere la simiente de la ruda diziendo el pater noster y ave maria y lo beba sanara y selo dieren diziendo el pater noster y credo. y ten para los locos toma el culantro y la grana del poleo y dejar ortigas voyunas y magelo todo en vino y despues toma vino anejo y hierba todo en uno junto en una sarten y pongan lo en la en bien y samara. y para esto mismo es muy bueno el zumo de la lengua buey vuelto con vino bebido en ayunas y ten el higado de quebranta hueso asado y hecho polvos y destemplado con vinaigre y bebido quatro dias sanara todo loco." *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* (ms. 1462), pg. 65.

To preserve ox tongue of the flower

For a pound of flower, three pounds of sugar and they will take the flower and chop it very well in a mortar and when it is almost chopped, add the sugar and chop it very well and then put it in a glass pot and put it in the sun and it will melt there.³⁰²

This *lengua de bovina* is a flower, and like the rose version of this same recipe from

earlier, it is an electuary, except one that has very little culinary use. It too is chopped up

fine and crushed with sugar to make this medicine both more palatable and temper its

humoral qualities. Since sugar and strong sunlight are indicated here, we can assume that

lengua de bovina is another cool and dry ingredient.

There are also recipes for helping with stomach pain and bad breath. Here is one

interesting example:

Recipe for the stomach

Of anise, one ounce; of rustic cumin, one ounce; of licorice, one ounce; of caraway, one ounce; of royal *chitomo* one ounce; of cinnamon, one ounce; of prepared coriander six ounces; of white Valencia sugar, twelve ounces. All ground and sifted together and placed in a box. Take a spoonful of these powders after lunch and dinner. You must not drink on them. They have been continuously ordered in Rome for the blessed pope by thirty famous doctors and the properties that the powders have are that they take advantage to comfort the stomach and clean it and make good breath, soften the chests, comfort the senses, resolve humors and make them not go up to the head, retain the tears of the eyes, comfort the sight and lengthen it, awaken understanding, make good blood, make ready good distinction, make good sleep, kill worms, clarify the sight, make them be joyful, take away the pain of the ringworms, break the stone that is in the bladder, remove the putrefied humor, take away the Rheumatism that does not go up to the throat, keep them in a....³⁰³

³⁰²"Para conserva de lengua de bovina de la flor: A una libra de flor tres libras de azucar y tomaran la flor y picarlan en un mortero muy bien y quando ya estara casi picada ponan el azucar y picarlo an todo muy bien y despues ponanlo en una olleta de vidrio y ponerlan al sol y eruira alli." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg. 80.

³⁰³ "Memoria para el estomago: De anis una onca de cominos rusticos una onca de regaliz una onca de Alcarabea una onca de chitomo real una onca de canela una onza de culantro preparado seis oncas de

The page is cut short at the bottom and the rest of the recipe is no longer visible. This is one of a very few examples of recipes that go on to extol the miraculous healing qualities of a particular medicine; here the writer gives this medicine the endorsement of "thirty famous doctors" in healing the Pope himself! It comforts the stomach but also kills worms and removes putrefied humors, comforts the sight, etc. All of these healing properties have their basis in humoral theory. All of these ingredients are sweet, and thus would be considered good to resolve any problems with digestion, including the clogging of interior digestive pathways to the bladder, liver, etc. as stated in the recipe. Licorice and anise are carminative, meaning that they reduce flatulence, something that would comfort an upset stomach and was thought to be the cause of blockages and disruption of the mental faculties.³⁰⁴ Dioscorides claims that licorice is "good similarly for burning of the stomach, disorders in the chest and liver, parasitic skin diseases, and bladder or kidney disorders" all of which are mentioned as treated by this recipe.³⁰⁵

Powdered root of licorice is also good for healing problems with the eyes, a problem that would be dealt with by drying the eye with powders or washing them out with medicinal waters, like so:

azucar blanco de Valencia doze oncas. todo molido y cernido junto uno con otro y puestos en una caja tomen despues de comer y cenar una cucharada de aquellos polvos. No han de beber sobre ellos. Han se de sar de contino fue ordenada en Roma para el papa benedito por treinta doctores famosos y la Propriedades que tienen es los polvos son que aprovechan para confortar el estomago y limpiarlo y hazer buen aliento ablandar los pechos confortar los sentidos resuelben humores y hazen que no suban a la cabeza retienen las lagrimas de los ojos confortan la vista y alarganla despiertan el entendremiento hazen buena sangre hazen presta la distincion hazen bien dormir matan las lombrices clarificacion la vista hazen estar alegres quitan el dolor de los tiñones quebran la piedra que esta en la begica quitan el humor perlastico quitan la Reuma que no suba a la garganta guardan las en un...." Manuscript of *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, pg. 29.

 ³⁰⁴ Dioscorides, pg. 440 for anise, and pg. 371-372 for licorice.
 ³⁰⁵ Ibid.

A very proven recipe for the eyes

Take a quart of very good white wine, from a good vineyard, and half a quart of rose water and saffron, as much as can be taken with three fingers. Very good white vinegar, as much as in a walnut shell; aloe, the weight of a real. Nine maravedis of prepared zinc oxide, two ounces of verv fine white sugar. All together, very well mixed, the water is made. You have to wash your eyes with it, wetting a little sponge as many times as you put it on and it will quickly come out.³⁰⁶

Each of these ingredients has warming qualities, and Dioscorides particularly mentions saffron as being good against "excessive discharges of the eye."³⁰⁷ Oil of saffron "cleans away things which darken the pupils."³⁰⁸ A mixture of these ingredients would have made perfect sense to Dioscorides to use to treat eye problems. These ingredients were all likely easily available to women in the Hispanic kingdoms and would have utilized the most simple of kitchen implements to process, the mortar and pestle. That almost all of the ingredients were edible is another reason to believe that women would have been capable of using this recipe with the same knowledge that they produced culinary recipes.

Another interesting recipe that follows the same logic begins with a confusing

title:

Recipe for alcohol

With two socharas of fine ground zinc oxide burn it in an iron spoon in wood embers and kill it in urine of a healthy child and in this way and in this way (sic) burn it and kill it three times / I do three burns and kill it in white wine, I do three burns and kill it with rose water and the next time leave it in the water twenty-four hours and take the weight of half a quart

³⁰⁶ "Recepta para los ojos muy provada: Tomar un quartillo de vino blanco muy bueno, a Masia y medio quartillo de agua Rosada y azafran quanto se puede tomar con tres dedos. Vinagre blanco muy bueno quanto que va en una cascara de nuez aloe peso de un real. Nueve mmis de atutia preparada dos onzas de azucar blanco muy fino. Todo junto muy bien revuelto queda hecha el agua. Han se de labar los ojos con ella mojando un poquito de esponja las veces que poner cieje y somara presto." Manuscript of Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, pg. 31. ³⁰⁷ Dioscorides, pg. 30.

³⁰⁸ Ibid.

of florin of xpal (?) burned / and the weight of half a florin of seed pearls and the weight of half a quart of burned horn of deer and the same of burned red coral and ten grains of burned barley, everything is ground until it is ready to put in the eyes / we might repeat three times³⁰⁹

This recipe from *Recetas experimentadas* is a great example of one that was written down as a reminder that includes very little explanation of how to make the thing or what it is for. The recipe is written in a nice, flowing and legible script, so it was written with care. But the instructions read almost stream-of-consciousness, with an unintentionally repeated phrase. The repetition of "three times" and repeated burns of different materials could be taken as chronological instructions or as suggestions of different ingredients that should be treated the same way. The slashes in my translation of the recipe are in the manuscript, and could be interpreted as separate steps or as alternate ingredients for multiple versions of the same remedy.

It is also not entirely clear from the start what is being made in this recipe. The title says alcohol, but there is no mention of distilling anything or alembic equipment. There is no explicit explanation of what the ingredients are meant to do other than be put in the eyes. In fact this recipe sounds more like a recipe for eye problems like the previous one from *Livro de receptas*. They both make use of a substance called *tutía*, which I have translated as zinc oxide, which is used as a drying agent for treating the eyes. The other burnt powders might have the same effect of drying overly watery eyes as

³⁰⁹ "Receta para alcohol: A tutia fina, dos socharas quemarla en una cuchara de fiero en braja de arbor y matarla en orinas de nino sano y desta manera y desta manera (sic) quemarla y matarla as tres vezes / yo haz tres quemar y amatar en vino blanco yo haz tres quemar y amatar en agua rosada y la portrera(?) vez dejala en el agua xx iiii horas y tomar peso de medio quartillo de florin de xpal(?) quemado / y peso de medio florin de aljofar por horacar y peso de medio quartillo de florin decuerno de cierno quemada y otro tanto de coral colorado quemado y diez granos de cevada quemados todo sea molido hasta queste ya ponerle en los hojos / fuimas duplicar tres voltes" Manuscript *Recetas experimentadas para diversas cosas.* Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243, pg. 175.

well. The fact that all of the ingredients are burnt, and then soaked with various liquids is similar to how lye is made for washing and soapmaking, but there is no mention of the product of this recipe being used for that purpose.

Cosmetics and Cleaners

Food and health are still directly linked in our modern world, with doctors and scientists still constantly commenting on what is healthy to eat and how what we consume affects our long-term health and wellness. In the medieval and early modern mind, cosmetics had a deeper role to play in the maintenance of health than we might think, more than just covering up blemishes and maintaining an appearance of health. Women generally made their own cosmetics, and the recipes that they used frequently involved the production of, and utilization of, chemical compounds. Using chemicals and rare and expensive substances for perfumes and cosmetics illustrates that women's pursuit of femininity was central to their interest in the production methods that involved complicated chemical processes. Women were not just buying finished cosmetics and perfumes from a store like they might today, although certainly there were people who made these things and sold them then as now. Women in this period continued to be expected to work with dangerous chemicals and to be well versed in the equipment, ingredients and processes necessary to produce their own cosmetics in a way similar to the complicated processes of producing food and medicines from natural products.

As we saw in the last chapter, women used many types of cosmetic products in

the Middle Ages and early modern period. One of the things women were interested in

were products that changed skin and hair color:

Recipe for making orange blossom oil that turns yellow in the gloves

Take a pound of wormwood oil, and half an ounce of cow stone, which is steeped in the gall, ground and sifted, and the yellow of the red rose, and the yellow of the orange blossom: and the yellow of the lilies: all this very crushed: and a little bit of very ground and sifted stem. All this is put into the oil with a quarter of seaweed, and said oil is put to boil over a gentle fire: and after making it for five or six hours, remove it from the fire and let it cool: and put it in a flask in the sun for thirty days stirring it twice each day.³¹⁰

Recipe to turn white hair black

You have to take an ounce of *agua fuerte* and melt in it the amount of silver that is equal to a Real and then with eight ounces of rosewater you have to use the said water and with this you wet the hair with which it will turn very black.³¹¹

In the previous chapter I examined recipes for lotions, hair removers and hair dyes. These

are like those but use different ingredients and produce different results.

The first recipe uses a variety of ingredients that do not appear in previous

recipes, like cow-stone, which is a gall bladder stone from a cow; it is described as being

³¹⁰ "Recepta para hazer azeyte de azahar ques ennes de los guantes haga amarillo: Tomar una libra de azeyte de ajenjoh, y media onza de piedra de vaca la gusta en la hiel muey molida y cernida, y lo amarillo de la rosa colorada, y lo amarillo de la flor de hazahar: y lo amarillo de las azuzenas: todo esto muy majado: y un poco de fuste muy molido y cernido. Todo esto se heche en el azeyte con una quarta de algaha, y dicho azeye se ponga a hervir sobre fuego manso: y despues de hazer pasla cinco o seis hernores, quitenlo del fuego y dejenlo esta friar: y ponello han en una redoma al sol treinta dias rebolviendolo dos vezes cada dia" Manuscript *Recetas experimentadas para diversas cosas*. Mss. 2019 Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, http://bdh.bne.es/bnesearch/detalle/bdh0000011243, pg. 177.
³¹¹ "Memoria para volver negros los cabellos blancos: Hace de tomar una onza de agua rosada ten usar la dicha agua y con esta mojarlos cabellos con que volveran muy negros" Manuscript of *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, htrough the Biblioteca Digital Hispánica se vvas perfumadas y conserbas Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, htrough the Biblioteca Digital Hispánica, pg. 53. *Agua fuerte* is the medieval and early modern name for nitric acid.

steeped in the gall. There is wormwood oil, which has many uses according to Dioscorides, including as a insect repellant and for expelling the menstrual flow.³¹² It is warming and drying in quality, while the other ingredients are all drying, with some cooling ingredients to temper the warming ones. The title of this recipe asserts that it will turn yellow but not that it will turn the hands yellow, suggesting that this is simply describing the color of the lotion. However, the ingredients, particularly the yellow of the flowers would likely turn your hands yellow for a time after use. This recipe is interesting because I have found no other that turns anything yellow and the ingredients are unusual for an *adobo de guantes*. Clearly there is some knowledge of humoral theory at work here, even though the end result is not readily understandable.

The second recipe, on dying the hair black is much simpler but involves more knowledge of the reactions of its ingredients than the former. This recipe requires the user to dissolve silver in *agua fuerte*, or nitric acid, which produces a dark brown color. This is then mixed with rose water and applied to the hair, which we are told will turn very black. This recipe is similar to the recipes from the previous chapter that used some black substance like oak gall to dye the hair. This one is considerably more dangerous however, as it involves the use of a caustic chemical and its reaction to silver to add color to the hair.

Both of these recipes involve using a reaction to change a substance's colors and they both thus illustrate the knowledge the writer must have held of practical, empirical changes in materials that could have been explained by the four qualities, but did not especially require that kind of explanation. Other compounds were documented in these

³¹² Dioscorides, *De materia medica*, pg. 392.

manuscripts that would have been produced in households that generally required an

empirical understanding of the materials and their reactions to each other.

As discussed in the last chapter, one particularly important ingredient in cosmetics

of the medieval and early modern period, was the mercury-based solimán:

Solimán Recipe

Choose the stone that is very good and clear because there is a lot of it that has impurities, four ounces of stone, an ounce and a half of quicksilver kill the quicksilver with a little white unguent that is very good and fresh and strain it through a pañezico, make to grind the solimán for a space of nine days and once it is very well ground, incorporate it with quicksilver and boil it in as much water as the quantity of solimán is and boil it three or four times afterward, drain it and make it small³¹³

Solimán Labrado

First take two ounces of solimán and chop it very well and add a real of *orbibo* and chop everything together until it turns white and add to it some saliva and then take a cloth of raw wool fold it double like a nun³¹⁴ and put it inside and in another wool cloth take six dineros of psylium³¹⁵ and transfer the nun there and treat it very well, then put it in a pot of water together that remains for two days and when it is well cooked, take it out and take a pin and insert it into the solimán and set aside if it is in its own color the pin is made and if the pin comes back in another color will cook the solimán again.³¹⁶

³¹³ "Recepta de soliman: escoje la piedra que sea muy buena y clara porque ay mucha della que hene alchifra, quatro onzas de piedra, onza y media de azogue maten el azogue con un poco de inguento blanco que sea muy bueno y fresco y cuelenlo por un panyezico hase de moler el soliman por spacio de nueve dias y despues este muy bien molido en corporenlo con el azogue y cuerzganlo en harta agua como fuere la quantidad del soliman y cuerzganlo tres o quatro vezes despues enxugallo y hazelo pellicas." *Recetas experimentadas para diversas cosas* (ms. 2019), pg. 89.

³¹⁴ This is my best approximation of what is being said here, the "panico of olanda" is a sieve made of woolen cloth, and it is folded like a nun's habit.

³¹⁵ A type of flower. *Diccionario de la Lengua Española*, https://dle.rae.es/zaragatona. Accessed 2-15-2023. ³¹⁶ "Solimán Labrado: Primeramente tomar dos onzas de solimán y picarlo muy bien y echar un real de or vivo y picar lo todo junto hasta que se vuelva blanco y echar de quando una saliba y despues tomar un panico de olanda cruda echo dos dobles ya ser una monjica y meterlo dentro y tomar en otro panico seis dineros de zaracatona y enbestir alli la monjica ya tarlo muy bien des pues echarlo en una olla de agua de lio que quega dos dias y quando este bien cozidos sacarlo y tomar una alfiler y incarlo en el solimán des a lado si esta en su propio color el alfiler esta echo y si volviere de otro color el alfiler volvierlo a cozerlo el solimán." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg. 71.

I have included two recipes here to illustrate the complex production of solimán. Part of what makes these recipes difficult to understand is that there are assumptions made in both that the reader will know what type of stone to use to make the solimán, and what equipment is meant to be used. For example, what is meant in the second recipe by a *monjica*? I have translated it as a type of sieve folded from raw woolen cloth, but it may be something else. It might mean in the manner of a nun, either folded like a nun's habit or some other way that nuns utilize *panico*. The fact that nuns are referenced in this recipe may also indicate that they were involved in the production of solimán, along with its inclusion in at least three documents intended for women (*Manual de Mugeres*, *Recetas y memorias para guisados*, and *Recetas experimentadas*) is strong evidence that women were tasked with the production of solimán. It was used as part of face and hand washes that were meant to remove blemishes and clarify the complexion; a use more suited to women than men.

It was also known at the time to be poisonous. Sebastián de Covarrubias, in his dictionary of the Castilian language from 1611, writes that: "Solimán is the sublimated quicksilver, from which the name solimán, idest, sublimatum is taken: you will see how it is prepared in Doctor Laguna on Dioscorides, book 5, chapter 69. Father Guadix says that in Arabic it is known as a poison. The same is true for us, due to its bad quality and deadly effect."³¹⁷ Laguna in his Castilian translation of Dioscorides also has lengthy descriptions of solimán and the various forms of mercury that were known both in the sixteenth century and to Dioscorides in the second century. Laguna likewise calls solimán

³¹⁷ Sebatian de Covarrubias, *Tesoro de la Lengua Castillano o Español*, pg. 1304-1305.

a *veneno* or poison.³¹⁸ It is highly likely that anyone proposing the use of solimán in a recipe would have known very well the poisonous nature of the compound. There are no recipes that I have found in any of the manuscripts that I have researched that propose using solimán internally.

Dioscorides writes about mercury being extremely toxic and notes that it must be kept in a glass container lest it eat through other materials.³¹⁹ The only internal use for mercury that Laguna mentions is as a cure for the *mal de frances*, or syphilis which involves a very small amount of mercury treated with *agua fuerte*, or nitric acid, and mixed with wine.³²⁰ Laguna warns against the use of solimán as a cleanser writing that:

A very famous strong oil is prepared from solimán, called solimán adobado. It is so excellent that women who often wash with it, even if they are very young, soon become old, with monkey-like gestures, wrinkled and wasted; and before the stench sets in, their bodies tremble as if they were mercury-treated, because they undoubtedly are. The only difference between solimán and mercury is that it is more corrosive and biting.³²¹

It is clear from this passage that Laguna is well aware of the dangerous nature of mercury, even when it is converted into solimán. He is also very aware of and

³¹⁸ Hazese tambien del mismo por via sublimation, aquel pernicioso veneno, que dize Soliman en Castilla. "If one also makes the same through sublimation, that pernicious poison, it is called solimán in Castile." Laguna, *De materia medica*, pg. 542.

³¹⁹ Dioscorides, *De medica Materia*, pg. 799-800.

³²⁰ Hazese del azogue calcinado con agua fuerte, aquel polvo de Ioannes del Vigo, que se dize precipitado: el qual es sin duda excellente, para consumir sin dolor toda carne superflua, o corrupta, rectificando la malignidad de las llagas. Del quando bevidos cinco, o seis granos con vino (segun consta por la experientia) hazen maravillas en los dolores del mal frances, evacuando potentemente, y desarraygando los humores fijos en las jundturas. "From calcined quicksilver with strong water, one makes that powder of Ioannes of Vigo, which is called precipitated: this is undoubtedly excellent for painlessly consuming all superfluous or corrupt flesh, rectifying the malignancy of wounds. When five or six grains are drunk with wine (as is proven by experience) they work wonders in the pains of the French disease, powerfully evacuating and dislodging the fixed humors in the joints." Laguna, *De materia medica*, pg. 542.

excellentia, que las mugeres que amenudo con el afeitan, aun que sean de pocos anos, presto se tornan viejas, con unos gestillos de monas, arrugados, y consumidos: y antes de les cargue la hedad, tiemblan las cuytadillas como azogadas, porque sin duda lo son: visto que el soliman solamente del azogue diffiere en esto, que es mas corrosivo y mordaz. Ibid.

disapproving of its use as a cleanser by women, arguing that it will harm them as if they are being poisoned by mercury. Laguna's mention of women in this passage is good proof that women were producing and using solimán for the purpose of maintaining beauty and for perhaps treating syphilis in themselves.

Another compound that appears in these documents frequently is lye or bleach.

The production of lye from ashes is an essential part of producing soap for washing, and

it should come as no surprise that women would have found recipes for its production

very useful in their everyday work:

How to make lye for washing

Take a canteen of water and pour it into a cauldron and pour three quartillos of ash and let it cook until the mixture is reduced by half and then test it and split it into another container and then pour half a pound of sesame and a quartillo of almond ash and two of cow gall and half a pound of burnt ash and boil until good and dry. Take a strainer and pour half a bushel of ash, half a bushel of vine shoots and half a bushel of broom and all that is in the cauldron and pour it in the strainer and strain it twice and pour in it the following: another maravedí³²² of sangre de drago³²³ and another maravedí of suelda³²⁴ and another one maravedí of alarguez³²⁵

and another one of azafrán romí³²⁶

³²² A marevedí was a silver coin with a varying worth over time, but by the sixteenth century was the smallest denomination of Spanish coin. It is more likely that this refers to an amount that was the weight of a maravedí, rather than an amount worth a maravedí, as this would make there be equal amounts of each ingredient in the recipe.

³²³ In pre-Columbian Europe this could refer to cinnabar, an ore of mercury that has a brilliant red color, or it could be the resin of a type of calamus palm, which grows in India, Sumatra and Borneo. Modern sangre de drago comes from a similar tree that grows in tropical Peru.

³²⁴ There are two different plants that this could be referring to so I have left it in Spanish.

³²⁵ This refers to a number of spiny plants of the barberry and Aspalathus families. I have left it in the original Spanish because of the ambiguity.

³²⁶ This could be either the entire saffron flower, or a separate plant (also called alazor in Spanish) whose flower is used for dye and the seed produces an edible oil.

and another one of rustic cumin Be all very ground and sifted and pour it in the lye after straining.³²⁷

This recipe utilizes many different ingredients, perhaps somewhat unnecessarily, but the writer believed that the different types of wood combined produced a more effective lye. The list of other ingredients at the end are colorants used as dyes that produce red and orange colors. Perhaps this specific lye was used to dye clothing red? Lye is referred to in other recipes as either lexia/lejia or as blanqueador/blanquete, translated as lye, bleach, or whitener. This is a complicated, multi-step recipe that likely masks a more complicated process by virtue of it being only a sketch of the full process. This recipe, like the others in this chapter, leaves some amount of explanation to the reader as it assumes the person reading this has knowledge of the technical processes involved. It is also important to point out that this recipe for something very non-edible utilizes the same utensils that someone would use to make food, (pots, sieves, etc.) and utilizes edible ingredients as well. The process of making this bleach is not entirely divorced from the process of producing food or medicine and could be carried out by the same people with the same skills.

As this recipe illustrates, women were producing their own bleaches and dyes for domestic use, managing complex chemical recipes similarly to complex culinary and

³²⁷ "De como se haze la lexia para esponjar: Ande tomar un cantaro de agua y echarlo en una caldeza y echar tres quartillos de ceniza y anlo de dejar cozer hasta que des mengue la meytad y catarla ya partarla en otra cosa y anle de echar media libra de alegria y un quartillo de ceniza de cendra y dos hieles de vaca y media libra de rasuras quemadas ya de hervir un buen rasuras contadas estas cosas y an de tomar una coladeza y echarle medio celemin de ceniza la meytad de sarmientos y la otras meytad de retama y todo lo que esta en la caldera sea de echar en la coladera ya sede colar dos veces y ande echar lo siguiente: y otro maravedi de sangre de drago: y otro maravedi de suelda: y otro maravedi de elarguez: y otro de azafrán romí: y otro de cominos rusticos: a de ser todo muy molido y cernido y echarlo en la lexia despues de colada," *Recetas experimentadas para diversas cosas* (ms. 2019), pg. 213.

medical compound recipes, and with similar equipment. Lye was not just used for soaps and lotions, however:

Recipe to make tooth powder

Burn some rosemary roots and when they are burned, mash them with white wine and some burnt eggshells and burnt alum, and when they are tender put them on your teeth with a cloth soaked in oil and soaked in white wine, and after burning all this, grind it and chew it.³²⁸

This recipe uses similar ingredients to the lye recipe, but is called a tooth powder and is meant to be applied to the teeth with an oil soaked cloth. There is no explicit explanation of what this powder does, but by comparing it to the previous recipe for lye it should be clear that it is meant to whiten the teeth. It is ashes that have been soaked in wine and then applied to something that you would presumably want to whiten.

The person who wrote this recipe is aware of the effect raw lye would have on the tissues of the mouth, or any moist skin; it will cause a chemical burn. Water and lye causes a vigorous chemical reaction that produces a lot of heat. This is one reason why it is still used as a drain cleaner. The writer specifies that the ashes be soaked in white wine, which, given that wine in this time period would have contained a considerable amount of vinegar (a natural result of wine storage before glass bottles and corks were widely used), most probably neutralized much of the lye in the ashes and enabled it to be used in the mouth.

³²⁸ "Memoria para azer polvos para los dientes: Quemar unas rayces de romero y quando esten quemadas matallas con vino blanco y unas cascaras de quebos quemadas y alumre quemado y quando seden con ello en los dientes adeser cojn un trapico moxado en aceyte y en jaguarse con vino blanco y despues de quemado todo esto molello y comello" Manuscript of *Livro de receptas de pivetes, pastilhas e vvas perfumadas y conserbas* Mss. 1462, Biblioteca Nacional de España, Madrid, Spain. Accessed through the Biblioteca Digital Hispánica, pg. 51.

The oil and wine-soaked rag is probably meant to protect the hand from the remaining lye. It is not clear how effective this whitener would be or how safe it could be made to use in the mouth, but it is a good example of someone from the sixteenth century thinking about how to use the ingredients and tools available to them to fix a problem.

A recipe written into the end of *Recetas y memorias para guisados* makes use of both lye and solimán:

Recipe for a most useful unguent

First, take a new casserole and in it render chicken fat that is not burnt and take out the fried bits and cut poncil³²⁹ removing the rind and sourness and after being well prepared with salt, pour it into a very clean cloth and let it melt and take three ounces of raw bleach³³⁰ and two reals of solimán and grind it and pass it through a bristle sieve all together and put it in a mortar and six or eight dineros of bitter almond oil and with one hand beat it very well all together for two quarts and then leave it to solidify there together and after two hours take it out and put it in glass containers.³³¹

Both solimán and whitener/bleach are part of this unguent, or lotion, described as "most useful" but not explicitly given a particular use. The main ingredient in this unguent is chicken fat, and it uses culinary ingredients, probably as fragrances and for their drying properties. Both bitter almond oil and salt would dry things, and almond oil and citrus would lend pleasant smells to the unguent. The fact that solimán and whitener are

³²⁹ A poncil is a sour citrus fruit variety used for its fragrance, like citron. https://www.um.es/lexico-comercio-medieval/index.php/v/lexico/12804. Accessed 2-15-2023.

³³⁰ This is likely lejia/lexia, lye that was used to bleach or whiten things in numerous recipes. ³³¹ "Receta de unguento utilissimo: Primeramente tomar una cacuela nueba y en ella deretir la injundia que no este quemada y sacar la chochoritas y cortar el poncil quitada la corte la y agrio y despues de bien cocido con el sal incolarlo por un pano muy limpio y degarle elar y tomar tres onzas de blanquete crudo y dos reales de soliman y molerle y pasarlee por un cedazo de cerdas todo junto y hecharle en un almiroz y seis o ocho dineros de aceyte de almendras amargas y a una mano vatillo muy bien todo junto cosa de dos quartos y despues degarle elar alli mismo y despues de alli a dos horas sacallo y ponello en vasos de vidrio." *Recetas y memorias para guisados, confituras, olores, aguas, afeites, adobos de guantes, ungüentos y medicinas para muchas enfermedades* (ms. 6058), pg. 82.

included in the unguent is indicative of its use; this is an example of a lotion used to remove blemishes, of which there are quite a few in the manuscripts. There is an example, repeated in two different places, for "water for the face" in *Recetas experimentadas* that uses *solimán en piedra*, or *solimán* stone as an essential part of the recipe. ³³² There are also a multitude of lotions, *adobos de guantes, sebos de guantes,* and *sebos de rostro* that do not use *solimán* or *lexia*, and this is a clue to their use as skin softeners and not whiteners. Hardly any of the recipes tell the reader the difference in the title, and again its illustrative of the type of recipe book these manuscripts are. They are meant to be the accumulated knowledge of individuals that can assume a certain level of knowledge about the subjects contained in them. Like medieval cookbooks, the writers assumed that they or their intended audience were familiar with technical terms, ingredient names and techniques, and took little if any time to explain them.

Conclusion

I end this chapter deliberately with a recipe that combines ingredients that have both a culinary use and a cosmetic use to underscore two important points that I argue in this chapter. One is that whether or not women specifically wrote these recipes, and I strongly argue that they did, these recipes were intended for the use of women in maintaining the health of themselves and their households. The content of these recipes along with the context provided by Covarrubias and Laguna, and comparison to the ancient sources that I described in chapter one, are all strong evidence that these are manuscripts written with women's concerns in mind. Women in charge of households

³³² Recetas experimentadas para diversas cosas (ms. 2019), pgs. 51 and 68.

sought out recipes that combined skills, tools, and methodologies that were useful to culinary, cosmetic, and medicinal production. This illustrates that women running households saw these three types of recipes as being part of the same essential task, maintaining health, and that it was useful for them to take this task on themselves rather than delegate it to a physician. This required them to at the very least be aware of the predominant ideas about health and to navigate the marketplace of those ideas.

The other point that I argue in this chapter is that women running households had to work with and be skilled in the production of chemicals and compounds that were known to be dangerous even in their own time. Women did not passively accept the pronouncements of the medical mainstream, then dominated by male academics. They sought out remedies and sought to preserve those that seemed to work for them by writing them down.

The food recipes presented in this chapter illustrate the connections that women of sixteenth-century Hispanic Kingdoms saw between food and health. They also illustrate the connection of certain types of food to social status and women's idealized role in society through the choice of high-class ingredients and preparation methods, and the endorsement of powerful women and women's institutions. Medicine and food were combined in electuaries, and in the ways in which ingredients were meant to interact with each other according to prevailing ideas of humoral medicine. The production of these foods was supported by the same skills and utensils that would produce medicine and cosmetics.

The medicinal recipes presented in this chapter also illustrate the ways in which women used mainstream medical theory for their own purposes. The electuaries and remedies for various ailments, along with the advice on childbirth and post-partum care all follow from the medical theory and advice of the documents I examined in the last chapter. They differ in that they are not straight out copies of the older recipes, yet they still clearly follow the same theories and still draw from the same ingredients. They too involve the skillful selection, processing and mixing that culinary recipes require.

Lastly, the cosmetic recipes involve the most intensive understanding of ingredients and their effects on the body, There are numerous recipes for dangerous chemical compounds that women clearly knew how to produce and handle, even against the advice of learned academics like Doctor Laguna. The recipes in these manuscripts show a marked interest in utilizing these chemicals along with more benign compounds to produce desired effects on the body that would make them healthy and more feminine according to the preferences of their time. They again would have been using the same equipment and skills to manufacture all of these recipes, and their goal, to maintain a healthy body, was the same.

These manuscripts were not written with the intent to be published, but for the personal use of the women who wrote them. We can find women's agency in these documents by thinking about why they collected these recipes and how they produced dangerous chemicals through complex processes. We can also use intersectionality to illustrate the multitude of women involved in the production of these different recipes, and their intentions in conforming to or affecting certain aspects of contemporary ideas

about femininity. The next chapter will examine what types of ingredients Iberian women had access to in the post-Columbian era.

CHAPTER IV

IMPERIAL SCIENCE IN IBERIAN HOMES: NEW WORLD PRODUCTS AND WOMEN'S HEALTH 1550-1650

The Columbian Exchange of flora and fauna that began with the discovery of the Americas by European explorers has had an immeasurable effect on the world since 1492. Led by an expedition from the Hispanic Kingdoms, the effects of new foods, new medicines, and most importantly, diseases has profoundly altered the societies of both Native American and Eurasian societies ever since. This chapter will focus on the late sixteenth and early seventeenth centuries, a time when many ideas about health and its relationship to diet were changing across Europe due to the Columbian Exchange.³³³ This chapter illustrates the kinds of changes (or the lack of changes) that occurred in recipes in the Hispanic kingdoms as a result of growing Iberian knowledge of foodstuffs and medicinal products from outside of Europe, particularly from the Americas. I focus on documents written by sixteenth-century scholars who collected descriptions of New World plants, animals and other ingredients that they felt had medicinal value in order to illustrate both changes in humoral theory and the cookbooks and manuals that illustrate

³³³ Crosby, Albert, *The Columbian Exchange: Biological and Cultural Consequences of 1492, 30th Anniversary Edition* (Westport: Praeger Publishers, 2003), 165-208.

how those theories adapted to new information. One of the questions that I address in this chapter is how much the Columbian Exchange altered medical theory, particularly for women in the latter half of the sixteenth century until the mid-seventeenth.

With the Hispanic kingdoms' lead in incorporating New World products into their repertoire, how much of an impact on practice did changes in ingredients have on women's care and their practice of care? By comparing documents written by the main collectors of information about New World pharmacopeia to the manuscript recipe collections from the previous chapter, I argue that the ingredients of the Americas had little impact on Iberian recipes that could be useful in treating health problems relating to women. However, the plethora of entries pertaining to women's health in the pharmacological texts that I examine are very good evidence of what types of medicines were important to their authors. There are numerous medicinal plants and foods purported by the authors to relieve birthing pains, provoke menstruation, and to treat the *mal frances*, better known as syphilis.

Each of these texts was written for the purpose of illustrating the usefulness of New World products to a European audience, and the inclusion of so many ingredients pertaining to women's health is indicative of the types of concerns the authors had, and in turn Iberian society had, with regards to women. While these documents do not themselves directly speak to what women were doing with regards to their health, I read them 'against the grain' to gain some insight into what types of problems concerned Iberians about women's health and how important those problems were to them. I argue that there are so many entries in these documents about women's health concerns, specifically childbirth and menstruation, because these types of medicines were deemed necessary and desirable. While none of the recipes or entries in these documents uses the words 'abortion' or 'termination of pregnancy,' or other euphemisms of that sort, the authors of these documents must have known what these types of treatments would result in. I will argue that abortifacients were an important part of women's healthcare in this time period, enough so that male authors would be on the lookout for and emphasize in their texts ingredients that could be used in this fashion.

But the fact that they are not characterized as abortifacients is an important distinction. Many of the recipes from the last chapter were described as aids to help with evacuating a stillborn fetus. Others are said to help "bring down the menses" or to "provoke menstruation." While we have seen in previous chapters that regulating menstruation was an important health concern in humoral theory, the effect of provoking or causing menstruation, or helping in birthing a fetus, had the same effect then as it does now, which is to end a pregnancy. People were well aware of this fact at the time.

In *Plants and Empire: Colonial Bioprospecting in the Atlantic World* Londa Schiebinger wrote about the curious case of the peacock flower, a Caribbean flowering shrub used by many enslaved women in the early eighteenth century specifically to abort unwanted pregnancies. The plant became a well-known and highly sought after ornamental in Europe for its beautiful flowers, but its use as an abortifacient was not widely known to Europeans. Schiebinger connects colonial botanical prospecting, the expansion of European empires, and gender in *Plants and Empire* to ask: "How did gender relations mold what plants and knowledge circulated through these networks?"³³⁴

The networks that she describes privileged the knowledge of men, particularly men of means that could afford to take long, dangerous voyages to parts unknown. They were also most often trained as medical doctors. The gender and social outcome of this was that botanical products were sought out for the reason of making money for the discoverer and for the purpose of solving problems that men of the time perceived as medical problems. As I will discuss in the rest of this chapter, the authors of the three pharmacopeia that I examine here were all men, and all trained to be physicians, welllearned in the humoral theories of their time. The types of substances that they describe in their books were selected with this context in mind. I argue that many of these plants and the medicines that they produced did not make their way into the recipe manuscripts that I examined in the last chapter because they could not be exploited effectively by men.

Description of Sources

There are three main sources that I compared to the documents from chapter three. The largest is named *Quatro Libros de Naturaleza, Y Virtudes de las Plantas, y Animales que Estan Recibidos en el Uso de Medicina en la Nueva España (Four Books of Nature, and Virtues of the Plants, and Animals that are Received in the Use of Medicine in New Spain*) by Francisco Hernandez de Toledo,³³⁵ translated from his Latin notes by

³³⁴ Londa Schiebinger. *Plants and Empire: Colonial Bioprospecting in the Atlantic World*. (Cambridge: Harvard University Press, 2004).

³³⁵ Francisco Hernandez de Toledo, Quatro Libros de Naturaleza, y Virtudes de las Plantas, y Animales que estan Recevidos en el uso de Medecina en la Nueva España, y la Methodo, y correccion, y preparacion, que

Friar Francisco Ximenes. I use the 1615 edition of the text, published in Mexico.³³⁶ Hernandez was the personal physician to Philip II who was sent to Mexico in 1570 to study medicinal plants and animals, a clear example of science being advanced by imperial interests.³³⁷ Hernandez was specifically ordered to conduct interviews with Nahuatl practitioners and conduct medical studies of the effects of simple and compound medicines.³³⁸ Hernandez' original Latin notes, collected into 22 volumes were mostly lost in a fire in El Escorial in 1671, and Hernandez did not live to see his book published. Philip II had an Italian physician, Nardo Antonio Recchi, work through Hernandez' notes to produce a compilation, but both Recchi and Philip died before the work could be finished and published. Finally in 1615 Francisco Ximenez published *Quatro Libros* in Mexico City from Recchi's notes.

para administrallas se rquiere con lo que el Doctor Francisco Hernandez Escrivio en la Lengua Latina. Translated and edited from Latin into Spanish by Fr. Francisco Ximenes. (Mexico City: En Casa de Diego Lopez Davalos, 1615).

³³⁶ "The book, written in the 16th century, was "translated and augmented with many simple and compound and many other healing secrets by Fr. Francisco Ximenez, son of the Convent of S. Domingo de Mexico", already in the 17th century. Hernández worked in different Spanish cities, until he was appointed Proto-Medical of the Indies by Philip II and left for New Spain around 1571. He returned in 1577, with sixteen volumes of notes intended for Philip II. These contained his studies, accompanied by illustrations carried out by Indigenous painters, and collected the medicinal uses that native doctors gave to herbs. Hernández died in 1587 without seeing his work printed. His publisher, Recchi, also died in 1595, unable to complete the work…Francisco Ximénez edited the translation of Hernández's text, Four books of nature and virtues of plants… in 1615, before the complete original work was published. Ximénez, a nurse at the Huaxtepec hospital convent, used a copy of Recchi's summary for this edition, since none of the handwritten copies that Hernández had left behind in Mexico have survived. To the translation he added some personal observations and deleted the illustrations" https://realacademiadegastronomia.com/libro-bibliotecadda/quatro-libros-de-la-naturaleza-y-virtudes-de-las-plantas-y-animales-que-estan-receuidos-en-el-uso-dela-medicina-en-la-nueva-espana-y-la-methodo-y-correccion-y-reparacion-que-para-administrallas-se-re/ Accessed 6/21/2023.

³³⁷ "On January 11, 1570, Francisco Hernández was appointed by Felipe II general protophysician of all the Indies, islands and mainland of the Ocean Sea, to make the natural history of things in the Indies, for space and time of five years, with an annual salary of 2,000 ducats." https://historia-

hispanica.rah.es/biografias/21605-francisco-hernandez Accessed 5/30/2023.

³³⁸ "wherever you go, you must inform yourself of all the doctors, surgeons, herbalists and Indians and other curious people in this faculty and who you think may understand and know something, and generally take a relationship with them about all the herbs, trees and medicinal plants that exist in the province where you are located" https://historia-hispanica.rah.es/biografías/21605-francisco-hernandez Accessed 5/30/2023.

This version of the text emphasizes the indigenous plants and animals' effects on the body and how each ingredient fits into the humoral system of medicine that he brought with him from Europe. Hernandez was a Galenist, and so every entry in his text begins with a description of the plant and the important ingredients derived from it, whether that was the root, stem or leaves of the plant, or the gum produced by cutting its stem, much like Dioscorides' text on European pharmacopoeia. He then proceeds to describe its effects in humoral terms, assigning where applicable the grades of the four humoral properties. Then, like Dioscorides, he describes what condition or symptom the ingredient is best used to treat, and how it should affect the patient. For certain important products Hernandez goes into detail about their history and usage among the peoples of New Spain and by whom they are used. Throughout the text he uses the Nahuatl names for each of the plants and animals, sometimes including an alternate or Spanish name for the product.

The route *Quatro Libros* took to publication, and its availability to women in its time are important factors to note. Hernandez actually went to Mexico, he interacted with Indigenous healers, he learned the Indigenous names of the plants that he described, often noting what region they came from and who used them, and he practiced medicine while on his travels. He was a learned but a foreign, outside, observer. He became sick and died before he could finish his work, forcing others to interpret and publish his work with their own intentions and motivations. His original Latin manuscript languished in an archive before being mostly destroyed in a fire, and the Spanish translation that I use was published in Mexico City, and not Madrid or Sevilla. *Quatro Libros* was thus obscure for

those living at its time of publication. Given this context, what makes Hernandez important to this project is the number of substances that he describes as being useful in alleviating pain in childbirth, provoking menstruation and dealing with the "mal de Frances" and *llagas* or *bubas* associated with that disease.³³⁹

The second source that I use in this chapter is Nicolas Monardes' *Historia medicinal de las cosas que se traen de nuestras Indias Occidentales (Medicinal History Of Those Things Brought From Our West Indies)*, published originally in 1565 as two books, but republished in 1569 and then again in 1574 as *Primera y segunda y tercera partes de la historia medicinal de las cosas que se traen de nuestras Indias Occidentales, que sirven en medicina (First, Second and Third Parts of the Medicinal History of the Things Brought From Our West Indies, Which Are Used In Medicine);* along with *Tratado de la piedra bezaar, y dela yerva escuerçonera (Treatise On The Bezoar Stone And The Black Salsify Herb); Dialogo de las grandezas del hierro, y de sus virtudes medicinales (Dialogue On The Greatness Of Iron and Its Medicinal Virtues);* and *Tratado de la nieve, y del bever frio (Treatise On Snow, and On Cold Drinks*) as one book.³⁴⁰ This last version is the one I use for this chapter, as it is the last new edit of the text that Monardes himself produced. This book proved popular enough in Europe for it

³³⁹ *Llagas* are "wounds" or sores, which were often characterized by the authors of the texts in this chapter as being on "partes inferiores," and *bubas* are the type of sore that were typically associated with syphilis and the black plague. In keeping with the medicine of the period treating the symptoms of diseases without understanding the underlying causes, these words describe what we would think of as the symptoms caused by the *Treponema pallidum* bacteria that causes syphilis.

³⁴⁰ Nicolás Bautista Monardes, Primera y Segunda y Tercera Partes de la Historia Medicinal de las Cosas que se Traen de Nuestras Indias Occidentales que Sirven en Medicina. (Sevilla: En Casa de Alonso Escriviano, 1574).

to be translated into English and Latin.³⁴¹ Monardes possibly influenced the interests of Philip II in sending Hernandez to New Spain to study the plant and animal life there, and Monardes is referenced frequently in Hernandez' text. Monardes describes the pharmacopeia of the Americas differently from Hernandez because he never went to the New World to study the plants in situ. Monardes practiced medicine in Seville, and collected stories and samples of the plants that he discusses in his *Historia Medicinal* from the sailors in the fleets that came back to Spain from the Americas. He discusses many fewer plants than Hernandez as a result, and much of the information that he relates is anecdotal, although his individual entries are much longer than Hernandez.

Of special note is the third text that I use in this chapter: the *Badiano Manuscript*, or the *Libellus de Medicinalibus Indorum Herbis* (*The Handbook on Medicinal Herbs of the Indians*).³⁴² This book was written in 1552 by Juan Badiano, a Mexica who had been taught Latin at the Colegio de Santa Cruz de Tlatelolco, and translated from a Nahuatl original composed by Martin de la Cruz, another Mexica who had been taught at the same school. The recipes illustrate a native system of medicine based on herbs and other natural substances that has a similar internal logic to the European humoral system, except without being neatly divided into four qualities. The text is notable for two reasons: as the first description of Aztec medicine, and that it refrains from using supernatural explanations for its medical treatments. In many ways it is similar to

³⁴¹ As *loyfull newes out of the newe founde worlde, wherein is declared the rare and singular vertues of diuerse and sundrie hearbes, trees, oyles, plantes, and stones, with their applications, as well for phisicke as chirurgerie, in 1577, with an enlarged edition based on the 1574 Spanish edition in 1580, both published in London. The Latin translations were carried out by Charles de l'Ecluse as <i>De simplicibus medicamentis ex occidentali India delatis quorum in medicina usus est* in 1574 with further revisions published in 1579, 1582, 1593 and 1605 under different names, all published in Antwerp.

³⁴² Juan Badiano and Martin De la Cruz, *The De La Cruz – Badiano Aztec herbal of 1552*. Translated by William Gates, (Baltimore: The Maya Society, 1939)

Hernandez and Monardes works, though much shorter. It divides its recipes into sections that pertain to specific ailments, and uses indigenous herbs in compound medicines. But it also uses many ingredients that a European physician would likely never use, like various animal dungs, skins, and the juices of ground up animal parts.

In this chapter I compare all three of these texts to the manuscripts from the previous chapter. My original intention when I started this project was to compare and illustrate how New World products changed Old World recipes and medical ideas. However, I cannot show that New World products profoundly changed the recipes in manuscripts like *Recetas Experimentadas*, at least not in the ways that I expected. This chapter instead compares the texts to illustrate the gulf between the types of ingredients that New World populations and elite highly educated and well-connected scholars in Iberia had access to and those that were incorporated into Old World recipes that were considered useful to women in Iberian society. What comparing these documents shows is that, at least for those who wrote these specific recipes, the vast pharmacopeia of Mexico was without interest in their daily lives.

Scholarly Assessments of Empiricism in the New World and the Spanish Empire

Scholarship on the subject of Iberian contributions to science has recently pushed back against the idea that Catholic Iberia was a backward place that failed to participate in the Scientific Revolution that centered on Protestant countries, specifically Great Britain. Antonio Barrera-Osorio argues that "the commercial and empire-building culture of this period legitimized the new empirical practices of the new science. Modern science

was a result of state and commercial activities, which did legitimize the new practices."³⁴³ He argues in opposition to Robert Merton and other scholars who argued that it was Protestantism in general, and Puritanism, in particular, that legitimated the new science. This viewpoint clearly privileges English and later British scientific leadership, reflecting the anti-Spanish views characterized as the "Black Legend." Barrera-Osorio's work seeks to remedy this myopic viewpoint and incorporate the work of scholars like Lucille Brockway and Mary Louise Pratt, whose work emphasizes that scientific practices in the period served both economic and political goals. Barrerra-Osorio expands on the practice of scientific inquiry before the professionalization of scientific disciplines. He argues that empirical science was the product of commercial and imperial expansion, and "then, once it was institutionalized, science served in turn the interests of the empire and nation states."³⁴⁴ Barrera-Osorio thus emphasizes Iberian science and the ways in which Iberian Catholic empires contributed to the accumulation of new scientific discoveries while still arguing that the imperial mission was ultimately the main driver of that scientific growth.

Matthew Crawford critiques this close connection between science and empire in *The Andean Wonder Drug: Cinchona Bark and Imperial Science in the Spanish Atlantic, 1630-1800.* In discussing the use of cinchona bark as a cure for syphilis and fevers, he questions the ways in which the Spanish imperial project was supported by scientific

 ³⁴³ Antonio Barrera-Osorio, *Experiencing Nature: The Spanish American Empire and the Early Modern Scientific Revolution* (Austin: University of Texas Press, 2006), pg. 8.
 ³⁴⁴ Ibid., pg. 9.

endeavor, arguing that "there was no natural affinity between science and empire"³⁴⁵ He argues that science and empire failed to work together to produce outcomes that supported either. While science was produced by the imperial project, at least in the case of the Spanish Empire, the institutionalization of science occurred semi-independently of state control, and the two systems often were at odds with each other. He goes further to argue that in attempting to assert more control over the production of cinchona bark as a medical product, "pre-existing networks of knowledge production and the epistemic nature of colonial government could actually undermine the effectiveness of European science as a tool of empire."³⁴⁶ Crawford thus argues that the development of empirical methods of scientific inquiry, while tied to imperial projects, did not always result in increased control over colonial subjects or their material goods. In fact, because entrenched systems of power were not centralized, and the territories of the Spanish Empire were so vast and varied, there was a great gulf of time and distance between imperial agents and administrations and the people in the field who could carry out their directives. Not only that, but those in the field making discoveries need not have been under the direction of any official agents at all, and instead would have been looking out for themselves.

Both Barrera-Osorio and Crawford's viewpoints are useful in framing the mission of this chapter, and indeed this entire dissertation. We will never know what the scientific revolution would have looked like without imperialism and colonialism, but, like Crawford argues, it would be foolish to assume that the two worked together seamlessly

 ³⁴⁵ Matthew Crawford, *The Andean Wonder-Drug: Cinchona Bark and Imperial Science in the Spanish Atlantic, 1630-1800* (Pittsburgh, University of Pittsburgh Press, 2016), pg. 18.
 ³⁴⁶ Ibid.
to promote each other. Colonial governments and the individuals that they were composed of often had competing interests with peninsular administrators who could often only hope to control their colonial subjects from across the Atlantic. Not only were imperial agents unable to control circumstances in far-flung territories around the globe, but they were often even incapable of reacting advantageously to adverse events in the metropole.³⁴⁷

This chapter will further illustrate the fragility of imperial rule by arguing that even when scientific enterprise quickly took up the call of the empire to catalog the botanical riches of the New World possessions of Spain, their prodigious discoveries were slow to spread unless they had answers for a specific few problems (like syphilis and the fevers caused by malaria and yellow fever), could be exploited as commodities on an expanded scale, or could be introduced to Europeans as luxuries or cure-alls like chocolate and tobacco. Products like the *cihuapatli* plant that could improve the lives of women specifically, or even New World food products, made very little impact on the recipes that made it into the collections of Old World manuscripts. That being said, lberian scholars were very interested in collecting information about New World products, and leaders like Philip II of Spain were eager to send agents to the colonies to catalogue the produce of the New World possessions.³⁴⁸

³⁴⁷ See Michael J. Levin, *Agents of Empire: Spanish Ambassadors in Sixteenth Century Italy* (Ithaca: Cornell University Press, 2005) for a detailed look at the dysfunctional nature of Spanish diplomacy in parts of Europe that have long been considered firmly under the control of the Spanish Empire from the sixteenth century onward.

³⁴⁸ Peter O'Malley Pierson, <u>Philip II: Imperial Obligations and Scientific Vision</u> in *Searching For the Secrets of Nature: The Life and Works of Dr. Francisco Hernandez*. Edited by Simon Varey, Rafael Chbran and Dora B. Weiner. (Stanford: Stanford University Press, 2000), pgs. 16-17.

Chocolate and Tobacco

Two of the most important early products of Hispanic contact with the cultures of Mexico were chocolate and tobacco, both of which quickly became extremely popular with Spanish and later broader European audiences. Marcy Norton, in *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* argues that the use of chocolate and tobacco by Europeans was not a product of their addictive qualities (which many substances both from the New and Old Worlds share but did not become as ubiquitous), nor were they somehow only accepted when they were transformed by Europeans into forms more acceptable to them, but that the taste for both was a part of the transformations of cultures wrought by the formation of the Atlantic Empires. "Europeans did not welcome tobacco and chocolate in spite of the meanings that Indians attributed to them, but often *because* of them" (emphasis hers).³⁴⁹

She uses terms like mestizaje, syncretism and hybridity to describe the ways in which Europeans came to utilize chocolate and tobacco, anchoring her discussion firmly in cultural history and a holistic outlook on the use of these products in both native rituals and in their contacts with Europeans. Mestizaje, syncretism, and hybridity are all terms used to acknowledge and describe a blending of cultures that occurs after prolonged contact. They can be used to highlight the synthetic nature of cultural practices. In the case of mestizaje, the blending emphasized is the one between native Mesoamerican practices and European ones. Hybridity emphasizes much more the combination of different practices and beliefs, and is not a term confined to Mesoamerica. It emphasizes

³⁴⁹ Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World.* (Ithaca: Cornell University Press, 2008), pg. 9.

the differences between the newly adopted practices and older ones. Syncretism likewise is not confined to a Mesoamerican context, but unlike hybridity, it emphasizes the combination into a new culture that is distinct from its constituent parts. Applying these terms in the context of this dissertation would mean finding ways in which post-1492 cultures in the sixteenth and early seventeenth centuries combined their foods and cultures.

However, terms like mestizaje and hybridity have come under criticism by postmodernist scholars as lacking a strict enough definition. Gruzinski specifically targets the idea that we can point to distinct elements of cultures that are used to construct new hybrid cultures, arguing that we lack any way to extract essential qualities from cultures that have been in constant flux for the entirety of human history.³⁵⁰ It is difficult to say whether chocolate, tobacco, and other ingredients belong essentially to a specific culture or cultural context, as even in Pre-Columbian America various different peoples interacted with each other and utilized these ingredients in their own ways, and it is extremely difficult to separate those meanings from the context (or contexts) in which they existed. Even on an individual level, people find different meanings for different experiences all the time, and while as scholars we often gloss over the individual level in order to describe larger trends, it is important to remember that these larger trends are constructed of individual choices. What we can do is describe the multitude of cultural uses and meanings of specific ingredients in their contexts. Clearly the American products of chocolate and tobacco were, prior to 1492, exclusively New World products

³⁵⁰ Serge Gruzinski, *The Mestizo Mind: The Intellectual Dynamics of Colonization and Globalization*. (London: Routledge, 2002), pg. 19.

and without contact with the Indigenous cultures by Europeans would have remained so. Europeans took to both chocolate and tobacco firstly in ways that were replicated by other non-European products, as both medicines and foods.

While tobacco is not edible, it was touted as a cure-all by the first European accounts of its uses by Spanish observers Nicolas Monardes and later Francisco Hernandez. Monardes said that it had "maravillosos virtudes" and gave a detailed and lengthy account of its medicinal uses.³⁵¹ These included curing headaches, assuaging hunger, curing asthma and chest pains, working like solimán to cauterize and heal tumors, and even easing the pain of childbirth if used as a poultice on the navel.³⁵² Hernandez elaborates on Monardes, writing when "taken in powder through the nose, it makes you feel less the work and care of this life, and it seems that a carelessness and forgetfulness of the animal faculty enters the spirit, which we can call drunkenness as the aficionados say."³⁵³ That it was also addictive surely helped it to become popular, and also to hasten its decline in popularity as it became clear that long-term use was indeed harmful. Hernandez points this out in his description of tobacco, writing that "It comforts the stomach, but one should avoid its excessive use because often it greatly distempers the liver, burdening it with excessive heat, which is the cause of cachexia, poor condition of the body, and other incurable ills."³⁵⁴ Hernandez recognizes that while tobacco was very useful, it could also be harmful if overused.

³⁵¹ Nicolas Monardes, *Historia Medicinal*, pg. 41-51.

³⁵² Ibid., pg. 44.

³⁵³ "Tomado en polvo por la narizes, haze sentir menos los trabajos y cuidados desta vida, y parece que entra en el espiritu un descuido y olvido de la facultad animal, que podremos llamar una embriaguez como lo dizen los aficionados." Hernandez, *Quatro Libros*, pg. 94 ³⁵⁴ Ibid. pg. 178.

Neither Monardes nor Badiano mention cacao, but Hernandez has a lengthy description of cacao and the chocolate derived from it, and mentions cacao beans in several other entries in the *Quatro Libros* text.³⁵⁵ Hernandez describes four different varieties of cacao and the making of drinking chocolate. He gives it a similar treatment as he does tobacco, writing that it cures many problems but too much is harmful.³⁵⁶ Drinking chocolate, which we know from other sources was very popular in Mexico and in Europe, does not appear in any of the recipes in *Recetas Experimentadas, Livro de Receptas,* or *Recetas y memorias.* It seems very strange to me that this would be the case, however the explanation might be that the drink was, at the time that these recipes were written, still very expensive, and so it was not really available to a non-elite consumer. Although drinking chocolate became very popular enough yet to appear in these recipe books.³⁵⁷ Thus there would be no real incentive for someone who was not rich or living in the Americas to have access to it or a recipe for making it.

One other reason it may be absent from the recipes in *Recetas Experimentadas*, *Livro de Receptas*, and *Recetas y Memorias* is that these recipes were intended to be traditional and so reflect the authors' biases against ingredients from outside the Old World. Hernandez is the only one who discusses it because he is the only one of the three who both experienced its use and saw it as special. Badiano likely either did not have

³⁵⁵ Ibid. pgs. 33-35.

³⁵⁶ "...el uso demasiado de la bebida del cacao, trae consigo mill achaques, y enfermedades, por que haze opilaciones en los miembros interiores, estraga y destruye el color de la persona, y suele traer a los que lo usan demasiado a aquella enfermedad que llama mal havito, cachichimia, y otras enfermedades gravissimas" Ibid. pg. 34.

³⁵⁷ Marcy Norton

access to it or saw it as a medically unremarkable product. While chocolate and tobacco remain important products of the Columbian Exchange, Hernandez, Monardes and Badiano all provide descriptions of a wealth of other medicinal products that they encountered in the sixteenth century.

Native Medicinal Products

Childbirth and the Mal de Madres

Complications from childbirth and pregnancy remain an important concern for women to the present day. Despite advances in knowledge on the physiology of pregnancy and childbirth, it remains one of the most dangerous health concerns for women. The writers of all three texts that I examine in this chapter were interested in treatments that ranged from specific prayers, to poultices, to herbal mixtures that could be taken orally that all sought to address important aspects of gynecological care.

Hernandez, Monardes and Badiano all provide examples of products useful in dealing with a problem that they call the *mal de madres*, which can be translated as the "illness" or "pain of mothers." They do not really define what the *mal de madres* is, but the types of remedies that they recommend give us clues as to what they mean:

The Indians crush this herb between two stones, they like to bathe themselves by rubbing it all over their bodies, because they say that it tightens their flesh and comforts them with its good smell, and they do this every day for the great benefit they find in it, they also use the powder very useful, and our Spaniards use it for the same, taking it with a sip of wine with very happy success in everything, and in the pain of the side, this same root has a known effect, taking the weight of one dram in a few drinks of wine when they have the pain, and it is not surprising that its quality is sufficient for similar effects to those who have some impediment in the urine, taking this root in powder, it provokes it admirably, and expels any impediments. Crushed and taken in a mouthful, it mitigates the chest pain; applied in a poultice, it removes the blockages of blood, it fortifies the stomach and heart, and it is very useful for the *males de madres*.³⁵⁸

This herb is called *apoyomatli*, and is described by Hernandez as being hot and dry in the third degree. We can see from its effects that it is meant to dry the body and thus, when taken internally, to make things move within the body. As we have seen in Dioscorides, Galen, the Trotula, and others, ingredients like this remove blockages, thus provoking urination by removing stones; removing pain from the chest by freeing blockages of the blood; and fortifying the stomach and heart so that they can keep the flow of nutriment moving. Then he says that *apoyomatli* is very useful for the *males de madres*, which, given the previous description of its effects, must have something to do with a blockage of some sort. While I think it is clear that this is for removing the blockages, perhaps the stoppage of milk production, which is another important and sometimes painful problem for women with newborns.

Hernandez describes other herbs as helping with problems like *ahogamientos de madres*. One of these is *tlalquequetzal*. Its other uses are quite revealing:

³⁵⁸ "...majan los indios esta yerba entre dos piedras , quieren banarse fregandose con ella todo el cuerpo, por que dizen que les aprieta las carnes y los conforta con su buen olor, y esto hazen todos los dias por el grande provecho que en ello hallan, usan tambien el polvo muy util, y nuestros espanoles lo usan para lo mismo, tomandolos con un trago de vino con muy feliz successo en todo en dolor de hijada, esta misma rayz haze conocido effecto tomando peso de una drama en unos tragos de vino quando tuvieren el dolor, y no es de maravillar que su calidad, es bastante para semejantes efectos a los que tienen algun inpedimento en la orina tomando esta rayz en polbo, la provoca admirablemente, y expele qualquiera impydimentos majada y tomada en bocado, mitigua el dolor de pecho aplicada en froma de emplasto, detiene las camaras de sangre, fortifica el estomago y coracon, y es utilissima para los males de madre." Hernandez, *Quatro Libros de Naturaleza*, pg. 4.

It moves the urine, provokes the menses, comforts the stomach weakened by cold causes, applied to the outside, or given to drink, the made powder resolves the wind, stops the excessive flow of the belly, cures the sores of the lower parts, resolves the tumors, and swellings, opens the blockages, mostly of the mother, repairs and restores the strength and natural heat weakened for many days; crushed and applied as a poultice, cures the scabies that is usually born in the head of children through the astringent and drying virtue that it has, it is useful for inhalation and incense for the fainting of the mother, applied in a rub by that part, or given to drink its powder in that liquor that will be seen to be more accommodating, facilitates childbirth, opens and expels the child, stops the chambers, as well of the children as of the elders drinking it, and some affirm, that taking its juice by the mouth in quantity of five ounces, purges by vomit the humors.³⁵⁹

This one is also described as being hot and dry in the third degree.³⁶⁰ Hernandez clearly states that it is useful in moving the child out of the mother, aiding in childbirth, but also writes that it helps with a woman having trouble breathing by inhaling its fumes. It also purges the humors by vomit, dissolves tumors, is carminative, cures sores on the lower parts, and cures scabies. It obviously has many uses for Hernandez and all of these stem from its humoral qualities of drying and heating, qualities that open passages and remove blockages, encouraging the flow of nutriment and other things through the body. That he makes special mention of women and mothers in this description is important, in that it shows that this particular use was something that Hernandez either observed or was told about and he thought it important to include it. It also shows that the movement of *la*

³⁵⁹ "mueve la orina, provoca la regla, conforta el estomago debilitado por causa fria, aplicada por defuera, o dada a beber, hecha polvo resuelve las ventosidades, detiene los fluxo del vientre, cura las llagas de las partes inferiores, resuelve los tumores, e hinchazones, abre las opilaciones, mayormente de la madre, repara y restituye la fuerza, y calor natural debilitado de muchos dias, majada y aplicada en forma de emplasto, cura la sarna que suele nacer en la cabeza de los ninos, mediante la virtud astringente, y de secante que tiene, aprovecha superfumen y zahumerio al ahogamiento de la madre, aplicada en calilla. por aquella parte, o dado a beber su polvo en aquel licor que se hachare de ver ser mas acomodado, facilita el parto, abre y expele las pares, detiene las camaras, asi de los ninos como de los mayores bebiendola, y algunos afirman, que tomando su zumo por la boca en cantidad de cinco oncas, purga por vomito los humores" Hernandez, pg. 108.

³⁶⁰ Ibid.

regla and the movement of *las pares* were seen as connected phenomena by people of the time, as we also have seen in earlier documents. It was thus well-understood that something that helped in childbirth would also cause the thing that caused a woman to not be pregnant. Hernandez feels the need, no doubt because of his position as a prominent doctor, to point out that this and many other herbs have these qualities and uses.

Copalquahuitl is also described as curing the *ahogamiento de la madre* through the inhalation of the smoke of its wood.³⁶¹ It also does this by being a great cure for all infirmities caused by cold and humidity, and Hernandez describes it again as being hot and dry in the third degree. He does not however describe it as provoking *la regla* or *la orina*. It does help with headaches like the others. This example is important to show that Hernandez does not always associate these humoral qualities with abortifacients, but that they can still be useful to mothers.

However, many other plants are described as being *muy util a la madre* or *conforta la madre a las mugeres* and are associated with provoking menstruation. *Curutzet*i is described as provoking urination and menstruation, and Hernandez makes a point to say that it is very useful for mothers.³⁶² It also comforts the stomach and opens blockages, can be drunk to cure poisoning, restores the strength, cleanses the kidneys, and cures flatulence. The plant that he calls *la caraña que los indios llaman e la planta, que la produze tlahuilillocan* is said to "cura los males de madre" ³⁶³ *Cococaquilitl* comforts mothers and women, and provokes menses, and also cures flatulence, heats the

³⁶¹ Hernandez, pg. 11.

³⁶² Hernandez, pg. 6.

³⁶³ Hernandez, pg. 17-18.

stomach, and thins the courser humors³⁶⁴ These are more good examples of herbs that comfort mothers and women by provoking menstruation, but which are not described specifically as abortifacients. The usefulness of these three herbs is in their use in regulating fertility, but that use is a result of their humoral qualities according to Hernandez, and so they can be useful in other ways that result from those qualities. They are not presented just as abortifacients, but as medicines that also have the use of provoking menstruation.

There are many other plants that are described as provoking menstruation. *Pimienta larga*,³⁶⁵ *tepecuitlazotl*³⁶⁶ *philipendala de Mechoacan*³⁶⁷ *yyauhtli montana*³⁶⁸ *xiuhtotonqui*³⁶⁹ are all said to provoke menstruation. *Mecatozquitl* helps with bringing down the menses, and is said to cure *llagas en las partes inferiores* as well³⁷⁰ Some, like *tepecuitlazotl* make the imbiber sweat, and mitigate or cure problems that are caused by cold. Hernandez thus characterizes them all within the humoral system and sees them as additional medicines that function along the same lines as Eurasian pharmacopeia.

Hernandez also describes plants that aid women miscarrying. *Zazalictlacopatli* "reduces the mother to her place, remedies the great seclusion of the woman who gives birth"³⁷¹ This is a euphemism for reducing the time a woman is in childbirth and

³⁶⁴ Hernandez pg. 92.

³⁶⁵ Hernandez, pg. 66-67.

³⁶⁶ Hernandez, pg. 79.

³⁶⁷ Hernandez, pg. 79.

³⁶⁸ Hernandez, pg. 90.

³⁶⁹ Hernandez, pg. 112.

³⁷⁰ "wounds or sores on the lower parts" Hernandez, pg. 100.

³⁷¹"reduze a su lugar la madre, remedia la mucha clausura de la muger que pare" Hernandez, pg. 9.

recovering from said childbirth. *Caxuchitl* aids miscarriages³⁷² and the description of *Yyauhtli* says to:

Apply it to the body, and if used, it provokes urine and menstruation, expels the dead creature from the belly, is useful for coughing and expels flatulence, comforts the stomach when it is loose, corrects bad breath and produces milk, is contrary to poisons, mitigates headaches, is useful for madmen.³⁷³

Hernandez says that it is "muy util a la madre."³⁷⁴ Again, all of these medicines work by drying and heating the body in ways that make the fluids move. Heating in the humoral system moves things, and softens hardnesses. Drying makes fluids flow outward from the body, so that things that provoke urine also provoke sweating, bleeding, etc. These things have many uses, and being able to control menstruation and aid in parturition is just some of what they can do.

There are even plants that aid in conception described in *Quatro Libros*.

Oceloxochitl³⁷⁵ and tlatlauhcapatli³⁷⁶ are both described as helping women conceive.

Oceloxochitl is described by Hernandez as being cooling, and helping against bad fevers, "which when an ounce of this crushed is taken in water, cools and removes fevers, and is contrary to the hives that usually come on, and to burning fevers. Some say that if women drink it, it helps them conceive, and makes them fertile, it is good to eat when cold, and

³⁷² Hernandez, pg. 78.

³⁷³ "la aplique al cuerpo, y se use della provoca la orina y la regla expele la criatura muerta del vientre aprovecha a la tos y expele las ventosedades conforta el estomago quando esta lajo corrige el mal olor de la boca y engendra leche, es contraria a los venenos mitiga el dolor de la cabeza, aprovecha a los locos" Hernandez, pg. 84.

³⁷⁴ "very useful for the mother" Ibid.

³⁷⁵ Hernandez, pg. 161.

³⁷⁶ Hernandez, pg. 169.

not very unpleasant to eat, it is lubricating and good for the chest."³⁷⁷ Interestingly both are described as cooling in nature doing the opposite of the earlier mentioned plants. This is because conceiving requires a stoppage of blood in the womb to provide the material for the child to be created from, as described in chapter one by Avicenna and Galen. Cooling causes things to slow and to solidify in the humoral system. So drugs produced from cooling ingredients help cool fevers and engender conception.

Huitzxochitl is described as helping with *las enfermedades de la madre*, or the infirmities of mothers, a vague phrase whose meaning becomes clearer when we examine its other uses:

The bark of the tree, ground and applied in powder form, cures sores caused by the French disease. The seeds of the fruit, dissolved in water and distilled in the nose, relieve headaches. When applied to the teeth, they also alleviate their pain. The flower is hot and dry in the second degree, with a remarkable astringency, at first it seems to give signs of some sweetness, and then discovers manifest bitterness, helps the mother's diseases, heals the heart, makes up for the lack of saffron, to guide eating, usually use this plant for the above mentioned things by drinking the decoction of its flowers, or using it in the form of medicine. ³⁷⁸

This herb has a different use from the others; it is for pain relief. This is clear from the

other uses that Hernandez gives for huitzxochitl. So not all of the herbs that Hernandez

describes are abortifacients, but he does specifically mention that mothers could use the

³⁷⁷ "lo qual tomada en agua pesto de una onza, resfria y quita las calenturas, y es contraria a las pintas que suelen sobrevenir, y a las fiebres ardientes, algunos dizen que si la beben las mugeres las ayuda a concebir, y hazellas fecundas, es buena para comer de frio, y no muy desabrido mantenimiento, es lubrica y buena para el pecho." Hernandez, pg. 161.

³⁷⁸ "la corteza de palo, molida y aplicada en polvo, cura las llagas nacidas del mal de frances, las pepitas de la fruta, desechas en agua, y destiladas en las narizes, alivia el dolor de la cabeza, aplicadas a los dientes, mitiguan tambien su dolor, La flor es caliente yseca en el segundo grado, con una notable astrincion, al principio parece que da muestras de alguna dulzura, y alcabo descubre manifiesto amargor, ayuda a las enfermedades de la madre, corobora la corazon, suple la falta del azafran, para guizar de comer, suelen usar desta planta para las cosa s sobredichas bebiendo el cocimiento de sus flores, o usando del en forma de medecina." Hernandez, pg. 8.

pain relief qualities of this particular herb. One should not assume that women's health always means help with childbirth or with fertility, but in this context Hernandez must mean that the plant is helpful in relieving birthing pains.

Another plant is described specifically as helping with mother's pains. *Cocomecatl* is described as being able to "alleviate abdominal pain, induce urination, help pregnant women, curing the illnesses and ailments that usually come from the cold and soothe pains that arise from flatulence."³⁷⁹ This plant is thus useful in ways that are related to the abortifacients, but Hernandez does not characterize it in the same way. It relieves pain by opening blockages like the previously discussed plants, but he does not say that it provokes *la regla*. He does say that it is hot and dry in the fourth degree, meaning it is more powerful than the other that I have described thus far.

While there are many more recipes in *Quatro Libros* that mention childbirth and the *mal de madres*, only one mentions specifically Spanish women using a native American plant to ease childbirth:

Because this herb cures the indispositions of women, and it resembles the hemionitide, which is a kind of *doradilla* in the shape of the leaves. They call it cihuapatli hemionitica, but the Spanish women of this New Spain call it the mother's herb. It produces many stems from a root that is thready, thin, plump, straight and hairy, the leaves long and soft, and in some way similar to the hemiontic, from which the name came, the white and cupped flowers. It is born in all regions, both temperate and hot, it is dry in the third degree, and therefore its cooking is usually given to those that give birth in a quantity of three or four ounces, so that they give birth more easily, with good success. The decoction or juice is greatly useful for the chest, the leaves are crushed in the amount of a handful, and given to drink in water, or in some suitable liquor, to suppress the swellings of the belly, cure dropsy, provoke menstruation, plant them from the roots and as

³⁷⁹"...mitiguan los dolores del vientre, provoca la orina, socorren las paridas, sanando las enfermedades y achaques que les suelen sobrevenir de frio, y aplacan los dolores que nacen de ventosidad." Hernandez, pg. 76.

a seed, it is usually cultivated for a regulated and good-looking thing, not only in gardens and orchards, but also in pots and clay vases, and with it ladies and gentlemen tend to beautify their corridors and windows, and gardens.³⁸⁰

Hernandez thus describes the *cihuapatli* plant and its observed effects on women, its proper preparation, and its uses beyond easing childbirth. Like many of the remedies for women that can be found in *Recetas Experimentadas* as well as other texts on women's medicines that I have examined previously in this project, this herb can be used as an abortifacient, by "suppressing the swellings of the belly" and "provoking menstruation." This one is important to this project because Hernandez specifically states that Spanish women used the herb, though this herb does not show up in recipe manuscripts from Spain that I have examined.

I would argue that this is because there was no shortage of herbs that had a similar use in Iberia, so there was little need to import it to Spain. The numerous herbs from the New World that had the same effect that Hernandez references in *Quatro Libros* illustrates there was no shortage there either, meaning in this case that there was no need for either to assimilate or combine methods and ingredients. Women in Europe could use European herbs, and those in the Americas could use American ones. Unlike with

³⁸⁰ Por que esta yerba cura las indispusiciones de las mugeres, y se parece a la hemionitide, que es una especie de doradilla en la figura de las ojas le llaman cihuapatli hemionitica, pero las mugeres espanolas desta nueva espana, la llaman yerba de la madre, produze muchos tallos de una rais que tiene hebrosa, delgados rollizos derechos, y vellosos, las ojas largas y blandas, y en alguna manera semejantes a la hemontica, de donde le vino el nombre, las flores blancas y acopadas. Nace en todas regiones, assi templadas, como calientes, es seca en el tercero grado, y por tanto se suele dar su cocimiento a las que paren en cantidad de tres, o quatro onzas, para que mas facilmente paran a luz, con buen successo el cocimiento o zumo, es util grandemente al pecho, las ojas majadas en cantidad de un puno, y dadas abeber en agua, o en algun licor conveniente, a placan las hinchazones del vientre, cura la hydropesia, provoca la regla, siembrase de raiz y de simiente, suelese cultivar por cosa reglada y de buen parecer, no solo en los jardines y huertas, si no tambien en las macetas y vasos de barro, y con ella suelen las damas y senoras hermosear sus corredores y ventanas, y los jardines pensiles de su regalo. *Quatro Libros de Naturaleza y Virtudes*, pg. 103.

epidemic diseases, there was in this case no crisis to be solved by monopolizing a specific

product.

The same herb appears in the Badiano manuscript in the recipe for aiding

childbirth:

For recent parturition

If the woman suffers difficulty in the bringing forth, then that she may give forth the foetus with little effort, let her drink medicines made from the bark of the tree quauh'alahuac and the plant cihua'patli, the small stone eztetl, and the tail of the small animal called *tlaquatzin*. Let her hold the plant *tlanextia* in her hand. Also the hairs and bone of an ape, the wings of an eagle, the tree *a-huexotl*, the skin of a deer, gall of a cock, also of a hare, and onions put in the sun are to be burned together; to these are to be added salt, the fruit we call nochtli, and the pulque we call octli. The above are to be heated and used for anointing. Let her eat the cooked flesh of a wolf, and greenstone together with bright green pearl be bound on her back. She may also drink the juice of ground up kite and goose flesh, and the tail of the *tlaquauzin*, in our sweet wine; also take the root of the xal'tomatl, the tail of the *tlaquatzin*, and leaves of the *cihua'patli*, grind them up, and wet the womb. Also grind the tail of a suckling *tlaquatzin* in water, with the plant *cihua'patli*, with which let the body be purged, it being given by a clyster.³⁸¹

Cihuapatli was thus apparently well known to all women in Mexico as a helpful plant,

and Hernandez characterizes it with the same effects of drying ingredients in the humoral

system he brought with him to Mexico. The plant thus cures chest congestion, provokes

menstruation, soothes the swellings of the belly, etc. all things that are caused by the

build up of cold and wet humors.

In the humoral system of medicine, abortifacients were said to work by helping release the flow of blood, but Hernandez and Badiano describe plants that restrain the flow of blood as well. *Mizquitl* "applied to the eyes in the form of eye drops admirably

³⁸¹ Badiano manuscript, pg 106.

cures their indispositions, the cooking of the clippings curbs the excessive monthly flux."³⁸² And the *Badiano* manuscript includes a recipe that combines many interesting ingredients:

The flow of blood is dried up and restricted by a poultice which you shall make of salt, ashes of a deer and a frog, white of egg, the hairs of a hare, the roots of the ahuiyac-xihuitl and willow, oak acorns and papyrus burned with deer's horn, the stone eztetl, pure gold, iron scrapings, all which are to be strained in river water, and the liquor infused where the flow of blood is heavy. Take and amputate the head of a lizard, extract the viscera and hang this in a cold place until it dries; then burn it, and let her be anointed with the ashes, mixed in Indian wine and white honey.³⁸³

This *Badiano* recipe is interesting in that it not only uses the herbs that one would expect in the *Quatro Libros* and *Historia Medicinal* accounts; it also uses salt, ashes, wine, honey, acorns, stone, gold and iron scrapings, etc. It illustrates an indigenous from of compound medicine by including ingredients that you would never find in a humoral context, but with a logic that seemingly emulates both indigenous and European medical theory. Europeans would discard the lizard head and other non-herbal ingredients and keep the herbs that could be fit into the humoral system without much modification.

Badiano also describes plants that help increase lactation:

To Increase The Flow Of Milk

Where the milk flows with difficulty, take the plants *chichiltic xiuhtontli*, which is slightly acid, the *tohmiyo xihuitl* and crystal, ground up in pulque and boiled. Let her drink it frequently. Afterwards macerate the plant *memeya xiuhtontil* in pulque and let her also drink that juice; let her enter the bath and there have another drink, made from corn. On leaving it, let her take the viscous water drawn from the grain.³⁸⁴

³⁸² Quatro Libros, pg. 21.

³⁸³ Badiano Manuscript, pg. 107.

³⁸⁴ Badiano Manuscript, pg. 111.

This recipe shows a concern with a common problem after childbirth that is unique to women, and earlier he includes a treatment for breast cancer as well.³⁸⁵ This illustrates that at least from Badiano's perspective women's health problems were just as important as men's and that there was, at least in Badiano's time, no separation between practitioners of women's and men's health as we would see in later European medical literature.

The recipes for aiding women in childbirth or with miscarriage in *Recetas Experimentadas* all use Old World ingredients. The *emplastos* described on page 91 use laurel leaves and oak gall as their herbal ingredients and egg yolks and pork fat as the binders, and the tea described on the same page use verbena as its main ingredient.³⁸⁶ At least at the time that these recipes were recorded, American ingredients were not interesting as aids to women's health to these writers. The writers of these recipes either did not know about American ingredients, did not desire to use them for themselves, or perhaps did not have access to them.

Monardes also presents an American product that is said to help women dealing with childbirth pain:

About the Stone for the Mother

They bring from New Spain a stone that they say is very useful for the mother's pains. It is a black stone and very smooth and heavy for the best part, they are long and round: it is something they say that this stone does, because a lady of great quality and credit certified that she put it on, that she had it in her navel as fixed as if they had stuck it there, and that she has felt the most manifest profit with it, and so say others who have used it in the same way: when they feel the passion that they drown in putting the stone on, it is removed immediately, and if they wear it continuously it

³⁸⁵ Ibid. pg. 110.

³⁸⁶ Recetas Experimentadas, pg. 91.

never comes to them: the credit that I give to these things is to the experience that one has of them.³⁸⁷

This entry in the *Historia Medicinal* is for an amulet rather than a recipe for a medicine that could be consumed. But one thing that is important here is how Monardes characterizes his knowledge of the stone. He claims to have heard it from a lady of great quality, and Monardes was writing in Seville about a product brought from New Spain to Europe. He is getting his information second hand, but is crediting a woman for her experiential knowledge on the subject. Monardes was not averse to taking the word of another person who had what he considered a direct experience of the topic, because he did not go to Mexico himself and had to rely on second-hand accounts. This type of testimony on this subject, women's health, was important enough to include among the many other accounts of New World products that Monardes describes in his text.

Hernandez and Badiano had the benefit of direct experience or accounts from people in Mexico who had used these products, but all three valued experience over speculation, an important change in learned culture that occurred because of the many new things that they were discovering that the ancient authorities had never seen. The concern with women's medicine in these texts illustrates the importance of treating women among both indigenous cultures and the learned physicians of upper-class Europeans. These documents show that women's health concerns were not the exclusive purview of wise women, midwives or women only. Like the documents from the

³⁸⁷ "De la Piedra para la Madre: Traen de nueva España, una piedra que dice aprovecha mucho para mal de la madre. Ella es una piedra negra y muy lisa y pesada por la mejor parte son prolongadas y redondas: es cosa lo que dicen que esta piedra hace, porque me certificó una señora de mucha calidad y crédito que se la puso, que la tuvo en el ombligo tan fija como si allí la pegaran, y que ha sentido con ella manifestissimo o provecho, y así lo dicen otras que la han usado en la misma manera: cuando sienten la pasión que se ahogan en poniéndo se la piedra se les quita luego, y si la traen puesta a la continua nunca les viene: el crédito que doy a estas cosas, es a la experiencia que de las se tiene." Historia Medicinal, pg. 119.

previous chapters, especially Chapters One and Two, these documents show that women's health concerns were a fully integrated part of the humoral system of thinking about health and wellness. Hernandez, Monardes, and Badiano all considered women's health in their surveys of Indigenous medicinal plants and compound medicines.

Bubas and Syphilis

There are many entries in the *Quatro Libros*, the *Historia Medicinal*, and the *Badiano Manuscript* that mention the *mal de frances*, or syphilis, as well as *bubas*, or the swellings that result from syphilis and the Black Plague, diseases that were major problems in both the Americas and in Europe during the fifteenth and sixteenth centuries. Both the *Historia Medicinal* and *Quatro Libros* discuss New World products as cures for various maladies, but *Quatro Libros* mentions the *mal de Frances* and *bubas* frequently, with some plants and herbs only medicinal purpose being to treat these problems.³⁸⁸ There are at least 25 entries in *Quatro Libros* that mention *mal de Frances, bubas*, and *llagas en los partes inferiores*. Some were drugs that could be taken in drink, some are powdered and applied to the sores, and the use of *solimán* and caustic herbs that were meant to burn away and cauterize the sores is also described.

The last type of treatment was an old European method of dealing with growths and sores: *Unguentum Saracenium* was a well known European mercury-based ointment

³⁸⁸ Both nanahuaquahuitl (Arbol de bubas) and nanahuapatli's only claims to fame are their supposed effectiveness against *mal de frances*. *Quatro Libros*, pgs. 25 and 111.

for treating things like scabies.³⁸⁹ However, mercury as a cure for syphilis had a reputation in Europe for killing patients faster than the disease. Yet besides the fad for guaiacum wood that failed to cure syphilis but succeeded in enriching many doctors and importers of the wood into Europe, mercury was the only known "effective" treatment for the disease.

Also of particular note is a plant Monardes calls *cevadilla* that is described as a substitute for *solimán*³⁹⁰ It is so caustic that Monardes claims it is better than *solimán* and realgar. It takes the form of a seed that is similar to barley, hence the name cevadilla or little barley. Monardes describes it as "The strongest caustic and corrosive that has been seen in grass or plants to date, and so much so that it does the work that *solimán* or realgar would do."³⁹¹ He writes that the Indigenous Americans had no other kind of caustic substance, and so this one was very important to them. It was used just like *solimán*, and it could be used to remove cancers, infected and gangrenous flesh, and especially *llagas viejas y sucias* (old and dirty sores) by washing them and burning them off. This use is important as a way to deal with syphilis and other diseases that cause *bubas* or *llagas*. Its not clear if this was a real plant, but Monardes apparently thought that *solimán* was such a useful and important substance that even though Indigenous people did not have it, Monardes felt the need to include something as a substitute for it, real or not.

³⁸⁹ Mercury poisoning described by 16th century source Ulrich van Hutten, with a contemporary William Clowes calling it "quacksilver" described its effects in treating syphilis. Alfred Crosby, *The Columbian Exchange*, pg. 153.

³⁹⁰ Monardes, pg 70.

³⁹¹ "el mas fuerte caustico y corrosivo, que hasta hoy en yerba o planta se ha visto, y tanto que haze aquella obra que haria el Soliman o Realgar" Ibid.

He describes its various other uses, including its use as an aid in delivering stillborn fetuses.³⁹² This use illustrates again the nature of humoral qualities in the theory of medicine of the time. As we have already seen in this chapter, ingredients that have certain qualities all have similar uses, and cevadilla is hot and dry to a high degree, and so it would make sense to someone who believes in humoral theory that it could be used as an emmenagogue and abortifacient. Many other plants are described by Monardes, Hernandez, and Badiano as being both useful in treating *bubas*, *llagas*, and *mal de frances*, as well as being abortifacients.

Although there are many plants that are said to cure *el mal de frances* in these texts, Hernandez and Monardes both describe thoroughly the most famous one for their time, *guayacan*, or guaiacum, the tropical wood that was supposed to be a miracle cure for syphilis, and which Paracelsus railed against as a fraud.³⁹³ Monardes not only describes *guayacan*, he goes into great detail about the origins of the *mal de frances*; it being the result of Columbus's contact with the Indigenous in the Americas, how it was then spread to Spain, then to Italy, and because of the war there in 1493 between the Spanish, the French, and the German soldiers in the employ of both, it thus spread to the rest of Europe.³⁹⁴ Monardes also goes into great detail about how to prepare the medicine, arguing that the most effective treatment is to follow his instructions and not to mix the medicine with other medicines. He also describes it as hot and dry in the second degree.

³⁹² Ibid. pg 71.

³⁹³ Allen G. Debus, *The English Paracelcians*. (New York: Watts International, 1965), pg. 17.

³⁹⁴ Monardes, pg. 13.

Hernandez's description of *guayacan* is mostly a detailed examination of the proper type of *guayacan* that must be used to make a cure for *mal de frances*, and the proper time and growth stage when it should be harvested, along with a defense of the drug that reads like a defense of Hernandez's character.³⁹⁵ Presumably this last part was written by Ximenes, Hernandez's editor and translator, as it refers to Hernandez in the third person. Hernandez, (or Ximenes) specifically states that he need not describe the virtues of the plant as they are already well-known and famous throughout the world. This part, having been written much later than Monardes' account shows that there was some dispute at this point in time as to whether *guayacan* was an effective treatment. Hernandez also writes in this entry that the herbs called *china* and *sarsaparilla* are not effective substitutes, either.³⁹⁶

Both accounts of *guayacan* extol the virtues of the plant, calling it *palo santo*, or holy wood, and display a complex understanding of the plant's life cycle, appearance, and processing methods, all following a humoral theoretical framework. Hernandez writes that: "The most suitable time to take it is autumn and spring because taking it in the summer inflames the body too much and if it is winter it has less effect although it always benefits and never harms."³⁹⁷ Clearly this illustrates the holistic nature of humoral theory, in that the qualities that affect the season affect the plant, to the point that an ingredient that has hot and dry qualities must be harvested in seasons that are not too hot or dry (like summer) lest the medicine produced be too strong. Humoral considerations are taken into account throughout Monardes' and Hernandez's descriptions of plants and

³⁹⁵ Hernandez, pg. 23.

³⁹⁶ Ibid.

³⁹⁷ Ibid.

their products, and illustrate the degree to which both doctors were attempting to incorporate and make sense of new plants and environments into the old system. They were not writing off these new things as alien or unnecessary, they were attempting to integrate them into their already existing system.

Monardes also discusses a plant called *Guacatane*, writing that it is "por los llagas en las partes ocultas"³⁹⁸ While not explicitly mentioning mal frances or bubas, llagas en *partes ocultas* are essentially genital sores. Both he and Hernandez describe many plants that deal with different aspects of sexually transmitted diseases, as well as describing plants that cured mal frances itself with no mention of its symptoms. Nacazcol, 399 Ololiuhqui,⁴⁰⁰and Tozpatli⁴⁰¹are all described simply as cura mal de frances. Temecatl is described as dealing with "mal frances y llagas en los partes inferiores"⁴⁰² These plants are mostly described much like Dioscorides or Laguna would describe plants and animals in their books, first with a description of the various parts of the plants, and then with the uses of each of the parts, then a description of their qualities. Like the earlier emmenagogues, they are invariably described as being hot and drying to some degree. The fact that Hernandez included so many whose only use was to cure mal frances seems to illustrate the perceived need to cure this epidemic disease, and not that any of them were particularly effective. The mission of Hernandez was essentially to turn unproductive botanical assets into useful ones, and curing syphilis was an important way to accomplish that goal.

³⁹⁸ "for the wounds on hidden parts" Monardes, pg. 69.

³⁹⁹ Hernandez, pg. 60.

⁴⁰⁰ Hernandez, pg. 78.

⁴⁰¹ Hernandez, pg. 79.

⁴⁰² "French disease and sores on the lower parts" Hernandez, pg. 112.

As we have seen already, many of the plants that worked as emmenagogues also worked as cures for *mal frances*. *Xiuhtotonqui* is described as "the hot herb from Tototepec, it provokes the menses and counteracts the humors that arise from the mal *frances*, or the *mal de las Indias*." ⁴⁰³ Metl, or Maguey provokes the menses of women, softens the belly, moves the urine; it is very useful for many things, it soothes pain, especially if the juice is drunk hot, even the damage made by the French disease." ⁴⁰⁴ From a humoral theoretical perspective, the qualities that make these plants effective against *mal frances* are the same that provoke urine, menses, sweating, and counteract other symptoms that were believed to have been caused by cold.

Some of the plants that Hernandez describes deal specifically with the symptoms of *mal frances*. *Tlalcocoltzin* is said to "cure *mal de frances*, and is an admirable purge for *bubas*."⁴⁰⁵. *Tlaltzilacayotli* "removes the pains born from *mal frances*"⁴⁰⁶ *Charapeti* "cures scabies and *bubas*"⁴⁰⁷ *Yxpatli* "cleans the *mal de bubas or mal frances*"⁴⁰⁸ *Tecopalli* is "hot and dry, it heals the humors and swellings that arise from *mal frances*." ⁴⁰⁹ Again, the humoral qualities of these plants are the method through which they affect disease. Being hot and dry is meant to be a counteraction to not only sores, but also growths and tumors. In the case of these "cures" their purpose is to wash away the sores, removing the bad humors that issue from them. They are external purgatives, in the sense

⁴⁰³ "la yerba caliente de Tototepec, provoca la regla, adelgaza los humores aunque sean nacidos del mal frances, o mal de las yndias." Hernandez, pg. 112.

⁴⁰⁴ "provoca las meses de mugeres, ablanda el vientre, mueve la orina, muy util para muchas cosas, aplacan los dolores, mayormente si se beviere el zumo caliente, aunque al daño, produzga del mal frances." Hernandez, pg. 147-148.

⁴⁰⁵ "Cura mal de frances, un admirable purga para bubas" Hernandez, pg. 99.

⁴⁰⁶ "quita los dolores nacidos del mal frances." Hernandez, pg. 114.

⁴⁰⁷ "Cura la sarna y las bubas." Hernandez, pg. 126.

⁴⁰⁸ "Sana los males de bubas o mal frances." Hernandez, pg. 109-110.

⁴⁰⁹ "caliente y seca, suele sanar los humores e hinchazones que nacen del mal frances" Hernandez, pg. 129.

that they are applied to the infected parts and are supposed to remove the humoral cause at the site of its manifestation. Without the benefit of understanding that syphilis had an internal cause (a microscopic organism), doctors of the time were limited to treating symptoms and not the underlying disease.

There are many other plants that Hernandez describes as having many different uses as well as being cures for mal frances: Tlachinolxochitl is said to "open the chambers, cause vomiting, cure tumors and abscesses, and also sores. Some call it cohuapatli because it causes lust, and others call it mecapatli, because its boiling cures bubas, and mal frances."⁴¹⁰ Quilamolle, when "applied in medicine, it admirably purges phlegm and cures *bubas* and other old and stubborn diseases that usually impede movement."⁴¹¹ Huemberequa, when "applied as a liniment to sores, heals them admirably even if they are caused by the French disease, it raises many hives and causes those who use it to urinate"⁴¹² Cohuacihuizpatli "has some heat, they say that its decoction is admirable against the *mal frances*."⁴¹³ All of these are said to have hot qualities and this is essential to their use as purgatives both internally and externally. In each of these descriptions we can see the other incidental effects of this heat; first the heat causes the now familiar movement of blood (detiene las camaras, or unblocking the movement of blood and nutriment), but also vomiting, lust, and boiling or burning away tumors and *bubas*. The heat described here is associated with the sanguinous humoral

⁴¹⁰ "detiene las camaras, provoca el vomito, cura los tumores y apostemas, y tambien las llagas algunos la llaman cohuapatli por que provoca a luxuria, y otros le dizen mecapatli, por que su cozimiento cura las bubas, y mal frances." Hernandez, pg. 131.

⁴¹¹ "Aplicado en medecina purga admirablemente las flemas y que cura las bubas, y otras enfermedades antiguas y rebeldes que suelen impedir el movimiento." Hernandez, pg. 161-162.

⁴¹² "Aplicado como linimiento a las llagas, las sana admirablemente aunque sean nacidas del mal frances, levanta muchas ronchas y comenzon a los orinan sobre ella." Hernandez, pg. 165.

⁴¹³ "Tiene algun calor dizen, que su cocimiento es admirable contra el mal frances." Hernandez, pg. 171.

traits, i.e., the hot-headed, lusty, active temperament. But also it burns away tumors and removes the pustulent sores caused by melancholic humors, being their opposite. *Quilamolle* purges phlegm, another cold humor, and is again described as promoting movement. The last two are said to "raise hives" and "have some heat," both thus theoretically work well against the *mal frances*.

In all of these descriptions the humoral qualities of each plant are laid out and used as the reasons that they are useful against *mal frances* and *bubas*. However, it is not clear if many of these were actually used to treat the disease. Using humoral theory, any ingredient or substance that was deemed hot and dry through empirically testing it, would theoretically be useful against its opposite qualities. Unlike the remedies in the Badiano manuscript that were presumably used as treatments, or like the recipes in the documents from chapters two and three, which were formulated to be treatments, Hernandez's descriptions of cures for *mal frances* often make assumptions about what these plants could treat based only on theory rather than practice. Some of his descriptions involve accounts of their use, particularly *guayacan*, or those that describe them in compound medicines, but others provide no real evidence that they were ever used in the Hispanic Kingdoms.

Unfortunately, there is no mention of syphilis or *mal frances* in the manuscripts from chapter three. Most of the recipes just give a name that describes what they make, for example "Recipe for the Face," or "Recipe for Blemishes." There are recipes for *solimán*, however the writer must assume that you know what *solimán* is for, as there is

no explanation of anything other than how to make it. Recipes that use it do not explain what it is for either, just including it as an ingredient like any other.

Though not explicitly said in any of the recipe books that I have examined, perhaps the *solimán* in facewashes and unguents was meant to combat syphilis, as well as scabies, and other skin ailments? The interest of Hernandez, or perhaps his translator Ximenes in 1615, in presenting so many alternatives may have to do with the endemic and virulent nature of the pox. Much of the impetus for Hernandez' expedition was likely in response to the unrestrained spread of the disease in Europe. Alfred Crosby describes it as an at best a terrifyingly disfiguring disease, whose only "effective" cure led to more horrifying side effects from mercury poisoning.⁴¹⁴ As we saw in the last chapter, learned doctors like Andres de Laguna described *solimán* as being a popular women's cosmetic ingredient that was just as deadly as mercury.

It is no wonder that a cure that avoided this deadly "cure" was eagerly sought. Monardes' mention of *cevadilla*, a plant-based caustic solvent, makes a lot of sense, then. It does the same job as *solimán* but avoids the danger of mercury. Monardes does not present it as a cure for *mal frances* however, only for removing *llagas viejas*, or old sores/wounds. The many cures for *mal frances* that Hernandez describes are liniments, plasters, or creams that are meant to counteract the ill-humors that created the sores. *Guayacan* was also said to wash away sores and "make new flesh"⁴¹⁵ The interest of Monardes and Hernandez in these many plant based cures for *mal frances*, *bubas*, and

⁴¹⁴ Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492*. pg. 122-164. ⁴¹⁵ "cria carne nueva" Hernandez, pg. 23.

llagas en las partes inferiores/ocultas makes sense as a way to avoid the danger of mercury based cures.

However, none of these ingredients, except *guayacan*, seem to have ended up being widely used in Europe and appearing in texts like *Recetas Experimentadas*. Women continued to rely on *solimán* based cleansers. Many of the plants that Henandez describes as being cures for *mal frances* never seem to make the jump across the Atlantic to Europe. While they may have had the humoral qualities that would make them theoretically useful against the disease, there is no real evidence that they really did treat the symptoms or causes of any disease. Many of the abortifacients have the same problem, there is little evidence that they were effective. Native alternatives already existed in Europe, and their effectiveness and availability were already well known. This makes them different from the medicines that did make the jump, like *guayacan*, or cinchona bark, which did have apparent medicinal uses that could not be replicated with Old World ingredients.

Native American Foods

Ken Albala argues that the slow adoption of American foods may have been due to the xenophobia and suspicion of elite cookbook writers and dieticians to these new foods, but that people further down the social scale ate them anyway. He also links the eventual documented adoption of these foods starting at 1650 with the gradual rejection of humoral theory by food writers, "which doomed the renaissance dietary to obsolescence."⁴¹⁶ He cites a divergence between medical writers and the accepted norms of late medieval cooking as evidence that medieval food ways were constantly in dialogue with medical theory, "but hardly ever in agreement with it."⁴¹⁷ While both Monardes and Hernandez mention and extol the virtues and negative qualities of foods from Mexico, specifically maize⁴¹⁸ and chilis,⁴¹⁹ *Recetas Experimentadas, Recetas y memorias* and *Livro de receptas* do not have any recipes that include these ingredients. This seems to be in agreement with Albala and seems to support that the writers of these three manuscripts were at least somewhat elite in their social standing.

There is one ingredient that may or may not be a New World food incorporated into Iberian cooking is *calabazas*. In the modern day this is a generic word for pumpkin squash, and in some Latin American countries a more specific kind of squash that looks similar to pumpkins but is botanically distinct from what we call pumpkins in Anglo-America. According to Sebastian de Covarubbias, in the *Tesoro de la Lengua Castellana* from 1611, *calabazas* are an ancient and well known garden plant that had many uses including as a food source.⁴²⁰ The plant that he is describing however is not an American squash that we would be familiar with, but the bottle gourd, or calabash. Covarubbias also describes it as flotation device, saying "The gourds sustain those who cannot swim in the water, who without them would go to the depths."⁴²¹ He also describes the *calabaza* as the source of many proverbs and folk sayings dating back to the Romans,

⁴¹⁶ Ken Albala, *Eating right in the Renaissance*. (Berkeley: University of California Press, 2002), pgs. 231-240.

⁴¹⁷ Albala, *Eating Right in the Renaissance*. pgs. 241-251, esp. pgs. 246-251.

⁴¹⁸ Hernandez, pg. 132-139. Hernandez goes into great detail about tlaoli, or maize, and presents numerous recipes for drinks like atole that are still made from it today.

⁴¹⁹ Hernandez, pg. 72-74.

⁴²⁰ Covarrubias, pg. 171.

⁴²¹ "Las calabazas sustentan en el agua a los que no saben nadar, que sin ellas se irian a lo hondo." Ibid.

many of which pertain to its emptiness, and its lightness.⁴²² So it is clear that he is referring to a gourd like the bottle gourd and not a New World squash that tend to be dense, heavy, and used almost exclusively for food.

Covarrubias mentions a preserve made from *calabazas*, but it is clear he means the bottle gourd that can be eaten when it is green before it dries out and the interior becomes empty. What is not clear is whether the preserves of *calabazas* in *Recetas experimentadas* are made from these gourds or from the pumpkin and squashes that come from the Americas. For example:

Reminder To Know How To Make Calabazate Preserves

They will take the pumpkins when they are very hard, peel them still and remove them from the inside and cut them into slices the way they want and put them in a pot with clean water and put them to cook on the fire until they are golden brown. Put them in an unused porcelain cup. Remove them from the fire and place them in a strainer so that the water drains and after draining them very well, put them in a pot and add your clarified sugar and add it to them so that it overflows and cover them with a cloth and in this way they will throw it every day, removing it and heating it and turning it over until this is done a little until it thickens. Remove it from the heat and put it in the pot and keep it until it is covered⁴²³

From this recipe one could infer either that this utilizes Old World or New World

calabazas. You can easily find modern recipes that use the bottle gourd to make

preserves, as well as using pumpkins or squashes to make preserves. All of these are

⁴²² Ibid.

⁴²³ "Memoria de conosce hazen las conservas calabazate: Tomaran las calabazas quando esten bien duras mondarlas an y simbiar las han de dentro y cortar las an a tajadas de la manera que quisieren y echar las an en un perol con agua limpia y meter las an a cozer al fuego hasta que un al filerjar do tase porcillas sin trabajo. Triar las an del fuego y hechar las han sobre un ornero porque escorra el agua y despues de muy bien escorrida pornan las en una olla y echaran su azucar clarificado y echar se lo han dentro que no vayan irviendo y cubrir la han con pano de tela y desta manera se lo echaran cada dia quitando se lo y callentando lo y tornando se lo ha hechar hasta que este hecho tomaran todo junto calabaza y almirar y hechar lo han en un perol y meterlo an todo junto al fuego dejar lo han cozer un poquito hasta que se engrose el almirar quitar lo del fuego y echar lo en la olla y guardar lo hasta que se cubra." *Recetas Experimentadas*, pg. 191.

made in a similar way, so it is very difficult from just the evidence in this recipe to definitively say which type is meant. It may very well mean any *calabaza*, not a specific type. Which makes it difficult to say when this recipe was written just from its content.

Most of the food recipes in the three manuscripts from chapter three follow very long-standing recipe types in European cookery, and many were likely copied from older culinary texts not originally intended for a specifically female audience. Tomatoes, potatoes, fruits like pineapples, even chocolate, do not show up in recipes in any of the manuscripts, though they do in Monardes and Hernandez. There are a few potential reasons for this, one being that these recipes represent traditional recipes that were passed down from medieval, pre-contact traditions, and the writers were copying from those traditions. The second reason could be that these recipes were either the result of upperclass people who wanted to maintain a certain social status by rejecting New World ingredients, or middle-class aspirational writing, meaning that the writers wanted to affect an upper-class social status by emulating the food, cosmetics and medicine of the upper class. A third could be that these recipes represented a set of traditions that the writers wanted to preserve from destruction by writing them down, one that privileged European ingredients over foreign ones. All of these reasons could be true simultaneously, and it is hard to discern the motivations of writers that remain anonymous.

240

Conclusion

The original coiner of the term "Columbian exchange," Alfred Crosby, argued that the negative effects of post-1492 globalization are incalculably large, saying "The Columbian exchange has left us with not a richer but a more impoverished genetic pool. We, all of life on this planet, are the less for Columbus, and the impoverishment will increase."⁴²⁴ Based on a comparison of documents that catalogue all of the new products of the Americas from the early Spanish scientific missions to manuscript documents that describe the actual recipes that women may have used in their homes in Europe, much of that exchange in this time period seems to have been one-way, Europe to the Americas. It is not the case that New World agricultural products were unknown in Europe. As we have seen, scientists and the imperial state were interested in exploiting these products from 1492 onward. However, at least from the evidence in *Recetas Experimentadas*, they had little effect on the day-to-day food and medicinal practices of women in Iberia. Rather, *Recetas Experimentadas* and the two other manuscripts that I examined in chapter three represent a literature that may have been more concerned with the economical use of products derived from more local sources than potentially expensive imported products of dubious necessity or efficacy. While women may have been as interested as ever in handling medical problems at home, producing cosmetics to maintain the appearance of health, and making healthy meals, the vast pharmacopeia of the overseas empire was either inaccessible to the writers of these three manuscripts, or

⁴²⁴ Crosby Jr., Alfred W. *The Columbian Exchange: Biological and Cultural Consequences of 1492.* Pg. 219.

undesirable. In this case the imperial scientific apparatus failed to distribute the gains of its investigations to these writers.

In terms of aiding childbirth, treating mal de madres, and the various problems that arise from pregnancy and menstruation, Hernandez, Monardes, and Badiano all offer advice and medicines that, while presumably effective, were not necessary or profitable to cultivate and export to Europe. Some, like the peacock flower from *Plants and Empire* may have found their way to Europe as botanical oddities or exotics, but none were intensively cultivated for abortifacient and emmenagogic uses, at least not appearing in the home remedies that were written in the manuscripts from that era. While these plants were certainly deemed important and useful enough for Hernandez to have found and described so many examples, they were not important enough to export.

I have shown that cures for epidemic diseases, especially the most dangerous and American disease, syphilis, were plentiful in the descriptions of New World plants by Monardes and Hernandez. Part of their mission was to find new effective medicines, and Monardes makes the assertion that *mal frances* came first from the Americas, particularly the first contact of Columbus with Indigenous people in the Caribbean. In the minds of Europeans it would make sense that the cure for a disease would be found in its place of origin, following the holistic thinking of Galenist humoral theorists. However, the one plant that was considered most effective tended to overshadow the rest, and its exploitation was apparently easy enough that other less exploitable botanicals were not necessary. Even the effectiveness of this particular plant was under dispute, and the effectiveness of the other plants that were described by Hernandez were based on their theoretical qualities and not necessarily their actual use. The mercury cure was also seemingly much more effective, along with the use of *solimán* and other caustics. I argue that these other plants had dubious effectiveness and were less easily exploitable than alternatives and thus were not readily transplantable to a European consumer.

Foods had a different path than medicines. While many New World ingredients do not appear in the manuscripts that I examined, we know from other sources that they did in fact make their way to Europe. Foods like maize, chocolate, chilis, potatoes, pineapples, and tomatoes did eventually make their way to Europe. Food is not really an exploitable commodity like a drug or a luxury item can be. Tobacco is unnecessary, but pleasurable, and has notable effects on the body. It could masquerade as a medicine, as could chocolate. These two were addictive, and thus exploitable. Feeding people with new foods from a different environment that may or may not be healthy for Europeans based on a holistic understanding of health when you already have profitable food sources is not as easily exploitable as drugs. New World foods thus were adopted by the poorer segments of society, people with less to lose and more to gain from trying something new and potentially harmful. The literate and more upper-class writers of Recetas Experimentadas, Livro de Receptas, and Recetas y memorias, or the archivist who collected these documents together, had no interest in exotic ingredients of dubious worth. The recipes in these manuscripts are "proven" and traditional, not experimental in the ways that we use that word.

The fact that these ingredients do not show up in the recipe manuscripts seems to go against the grain of historical research that places the Iberian Kingdoms and their

empires at the forefront of empirical science in the sixteenth and seventeenth centuries. Antonio Barrera-Osorio seems to argue that the mutually supporting arrangements of commerce and imperial conquest led to an efficient administration that collected empirical data about the empire's material goods for the promotion of monetary and political gain. The lack of any evidence that this empirical data made its way into everyday recipes of upper-class Spaniards seems to disprove that books like Monardes' and Hernandez's had any effect on their ways of thinking about health and diet. However, Barrera-Osorio's argument is that there was a significant effort from imperial Spanish administrators to promote empiricism as a basis for imperial information gathering and the expansion of Spanish power in its colonies, and that this in turn led to an expansion in the authority of empirical evidence throughout the empire. Whether Monardes' or Hernandez's accounts became everyday knowledge among your average Spaniard does not disprove the fact that empiricism was promoted by the Spanish Empire in this period. What the evidence in this chapter does show is that the attitudes that led to the creation of these recipes were remarkably durable, and that there were other factors beyond the expansion of the empirical approach to science that were at play in the creation of these recipes.

CONCLUSION

Food, medicine, and cosmetics were all seen by late medieval and early modern Iberians as remedies to illness, either as preventative of disease or as interventive of acute illness. This dissertation is the first project of its kind that treats all three of these categories of recipes together as being representative of humoral thought. No other historians analyze all three subjects together; they either choose one of these three topics or talk about humoral medicine in general. This project also focused on gender and the expectation that women were meant to be devising and making these recipes, or at the very least that these recipes were intended for a feminine subject. The cosmetic recipes that I analyzed focused on ways to make the subject more feminine, e.g., softer, whiter, with clearer skin and dark black or blonde hair. The soap recipes from these manuscripts were meant to be used to cleanse and remove all types of blemishes on the skin, and particularly the caustic solimán derived from mercury was popular among women, as Laguna attested. The food recipes in these documents were meant to be the type that either heals the consumer or preserves an agricultural product for the household, fulfilling one of the responsibilities of women in Iberian society. The advice on birthing that was mixed in with the other recipes represents a type of care that would have been most
useful to women caring for other women, rather than a doctor that would have been expected to intervene only as a last resort. The advice on provoking or restraining the menses is most useful to women in regulating their fertility, and the interest in ingredients from the New World that were used in that way specifically was intended to be directed at women.

I argued that women's health was an important aspect of the development of medical science in the medieval and early modern periods. As the source of and sustainer of families, their healthcare was believed to be of paramount importance to the health of society. As we saw in chapter one the medical theorists of Antiquity and the Early Middle Ages like Galen, Dioscorides, and Avicenna utilized humoral theory to explain what they saw as the natural differences between the sexes, envisioning women as the providers of the raw material and qualitative environment for the building of life in the womb with the same processes that the body transforms the food and drink it consumes into new and sustaining flesh. Food, medicine and cosmetics were all of the same substance, and worked on the body to maintain or damage health in the same ways. They argued from this the importance of maintaining women's health in ways that seem both strange and familiar to modern people.

Men formulated these theories however, and elite men, particularly. Their ideas became widespread throughout Europe and the Middle East through very specific cultural reasons, and it was not until the late Middle Ages and the development of the *studium generale* and the university that they became more influential on European society at large. Chapter one thus explained the basic concepts of humoral medicine that were devised in the ancient eastern part of the Roman Empire during Antiquity and passed through them to Arabic doctors in the Early Middle Ages. The chapter introduced the main documents on humoral theory that I used comparatively throughout the rest of the project. It illustrated the malleability of the theory and its interpretation in practical medicine. In this chapter I emphasized the importance of women's health in these ancient theories and the transmission of these theories through medieval medical schools.

As I argued in chapter two, the Iberian peninsula was an important site of medical literature and translation, and the development of humoral theory in Europe in the period. This included to a great extent manuals on women's health and cookbooks that dispensed both culinary and medical advice. There was a long-standing tradition of medical, cosmetic and dietary literature being combined in single documents. Many of these documents were composed of multiple different manuscripts collected together. Chapter two thus introduced the important medieval Iberian documents on health, particularly those that pertained to women. I illustrated the ways in which humoral theory was transmitted to writers on cosmetics food and medicines, and how those concepts were applied to female patients for their specific problems. I showed how Arabic medicine was transmitted both through Italy and the Hispanic Kingdoms. I centered documents that pertained to women's health in this chapter, and I compared the many different types of documents that focused on them to the ones that came later. Manuscripts represent the interests of the writers, and were not necessarily meant to be seen by others or published for broader readership. The quotidian nature of documents like the *Trotula* ensemble, the Manual de Mugeres, the Tesoro de la Belleza, and the Kitab al-Tabij show that they were

not meant to be treatises on theory, but were themselves influenced by theory. The people who wrote these documents were not the influencers, they were the ones influenced.

Chapter three focused directly on the manuscript documents that collected recipes for women in the early modern period, specifically the sixteenth and early seventeenth centuries. I illustrated what types of health recipes were meant to sustain the image of idealized womanhood in the Hispanic Kingdoms during this time which incorporated knowledge of cosmetics, preserved foods, and medicine and home remedies. Women's health concerns, like childbirth and family planning, were considered a normal part of the feminine labor division. All of the medical, dietary and cosmetic advice that I presented in this chapter were devised through the lens of humoral theory. Again the documents in this chapter, like the ones from chapter two were manuscripts that I argue were written by women themselves. This means that these manuscripts were not meant to be published or shown to others, except perhaps the women in their families that they were passed down to. These documents are instead evidence of the influence of humoral theory on the knowledge of women in their households. The fact that they were collected from multiple different sources shows that many women were using these recipes. The types of recipes collected in these manuscripts are evidence of the social construction of womanhood and femininity in the period. I argue that these documents are evidence of the participation of the women who wrote them in the discourse of humoral theory and health in the sixteenth and early seventeenth century Hispanic Kingdoms.

New World investigations of Native flora and fauna were driven by imperial needs, i.e., to find profitable exploitable resources to justify imperial control. This was

not always possible, and imperial dysfunction between the interests of the center versus the lack of control over the periphery, of the size and scope of the 'new' lands that were claimed by the Hispanic Kingdoms, and the ability of colonial administrators to understand indigenous products, cultures and foodways hampered the spread of knowledge of New World pharmacopeia to Europe. Chapter four illustrates the application of humoral theory to New World ingredients and indigenous methods of healthcare. Women's concerns were represented by the authors' interests in studying New World abortifacients, birthing aids, and the interest in treating venereal diseases, namely syphilis, and are a major feature of these documents. I compared these documents to the documents from chapter three to discuss why New World ingredients do not appear in the women's manuals from chapter three even though they are contemporaneous to each other. I argued that these ingredients did not make their way across the Atlantic and become more widespread due to the dysfunctions of the Imperial system; They generally were not presented as profitable crops that could help pay for the cost of their exploitation and support imperial control of their regions, with notable exceptions. Also, two of the documents I examined, *Quatro Libros* and the *Badiano* manuscript, were obscure in their times, with *Quatro Libros* languishing in an archive before being mostly lost in a fire.

This dissertation is thus much in agreement with the historiographic literature on the adoption of New World foods into the diet of Iberian households. Jodi Campbell has argued that the Columbian Exchange led to very little change in the Iberian diet at least for the first two centuries after the Conquest.⁴²⁵ While in the Americas, they were reluctant to adopt many of the foods that were native there, instead opting to import plants, animals and production techniques from Europe. Campbell and Ken Albala both argue that most of the exchange up until the late seventeenth century was one way, except for a few specific foods that were generally eaten by the poor. Corn was one of these, and had the biggest impact on poor populations in the northern parts of Iberia, because it grew better there than other places, and it worked well as animal feed. Chocolate was another notable exception, as it was enthusiastically embraced by elites as a healthy food useful in cementing social relationships.⁴²⁶

Albala argues that the adoption of new foods from the Americas and elsewhere was determined by whether it could substitute for a preexisting food in the dietary regimens of the sixteenth and seventeenth centuries, but also argues that the poor often adopted foods before elites.⁴²⁷ His explanation of this is the influence of xenophobia among dietitians, arguing that renaissance dietary manuals were created at a time close to the beginnings of national consciousness.⁴²⁸ While I studied a different set of sources than Albala (manuscript recipe books vs. elite dietary manuals), I saw in the manuscripts a marked lack of New World ingredients that I argue were the result of their writers being uninterested or wary of exotic foods or medicines that had no purpose in their lives.

Neither Albala nor Campbell examine the types of sources that I analyzed in chapters Two and Three, and both discuss mostly foods and medicines as they appear in

⁴²⁵ Jodi Campbell, At the First Table, pg. 109.

⁴²⁶ Norton or Campbell

⁴²⁷ Ken Albala, *Eating Right in the Renaissance* pgs. 231-240.

⁴²⁸ Ibid, pgs. 224-231.

dietary manuals or in accounts of the New World like Monardes' and Hernandez's. This dissertation project thus fills a gap in the historiography by examining recipes that could very well have been written by women themselves about the types of ingredients and recipes that were important to them. This sourcebase bypasses to an extent the elite, male viewpoint that is undoubtedly the basis of Albala, Campbell and other historians work.

Albala's discussion of proto-national character and stereotypes fits well into a discussion of the Black Legend of Spain, the myth that Spain and its empire were backward, cruel, and religiously against scientific progress. In Beyond the Black Legend Victor Navarro Brotóns and William Eamon collect a variety of essays on the position of the Hispanic Kingdoms and the Spanish Empire within the larger European Scientific Revolution.⁴²⁹ This dissertation project adds to these essays in focusing on the role of women's health in the expansion of scientific knowledge in medicine, diet, chemistry, botany, and hygeine. Daniella Bleichmar discusses specifically the spread of information about New World plants and medicines, arguing that Spaniards of the sixteenth and seventeenth centuries were inundadted with an overabundance of knowledge about New World pharmacopeia, and hungered for more. Sources of information were many, and not only Hispanic but pan-European audiences devoured the information about new simple and compound drugs through printed books like Monardes' and others. This suggests that the Hispanic Kingdoms were well-connected to the intellectual environment of the whole of western Europe and that empire and empirical inquiry were deeply connected. She argues that these types of botanical treatises have been overlooked in the past by

⁴²⁹ Beyond the Black Legend: Spain and the Scientific Revolution. Edited by Victor Navarro Brotóns and William Eamon. Valencia: University of Valencia, 2007

historians who were more interested in the botanical literature of the rest of western Europe from the period, much of which included excerpts of Iberian writers like Monardes in their texts. ⁴³⁰

Antonio Barrera-Osorio's essay connects empire-building, commercial expansion, and the growing interest in empirical science, arguing that the Iberian Kingdoms, and specifically Spain, were the first to create institutions for collecting information about the New World, and their methods of collection were specifically empirical in nature, and would not have existed without the discovery of the New World.⁴³¹ He further argues that "intense intellectual traffic between Spain and England" in the time that Philip II was king consort of England led many important books to be translated from Spanish into English about the New World discoveries of Monardes *et al.*, and he connects the empirical revolution of the Hispanic Kingdoms in this way to England and the Scientific Revolution. I agree with him that the New World empire of the Hispanic Kingdoms was important in the development of empirical science, and I have shown in this dissertation project that their institutions did not simply transmit empirical knowledge from the Americas to Europe. The actual operation of the Empire was often fraught with failures and conflicts of interest. The deluge of knowledge that Monardes, Hernandez, and others sought to transmit back to the metropole was often forgotten or misused, or ignored, as much as it was employed for the commercial profit of imperial agents.

⁴³⁰ Daniela Bleichmar, "The Trajectories of Natural Knowledge in the Spanish Empire (ca. 1550-1650) in *Beyond the Black Legend: Spain and the Scientific Revolution*. Edited by Victor Navarro Brotóns and William Eamon. (Valencia: University of Valencia, 2007), pg. 143.

⁴³¹ Antonio Barrera-Osorio, "Nature and Experience in the New World: Spain and England in the Making of the New Science" in *Beyond the Black Legend: Spain and the Scientific Revolution*. Edited by Victor Navarro Brotóns and William Eamon. (Valencia: University of Valencia, 2007), pg. 121.

Nevertheless, one of the goals of this project is helping to dispel the Black Legend, and I show how sophisticated Hispanic thinkers were in their formulation of humoral medicine and incorporating new plants and animals into that system. I showed that ancient medical theorists considered women's health as integral and important to medical knowledge as men's health concerns. I showed that in the Middle Ages, Hispanic translators were in contact with Jewish and Arabic-speaking learned physicians, and translated foundational texts on medical theory and pharmacopeia into Latin and Spanish languages, transmitting the ideas of ancient and medieval physicians to European universities, and women's health concerns were an important component of those translated texts. I then showed that the documents on humoral theory that were a part of the western medical tradition had a great effect on women's health manuscripts, and that this was evidence of a discourse that included women themselves in the medical work and theorizing of the sixteenth and early seventeenth century. Finally, I argued that Imperial concerns in the New World were in part led by a desire to find products that dealt with women's health concerns specifically. Spanish explorers and colonizers worked hard to find plants that could be used to help with various health problems, but particularly focused on abortifacients and cures for mal frances, or syphilis. Throughout this period I have demonstrated not just that the Hispanic Kingdoms actively participated in the growth of knowledge of pharmacopeia and medical theory and practice, but that the concern for women's health was a driving factor in the expansion of that knowledge.

In order to expand this draft into a larger monograph project, each of these chapters could be enlarged by including even more primary sources and historiographical context. I would start by looking into primary documents on women's roles in the medical marketplace outside the household, particularly in convents and in the documents of noblewomen. I would also look into what types of documents are kept in archives from the period in sections called *documentos sin importantes* where many documents are relegated because past archivists could not find a proper place for them. I am told these collections of documents represent a treasury of obscure and uncategorized manuscripts. This would involve trips to the National Historical Archives in Madrid, the General Archive of the Indies in Sevilla, and the General Archive of Simancas. I would also be interested in exploring regional archives and specifically the archive of the Royal Chancellery of Valladolid, which held legal jurisdiction over doctors and other health professionals of the period I examine in this project.

A monograph using this material would also include appendices that would consist of the charts that I made of the humoral references in Galen, Dioscorides, and the *Regimen sanitatis salernitatis*. I regret that these charts were too large to include in this dissertation. Charts that include the humoral references in the manuscripts from chapter three, or even that catalogue the ingredients in each of the recipes to use as a reference for future researchers of these manuscripts would be worthy projects that could be part of a larger monograph project.

I also think that a project like an online volunteer transcription event (a transcribea-thon) focused on the manuscripts from chapter three would be an important component of a project that continues to study these special manuscripts. Many of the recipes are difficult to read for various reasons that I have already discussed in this project, and having a group of volunteers interpret them would be incredibly helpful. A translation project would also be useful in making these manuscripts more accessible to Anglophone researchers.

The study of manuscripts that combine medicine, food, and cosmetics enables scholars unique access to information on Iberian science, medicine, and social roles in the period than other, more than traditional sources. Anglophone scholarship would greatly benefit from incorporating a more holistic and cosmopolitan interpretation of Iberian science and medicine during the period of 1350-1650. This literature provides a unique perspective on the role of women in the time period in Iberian society, and the connections that they were able to have to the wider mediterranean and later global systems of knowledge and material exchange.

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