# HUMANISMO E CIÊNCIA

Antiguidade e Renascimento

António Manuel Lopes Andrade Carlos de Miguel Mora João Manuel Nunes Torrão



Aveiro I Coimbra I São Paulo 2015

UA Editora - Universidade de Aveiro I Imprensa da Universidade de Coimbra I Annablume

Este volume resulta de várias iniciativas desenvolvidas no âmbito do projecto de I&D "Dioscórides e o Humanismo Português: os Comentários de Amato Lusitano" (http://amatolusitano.web.ua.pt), recolhendo contribuições de mais de duas dezenas de colaboradores, tanto de membros da equipa como de outros investigadores nacionais e estrangeiros. Entre os eventos que estiveram na origem deste livro destacam-se as três edições do Ciclo de Conferências promovido pelo projecto, realizadas entre 2010 e 2013, e sobretudo o Colóquio Internacional "Dioscórides e o Humanismo Português: os Comentários de Amato Lusitano", que decorreu no Departamento de Línguas e Culturas da Universidade de Aveiro, nos dias 21 e 22 de Novembro de 2013.

O objectivo principal do projecto é a edição e tradução para português dos dois livros que Amato Lusitano dedicou ao comentário do tratado grego *De materia medica* de Dioscórides, ou seja, o *Index Dioscoridis* (Antuérpia, 1536) e as *In Dioscoridis Anazarbei de medica materia libros quinque... enarrationes* (Veneza, 1553), estando contemplada, também, a tradução de mais duas obras directamente correlacionadas com os livros do médico português: a montante, a do próprio tratado grego de Dioscórides; a jusante, a do livro intitulado *Apologia adversus Amathum Lusitanum* (Veneza, 1558) de Pietro Andrea Mattioli.

OBRA PUBLICADA COM A COORDENAÇÃO CIENTÍFICA DE:

Centro de Línguas, Literaturas e Culturas da Universidade de Aveiro

Centro de Estudos Clássicos e Humanísticos da Universidade de Coimbra

Cátedra de Estudos Sefarditas "Alberto Benveniste" da Faculdade de Letras da Universidade de Lisboa

# HUMANISMO E CIÊNCIA

### Antiguidade e Renascimento

ANTÓNIO MANUEL LOPES ANDRADE CARLOS DE MIGUEL MORA
JOÃO MANUEL NUNES TORRÃO
(COORDS.)

AVEIRO • COIMBRA • SÃO PAULO 2015

UA EDITORA • UNIVERSIDADE DE AVEIRO IMPRENSA DA UNIVERSIDADE DE COIMBRA ANNABLUME

#### HUMANISMO E CIÊNCIA: Antiguidade e Renascimento

**EDIÇÃO** 

UA EDITORA • UNIVERSIDADE DE AVEIRO
IMPRENSA DA UNIVERSIDADE DE COIMBRA

**ANNABLUME** 

ORGANIZAÇÃO E COORDENAÇÃO EDITORIAL

ANTÓNIO MANUEL LOPES ANDRADE

CARLOS DE MIGUEL MORA
JOÃO MANUEL NUNES TORRÃO

DESIGN DA CAPA

MEIOKILO DESIGN STUDIO

DESIGN

**CARLOS COSTA** 

IMPRESSÃO E ACABAMENTO

SERSILITO • MAIA

**ISBN** 

UA • 978-972-789-434-5 IUC • 978-989-26-0940-9

ISBN DIGITAL

UA • 978-972-789-435-2 IUC • 978-989-26-0941-6

DOI

http://dx.doi.org/10.14195/ 978-989-26-0941-6

DEPÓSITO LEGAL 368241/13

TIRAGEM 500 Exemplares

© 2015

UA EDITORA • UNIVERSIDADE DE AVEIRO
IMPRENSA DA UNIVERSIDADE DE COIMBRA

**ANNABLUME** 

COMISSÃO CIENTÍFICA

António Manuel Lopes Andrade

Carlos de Miguel Mora Delfim Ferreira Leão

Henrique Leitão

João Manuel Nunes Torrão

Maria de Fátima Reis

Maria do Céu Zambujo Fialho Miguel Ángel González Manjarrés

**TEXTOS** 

Adelino Cardoso

Ana Leonor Pereira

Ana Margarida Borges

António Guimarães Pinto

António Maria Martins Melo

Bernardo Mota

Carlos A. Martins de Jesus Carlos de Miguel Mora Cristina Santos Pinheiro

Donald Beecher

Emília Oliveira Isabel Malaguias

James W. Nelson Novoa Joana Mestre Costa

João Manuel Nunes Torrão

João Rui Pita

Jorge Paiva

José Sílvio Moreira Fernandes

Maria de Fátima Silva

Miguel Ángel González Manjarrés

Rui Manuel Loureiro
Telmo Coruio dos Reis

Teresa Nobre de Carvalho

Vinicije B. Lupis

Virgínia Soares Pereira

Este volume é financiado por Fundos FEDER através do Programa Operacional Factores de Competitividade – COMPETE e por Fundos Nacionais através da FCT – Fundação para a Ciência e a Tecnologia no âmbito do projecto de I&D com a referência FCOMP-01-0124-FEDER-009102.

# HUMANISMO E CIÊNCIA

### Antiguidade e Renascimento

ANTÓNIO MANUEL LOPES ANDRADE CARLOS DE MIGUEL MORA
JOÃO MANUEL NUNES TORRÃO
(COORDS.)

AVEIRO • COIMBRA • SÃO PAULO 2015

UA EDITORA • UNIVERSIDADE DE AVEIRO IMPRENSA DA UNIVERSIDADE DE COIMBRA ANNABLUME

OBRA PUBLICADA

COM A COORDENAÇÃO

CIENTÍFICA DE:

CENTRO DE LÍNGUAS, LITERATURAS E CULTURAS DA UNIVERSIDADE DE AVEIRO

CENTRO DE ESTUDOS CLÁSSICOS E HUMANÍSTICOS DA UNIVERSIDADE DE COIMBRA

CÁTEDRA DE ESTUDOS SEFARDITAS
"ALBERTO BENVENISTE"

DA FACULDADE DE LETRAS DA
UNIVERSIDADE DE LISBOA







## **SUMÁRIO**

| PR  | PREFÁCIO7   |  |  |
|-----|---|--|--|
| 1)  | HUMANISMO E CIÊNCIA11   |  |  |
| 1.1 | "Teofrasto, <i>Tratado das plantas</i> . No alvor de uma nova ciência"  |  |  |
| 1.2 | "Francisco de Melo e os fragmentos de teoria óptica de Pierre Brissot"  |  |  |
| 1.3 | "Algumas reflexões sobre as pedras preciosas nos <i>Colóquios</i>   |  |  |
|     | dos simples de Garcia de Orta"  |  |  |
|     | Rui Manuel Loureiro   |  |  |
| 1.4 | "Estratégias, patronos e favores em Colóquios dos Simples de Garcia de Orta"63                                      |  |  |
|     | Teresa Nobre de Carvalho  |  |  |
| 1.5 | "As plantas na obra poética de Camões (épica e lírica)"   |  |  |
| 1.6 | "Nicolás Monardes, John Frampton and the Medical Wonders of the New World"141                                       |  |  |
|     | Donald Beecher  |  |  |
| 1.7 | "Literatura e Medicina: alguns textos de Justo Lípsio e de dois doutores Luís Nunes" 161<br>António Guimarães Pinto |  |  |
| 1.8 | "Ontologias e idiossincrasias dos Amantes, à luz da Archipathologia de Filipe Montalto" 211                         |  |  |
|     | Joana Mestre Costa & Adelino Cardoso  |  |  |
| 1.9 | "Gabriel da Fonseca. A New Christian doctor in Bernini's Rome"227   |  |  |
|     | James W. Nelson Novoa   |  |  |

| 2) DIOSCÓRIDES E O HUMANISMO PORTUGUÊS:  |     |  |
|--|-----|--|
| OS COMENTÁRIOS DE AMATO LUSITANO   | 249 |  |
| 2.1 "Léxico científico português nos Comentários de Amato: antecedentes e receção" | 251 |  |
| Ana Margarida Borges   |     |  |
| 2.2 "Usos medicinais das plantas, em Amato Lusitano: o bálsamo"                    | 275 |  |
| António Maria Martins Melo   |     |  |
| 2.3 "Amato Lusitano e a importância da ilustração botânica no século xvi.          |     |  |
| Em torno das edições lionesas das <i>Enarrationes</i> (1558)"                      | 303 |  |
| Carlos A. Martins de Jesus   |     |  |
| 2.4 "Sobre la identificación entre ébano y guayaco en una entrada                  |     |  |
| del Index Dioscoridis de Amato Lusitano"   | 317 |  |
| Carlos de Miguel Mora  |     |  |
| 2.5 "Os partos distócicos em Amato Lusitano e em Rodrigo de Castro:                |     |  |
| fontes, doutrinas e terapias greco-romanas"  | 353 |  |
| Cristina Santos Pinheiro   |     |  |
| 2.6 "Do carvalho ao castanheiro: usos e propriedades medicinais                    |     |  |
| de fagáceas nas <i>Enarrationes</i> de Amato Lusitano"                             | 373 |  |
| Emília Oliveira  |     |  |
| 2.7 "O mundo mineral nos <i>Comentários</i> a Dioscórides de Amato Lusitano"       | 387 |  |
| Isabel Malaquias & Virgínia Soares Pereira   |     |  |
| 2.8 "Alguns comentários de Amato: entre a estranheza e a realidade"                | 413 |  |
| 2.9 "Caracterização e usos terapêuticos de produtos de origem marinha              |     |  |
| nos Comentários de Amato Lusitano a Dioscórides"                                   | 425 |  |
| José Sílvio Moreira Fernandes  |     |  |
| 2.10 "La mandrágora de Amato Lusitano: edición, traducción y anotación"            | 449 |  |
| Miguel Ángel González Manjarrés  |     |  |
| 2.11 °O vinho e os vinhos — usos e virtudes de um dom dos deuses                   |     |  |
| nas <i>Enarrationes</i> de Amato Lusitano"   | 467 |  |
| Telmo Corujo dos Reis  |     |  |
| 2.12 "Amatus Lusitanus e Didaco Pirro: due ebrei portoghesi                        |     |  |
| e cerchia umanistica di Dubrovnik"   | 481 |  |
| Vinicije B. Lupis  |     |  |
| 2.13 "Estudos contemporâneos sobre Amato Lusitano"                                 | 513 |  |
| João Rui Pita & Ana Leonor Pereira   |     |  |

# Nicolás Monardes, John Frampton and the Medical Wonders of the New World

DONALD BEECHER<sup>1</sup>

#### ABSTRACT:

The Spanish discovery of the new world produced not only a supply of precious metals but of rare plants apt for study as potential drugs and the means to miraculous new cures. Early among those who pursued these botanical novelties was Nicolás Monardes of Seville, who collected, studied, catalogued, grew and integrated them into his medical practice. After many years, he wrote a singular treatise which was translated into several languages including English and Latin in several spirits at once: a botanical collection; a book of Pharmaceutical simples; a treatise on miraculous cures; a book of wonders; and a work promoting the commercial exploitation of overseas resources. These diverse rhetorical aspects become even more apparent in the work's translation into English by the merchant-trader John Frampton of Bristol. Monardes' treatise is not only scientific in its import, but a print culture phenomenon revealing how the new instruments for the mass dissemination of astonishing new data could reconstruct the popular imagination.

#### **KEYWORDS:**

new world; materia medica; Nicolás Monardes; Renaissance medicine; herbals and wonder books.

#### **RESUMO:**

O achamento do novo mundo pelos espanhóis produziu não só uma fonte de metais preciosos mas também de plantas raras, passíveis de ser objecto de estudo como drogas que pudessem levar a novas curas milagrosas. Nicolás Monardes de Sevilha conta-se entre os primeiros estudiosos destas novidades botânicas, tendo-as coleccionado, estudado, catalogado, plantado e integrado na sua prática médica. Após muitos anos escreveu um tratado singular que foi traduzido em várias línguas, incluindo o Inglês e o Latim, com múltiplas finalidades: uma colecção botânica; um livro de simples medicinais; um tratado sobre curas milagrosas; um livro de maravilhas; e um trabalho que promovia a exploração comercial de recursos ultramarinos. Estes diversos aspectos retóricos tornam-se ainda mais evidentes na tradução do livro para Inglês pelo mercador John Frampton de Bristol. O tratado de Monardes não só tem significância científica mas é também um fenómeno da cultura impressa que revela como os novos instrumentos para a divulgação alargada de dados novos e surpreendentes conseguiram reconstruir a imaginação popular.

#### PALAVRAS-CHAVE:

Novo Mundo; *materia medica*; Nicolás Monardes; medicina renascentista; herbários e livros de maravilhas.

<sup>1</sup> Department of English Language and Literature — Carleton University — Ottawa: Donald.Beecher@carleton.ca.

Upon their returns from the New World, the mariners and conquistadors first to explore the islands of the Caribbean, Florida, Mexico and Peru brought with them samples of the plants and minerals celebrated by the natives for their healing powers. Not only did the physicians and medical philosophers of Spain and Portugal take notice, but had made their requests for such materia medica as one of the potentially greatest rewards of the post-Columbian discoveries. Chief among them was Nicolás Monardes of Seville, who realized as early as the 1530s that these simples might not only contain miraculous healing powers but fetch very high prices, prompting him to collect, classify, and even grow a goodly number of them for incorporation into his clinical practice. The account he at last published, after some thirty years of collecting and study, appeared in parts beginning in 1565 and 1569, and in its entirety in 1571 as the Primera y Segunda y Tercera partes de la Historia Medicinal de las Cosas que se traen de nuestras Indias Occidentales que sirven en Medicina.2 It became a seminal work in circulating news of these discoveries not only among botanists and apothecaries throughout Europe, but among common readers of the vernacular, for Monardes had chosen to publish in Spanish rather than the Latin of medical specialists. Therein is to be found the earliest accounts of sassafras, cannafistola, sarsaparilla, and the carlo sancto root, a scant four among the seventy-one simples comprising the work. Monardes' purpose was doubly tilted, not only toward the professionals interested in the location, preparation, and clinical administration of these drugs, but toward general readers potentially fascinated by the novelty of the plants, by their exotic powers and the promise of miraculous cures. In short, he had created two works in one, a botanical dictionary ultimately to be absorbed into the collective efforts of those assiduous botanists intent upon inventorying all the known plants of the planet, but simultaneously a book of wonders, a published "cabinet of curiosities," in keeping with the pursuit of mirabilia that had so incited and motivated the pre-conquest imagination and colored the accounts of the early explorers.

Concerning that mental frame of exoticism that preceded scientific measurement and investigation, one that suffused the mentalities of the early explorers, Margaret Hodgen has written, "if, on occasion, descriptions of New World topography, flora, fauna, or people crept into their narratives, the strange and bizarre was emphasized at the expense of the prosaic and carefully

The work is available in facsimile as *La historia medicinal...de nuestras Indias Occidentales*. Sevilla, Padilla Libros, 1988, as well as in a critical edition edited by José María López Piñero, *La* Historia Medicinal de las cosas que se traen de nuestras Indias Occidentales (1565-1574), de Nicolás Monardes. Madrid, Ministerio de Sanidad y Consumo, 1989. The original editions have been studied closely by Francisco Guerra in *Nicolás Bautista Monardes*, su vida y su obra [ca. 1493-1588]. México, Compañía Fundidora de Fierro y Acero de Monterrey, S.A., 1961). Two more accounts of his life may be found in Francisco Rodríguez Marín, *La verdadera biografía de Nicolás Monardes*. Sevilla, Padilla Libros, 1988 (first published in 1925), and in Javier Lasso de La Vega, *Biografía y estudio crítico de las obras del médico Nicolás Monardes*. Sevilla, Padilla Libros, 1988 (first published in 1891).

examined."3 Given the motivations of the early explorers to impress or bemuse, in conjunction with the misprision of what they had seen due to the prevailing myths about foreign lands circulating in the late Middle Ages, much of ethnographical, botanical, zoological, and medical value became obscured. The story of the persistence of medieval lore in discovery reports has been told many times over, but the willfulness of such accounts in order to amaze and incite their royal and fiscal sponsors through confabulatory rhetoric and inflated claims (especially involving potentially profitable commodities) should not be underrated. Monardes may have been somewhat credulous on these grounds, thus putatively generating a book of inflated claims. But if so, the reasons may ultimately be far more systemic and methodological. He was also a believer. As a physician he went about his work with a characteristic degree of skepticism and method, yet by professional training he was given to a credulousness typical of the investigative values and biases of sixteenth-century medical philosophy. This philosophy based on humoural medicine undergirded by an unchallenged deference to ancient authority on the eve of the scientific breakthroughs of the seventeenth century has also been thoroughly investigated by the historians of early modern science. Through such a mindset on Monardes' part, a book of wonders arose in pat keeping with the work of an enthusiastic botanical classifier and medical practitioner. In cyclical fashion, amazement among readers then created an industry of wonders in which practitioners were invited to participate on the best of professional grounds. In short, the marvelous brought from the shores of the New World was better press than the banal, and a better incentive to pursue the entire scientific enterprise of collecting and classifying these medical simples. This enthusiasm was simultaneously nourished by a deep-seated belief that a shortfall in efficacious medications would be repaired once the hidden miracles of the unknown world were brought forth to complete the pan-European medicinal arsenal. In the resulting double focus on the scientific and the miraculous, Monardes had played both a willing and unwitting part: he was not a patent medicine charlatan. Rather, after his years of study, he emerged a sincere believer in the clinical benefits achieved through the healing regimens into which had been incorporated the substances described in *La historia*. To his investigative satisfaction he had seen a goodly number of medical conditions cured through the sovereign operations of these plants, many of those conditions thought to be beyond the reach of medical treatment. His enthusiasm would have been but natural, once his own scientific criteria had been satisfied concerning the legitimate causal relationships between medications and their cures. The classification and description of these materials, hence, by default, became a form of rhetoric, an appeal apt to incite the imagination, and to create demand through the widening reach of an expanding print culture. Through the offices of print, Monardes himself, in a

Early Anthropology in the Sixteenth and Seventeenth Centuries. Philadelphia, University of Pennsylvania Press, 1971, p. 113.

sense, had become a traveller, although he stayed close to Seville, in reducing medical exotica to clinical success, thereby claiming for himself the status of an explorer-benefactor through the cures that must, in turn, redound to his credit and fame.

To date, the bulk of the erudition dealing with Monardes has been devoted to his contribution to the development of Renaissance botany and pharmacognosy. To think of his work in rhetorical terms as an instrument for the shaping of the popular imagination through the power of print is therefore something of a novelty. But first to the historical and scientific side. Scholars have been much concerned with the earliest accounts of new world plants from tobacco and guaiacum wood to the rhubarb of Michoacan. They have examined every aspect of the physician's life through biographical studies, and specialists have examined all the related matters of nomenclature and taxonomy in order to compare his descriptions with their most recent scientific cognates. Others have been preoccupied with the Aztec medical components in his clinical applications and the degree to which Monardes was, himself, proactive in extending European herbals and pharmacology. C. R. Boxer styles him a pioneer in tropical medicine and a principal figure in the elaboration of sixteenth-century botany. Emily Walcott Emmart cites Monardes as a mediator of Aztec herbal practices in her study of the Aztec herbal of Martin de la Cruz. Both of these claims may be more circumstantial than demonstrable, given the

Among the many studies are those by Nicolás León, "El doctor Nicolás Monardes: sus servicios a la materia médica y terapéutica americanas," *Gaceta Médica de México* 57 (1926), pp. 553-68; E. ÁLVAREZ LÓPEZ, "Nicólas Monardes y los botánicos europeos del siglo xvi", *Las Ciencias* 14 (1949), pp. 139-49; Ascensión Más-Guindal, "Datos históricos sobre los materiales farmacéuticos importados de América en el siglo xvi," *Anales de la Real Academia de Farmacia* 4 (1943), pp. 37-82; and Carlos Pereyra, *Monardes y el exotismo médico en el siglo* xvi. Madrid, Biblioteca Pax, 1936. See also Kurt STÜNZNER, *Die Schrift des Monardes* über *die Arzneimittel Americas*. Halle, Max Niemayer, 1895. Among the most important recent studies is that by José María LÓPEZ PIÑERO, "Las 'nuevas medicinas' americanas en la obra (1665-1574) de Nicolás Monardes", *Asclepio* 42.1 (1990), pp. 3-67. The Spanish physician, Francisco Hernández, had been sent to Spanish America by Philip II in 1558 to investigate the medical plants and medications of Mexico because this task "had been thoroughly neglected by the conquistadors." Frank J. ANDERSON, *An Illustrated History of the Herbals*. New York, Columbia University Press, 1977, p. 236. In what remains of Hernández' work, it would appear that he inventoried some 1000 plants, variously referred to by over 3000 names, many of them the Aztec names for native plants, most from the central plateau.

<sup>5</sup> Two Pioneers of Tropical Medicine: Garcia d'Orta and Nicolás Monardes. London, Wellcome Historical Medical Library, 1963.

<sup>6 &</sup>quot;Concerning the Badianus Manuscript. An Aztec Herbal, 'Codex Barberini, Latin 241' (Vatican Library)", Smithsonian Miscellaneous Collections 94.2 (1935), pp. 1-11. Nevertheless, Monardes' treatise gives no evidence that he had any direct knowledge of Aztec medicine, although their practices are implicit on the reports of the travellers treated abroad by native practitioners. This raises the entire question of Monardes' reading and what he could have drawn from printed works. No doubt he had reasons of his own for writing without the benefit of primary sources, although among the few to be considered are La natural... historia de las Indias of Gonzalo Fernández de Oviedo. Francisco Guerra asserts that Monardes knew only Garcia de Orta's Coloquios dos simples, e drogas he cousas medicinais da India, published in Goa in 1563. There is the writing of Bernardino de Sahagún, Historia universal de las cosas de la Nueva España, but although it was written as early as 1555, it remained in manuscript (now in the Biblioteca del Palacio Real, Madrid, Sig. No. 1280). Concerning the Aztec Herbal, written at the

lack of published materials available to him which dealt with such matters, but he did take close note of the lore accompanying the plants and minerals returned to him, including all that pertained to their medical uses among native practitioners as witnessed by his new world correspondents. It is important to add for the record, moreover, that Monardes was not alone in the search for new medical simples, and that ultimately even the rhetorical appeal of his treatise, together with his scientific claims, can be studied on a comparative basis with the work of a goodly number of contemporaries.<sup>7</sup>

With the publication of *La historia*, there can be no doubt of Monardes' faith in the healing powers of the simples presented therein, but he had not always endorsed their superiority. As a medical student at the Alcalá de Henares, from which he graduated in 1533, Galenic medicine was in vogue as it was throughout Europe, and his training in pharmacology was entirely traditional, largely derived from the *Lexicon artis medicamentaria* (1518) of Antonio de Nebrija — which was principally a commentary on the ancients, Dioscorides and Pliny. Hardly is it surprising, then, that Monardes' earliest work, the *Diálogo llamado Pharmacodilosis o declaración medicinal* (1536) reveals a strong preference for Greco-Roman sources, and that he gave an unquestioned pride of place to the medicinal plants native to the Iberian peninsula over imports from the West Indies, Florida, or Mexico. There was, in fact, a debate already in progress concerning the relative merits of old and new world plants, with Monardes still on the conservative side. His "conversion" can only be inferred as a matter of professional reflection and discussion. It would have been difficult, ultimately, for any practitioner to deny that a plethora of new plants, the creation of one God and the products of one planet, must be classified, with its component parts finding places in an orderly plan pertaining to healing, and man's role in divining all of the hidden secrets of

college in Tlatilulco in 1552 by the native writer Martín de la Cruz, the manuscript was presented to Don Francisco de Mendoza, the son of the Viceroy of Mexico, but it did not circulate. See Agnes Arber, Herbals, their Origin and Evolution. Darien, Conn., Hafner Publishing Co., 1938, (rpt. 1970), pp. 104f, and Clara Sue Kidwell, "Aztec and European Medicine in the New World, 1521-1600", in Lola Romanucci-Ross et alii (eds), The Anthropology of Medicine from Culture to Method. New York, Praeger Publishers, 1983, pp. 20-31.

Among the most important are those by Juan Fragoso, Discursos de las cosas aromáticas, árboles y frutales y de otras muchas medicinas simples que se traen de la India Oriental y sirven al uso de la medicina. Madrid, Francisco Sánchez, 1572, now edited by José Luis Fresquet Febres and republished by the Fundación Marcelino Botín, Universitat de València, 2002. See also Juan de Cárdenas, Primera parte de los problemas y secretos maravillosos de las Indias. México, Pedro Ocharte, 1591; Francisco Bravo, Opera medicinalia. México, Pedro Ocharte, 1570; Gonzalo Fernández de Oviedo, La natural y general historia de las Indias. Huntington Library, MH 177 [ca. 1533]); Francisco Hernández, De historia plantarum Novae Hispaniae [ca. 1580], often reprinted and anthologized under variant names in the seventeenth and eighteenth centuries; Antonio de Villasante, Memorial y Reales Cédulas referentes al bálsamo y demás drogas descubiertas por Antonio de Villasante en la Isla Española. Nov. 1526, Archivo General de Indias, Sevilla, Legajo No. 421; and Augustín Farfán, Tratado breve de medicina y de todas la enfermedades. México, Pedro Ocharte, 1592.

<sup>8</sup> C. R. Boxer, Two Pioneers..., op. cit., p. 18.

nature. Equally telling is that in the 1574 edition of *La historia*, Monardes confirms that he had, by then, been collecting new-world plants for 40 years, an interest reaching back to the time of his first publication. The paradox of that fact in relation to his book is patent. What had moved him can only be assumed, but the observations in his later study underscore the following perspectives: the role of travellers' accounts of the medicinal virtues of these new plants; the notion of planetary wholeness and symmetry which by definition includes new-world simples; the cures brought to his patients through his employment of these new materials on an experimental basis; the opportunity for the commercial exploitation of his new discoveries; and, not the least, the need to remain competitive in the drug trade in relation to Portuguese, Venetian and Genoese commercial ambitions. It was science to be sure, and yet as a book of wonders, who can deny that it also had patriotic and commercial overtones? All of these primary and secondary layers are worthy of consideration, from science to rhetoric to markets. So what about the rhetorical stances of the treatise?

As a book-culture phenomenon, *La historia* is subject to diverse classifications. This is because sixteenth-century thinkers were actively pondering the nature of the book itself as a structured cultural artifact, a representation in codex form of the natural orders or cultural institutions they described. In this way, a book could become a memory theatre, a book of games even involving dice and player locations printed on the pages, a garden of pleasant devices, a book of emblems, an atlas, guide, or anatomy, a journey tantamount to an initiation rite or induction into a mystical cult, a museum of curiosities, a place of monuments, or civic and architectural planning, each one related to subject matter which the book could then dispose, set out, order, replicate, and turn into a kinetic process suggesting both place and time.<sup>10</sup> At this juncture, we need not make a detour into the theory of the book as a chamber of mysteries which corresponds to the mind holding its secrets in ordered impressions and schemas, but by just such capacities for order and retention, the book (much like the modern computer) could serve as a tool in theorizing the nature of mind and memory before the age of the cognitive sciences: mind habits create the orders of books; books replicate the orders of the external world as orders of the mind. Quite simply, in that regard. Monardes' collection is a series of textual places, each one corresponding to a plant, which is the emblem, in pictorial form, providing the link to its remembered properties and promised benefits according to arcane processes. The curiosity cabinet thereby becomes more than a printed museum of oddities which creates the cognitive dissonance attached to those

<sup>9</sup> Roderick Cameron, Viceroyalties of the West. London, Weidenfeld and Nicolson, 1968, p. 14.

There is perhaps no better introduction to this complex component of Renaissance thought than Lina Bolzoni's *The Gallery of Memory: Literary and Iconographic Models in the Age of the Printing Press*, trans. Jeremy Parzen. Toronto, University of Toronto Press, 2001. This is a translation of *La stanza della memoria*. Turin, Einaudi, 1995. In this complex study, Bolzoni discusses books as labyrinths, rhetoric machines, games, maps, theatres, chronological repertoires, topical place indexes, buildings, galleries, and the *Wunderkammer* as in "internal castle."

intriguing things beyond our established categories of reference. It becomes more than an index of curios for passionate amateurs of the bizarre and marvelous —as it must seem at first glance. Yet that is where we must start. During the sixteenth century pottery, statuary, and fragments of ancient Roman buildings found their ways into humanist collections. Fossils and precious stones were assiduously collected. Regarding fauna and flora, a seminal example is the collection of Konrad Gesner; as a botanist and medical thinker, he created a private park full of exotic plants.<sup>11</sup> The botanical garden might thereby become its own curiosity cabinet, and by extension the book in which it is catalogued. That provides the connection between gardens and mind places, and mind places and the ordering and storing of information, and thus of memory. Minds organized by such analogous associations (a large part of the humanist mindset) purposefully sought out these juxtapositions and affiliations and then assigned to them a degree of phenomenological depth. Francisco Guerra reminds us that Monardes, as well, maintained a private botanical garden in Seville in which he kept both indigenous and foreign plants. For a long time, as well, he was credited with having an extensive collection of natural objects and curiosities, which, although it proved to belong rather to Argate de Molina, does not diminish the ethos of the wonder cabinet as a category of thought and arrangement.<sup>12</sup> The treatise, in the first instance, is a simple collection of wonders through which the reader travels from plant to plant, building up a library of specimens, each according to its history, properties, and medical uses. In the process, however, the book becomes the inventory of a collection arranged in a garden, and thus a memory space walked through as though in a horticultural setting as the pages are turned. Books so conceived were a Renaissance passion.

Concurrently, *La historia medicinal* solicited a place beside other popular scientific inventories of the era, such as Pierre Boaistuau's *Certain Secrete Wonders of Nature*, as it was called by its English translator, and Ambroise Paré's *Des monstres et prodiges*, published in 1573. Boaistuau's treatise was translated into English as early as 1557, suggesting the level of interest already established among English readers concerning the occult properties of plants and minerals. There was hence a natural context for the translation of Monardes' work into English, which, in fact, followed the full Spanish edition by only a few years. It was the work of John Frampton, a Bristol trader to the Mediterranean ports in the 1560s; his work appeared in 1577 and more than ever fostered the spirit of wonder and a hopeful interest in miraculous healing, as featured in the title: *Joyfull Newes out of the newe founde worlde*. <sup>13</sup> Frampton

<sup>11</sup> Margaret Hodgen, *Early Anthropology...*, op. cit., p. 117.

<sup>12</sup> Francisco Guerra, Nicolás Bautista Monardes..., op. cit., p. 80.

<sup>13</sup> John Frampton, *Joyfull Newes out of the newe founde worlde*. London, Thomas Dawson for William Norton, 1580. Copies of the 1577 edition are now rare. The work was republished in two volumes in 1925, ed. Stephen Gaselee (London, Constable and Co. Ltd. - New York, Alfred A. Knopf). All citations are taken from this edition.

came by his knowledge of Spanish the hard way in finding himself arrested and tried by the Inquisition, leading to a carefully planned escape from Cadiz in 1567 after several years of enforced residence wearing the heretic's sambenito.<sup>14</sup> Just how much Frampton's rhetorically pitched and enthusiastically optimistic title is justified may be sampled in Monardes' account of "The tree that doth showe if one shall live or die." This anecdote came to the good doctor on the authority of the Earl of Niebe, who witnessed the phenomenon in Peru in 1562; upon such a basis, the account could hardly be omitted from the scientific record. According to report, the branches of this tree, held in the left hand, would instantly produce sensations of joy or sorrow when asked whether a sick spouse would live or die. (We must assume that joy signaled imminent health!) Tellingly, there is no differentiation in tone or commentary between this bit of ritual magic and the more studied presentations of pharmaceutical operations. Pains are taken to point out that the practice employing the tree's branches was that of "an Indian of greate reputation." Monardes reports his own reactions: "I was desirous to knowe if that it were soe, and a gentleman of the Peru that had been there many yeares, did certifie and saied unto mee that it was of trueth, that the Indians did this with their sicke people, [for which reason] it hath put mee in admiration, and in much consideration."15 Such is his skepticism in brief, and such is his inclination to credit authority on the basis of confirmed report. This is a touchstone example because it is a reminder that this book of marvels and botanical curiosities is also a complete dispensary in which historical anecdote becomes the basis for clinical and pharmaceutical doctrine. Always we come full circle from the science based on authority, to belief, and finally to practice and promise —from the marvelous to the clinic. Frampton, as a trader —in full anticipation of the days when such Englishmen as Sir Walter Raleigh would espouse the trade in New World simples—put forward the entire spirit of medical hope and pharmaceutical merchandising in his literary construction of "joyful news." The point must not be belaboured, but through Frampton's offices, in bringing Monardes to the attention of English readers, and in converting this Spanish pharmaceutical scripture into an English one, there may be seen the foundation for incentives behind the English colonization of Virginia on the basis of commodities formerly little to be imagined. The science of Monardes was self -promoting rhetoric apt for cultural expropriation and ensuing commercial rivalry in the age preceding the Spanish Armada.

Now, once more back to the design of the scientific treatise. The generic design of each article begins with a brief history of the plant, which then moves toward botanical description, then to the humoural classifications and to the degrees of heat or coldness requisite to align them

<sup>14</sup> For more on the adventures of Frampton, see Donald BEECHER, "John Frampton of Bristol: Trader and Translator." In Carmine Di BIASE (ed.), *Travel and Translation in the Early Modern Period*. New York, Rodopi Press, 2006, pp. 103-122.

<sup>15</sup> Joyfull Newes, op. cit., vol. II, p. 22.

with the gradations and applications of the Galenic medical system. Monardes then turns to more clinical considerations, including the preparation and administration of the drugs derived from each simple in relation to the diseases each was disposed to treat. Here and there are to be found brief case studies of patients who had been treated with these new preparations. Monardes does not follow this plan with mechanical precision, often slighting some of the features, but his general purpose in combining history with botanical ordering and clinical reporting is to confirm the place and value of these simples in standard European medical practice. The anecdotal historian and the clinical investigator might have come into conflict, but Monardes harmonized them as parallel sources of authority behind his promotion of each simple, now considered according to the one-plant-one-medication formula (as opposed to the compound, multi-action recipes epitomized by theriaca). The motivations behind such a management of materials need not be rehearsed again in full, but the book's polytypic purposes remain concurrently in mind: a book of wonders, a horticultural inventory, a clinical manual, a book of botanical discoveries, and a book of pharmaceutical propaganda and patriotic promotion.

Monardes did not voyage to the Caribbean in order to build his collection based on personal observation and investigation, and thus he had no choice but to rely upon the scouting intuition and reporting of the returning explorers and soldiers. The selection of plants and minerals was made for him according to what attracted the attention of men otherwise very little interested in such matters. 16 Peter Osma, one of the few who shared Monardes' vision, wrote to him from Peru, not only to praise his work, but to complain of the indifference to new-world medicications on the part of the colonial Spanish doctors, thus depriving patients of their many healing benefits. His letter was attached to a packet of medical materials from Peru for Monardes' collection, in which he offers several examples of remarkable indigenous cures.<sup>17</sup> At the same time, he laments the secretiveness of the native practitioners and their unwillingness to share their lore. Monardes, in turn, praises Osma as a modern Dioscorides. More often, however, the materials were carried to Seville by those who had benefited from their use by native healers. Those fortunate enough to escape the threatening tropical disorders through specific herbs were, quite naturally, given to extolling their miraculous powers in deeply superstitious terms. One such herb was the Florida sassafras, the wood (actually the bark and leaves) of which, when steeped, produced a water credited with healing a great number of diseases. Often upon their returns, these men refused to be treated with any other medication, no matter the affliction. Monardes was clearly impressed by their accounts, for "thei began to praise so muche, to confirme the marvelous works of it, with so many examples of them that were there, that surely I gave great credite unto it, and this caused me to believe all that

<sup>16</sup> Frank J. Anderson, An Illustrated History..., op. cit., p. 236.

<sup>17</sup> Joyfull Newes, op. cit., vol. I, pp. 135-45.

thereof I had heard." In consequence, he carried a piece of the wood on his person to protect himself from the contagions and pestilences he encountered as a practicing doctor —for which singular virtue he praised God for this marvelous plant.<sup>18</sup>

Monardes' enthusiastic account of this plant had a remarkable afterlife in the history of the earliest attempts by the English to found a colony in Virginia. Through Frampton's translation, the English came to prize the wood of this plant as a cure for many diseases, including syphilis. Thomas Harriot elaborated upon this report in conjunction with the discovery of this wonder-working tree in Virginia in his Briefe and True Report of the New Found Land of Virginia (1590).<sup>19</sup> Because Monardes' illustration of the tree, replicated in the Frampton translation, also turns up on the famous 1650 map of the region by John Ferrar, the only such botanical feature on the document, it is now being considered as perhaps the best clue in explanation of the lost colony, for arguably its placement on the map marks the locale where the settlers had gone to harvest this tree —a commodity prized by their patron, Sir Walter Raleigh, and for which he held a monopoly.<sup>20</sup> As stated by David L. Cowan, "The search for, cultivation of, and trade in drugs must take their place among the economic motives behind the building of the British empire in America. Sassafras was one of the most important drugs involved in the process of empire building. Sassafras attained a phenomenal repute."21 Little is it known that Raleigh, when he sent Samuel Mace to look for the lost colony in 1602, also commissioned him to ballast his ship, and more, with sassafras lumber. Less is it known that Mace, for want of finding the errant colonists, did just that, and netted a fortune for Raleigh—enough to outfit two new ships. In this historical by-way, all the strata of Monardes' book once again become visible: wonder products, hope for cures, especially of the dreaded syphilis, and mercantile commodification woven into a legendary tale of colonization and loss, and the prospect for enormous profits before illegal rivals broke into the trade and drove the prices down from over 1000 pounds per ton to values in two figures —but that is another story.

The book is, by default measure, an insight into the mental procedures of the sixteenth-century scientific investigator, teased out by inference from the procedures and biases it contains. There is no need to apologize for Monardes as a man of his age. He wore his many hats, as it were, with integrity: the curious collector, the medical historian, the horticulturalist, the physician, the author, the mercantilist, and the patriot. Yet it is recognized just how much these roles might have collided with one another under more rigorous analytical circumstances. The book is full

<sup>18</sup> Joyfull Newes, op. cit., vol. I, p. 117.

<sup>19</sup> Thomas Harriot, *Briefe and True Report of the New Found Land of Virginia* (1590). New York, Dover Publications, 1972, p. 9.

<sup>20</sup> See Philip S. McMullan Jr., "A Role for Sassafras in the Search for the Lost Colony", www.lost-colony/ Philpaper.pdf.

<sup>21 &</sup>quot;Boom and Bust: Sassafras", Apothecary's Cabinet 8 (Fall, 2004), p. 9.

of examples of his clinical testing, the purpose of which was not only to confirm the virtues and properties of each plant or stone, but to extend the reach of the clinic by extending the curative powers of these simples on a disease by disease basis, each case justified according to the Galenic principles of counteractive agents. A case in point involves the several experiments he carried out with the blood stone, whether in staunching the flow of blood or for curing kidney stones. That he found the stone uniformly efficacious in all instances, based on his clinical trials, ultimately provides the link between the taxonomist and the enthusiast. Description and method, for as long as he can contain himself, gradually gives way to the language of excitement and promotion. "My Ladie the Duchess," he reports, "for that she had in shorte tyme three times, excedying paines of the stone, she made a bracelet of them, and she used to wear it at her arme, and sithence she put them to her arme, she never had more paines of the stone...".22 Many other patients in his care reported similar effects so that the stone, in due course, became a much esteemed medicinal commodity. Tellingly, Monardes hints that the stone was rare, thus justifying the high price which made it accessible only to gentlemen. Innuendo follows from such hints: superlative clinical results create demand, rarity appeals to the elite, and hope creates high profits. There is a complex mind at work in the designing of this medical relation. Unconscious patterns are in the making; there are no medical failures; rarely if ever is there a word of doubt or disappointment unless it is a temporary hurdle to an ultimate proclamation of success. Never are there undesirable side effects, whatever is worn or ingurgitated. So many grand successes over a period of forty years is difficult to account for without resorting to matters of belief and intentionality coupled to enthusiasm (thus wonder), and the placebo effect in the clinical testing, for, in effect, there was very little by modern standards that held out any real pharmaceutical promise. It was, in fact, the failure of sassafras to eliminate the symptoms of syphilis that brought the medical world back to the use of mercury as the only functional cure in the later seventeenth- and eighteenth centuries, even though it shortened lives on a regular basis. Better in such cases, I suppose, to rely on faith, hope, and the placebo. But before we trumpet too loudly our skepticism concerning the blood stone, it might be mentioned in passing that mineral healing has staged a comeback in the second half of the twentieth century. Such weakly magnetic materials as haematite, Fe203, once it has been ramped up to Fe304, is still touted to bring relief from headaches, arthritis pain, and sports injuries, while building up the immune system through balancing the magnetic properties of the body's cells when worn as a bracelet of stones (magnetic medicine is currently endorsed in 45 countries); Mesmer is back. In recent years, there have likewise been lavish claims associated with neutraceuticals which promise enhanced memory, concentration, vision and pain relief while posing as super vitamins. My point is not to debunk, but to highlight the rhetorical component of newfound medical wonders with almost irresistible practical appeal. The point is

<sup>22</sup> Joyfull Newes, op. cit., vol. I, p. 46.

made to reduce the temptation to put Monardes on trial for his misconstructions of evidence or pre-modern methodologies. The Renaissance scientist was not merely the amazed and dazzled spectator of mysterious virtues in plants and minerals, but a philosopher who set out to find and harness the occult powers of nature. Healing for them was a miracle of nature based on faith in God's design for human relief through the hidden properties of plants which they could only discover and classify; that was the abiding faith behind every principle of pharmacognosy.

Already hinted at is an emergent received idea about the divine ordering of nature and the implicit symmetrical relationship between the hidden cures, catholicons, and panaceas of the natural world and the register of human diseases. This philosophical perspective, tantamount to a doctrine, held that a perfected knowledge of the natural order would ultimately provide physicians with a comprehensive dispensary for the treatment of all pathological conditions. Research was therefore renewed in view of a faith in the providential order of the universe, the legacy of a benevolent Creator. That faith was based upon the observable properties of plants to function as soporifics, emetics, expectorants and related physiological processes, thereby giving assurance of their secret powers. The virtues of plants aligned with less visible operations, however, had to be advanced on reasoned systemic grounds, having occult powers necessitated merely by their scientific classification, and relationships to body parts and organs largely on emblematic grounds. Yet such reasoning was essential to justify the benevolence of the Creator, whose plan for humankind included the comfortatives of a complete dispensary. The reasoning was circular in the end, insofar as diseases challenged God's love, necessitating man's participation in divining His gifts through research and exploration, which in turn drove the scientific vision of the sixteenth-century pharmacologists: rationalize new plants and justify the ways of God to man. The myth of a nature perfect in its provisions for human health supplied the new quest upon which the integrity of the profession might be restored. Medical credibility had been badly damaged by its failures in the face of such terrible trials as the bubonic plague. The new lease of life afforded to sixteenth century medicine was due largely to a bountiful new supply of untried simples. Hence the renewed botanical quests of the era which sextupled the count of catalogued plants within a period of a century. Even Doctor Faustus had caught the fever, for his final request of Mephistopheles, in Marlowe's celebrated play, after asking for a book of incantations and spells, and another on the motions and dispositions of the heavenly bodies, was a book "Wherein I might see all plants, herbs, and trees that grow upon the earth." Among his intellectual fantasies, through the help of secret powers, was a completed herbal for the entire world.<sup>23</sup> The spirit of discovery thereby echoed in many fields, extending the spirit of rebirth invested in the label supplied to that age by nineteenth-century historians. With the gradual arrival of the new materials, the hopes for "joyful news" remained in the air.

<sup>23</sup> Doctor Faustus, ed. David Scott Kastan. New York, W.W. Norton, 2005, II.1.169-171; p. 26.

In the realm of practical research, this faith promoted the compilation of the great sixteenth-century herbals, the cumulative work of a number of indefatigable botanists: Mattioli, Foës, Lange, Fuchs, Gorraeus, Dodoëns, L'Obel, and L'Écluse. At the end of the fifteenth century scarcely 1,000 plants had been catalogued, most of them derived from the works of the classical herbalists, Theophrastus, Dioscorides, and Pliny the Elder. By 1623, Gaspar Bauhin could boast the careful description of some 6,000 plants in his monumental *Pinax*. Monardes' descriptions of new-world plants entered this collective enterprise through the offices of the Flemish naturalist Charles L'Écluse, who translated his work into Latin and incorporated it into his own monumental *Atrebatis exoticorum liber decimus*, a book that knew many editions and that circulated widely in the Latin-reading scholarly community. L'Écluse had performed much the same service for the work of Acosta on the medicinal plants of Peru, and of Garcia de Orta who, as a practicing physician in the Portuguese colony of Goa, spent a thirty-year period, roughly synonymous with the collecting years of Monardes, in the preparation of his *Coloquios dos simples, e drogas he cousas medicinais da India*, published in 1563.

The doctrine of natural symmetry, made possible by occulting the powers of many medicinal plants, was widely endorsed by medical philosophers and was implicitly expressed by many works dealing with the virtues and properties of plants. Examples include De la faculté et vertu des medicamens simples of Ambroise Paré,25 and the widely popular Occulta naturae miracula of Levinus Lemnius, a work that was published in 1561, and that circulated not only in Latin but in several vernaculars (including in English, albeit only after 1658). Lemnius based his observations on the idea that many medicinal plants possess occult relationships with specific parts of the body, and that these plants collectively are part of a complex system of correspondences linking the plant world to pathological conditions.<sup>26</sup> Lemnius was a serious and admired physician, but his investigation of the secret powers in natural agents whereby they were made useful in healing processes, in a sense linked to ritual magic, also made their appeals as mirabilia, generating the book of wonders for the common reader that brought him so much success as an author. Medicine and magic, description and wonder, once more joined forces in the popular imagination; Lemnius had pitched his work in precisely these terms. There was simply no escape from this doubly focused construction of the pharmaceutical world. As stated earlier, harnessing these occult powers was the work of researchers mandated philosophically by a divine purpose. Monardes expresses his mission in such terms at the close of his first book: "Seeyng that in the fields untilled, and in the Mountaines and Desertes, our

<sup>24 (</sup>Antwerp, Raphael Plantin, 1605). L'Écluse had translated the *Dos libros* as early as 1574 in epitomized form as *De simplicibus medicamentis ex Occidentali India delatis*, which was republished with the third part in 1582 and again in 1593.

<sup>25</sup> Oeuvres complètes, ed. J.-F. MALGAIGNE. Paris, 1840-41 (rpt. Geneva, Slatkine Reprints, 1970).

<sup>26</sup> See The Secret Miracles of Nature: In Four Books. London, Jo. Streater, 1658, p. 259.

Indias doth geve them unto us, the fault is ours that wee doe not followe after it, nor seeke to doe the diligence that is conveniente, for to profite oure selves of these marveilous effects, the which I doe truste that the tyme being the discoverer of all thinges, and good diligence and experience will shewe it us unto our greate profite."<sup>27</sup> Discovery, time, the marvellous, and the benefit of humankind forms a credo that conveys an optimism, a mood of promise that is but a short rhetorical step away from the credulous enthusiasm necessitated by the doctrine itself.

Perhaps, in completing the profile of the treatise in relation to its formulations and intentionalities, something might be said of its dimension of material self-interest. Uncharitable as it would appear, Monardes' enthusiasm for the flawless efficacy of his simples may also have stemmed in part from a subsumed motive of profit. After all, he had kept his findings hidden from published exposure for upwards of forty years, arguably not so much for the sake of scientific certainty or considered testing, but in order to reserve the exotica of his dispensary for his own exclusive practice, thereby controlling demand and prices in his own favour. Monardes' medical practice in Seville had been a lucrative one, by all circumstantial indications. It is certainly what we expect of him given the great wealth he was in possession of at the time of his death. He had indulged in the West African slave trade; he had made investments in houses and property; and he had been involved in the importation of high-priced drugs. He relates, for example, how the high demand for the rhubarb emetic from Michoacan had driven the price up to twenty ducats per pound, and how those prices in turn had caused the market to be flooded with inferior substitutes. Of these matters, he cared, and his concerns are true to form regarding the development of the drug trade generally. Such motives, by inference, seem even more relevant to Frampton by dint of his mercantile interests and his pitch to an English audience, patriotically predisposed to seek their advantage at the cost of Iberians generally. Where the Fuggers fit into this scenario is an intriguing question, insofar as they held the monopoly for guaiacum as the sovereign cure for syphilis. The importation of this precious Caribbean wood, fully described in *La historia*, produced high profits for as long as its reputation could be maintained. In that regard, with or without intention, Monardes' scientific endorsement served as advertisement for Fugger interests.<sup>28</sup>

Just where the divisions fell in Monardes' mind between science, medical practice, and commercial promotion is, of course, now beyond recovery, because all the parts are essential to the aspirations associated with any one part: demand through wonder; classification and cultivation; clinical experimentation; authorship and dissemination; and perhaps a quest for fame. Even his

<sup>27</sup> Joyfull Newes, op. cit., vol. I, p. 170.

<sup>28</sup> A. G. Morton, *History of Botanical Science*. London, Academic Press, 1981, p. 120. An account in Aretino's *Dialogues* testifies to the implementation of guaiacum as a cure for this dreaded sexually transmitted disease when his courtesan speaks of having "to dose yourself with guaiacum" to retard its ravages. Trans. Raymond Rosenthal. New York, Stein and Day, 1971, p. 16.

work as an historian of new world materials and practices served to raise curiosity, wonder, and demand. The remaining subtext in his enterprise is the role of Spanish traders and the guardianship of their interests as the sole suppliers of materials from their own empire. How those matters were balanced in Monardes' mind can only be imagined: the desire for secrecy to the benefit of his own practice; and the desire to share his findings through print. There must have been a debate. Self-interest, altruism, commercial calculations and purveyorships, or a desire for fame, who can say? And finally, where, does this treatise fit into the sentiments of a patriot anxious to abet his country in the exploitation of all of her colonial riches? The book, in its way, seeks to perpetuate the myth of the eternal bonanza by broadening the range of lucrative commodities. One tactic, as a writer, was to play upon the human fear of disease and a yearning for health through the celebrations of novel medical materials. After all, much of the politico-economic drive of sixteenth--century Spain had been defined by the promise of wealth, beginning with Columbus' obsession with gold. As Carl Saur explains, "Columbus had a genius for words, not as to their proper meaning but to cast a spell and to persuade." It was his habit to idealize everything he found, to describe desolate lands as resembling Andalusia in the spring, and above all as abounding in gold. From his accounts, "the sovereigns and people of Spain became imbued by his obsession, picturesquely and fantastically presented. The course of Spanish empire was first turned to its fateful search for gold by the *idée fixe* that dominated Columbus."<sup>29</sup> We have come full circle to the realm of rhetoric and the propaganda of discovery through the generation of wonder and desire. Monardes could also be thought of as having an *idée fixe* that would extend the definition of new-world wealth to include its precious materia medica, materials which, in their capacity to bring cures, might attain values —indeed commercial values—equal to the yield of all the mines of Mexico. This could be achieved only through an assault upon the popular imagination in the form of an authoritative scientific appeal. It must rely upon the magic of words to construct both substance and hope. In this way, the doctrines pertaining to the provisional and providential design of the material world in relation to health, through indexation, practice, and praise, might be vulgarized in the collective consciousness. Such an assessment is merely an extension to the work of a collector and curiosity seeker eventuating in a book of wonders.

Through John Frampton's translation, Monardes' materials and subsumed themes are given one last dimension of rhetorical fashioning. It is curious to think how the gesture of translation itself from Spanish to English, and from culture to culture, carries an implicit degree of construction. Frampton, as an English merchant-turned-writer, we might suppose, was more interested in the exotic dimensions of the original than in its matter-of-fact accounts of botanical and mineralogical materials. That bias is made clear in his choice of a title, one that was adopted during a "stop press" in the first London printing. Here is that inspiration in full:

<sup>29</sup> The Early Spanish Main. Berkeley and Los Angeles, University of California Press, 1966, pp. 290-291.

Joyfull Newes out of the Newe founde Worlde wherein is declared the rare and singular vertues of diverse and sundrie hearbes, trees, oyles, plantes, and stones, with their aplications, aswell for phisicke as chirurgerie, the saied beyng well applied bryngeth suche present remedie for all deseases, as maie seme altogether incredible: notwithstandying by practize founde out, to bee true; also the portrature of the saied hearbes, very aptly described.

From the title onwards, Frampton structures reader expectations in terms of the "rare and singular" and the "incredible." Readers purchased to find bizarre tales, wonder drugs, and miracle cures. Just how much or little literal credence the Elizabethan reader gave to these claims, despite the sobriety of the evidence, is beyond direct demonstration. As Jonson suggests in *The Alchemist*, early moderns were as given to pseudo-science, inordinate desire, and gullibility as they were to good sense, principles of probability, and scepticism, and in proportions not unlike those of posterity. Perhaps they read Frampton as they watched plays with fabulous characters in fabulous lands, or read the romances of Palmerin and Amadis de Gaule. But with the fact of New Spain, the fact of new plants, and the established medical belief structures and principles of medicine, the enthusiasm for these putatively miraculous simples was altogether more phenomenally plausible than tales of fantasy. Those which are allowably true constitute the most intriguing wonders of all.

Moreover, there is one phrase in Frampton's dedication to his patron Sir Edward Dyer that gives further cause for reflection upon the materialization of dreams and desire. "And since the afore saied Medicines mentioned in the same worke of Doctour Monardes, are now by Marchauntes and others, brought out of the West Indias into Spaine, and from Spain hether into Englande, by suche as dooeth daiely trafficke thether..." we have it upon the word of a much-travelled and experienced Bristol trader that in 1577 these materials were actively imported to England on a daily basis, presumably for incorporation into English medicine; hope was at their doors for "all diseases." This is a bit of rhetorical assertion worth verification, for it goes against all that would seem possible. By 1577, diplomatic relations with Spain had been strained to the limit; the Queen's duplicity in encouraging Drake as a raider on the Spanish Main had become transparent. The treacherous attack by the Spanish in 1569 on the fleet of Sir John Hawkins while anchored in the Mexican port of San Juan Ulloa had been a turning point. By the end of the 1560s the Inquisition had made the residence of English merchants in Spain untenable. Not only owners and officials, but common seamen before the mast, had been its target. By then, the Barlows and the Thornes, also trading out of Bristol, had been

<sup>30</sup> Joyfull Newes, op. cit., vol. I, p. 4.

<sup>31</sup> E. M. TENISON, *Elizabethan England, Being the History of this Country in Relation to All Foreign Princes,* 13 vols.. Royal Leamington Spa, 1933, Vol. II, p. 120.

forced to give up their Spanish trade, a salient fact, given that the Thornes, at one point, had been factors in the Canaries and the West Indies. Regarding Frampton's final sojourn in Spain, there were two differing accounts, according to Francisco Guerra, of how he had been arrested, imprisoned and tortured, and how he managed to escape some ten years before the appearance of his translation.<sup>32</sup> For Guerra, there are hints, moreover, that his translations of Spanish books on navigation and exploration—on all subjects in fact—were a form of revenge insofar as they offered to the English raiders more explicit information about Spanish domains, commerce, and navigational savoir faire, and to the common reader an increased fascination for things commercially interdicted. But then, could Frampton have simply confabulated that daily commerce? That is work for others, for the embargo was lifted in 1573 for a time, and even during the period of relative non-communication during the 1580s, business may have remained business, and there may have been collusion among merchants to unload merchandise from Seville in the south of France and reload it into English bottoms. In a broader sense, the statement also expresses at least a provisional trade based on a very real belief in the unique medicinal value of Spain's imported materia medica.<sup>33</sup> Whether his statement of daily trade is more to be regretted than real, it serves nevertheless, to impose probability upon the merely possible. Even though the turning of actual profits in Spanish materia medica seems unlikely, the statement fires the imagination. More research is, meanwhile, called for in terms of the use of these ingredients in actual English medical practice insofar as, to my knowledge, few were household items, and scarcely more than half a dozen of the seventy-one simples appear in the great *Pharmacopoeia* Londinensis of 1618, which was by far the most complete list of phamaceuticals then in use in England. Among the six to appear—and precisely those we would expect—are to be found the Michoacan root, sassafras, guaiacum wood, and nicotiana. Frampton, too, was a rhetorician to the ends already set out, namely the sale of books on the mirabilia of the discoveries, hope for miraculous cures, profit, and discomfiture of the Spanish navigators blended together, each one hiding the other in the guise of an at-home entertainment in the age of exploration. The very appeal of the book for the English reader may well have been the play of the possible at a time of expanding mercantilism. Spain was an increasingly forbidden world making news from its shores that much more appealing, and tales of wonder cures have always piqued the fancy. Rhetoric in that regard is an act of persuasion, if only to the suspension of disbelief. Monardes the scientist and Frampton the translator make their pitches to the curiosity cabinet of the mind where substance meets belief in a state of intellectual excitement.

<sup>32</sup> Nicolás Bautista Monardes..., op. cit., pp. 97-8.

<sup>33</sup> For a short history of Anglo-Spanish trade relations during the reign of Elizabeth, see Donald BEECHER, "John Frampton of Bristol...", op. cit., pp. 103-21.

#### **BIBLIOGRAPHY**

#### 1. Manuscripts

- Fernández de Oviedo, Gonzalo, *La natural y general historia de las Indias*. Huntington Library, MH 177 (ca. 1533).
- Sahagún, Bernardino de, *Historia universal de las cosas de la Nueva España* [ca. 1555]. Biblioteca del Palacio Real, Madrid, Sig. No. 1280.
- VILLASANTE, Antonio de, Memorial y Reales Cédulas referentes al bálsamo y demás drogas descubiertas por Antonio de Villasante en la Isla Española. Nov. 1526. Archivo General de Indias, Sevilla, Legajo No. 421.

#### 2. Printed sources

ARETINO, Pietro, Dialogues. Trans. Raymond Rosenthal. New York, Stein and Day, 1971.

Bravo, Francisco, Opera medicinalia. México, Pedro Ocharte, 1570.

CÁRDENAS, Juan de, *Primera parte de los problemas y secretos maravillosos de las Indias*. México, Pedro Ocharte, 1591.

FARFÁN, Augustín, Tratado breve de medicina y de todas la enfermedades. México, Pedro Ocharte, 1592.

- Fragoso, Juan, *Discursos de las cosas aromáticas*, árboles y frutales y de otras muchas medicinas simples que se traen de la India Oriental y sirven al uso de la medicina. Madrid, Francisco Sánchez, 1572 (Ed. José Luis Fresquet Febres. Fundación Marcelino Botín, Universitat de València, 2002).
- Frampton, John, *Joyfull Newes out of the newe founde worlde*. London, Thomas Dawson for William Norton, 1580 (Ed. Stephen Gaselee. 2 vols. London: Constable and Co. Ltd. New York, Alfred A. Knopf, 1925).
- HARRIOT, Thomas, Briefe and True Report of the New Found Land of Virginia (1590). New York, Dover Publications, 1972.

L'ÉCLUSE, Charles. Atrebatis exoticorum liber decimus. Antwerp, Raphael Plantin, 1605.

LEMNIUS (Lemne), Levinus, The Secret Miracles of Nature: In Four Books. London, Jo. Streater, 1658.

Marlowe, Christopher, Doctor Faustus. Ed. David Scott Kastan. New York, W.W. Norton, 2005.

Monardes, Nicolás, 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, Alonso Escribano, 1574 (facs. ed. Sevilla, Padilla Libros, 1988).

Orta, Garcia de, *Coloquios dos simples, e drogas he cousas mediçinais da India*. Goa, por Ioannes de Endem 1563. Paré, Ambroise, *Oeuvres complètes*. Ed. J.-F. Malgaigne. Paris, 1840-41 (rpt. Geneva, Slatkine Reprints, 1970).

#### 3. Secondary sources

- ÁLVAREZ LÓPEZ, E., "Nicólas Monardes y los botánicos europeos del siglo xvi", *Las Ciencias* 14 (1949), pp. 139-49.
- Anderson, Frank J., An Illustrated History of the Herbals. New York, Columbia University Press, 1977.
- Arber, Agnes, Herbals, their Origin and Evolution. Darien, Conn., Hafner Publishing Co., 1938, (rpt. 1970.
- Beecher, Donald, "John Frampton of Bristol: Trader and Translator", in Carmine Di Biase (ed.), *Travel and Translation in the Early Modern Period*. New York, Rodopi Press, 2006, pp. 103-22.
- BOLZONI, Lina, *The Gallery of Memory: Literary and Iconographic Models in the Age of the Printing Press.* Trans. Jeremy Parzen. Toronto, University of Toronto Press, 2001.
- BOXER, C. R., Two Pioneers of Tropical Medicine: Garcia d'Orta and Nicolás Monardes. London, Wellcome Historical Medical Library, 1963.
- CAMERON, Roderick, Viceroyalties of the West. London, Weidenfeld and Nicolson, 1968.
- COWAN, David L., "Boom and Bust: Sassafras", Apothecary's Cabinet 8 (Fall, 2004), p. 9.
- EMMART, Emily Walcott, "Concerning the Badianus Manuscript. An Aztec Herbal, 'Codex Barberini, Latin 241' (Vatican Library)", *Smithsonian Miscellaneous Collections* 94.2 (1935), pp. 1-11.
- Guerra, Francisco, *Nicolás Bautista Monardes, su vida y su obra* [ca. 1493-1588]. México, Compañía Fundidora de Fierro y Acero de Monterrey, S.A., 1961.
- HODGEN, Margaret, Early Anthropology in the Sixteenth and Seventeenth Centuries. Philadelphia, University of Pennsylvania Press, 1971.
- KIDWELL, Clara Sue, "Aztec and European Medicine in the New World, 1521-1600", in Lola ROMANUCCI--Ross *et alii*, *The Anthropology of Medicine from Culture to Method*. New York, Praeger Publishers, 1983, pp. 20-31.
- LASSO DE LA VEGA, Javier, *Biografia y estudio crítico de las obras del* mé*dico Nicolás Monardes*. Sevilla, Tipografia de la Revista de Tribunales, 1891 (facs. ed. Sevilla, Padilla Libros, 1988).
- León, Nicolás, "El doctor Nicolás Monardes: sus servicios a la materia médica y terapéutica americanas", Gaceta Médica de México 57 (1926), pp. 553-68.
- López Piñero, José María, "Las 'nuevas medicinas' americanas en la obra (1665-1574) de Nicolás Monardes", *Asclepio* 42.1 (1990), pp. 3-67.
- LÓPEZ PIŃERO, José María, *La* Historia Medicinal de las cosas que se traen de nuestras Indias Occidentales (1565-1574), de Nicolás Monardes. Madrid, Ministerio de Sanidad y Consumo, 1989.
- Más-Guindal, Ascensión, "Datos históricos sobre los materiales farmacéuticos importados de América en el siglo xvi", *Anales de la Real Academia de Farmacia* 4 (1943), pp. 37-82.
- McMullan Jr., Philip S., "A Role for Sassafras in the Search for the Lost Colony", www.lost-colony/Philpaper.pdf.
- MORTON, A. G., History of Botanical Science. London, Academic Press, 1981.
- Pereyra, Carlos, Monardes y el exotismo médico en el siglo xvi. Madrid, Biblioteca Pax, 1936.

Rodríguez Marín, Francisco, *La verdadera biografía del Doctor Nicolás Monardes*. Madrid, Tip. de la «Rev. de Archivos», 1925 (facs. ed. Sevilla, Padilla Libros, 1988).

SAUR, Carl, The Early Spanish Main. Berkeley and Los Angeles, University of California Press, 1966.

STÜNZNER, Kurt, Die Schrift des Monardes über die Arzneimittel Americas. Halle, Max Niemayer, 1895.

TENISON, E. M., Elizabethan England, Being the History of this Country in Relation to All Foreign Princes. 13 vols. Royal Learnington Spa, 1933.

A partir dos alvores do século XVI, a matéria médica torna-se indiscutivelmente um tema de primeira grandeza entre os membros da República das Letras, objecto de estudo e de controvérsia entre os mais notáveis humanistas europeus, em particular entre os cultores da arte médica. Entre os autores em destaque neste volume encontram-se, à cabeça, os nomes de Amato Lusitano, Garcia de Orta e Nicolás Monardes, famosos pelos contributos valiosos que deram para o conhecimento do mundo natural. O volume encontra-se dividido em duas partes: a primeira, subordinada ao título "Humanismo e Ciência", alberga os estudos que versam sobre todos os autores estudados, à excepção de Amato Lusitano: a segunda está reservada a um conjunto de trabalhos dedicados exclusivamente ao médico albicastrense, cuja autoria se fica a dever, em boa parte, aos membros da equipa do projecto de I&D "Dioscórides e o Humanismo Português: os Comentários de Amato Lusitano", tomando, por isso, o seu próprio título. Nesta segunda parte, oferece-se, desde já, aos leitores uma amostra significativa do trabalho desenvolvido no âmbito do projecto e que culminará, assim se espera, na edição e tradução integral para língua portuguesa das quatro obras previstas de Dioscórides, Amato Lusitano e Pietro Andrea Mattioli.

### HUMANISMO E CIÊNCIA: Antiguidade e Renascimento

O projecto de I&D "Dioscórides e o Humanismo Português: os Comentários de Amato Lusitano" constituiu-se como o ponto de partida de uma reflexão alargada sobre as relações entre Humanismo e Ciência, percepcionadas a partir do diálogo fecundo entre dois tempos tão próximos quão afastados: Antiguidade e Renascimento. Naturalmente, a matéria médica representa o eixo central em torno do qual gravita a maioria dos estudos deste volume, cujas ramificações se estendem a múltiplos saberes no domínio da Botânica, Farmácia, Geologia, História, Lexicografia, Literatura, Matemática, Medicina ou Zoologia.

Os humanistas que desde os finais do século XV editaram, comentaram e traduziram o tratado de Dioscórides estão na origem de um processo acelerado de (re)conhecimento do mundo natural, ancorado no método filológico e nos resultados carreados pela observação e pela experimentação de uma realidade tantas vezes nova e completamente desconhecida. Neste movimento de largo espectro, tomaram parte alguns dos autores em destaque neste volume, seja através do estudo da própria matéria médica e/ou da medicina (Amato Lusitano, Filipe Montalto, Gabriel da Fonseca, Garcia de Orta, John Frampton, Luís Nunes de Santarém, Nicolás Monardes, Rodrigo de Castro), seja através do culto da poesia (Camões, Diogo Pires, Luís Nunes), seja através da matemática (Pierre Brissot, Francisco de Melo).















