

Enter the Milanese lapidary: Precious stones in Garcia de Orta's *Coloquios dos simples, e drogas he cousas medicinais da India* (Goa, 1563)

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Abstract

Somewhere in the city of Goa, on the west coast of India, on an unspecified day in the middle of the sixteenth century, two Europeans are involved in a learned conversation about elephants and ivory. One of them is Garcia de Orta, a renowned Portuguese physician trained at Alcalá de Henares and Salamanca, and a longtime resident of the capital city of the Portuguese *Estado da Índia*, where he has been practicing medicine for many years; the other is Ruano, also a graduate from the same Spanish universities, and recently arrived in India on board of the Portuguese annual fleet from Lisbon for purposes of trade. The lively discussion is taking place at Orta's residence, just before the evening meal, when both physicians are interrupted by a woman servant, who enters to announce the arrival of a visitor well-known to the master of the house: "Andrea from Milan, the lapidary, has just arrived", and wishes to speak to Orta, concerning the sale of some precious stones. Apparently, the Portuguese physician is in the possession of two emeralds, a large one and a smaller but clearer one, and the Italian gem-trader has found a possible buyer for both gems. Garcia de Orta salutes the visitor and declares he is willing to sell both emeralds. This curious episode, one of the many that can be found in the pages of the *Colóquios dos simples e drogas medicinais da Índia*, published in Goa in 1563, raises several interesting questions, namely: the large network of informers that Orta brings into play throughout his learned colloquies; the methodology he uses to build a veritable encyclopedia of Asian natural history; the discreet but persistent involvement of the Portuguese naturalist in matters of merchandise; and also his attitude towards precious stones and the so-called lapidary medicine.

Keywords: Garcia de Orta, Precious Stones, Lapidary Medicine, Asia, Sixteenth Century

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Although probably based on actual events, the whole scene is entirely fictitious, being described in chapter 21 or colloquy of the celebrated treatise *Coloquios dos simples, e drogas he cousas medicinaes da India*, written by Garcia de Orta and first published in Goa in 1563 by the printer identified in the frontispiece as "Ioannes de endem", which probably is Johannes von Emden.² The book is justly famous as the first printed European modern compendium on Oriental natural history and *materia medica*. After nearly three decades of life and experience in India, the Portuguese author had decided to write and publish a work about, in the words of its title, the "simples, drugs, and medical matters of India, as well as some fruits that grow there, and other things concerning the practice of medicine, and other appropriate things worthy of

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¹ Garcia de Orta, *Colóquios dos simples e drogas da Índia*, ed. Count of Ficalho, 2 vols. (Lisbon: Imprensa Nacional – Casa da Moeda, 1987), vol. 1, p. 311: NB. all translations are mine. Concerning the topic of Asian elephants, there is a wealth of studies; see Donald F. Lach, *Asia in the Making of Europe – Volume II: A Century of Wonder*, 3 books (Chicago: The University of Chicago Press, 1970-1977), bk. 1, pp. 124-158, and Gérard Busquet & Jean-Marie Javron, *Tombeau de l'éléphant d'Asie* (Paris: Chandeigne, 2002).

² Nothing much is known about the printer of the *Colóquios*, who was active in Goa between 1561 and 1573, and who probably originated from Emden. About this German town, famous for its printing presses and for being a Protestant haven, see Andrew Pettegree, *Emden and the Dutch Revolt: Exile and the Development of Reformed Protestantism* (Oxford: Oxford University Press, 1992).

knowing”. Mostly for pedagogical reasons, Orta chose a dialogue framework for his treatise, dividing his work in successive colloquies between two main characters, ORTA and RUANO, two colleagues in the medical profession who had studied together in Spain but had not seen each other for many years: Orta assumes the role of the veteran expatriate, possessor of a large practical experience of Asia, complemented with a thorough theoretical knowledge of his fields of expertise, natural history and medicine; Ruano, on the other hand, is the learned academic, holder of a solid European university education, extremely well read in terms of Western scholarship, but totally inexperienced in Oriental matters. Perhaps Ruano can be seen as a sort of heteronym of Garcia de Orta, created to express some of the author’s views and perplexities in a younger phase of his life, when he first arrived in India in the 1530s. Alongside these two protagonists, a large group of secondary characters—the visible part of the author’s social world—takes part in the dialogues.³ But the *Colóquios dos simples*, in reality, as is well known, are much more than what the title proclaims, since besides dealing with plants, drugs and medical practices, many other topics pertaining to daily life in the Indies are extensively treated, such as merchants’ practices and trade routes, social customs and religious beliefs, political and diplomatic events, and so on.⁴

The episode involving the Milanese lapidary, the first—but certainly not the last—in the *Colóquios dos simples* where precious stones are mentioned, immediately raises several relevant questions.⁵ First of all, it is a paradigmatic example of the methodology used by Garcia de Orta in his literary/scientific endeavors, for he made use of a large network of extremely competent informers, whenever the subject being discussed overreached his actual experiences or knowledge.⁶ Andrea was just one informer, among many others, who was knowledgeable about some Oriental region, some natural product, some rare or valuable commodity, or some exotic custom; in this instance, the Italian lapidary was valuable to Orta’s purposes for his familiarity with Pegu, where, apparently, he had been on one or more business ventures, to purchase

³ On the dialogue as an early modern literary device, see Consolación Baranda Leturio, “Formas del discurso científico en el Renacimiento: tratados y diálogos”, *Sudia Aurea*, n. 5 (2001), pp. 1-21.

⁴ For recent and stimulating studies on Orta and his work, see Teresa Nobre de Carvalho, “*Colóquios dos Simples* de Garcia de Orta: Conversas no interior da Índia”, in Gabriela Fragoso & Anabela Mendes (eds.), *Garcia de Orta e Alexander von Humboldt: Errâncias, Investigações e Diálogo entre Culturas* (Lisbon: Universidade Católica Editora, 2008), pp. 165-174; Palmira Fontes da Costa, “Geographical expansion and the reconfiguration of medical authority: Garcia de Orta’s *Colloquies on the Simples and Drugs of India* (1563)”, *Studies in History and Philosophy of Science*, n. 43 (2012), pp. 74-81; and Palmira Fontes da Costa & Teresa Nobre de Carvalho, “Between East and West: Garcia de Orta’s *Colloquies* and the Circulation of Medical Knowledge in the Sixteenth Century”, *Asclepio – Revista de Historia de Medicina y de la Ciencia*, vol. 65, n. 1 (2013), pp. 1-13.

⁵ For a brief reference to precious stones in Orta’s work, see Carlos Fernando Torre de Assunção, “A Mineralogia nos *Colóquios*”, *Garcia de Orta*, vol. 11, n. 4 (1963), pp. 715-721.

⁶ On Orta’s network of informers, see Rui Manuel Loureiro, “Garcia de Orta e os *Colóquios dos simples*: Observações de um viajante sedentário”, in Gabriela Fragoso & Anabela Mendes (eds.), *Garcia de Orta e Alexander von Humboldt, cit.*, pp. 135-145.

valuable gems. The kingdom of Pegu was famous for its rubies, which are already mentioned in early sixteenth century Portuguese reports, such as those of Tomé Pires and Duarte Barbosa. The former wrote in his 1516 letter to King Manuel I of Portugal that the most prized rubies came from a mine in “Capelãguã”, located somewhere beyond the kingdoms of Arakan and Pegu,⁷ whereas the latter, writing a report on precious stones around 1516, confirmed that the best and most valued “robis” came from a kingdom called Pegu.⁸ And many Portuguese, and other Europeans associated with them, namely Italians, regularly went to the Peguan port-cities of Bassein, Dagon and Martaban in search of these luxury goods, which found ready markets in India and also in Europe.⁹

Secondly, the reference to the lapidary Andrea is significant because suddenly the reader of the *Colóquios dos simples* becomes aware that Garcia de Orta, besides being a distinguished physician and an eminent botanist, was also a merchant, since he traded in precious stones. Previous sections of his treatise had concealed this fact, with the Portuguese physician claiming to be only a “philosopher”, interested mainly in “serious matters”, and not a merchant, worried with trade and commodities. In fact, in the colloquy on indigo, Orta specifically claimed that “Anil nam he simple medicinal, senam mercadoria, e per isso nam ha que fallar nella”, that is, “since indigo is not a medical drug, but a commodity, there is no need to discuss it” within the framework of his learned conversations with Ruano.¹⁰ However, passages included in several subsequent colloquies clearly show Orta’s many connections with the trading world of Asia. In the discussion about cardamom, for instance, the Portuguese physician mentioned “hum meu navio”, which he had sent to Ceylon, certainly on a business venture, which means that he owned at least one merchant ship that regularly sailed the Asian seas.¹¹ On another occasion, Orta alluded to one of his ships, “hum navio meu” that had sailed to Bengal on a trading journey.¹² His business interests were certainly much wider, in terms of products, geographical areas and trading routes and it is evident that Garcia de Orta made use of such commercial expeditions to acquire supplies of the medical products that he regularly used in his daily practice, and also samples of rare or unusual natural products, which he had heard of or was

⁷ Armando Cortesão, *A Suma Oriental de Tomé Pires e o Livro de Francisco Rodrigues* (Coimbra: Acta Universitatis Conimbricensis, 1978), p. 456.

⁸ Duarte Barbosa, *O Livro de Duarte Barbosa*, ed. Maria Augusta da Veiga e Sousa, 2 vols. (Lisboa: Instituto de Investigação Científica Tropical, 1996-2000), vol. 2, p. 476.

⁹ See Donald F. Lach, *Asia in the Making of Europe – Volume I: The Century of Discovery*, 2 books (Chicago & London: The University of Chicago Press, 1965), bk. 2, pp. 539-560.

¹⁰ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 1, pp. 86-87.

¹¹ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 1, p. 181.

¹² Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 375.

curious about. However, precious stones were certainly one of the trading commodities he was concerned with, notwithstanding his allegation, in another colloquy, that he was not very knowledgeable about their current prices.¹³ In the colloquy dedicated to “raiz da China”, Orta talked about an episode when one of his patients paid for his medical services with “a ring with a diamond” that he later sold for “50 crusados”,¹⁴ another proof that he was a man of many trades.

In the early modern age, precious stones were among the most coveted commodities in intercontinental business deals, since they were extremely valuable and, at the same time, very easy to transport and/or conceal. Gems were the perfect articles for long-distance trading ventures and the Portuguese had been attentive to this highly prized merchandise since their earliest voyages to India. The convict that Vasco da Gama disembarked upon his arrival at the Indian port of Calicut announced that the Portuguese came in search of “Christians and spices”,¹⁵ but he might as well have added ‘and also precious stones’. In fact, the account of Vasco da Gama’s voyage prepared by Álvaro Velho includes an appendix describing “the things that can be found in each kingdom and how much they are worth”, where precious stones are mentioned, namely rubies, spinels and sapphires.¹⁶ In the following years, as the Portuguese *Estado da Índia* began to take shape, with the establishment of a wide network of coastal territories protected by fortresses and factories set up in friendly city-ports across maritime Asia, Portuguese observers were extremely attentive to any available commodities that could be moved around for a profit. These included, of course, a broad array of precious stones. Around 1516, Duarte Barbosa, for many years a resident of the Indian coastal town of Cannanore, included in his extensive geographical account of maritime Asia a large appendix dealing solely with precious stones. Barbosa’s *Livro das cousas do Oriente* described the most noteworthy aspects of many Asian regions that the Portuguese were contacting for the first time, but gems deserved special treatment, on account of their commercial relevance.¹⁷ Soon, Goa would become one of the world’s paramount centres in the commerce for precious stones,¹⁸ and the

¹³ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, pp. 218-219: “E posto que há outras muytas especias destes rubins, delles vos nam quero falar, nem de seus preços, porque não sei isto muito bem sabido, scilicet, o dos preços”.

¹⁴ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, pp. 269-270.

¹⁵ José Manuel Garcia (ed.), *Viagens dos Descobrimientos* (Lisbon: Editorial Presença, 1983), p. 183.

¹⁶ José Manuel Garcia (ed.), *Viagens dos Descobrimientos*, cit., pp. 217-219.

¹⁷ Duarte Barbosa, *O Livro de Duarte Barbosa*, cit., vol. 2, pp. 473-503.

¹⁸ For a general overview, see João Teles e Cunha, “Hunting Riches: Goa’s Gem Trade in the Early Modern Age”, in Pius Malekandathil & T. Jamal Mohammed (eds.), *The Portuguese, Indian Ocean and European Bridgeheads: Festschrift in Honour of Prof. K.S. Mathew* (Kannur: Institute for Research in Social Sciences and Humanities & Fundação Oriente, 2001), pp. 269-304.

annual fleets of the *carreira da Índia* would transport large quantities of oriental gems to Lisbon, and from there to other European destinations.¹⁹

Turning back to the passage from the *Coloquios dos simples*, there is a third problem, the one concerning the real nature of the stones mentioned by Garcia de Orta: were they really emeralds, or rather some other type of green gems, such as peridot or sapphire? References to emeralds in the earliest Portuguese reports on Asia do not abound, and are somewhat confusing. Duarte Barbosa states that true emeralds originated from the “terra de Babilonia”, without being perfectly clear what he meant by the ‘land of Babylon’, since this place-name was used by the Portuguese authors in connection with the region of Baghdad, and no other evidence points to the existence of emerald mines in those parts. However, the appendix to the *Livro das cousas do Oriente* explains that these stones were “green and very clear”, “very light and soft”, leaving a copper-colored streak, and in Calicut they were as expensive to buy as diamonds.²⁰ Barbosa’s description does not fit completely, since emeralds leave “a clear or whitish streak”.²¹ In fact, emeralds were rather rare in Asia in the sixteenth century, for there were no known mines; occasionally some gems were found in areas of present-day Afghanistan and Pakistan. Garcia de Orta was very clear about this, for he stated in one of his colloquies that “there are very few emeralds, and very expensive, and no one knows the whereabouts of the mines”.²² Ruano answered back, recalling an episode, which, by the way, confirms Orta’s involvement in the trade in precious stones, when the Portuguese physician had been challenged to buy “a jewel with many small emeralds”, but refused to do so on account that he thought that those stones were fake, made from plain glass.²³

The majority of true emeralds, in the sixteenth century, originated from Nueva Granada, the name attributed by Spanish conquistadors to present-day Colombia. Spanish explorers did find sundry gems in the early decades of the sixteenth century in the northern parts of South America. However, emerald mines were only identified by European observers in the highlands of eastern Colombia in the late 1530s. Immediately afterwards, significant quantities of first-class emeralds were being exported to Europe, namely to Seville and then

¹⁹ See Donald F. Lach, *Asia in the Making of Europe – Volume II*, cit., bk. 1, pp. 113-122; and Nuno Vassallo e Silva, *Substâncias para o estudo do comércio das pedras preciosas em Lisboa, no século XVI* (Lisbon: Assembleia Distrital de Lisboa, 1989).

²⁰ Duarte Barbosa, *O Livro de Duarte Barbosa*, cit., vol. 2, p. 493.

²¹ Kris Lane, *Colour of Paradise: The Emerald in the Age of Gunpowder Empires* (New Haven & London: Yale University Press, 2010), p. 28.

²² Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 219.

²³ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 220.

Lisbon, and from these Iberian cities to Portuguese overseas establishments in Asia.²⁴ The chronicler Gonzalo Fernandez de Oviedo was among the first to report on Colombian emeralds, in his *Historia General y Natural de las Indias*, parts of which were first published in Seville in 1535 and then in Salamanca in 1547.²⁵ While living in Hispaniola, he had come across two Spanish veterans who had been to Nueva Granada, who, besides describing the mines, showed him a handful of emeralds. His comment is illuminating: “hasta nuestro tiempo nunca se supo haberse hallado tales piedras de nacimiento, por cristianos”, meaning that he had the notion that Europeans were being introduced to a previously unknown, or scarcely known, precious stone.²⁶ Thus the paucity of information consigned in the *Colóquios dos simples* about emeralds, but Garcia de Orta, always keen on showing his consummate scholarship, took advantage of the opportunity to demonstrate his wide readings on the subject. This, of course, was another relevant aspect of his working method, the permanent dialogue he maintained with the specialized bibliography concerning the subjects or themes that were being dealt with in the different colloquies. Throughout the *Colóquios dos simples*, a rich inter-textual network was created, including dozens and dozens of printed works, mostly pertaining to the field of natural history, but also including other disciplinary areas.²⁷

The names by which emeralds were known were the excuse to quote no less than four authors: “Mesue” and his commentator “Cristoforo de Honestis”, “Serapio”, and “Matheus Silvaticus”.²⁸ In this instance, Garcia de Orta was referring to well-known medical authorities. Cristoforo degli Onesti was a fourteenth-century Italian physician, author of a widely circulated treatise on poisons,²⁹ which perhaps Orta knew, but the Portuguese naturalist alludes here to the *Expositio super Antidotario Mesue*, first printed in Bologna in 1488, with many subsequent re-impressions, and namely in editions of the works of Mesue Junior, such as *Mesue cum expositione Mondini super canones universales ac etiam cum expositione Christophori de Honestis in antidotarium eiusdem* (Venice, 1502). The Pseudo-Mesue, as he was also known, was a mysterious author

²⁴ Kris Lane, *Colour of Paradise*, cit., pp. 44-56.

²⁵ Fernández de Oviedo’s complete *Historia* was only published in the nineteenth century. See Francisco Esteve Barba, *Historiografía Indiana* (Madrid: Gredos, 1992), pp. 72-81.

²⁶ Gonzalo Fernández de Oviedo, *Historia General y Natural de las Indias*, ed. Juan Perez de Tudela Bueso, 5 vols. (Madrid: Biblioteca de Autores Españoles, 1992), vol. 3, p. 94. See the translation of this passage in Kris Lane, *Colour of Paradise*, cit., p. 43: “until our time no one has ever heard of a discovery, by Christians, of such naturally occurring stones”.

²⁷ On Orta’s library, see Count of Ficalho, *Garcia de Orta e o seu tempo*, ed. Nuno de Sampayo (Lisbon: Imprensa Nacional – Casa da Moeda, 1983), pp. 281-305; and also Rui Manuel Loureiro, “European books and libraries in sixteenth century Portuguese India”, *RC – Review of Culture*, 31 (1997), pp. 17-30.

²⁸ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 220.

²⁹ On this curious book, *De venenis*, see Joël Chandelier, “Théorie et définition des poisons à la fin du Moyen Âge”, *Cahiers de recherches médiévales*, 17 (2009), pp. 23-38.

from the eighth/ninth century, whose real name, according to the celebrated Leo Africanus, was Yuhanna ibn Masawayh.³⁰ Although his works were widely read in the sixteenth century, not much is known about him. “Serapio”, in the present junction, seems to refer to the Pseudo-Serapion, a thirteenth-century anonymous Arab author, about whom also not much is known, and who wrote *De simplicibus medicinalis opus*, which was frequently published in the sixteenth century.³¹ As for Matteo Silvatico, he was a medieval physician and botanist, practicing in Salerno, author of a renowned encyclopedic pharmacopeia, the *Liber pandectarum medicinae*, also repeatedly published in the sixteenth century, which Orta quotes again and again in the *Colóquios dos simples*. Curiously enough, Silvatico abundantly referred to the Pseudo-Serapion, but it is highly probable that the Portuguese naturalist knew both authors and their works.³² All four authors included information in their writings about the curative properties of precious stones, emeralds included.

This fact then introduces the final question suggested by the above-quoted passage of the *Colóquios dos simples*, the one concerning the presence of precious stones in a book on *materia medica*; but perhaps this is just an issue of historical perspective. Gems, of course, are a product of nature and their study pertained to natural history. Furthermore, from an early-modern point of view, many precious stones were invested with a variety of medicinal properties, curative, protective or prophylactic, thus being the subject of concerned interest on the part of any serious practicing physician.³³ Sixteenth-century European scholars were certainly attentive to the long tradition of mineralogical studies that went back to the Greek author Theophrastus, allegedly the first Westerner to try and gather and organize information about the properties of precious stones between the fourth and third centuries BCE.³⁴ Emeralds, for instance, were invested by

³⁰ On Leo Africanus' references to Mesue Junior, see Cyril Elgood, *A Medical History of Persia and the Eastern Caliphate* (Cambridge: Cambridge University Press, 2010), pp. 93-95; and Natalie Zemon Davis, *Trickster Travels: A Sixteenth Century Muslim Between Worlds* (New York: Hill and Wang, 2006), pp. 183-184. For a recent edition of Leo's African geography, see Giovanni Battista Ramusio, *Navigazioni e Viaggi*, ed. Marica Milanese, 6 vols. (Turin: Einaudi, 1978-1988), vol. 1, pp. 9-469.

³¹ He is not to be confused with the older Serapion, Yuhanna Ibn Sarabiyun, a near contemporary of Mesue Junior, on whom see P.E. Pormann, “Yuhanna Ibn Sarabiyun: further studies into the transmission of his works”, *Arabic Science and Philosophy*, vol. 14, n. 2 (2004), pp. 233-262; on Mesue, see Raymond Le Coz, *Les médecins nestoriens au Moyen Âge: les maîtres des Arabes* (Paris: Éditions L'Harmattan, 2004), pp. 127-147.

³² See Count of Ficalho, *Garcia de Orta, cit.*, pp. 289-290.

³³ See Lynn Thorndike, *A History of Magic and Experimental Science*, 8 vols. (New York: Columbia University Press, 1923-1958), vol. 6, pp. 298-324.

³⁴ For general histories of precious stones and their lore, see the classic works of George F. Kunz, *The Curious Lore of Precious Stones* (New York: Halcyon House, 1938), and Joan Evans, *Magical Jewels of the Middle Ages and the Renaissance, particularly in England* (Oxford: Clarendon Press, 1922). For more recent approaches, see: Nichola E. Harris, *The Idea of Lapidary Medicine: Its Circulation and Practical Applications in Medieval and Early Modern England, 1000-1750*, unpublished doctoral dissertation (New Brunswick, New Jersey: The State University of New Jersey, 2009); and Claude Lecouteux, *Dictionnaire des pierres magiques et médicinales* (Paris: Éditions Imago, 2011).

Theophrastus with the property of improving the eyesight of those who carried them.³⁵ A Latin translation of his work—*De lapidibus*—was first published in Venice in the last years of the fifteenth century, with subsequent reprints. Although Orta probably knew the Latin translation of Theophrastus' *De historia et causis plantarum*, prepared in the fifteenth century by the Greek scholar Theodore Gaza and first printed in 1476,³⁶ it is doubtful that he knew the treatise on gems.³⁷ But much of Theophrastus' data on precious stones was collected together by Pliny the Elder in the first century, in his *Naturalis Historia*, an encyclopedic work that was repeatedly reprinted in Europe in the fifteenth and sixteenth centuries, and was widely read by early-modern naturalists. Garcia de Orta had at least one edition of this work in his private library, which is quoted in almost every other page of the *Colóquios dos simples*, often with a precise reference to book and chapter. The material on precious stones was concentrated in book 37 of Pliny's encyclopedia. Meanwhile, the Portuguese physician, who frequently expressed his disagreement with Pliny's information and/or hypotheses concerning Asian matters, also possessed either the *Castigationes Plinianae* published by Ermolao Barbaro, with no less than five thousand corrections, or an edition of the *Naturalis Historia* annotated by this fifteenth-century Venetian scholar.³⁸

In one of the colloquies where Orta and Ruano discuss diamonds (“da pedra diamão”), the latter questioned the Portuguese physician, claiming that this precious stone “is eminent above all the others, followed by pearls, and then emeralds, and next rubies, if one is to believe Pliny”.³⁹ Orta's answer was somewhat puzzling, because he declared that although the mentioned gems were certainly valuable on account of being rare, and much prized as ornaments, from a medical point of view they were useless, as opposed to “the loadstone and the stone that stops bleeding”, which both had far more virtues and had been widely experimented

³⁵ Theophrastus, *On Stones*, ed. Earle R. Caley & John F. C. Richards (Columbus, Ohio: The Ohio State University, 1956), pp. 99-100.

³⁶ See Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 327, where “Teodoro Guaza” is mentioned. For an opposite view, see Count of Ficalho, *Garcia de Orta*, cit., p. 285 (“é mesmo duvidoso que o tivesse lido”). On Gaza, see Deno John Geanakoplos, *Constantinople and the West: Essays on the Late Byzantine (Palaeologan) and Italian Renaissances and the Byzantine and Roman Churches* (Madison: The University of Wisconsin Press, 1989), pp. 68-90.

³⁷ On Theophrastus, see Charles B. Schmitt, “Theophrastus”, in Paul O. Kristeller & F. Edward Cranz (eds.), *Catalogus translationum et commentariorum: Mediaeval and Renaissance Latin translations and commentaries – Volume II* (Washington D.C.: The Catholic University of America Press, 1971), pp. 239-322; and also see Annibale Mottana, “Il pensiero di Teofrasto sui metalli secondo i frammenti delle sue opere e le testimonianze greche, latine, siriane ed arabe”, *Rendiconti Lincei – Scienze Fisiche e Naturali*, ser. 9, vol. 12 (2001), pp. 133-241.

³⁸ Garcia de Orta, *Colóquios dos simples*, vol. 2, p. 295: «nas Anotações de Plínio, diz Hermolao Barbaro». On Pliny, see Trevor Murphy, *Pliny the Elder's Natural History: The Empire in the Encyclopedia* (Oxford: Oxford University Press, 2004); and on Ermolao's comments, see Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago & London: The University of Chicago Press, 2006), pp. 122-126.

³⁹ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 195.

on.⁴⁰ This means that he had some reservations concerning the alleged properties of some precious stones: “quanto he á fisica, nam se costuma usar destes diamães”, in other words, “diamonds are not usually used in medical matters”. Nonetheless, the Portuguese physician was aware that some of his Indian colleagues often made use of injections of ground diamonds to break gallstones.⁴¹ In the colloquy on diamonds, meanwhile, the Portuguese physician once again exhibited his erudition, bringing to the debate several Spanish authorities, concerning the names and the alleged properties of the precious stone. Some of these references deserve special mention.

One such authority was Andrés Laguna, a physician and philologist who prepared an annotated Spanish translation of the ancient Greek treatise on *Materia medica* by Pedanio Dioscorides, which was first published in Antwerp in 1555, with subsequent editions. Orta owned an edition of Laguna’s translation, which he mentions repeatedly throughout the *Colóquios dos simples*.⁴² But he had a complicated relationship with his Spanish colleague. For once, as Ruano remarks in one of the last colloquies, he calls him consistently “Tordelaguna, chamandose elle Andreas de Laguna”. The Portuguese physician’s excuse was rather lame, for he alleged that in Alcalá de Henares he had met “an apothecary by the name Tordelaguna, who knew some Arabic and was a consummate herbalist”, and he had confused him with the Andrés Laguna translator of the *Materia medica*. He added that having in mind the many errors found in Laguna’s edition of Dioscorides, he was glad that they were not by the same person, because “Tordelaguna” had been his friend at university.⁴³ Andrés Laguna was about the same age as Garcia de Orta, and they both studied at Salamanca, probably contemporaneously. However, the Portuguese claims that they never met, in Salamanca or elsewhere. Another of Ruano’s references to Laguna, in the colloquy on pepper, brings some light to the matter, for the Spanish translator and commentator of Dioscorides is said to have declared that the Portuguese were not interested in writing about the Indies, but “their only care is to steal and flay the Indians”.⁴⁴ This seriously critical remark, which in fact is found in the first edition of Laguna’s work, where he sharply criticized the Portuguese for their lack of interest in natural history, would be enough

⁴⁰ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 195.

⁴¹ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 196. The procedure does not seem very consistent with traditional Indian medical systems, and namely Ayurveda. See Robert Sigaléa, *La médecine traditionnelle de l’Inde* (Geneva: Olizane, 1995). On Orta’s relations with Ayurveda, see Michael N. Pearson, “Portuguese and Indian Medical Systems: Commonality and Superiority in the Early Modern Period”, *RC – Revista de Cultura / Review of Culture*, n. 20 (2006), pp. 116-141.

⁴² Count of Ficalho, *Garcia da Orta, cit.*, p. 293. On Laguna, see Miguel Ángel González Manjarrés, *Andrés Laguna y el Humanismo Médico* (Salamanca: Junta de Castilla y León, 2000).

⁴³ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, pp. 378-379.

⁴⁴ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 248.

to explain Orta's animosity towards him, and even, perhaps, to justify the appearance of the *Colóquios dos simples*.⁴⁵ Dioscorides had written about precious stones and its virtues, of course, and Laguna translated his text, adding numerous annotations.⁴⁶ But, needless to say, Andrés Laguna's observations about diamonds were entirely dismissed by the Portuguese physician, on the basis of his Indian experience: "those who claim that diamonds are poisonous are wrong and no certified doctor would write such a thing".⁴⁷

Another Spanish author is quoted in the *Colóquios dos simples*, in the discussion about diamonds, when Ruano mentioned a "chronicler, called Francisco de Tamara" who had written that there were diamonds in Peru.⁴⁸ In a previous colloquy, this Spanish scholar had already been mentioned, as "Francisquo de Tamara, no livro que fez dos Custumes".⁴⁹ In fact, Orta was alluding in both instances to Johann Boemus' *Omnium Gentium Mores, Leges et Ritus*, published in Augsburg in 1520, which was subsequently translated into several European languages.⁵⁰ The Portuguese physician knew well the celebrated work, which he had read in the Spanish translation prepared by Francisco de Támara and published in Antwerp in 1556, under the title *El Libro de las Costumbres de todas las Gentes del Mundo*. The Spanish translator had included new materials in his version of Boemus' book, describing "all the Indies newly discovered by people from Spain".⁵¹ Orta was very critical of Támara's version, and the work is always quoted in the *Colóquios dos simples* in a dissenting tone. In the present case, his answer to Ruano was

⁴⁵ Laguna's annotation on the chapter on pepper, directed at the Portuguese returning from India, is indeed very sharp: "como no sean nada curiosos de lo que conuiene al bien publico, ni à la común disciplina, sino solamente de acumular dinero, y dessollar los Indios desuenterados, no se curan mucho de contemplar aquellas diuinas plantas, para darnos acà entera relation dellas" (Andres Laguna [ed.], *Pedacio Dioscorides Anazarbeo, acerca de la matéria medicinal, y de los venenos mortíferos* [Antwerp: Juan Latio, 1555], p. 237).

⁴⁶ Andres Laguna (ed.), *Pedacio Dioscorides Anazarbeo, cit.*, liv. V, *passim*.

⁴⁷ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, pp. 196-197. But Orta seems to have misread Laguna, because the Spanish translation of Dioscorides claims that diamonds are useful *against* poisons; and the Spanish physician claims to have learned this property from a "Maestre Juan Portugues, medico excellentissimo" who lived in Rome (Andres Laguna [ed.], *Pedacio Dioscorides Anazarbeo, cit.*, p.577). I have not been able to identify this Portuguese physician.

⁴⁸ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 201: "que ha diamães no Peru".

⁴⁹ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 1, p. 213.

⁵⁰ On Boemus, see the classical analysis by Margaret T. Hodgen, *Early Anthropology in the Sixteenth and Seventeenth Centuries* (Philadelphia: University of Pennsylvania Press, 1971), pp. 111-161; and also Klaus A. Vogel, "Cultural Variety in a Renaissance Perspective: Johannes Boemus and 'The Manners, Laws and Customs of all People' (1520)", in Henriette Bugge & Joan Pau Rubiés (ed.), *Shifting Cultures: Interaction and Discourse in the Expansion of Europe* (Münster: LIT Verlag, 1995), pp. 17-34.

⁵¹ Francisco de Támara (ed.), *El Libro de las Costumbres de todas las Gentes del Mundo* (Antwerp: Martin Nucio, 1556), fl. 249. On the Spanish translator, see Victoria Pineda, "El arte de traducir en el Renacimiento (La obra de Francisco de Támara)", *Criticón*, n. 73, 1998, pp. 23-35; and Hélène Rabaey, "Francisco de Támara: algunos aportes biográficos", *Calamus Renascens*, vol. III (2002), pp. 249-254.

straightforward, briefly dismissing the stories about diamond mines that were closely watched by poisonous snakes: “I saw in that author, that you quote, many fables”.⁵²

A third author mentioned in the discussion about diamonds is “a Dominican friar called Friar Domingos de Baltanas”, who had written that there were mines for these precious stones in Spain.⁵³ Garcia de Orta was alluding to Domingo de Baltanás and to his *Compendio de algunas cosas notables de España*, published in Seville in 1558.⁵⁴ He expressed his doubts regarding the Spanish friar’s allegations, once again using a regular methodological procedure applied throughout the *Coloquios dos simples*: the opinion or information of a given author was registered, only to be immediately challenged. The reference to Baltanás (or Valtanás, as he is also known) is rather curious, since the Spanish Dominican had recently been arrested by the Inquisition in Seville, and was on trial from 1561 to 1563, under several accusations, and namely improper conduct towards his female congregation. Orta claimed that he had met Domingo de Baltanás in Spain: “I met this friar in Salamanca, as I recall, and I consider him a good ecclesiastic”.⁵⁵ Was the Portuguese physician unaware of the recent troubles of Baltanás with the Holy Office? Perhaps he was taking a public stand in favor of his old university acquaintance, who, by the way, was well known for his positions in support of Spanish *conversos*. And Orta, it is well known, was himself a member of a *converso* family, since his Jewish ancestors had converted to Christianity.⁵⁶

All things considered, the colloquy on the “pedra diamão”, from a strictly informative point of view, is rather innovative, since Garcia de Orta severely criticizes a number of erroneous beliefs that were current in his day and age, regarding the location of diamond mines, the extraction of these precious stones, and the gem’s alleged properties.⁵⁷ But in the beginning of this same colloquy Orta had mentioned the virtues of the “pedra de cevar”, to which he returns in its final pages. Once again he refutes one of Laguna’s allegations, the one

⁵² Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 201: “eu vi nesse autor que alegaes, muitas fabulas”. In fact, Támara was not solely responsible for the legend about snakes guarding diamond mines, because the story had been repeated by many ancient and medieval authors. See Berthold Laufer, *The Diamond: A Study in Chinese and Hellenistic Folk-lore* (Chicago: Field Museum of Natural History, 1915).

⁵³ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 201: “escreve hum frade dominico, chamado frei Domingos de Baltanas, que ha roca de diamães em Espanha”.

⁵⁴ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 201. See Domingo de Baltanás, *Compendio de algunas cosas notables de España y de la conquista y toma del reyno de Granada* (Seville: Martín de Montedoca, 1558), fl. vii. On Baltanás, see Gianclaudio Civalè, “Domingo de Baltanás, monje solicitante en la encrucijada religiosa andaluza: Confesión, Inquisición y Compañía de Jesús en la Sevilla del Siglo de Oro”, *Hispania Sacra*, vol. LIX, n. 119 (2007), pp. 197-241.

⁵⁵ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 201: “Eu conheci ese frade em Salamanca, segundo me parece, e tenho por bom religioso”.

⁵⁶ On the Jewish origins of Garcia de Orta, see Augusto da Silva Carvalho, *Garcia d’Orta* (Coimbra: Imprensa da Universidade, 1934); and I.S. Révah, “La Famille de Garcia de Orta”, *Revista da Universidade de Coimbra*, vol. 19 (1960), pp. 407-420.

⁵⁷ See the Count of Ficalho’s note: Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, pp. 206-212.

about the poisonous nature of the loadstone. The Portuguese physician explained that, quite contrary to this opinion, Indian physicians claimed that the loadstone “eaten in small quantities, prevents ageing”, and he recalled the story of the Singhalese ruler who had his meals cooked in pans made of loadstone. Orta’s remark on this alleged virtue of the loadstone was rather off the mark, but he was careful enough, as usual, to quote a local informer, in this case “Isac do Cairo”, the well-known Jewish collaborator of the Portuguese royal authorities in India, who had been in charge of providing the said pans, perhaps to king Bhuvaneka Bâhu, who ruled in Kotte from 1521 to 1551.⁵⁸ Still in connection with the loadstone, the *Coloquios dos simples* mentioned the writings of a “Parisian philosopher”, who is not identified. Perhaps this was a cryptic reference to the French physician Jean de la Ruelle, who is mentioned elsewhere, in the colloquy on “Altiht”.⁵⁹ Johannes Ruellius, as he was also known, was the author of several reference works in the fields of medicine and natural history, and namely *De medicinali materia*, a Latin translation of Dioscorides published in Paris in 1516, with several successive re- editions. Garcia de Orta owned one of these, as well as a copy of another of Ruellius’ treatises, *De natura stirpium libri tres*, published in 1536 also in Paris.⁶⁰ In both of these works, however, relevant passages on the loadstone do not completely agree with Orta’s reference.⁶¹ So, perhaps he was alluding instead to François de la Rue, also known as Franciscus Rueus, who published the treatise *De gemmis* in Paris in 1547, which included a chapter on the loadstone.⁶² The fact that this French author showed considerable interest in astrological matters might help explain why Garcia de Orta would silence his name.

Information concerning precious stones, excluding diamonds, is concentrated in the colloquy on “pedras preciosas”.⁶³ This is where Orta discussed relevant data about valuable gems that classical and medieval scholarship had invested with medical properties, in the words

⁵⁸ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 204. On this interesting figure, see José Alberto Rodrigues da Silva Tavim, “Os Judeus e a Expansão Portuguesa na Índia no Século XVI. O Exemplo de Isaac do Cairo: Espião, ‘Língua’ e ‘Judeu de Cochim de Cima’”, *Arquivos do Centro Cultural Calouste Gulbenkian*, vol. 33 (1994), pp. 137-261.

⁵⁹ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 1, p. 85.

⁶⁰ On Jean de la Ruelle and his works, see Edward Lee Green, *Landmarks of Botanical History*, ed. Frank N. Egerton (Stanford, California: Stanford University Press, 1983), pp. 598-657.

⁶¹ Having in mind Garcia de Orta’s phrasing, “Hum filosofo parisiense diz, que a pedra de cevar move o ferro pera si, mediante a vertude que nelle emprimio, pera que se mova a ella” (*Coloquios dos simples, cit.*, vol. 2, p. 205), another, but rather farfetched, possibility would have been Paracelsus, the famous German–Swiss physician and alchemist, who visited Portugal in the opening decades of the sixteenth century; however, he does not seem to have been known as the “Parisian philosopher”, and it is unlikely that Orta knew any of his works. On Paracelsus, see Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of Renaissance* (Basel: Karger, 1982); and also Donald F. Lach, *Asia in the Making of Europe, cit.*, vol. 2, bk. 3, pp. 422-425.

⁶² On Rueus, see Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 6, pp. 303-306.

⁶³ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, pp. 215-222 (with Ficalho’s notes, pp. 223-230).

of Ruano, “precious stones that enter into the compositions and cordial lectuaries”.⁶⁴ In the opening lines of the colloquy, the Portuguese physician established a limit to the subject, claiming that he would only mention “medicinal stones that are found in India”, because otherwise it would be a never-ending story.⁶⁵ First, he dealt with sapphires, describing the stone and identifying its origins, those from Ceylon and Pegu being deemed the most valuable; sapphires were an excellent commodity to take back to Europe, according to the Portuguese physician, since they usually fetched high prices. Next there were jacinths and garnets, which were abundant in India, especially in Cambay, and not so valuable. Then, Orta mentioned rubies, explaining that there were different varieties, “muitas especies”, one of which was the “carbuncle”. On Ruano’s request, he immediately dismissed the idea that carbuncles were luminous during the night, classifying these stories as “old wives’ tales”. Rubies, according to the *Coloquios dos simples*, came in many colors and as many varieties, most of them being available at reasonable prices in the Indian ports. So far, then, Orta’s comments were those of a gem merchant, rather than those of a physician interested in the healing virtues of precious stones.

Another precious stone present in this same colloquy was the emerald, according to Ruano “the best stone and the most necessary”,⁶⁶ as noted above, but perhaps it can be added here that Orta’s interlocutor claimed that “our emeralds from Peru are said by a modern doctor to be bad for using in medicine”.⁶⁷ He was alluding, of course, to Andrés Laguna, who made such a comment on emeralds in his annotations about sapphires in the translation of Dioscorides.⁶⁸ Orta’s attitude towards Laguna was, as usual, dismissive. He informed his Spanish colleague that many such emeralds from Peru came to India, at first being highly valued, but people soon decided they were false, and so they became worthless. Having in mind that New World emeralds were in fact excellent in colour and water, the opinion of Garcia de Orta is rather perplexing. Nonetheless, the same information appears in a manuscript “Memoria das drogas e pedras preciosas” (Memory of drugs and precious stones), dated from

⁶⁴ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 215: “pedras preciosas que entram nas composições e letuários cordiaes”.

⁶⁵ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 215: “pedras medicinaes e das que há na India”. For the location of precious stones in India, see Arun Kumar Biswas, “Gem-Minerals in Pre-Modern India”, *Indian Journal of History of Science*, vol. 29, n. 3 (1994), pp. 389-420

⁶⁶ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 219.

⁶⁷ Garcia de Orta, *Colóquios dos simples*, cit., vol. 2, p. 221: “as nossas esmeraldas do Perú, diz hum doutor moderno, que sam muyto más pera o uso da medecina”.

⁶⁸ Andres Laguna [ed.], *Pedacio Dioscorides Anazarbeo*, cit., p. 563. See José Luis Fresquet Febrer, “El uso de productos del reino mineral en la terapêutica del siglo XVI. El libro de los *Medicamentos simples* de Juan Fragoso (1581) y el *Antidotario* de Juan Calvo (1580)”, *Asclepio – Revista de Historia de Medicina y de la Ciencia*, vol. 51, n. 1 (1999), pp. 55-92.

the 1560s and possibly written in Lisbon by a Portuguese lapidary.⁶⁹ In fact, the anonymous author claims that many people bought these emeralds that were styled “do peru” and took them to India as a trading commodity, bringing them back again to Portugal under the guise of oriental gems, to try and increase their value, profiting from the widely diffused notion that all precious stones coming from the East Indies were more costly.⁷⁰

The “colloquy on precious stones” moves on to turquoise, Ruano wanting to know if this stone was used in medicine. Concerning lapidary medicine in general, Orta’s answer by now had become standard: ‘some say yes, some say no’.⁷¹ That is, whenever the conversation turned around precious stones and their alleged virtues in the practice of medicine, the Portuguese physician, as a rule, refused to take a stand, quoting his informers in some instances, in others outright ignoring the issue. The careful reader of the *Colóquios dos simples* would be at a loss when it came to find out its author’s position on the real properties of gems. Nothing was said in concrete terms about the medical properties of sapphires, jacinths, garnets, rubies, emeralds or turquoises. And also nothing was mentioned about the virtues of the “crisolita e da amatista, e do birilo [...] e da alaqueca, e do jaspe”,⁷² only some notions about the various stones’ origins, sometimes a reference to their designation in different languages. A curious note about jasper is worth mentioning, for Garcia de Orta claimed that the “stone that is in Genoa, which is said to be of emerald, could in fact be made of this stone [jasper]». ⁷³ The Portuguese physician was here referring to the famous *sacro catino*, which was kept at the Cathedral of San Lorenzo in Genoa, and he correctly deduced that it was not made of emerald. It is not easy to find out how he heard about the legendary cup, which some claimed was none other than the Holy Grail,⁷⁴ but he may have read about it in some collection of saints’ lives, such as the *Flos Sanctorum*, which was translated to Portuguese and printed in Lisbon in 1513.⁷⁵ Two exceptions only, concerning the virtues of precious stones, are found in this colloquy. On the one hand, “olhos de gato” or cat’s eyes (chrysoberyl), which, according to Orta, the Indians claimed had

⁶⁹ The “Memoria” is kept at the Biblioteca Nacional de Portugal; it was published by Nuno Vassallo e Silva, *Subsídios para o estudo do comércio das pedras preciosas, cit.*, pp. 21-37.

⁷⁰ Nuno Vassallo e Silva, *Subsídios para o estudo do comércio das pedras preciosas, cit.*, p. 32. See Kris Lane, *The Colour of Paradise, cit.*, pp. 100-102.

⁷¹ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 221: “Alguns me dixeram que si, e outros que não”.

⁷² Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 221: “chrysolite, amethyst, beryl [...] and carnelian and jaspe”.

⁷³ Garcia de Orta, *Colóquios dos simples, cit.*, vol. 2, p. 221: “pode ser que a pedra que está em Genoa, que dizem ser de esmeralda, seja desta pedra”.

⁷⁴ On the *sacro catino*, see Richard W. Barber, *The Holy Grail: Imagination and Belief* (London: Penguin, 2004), pp. 168-169.

⁷⁵ See Maria Clara de Almeida Lucas (ed.), *Ho Flos Sanctorum en Lingoage: os Santos Extravagantes* (Lisbon: Instituto Nacional de Investigação Científica, 1988).

the “property of keeping a man’s wealth in his possession”.⁷⁶ Once again the Portuguese physician quoted the opinions of third parties, refusing to unveil his own position on the matter. On the other hand, “alaqueca” or carnelian, a “stone that has a more certain virtue than all the others, because it staunches the blood very suddenly”, and which had been previously mentioned by Garcia de Orta in the discussion about diamonds.⁷⁷ Apparently, this seems to be the only straightforward concession of the author of the *Colóquios dos simples* to lapidary medicine: he believed and he testified on the basis of his own experience that carnelians were efficient against bleeding. All other precious stones, as far as the Portuguese physician was concerned, held no significant medical value.

Garcia de Orta’s refusal to openly endorse the attribution of magical – as opposed to experimental – properties to gems could be a well-planned strategy to overpass the watchful eyes of the Portuguese Inquisition, just recently established in Goa. Garcia de Orta had, after all, Jewish roots, which turned him into a suspect under the eyes of the Holy Office. And before publication, the *Colóquios dos simples* had to overcome a series of legal steps, which included obtaining a permit from Aleixo Dias Falcão, “inquisidor nestas partes”, or the Inquisitor in Portuguese India, as the frontispiece of the Goan edition testified. A branch of the Portuguese Inquisition, it is also well known, had been set up in Goa in 1560 mainly on account of the large presence of New Christians in the *Estado da Índia*.⁷⁸ This, of course, was reason enough for Orta’s caution regarding the lore of precious stones and for the *Colóquios dos simples* to steer clear of lapidary medicine. It would also explain the absence of explicit mentions to a certain number of bibliographical references in a work that otherwise took profit of every opportunity to demonstrate a profound knowledge of medical literature. Garcia de Orta, curiously enough, does not quote or mention any of the standard early modern lapidaries, a set of works that collected available knowledge on precious stones, along with detailed advices on how to use them for protective or curative means. These included, among many others: the *Speculum lapidum* by the Italian physician Camillo Lunardi, published in Venice in 1502; the *Libellus de lapidibus preciosis*, written in the eleventh century by Marbode, bishop of Rennes, but first published in Vienna in 1511; the treatise *De natura fossilium* by the sixteenth century German

⁷⁶ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 222: “Diz a gente desta terra, que tem a propriedade de conservar ao homem nas riquezas que tem”.

⁷⁷ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 2, p. 222: “esta pedra tem a vertude mais crara que todallas outras, porque estanca o sangue mui de supito”.

⁷⁸ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 1, p. 1. On the Goa Inquisition, see Ana Cannas da Cunha, *A Inquisição no Estado da Índia: Origens (1539-1560)* (Lisbon: Arquivos Nacionais / Torre do Tombo, 1995). Also see Ines G. Županov, “The Wheel of Torments’: mobility and redemption in Portuguese colonial India”, in Stephen Greenblatt & others (eds.), *Cultural Mobility: A Manifesto* (Cambridge: Cambridge University Press, 2009), pp. 24-74.

scholar Georg Bauer, also known as Georgius Agricola, published in Basel in 1546; or the already quoted *De gemmis*, by François de la Rue.⁷⁹

The *Coloquios dos simples* include many more references to natural products classified by Garcia de Orta as *stones*, and namely Armenian stones, bezoar stones, coral stones, pearls and porcupine stones.⁸⁰ To all of these the Portuguese physician attributes medical virtues, declaring to have used them repeatedly in his daily practice. But this is in sharp contrast to his silence or ambiguousness concerning real gems. It appears that Orta was not the greatest apologist of the use of precious stones in medical cures. Orta's skepticism is interesting enough, and has frequently been characterized as a sign of his scientific 'modernity'.⁸¹ Perhaps here he was following the advice of one of his favorite authors, Antonio Musa Brasavola, who made "serious restrictions upon the powers attributed to gems or their employment in pharmacy".⁸² Among other works, the Italian physician published his *Examen omnium simplicium medicamentorum* in Rome in 1536, where he openly criticized ancient and medieval naturalists, claiming that their knowledge of plants and natural substances was extremely limited.⁸³ Brasavola's treatise was written in a dialogue form, and most certainly served as Garcia de Orta's model for his own *Coloquios dos simples*, where it is repeatedly quoted, the Italian author being referred to as an inquiring and learned man – "Antonio Musa curioso e bem entendido".⁸⁴

⁷⁹ On these lapidaries, see, respectively: Carla De Bellis, "Astri, gemme e arti medico-magiche nello 'Speculum lapidum' di Camillo Leonardi", in G. Formichetti (ed.), *Il mago, il cosmo, il teatro degli astir: Saggi sulla letteratura esoterica del Rinascimento* (Roma: Bulzoni, 1985), pp. 67-114; Marbod of Rennes, *Marbode of Rennes' (1035-1123) De lapidibus*, ed. John M. Riddle & trans. C.W. King (Wiesbaden: Steiner Verlag, 1977); Georgius Agricola, *De natura fossilium (Textbook of Mineralogy)*, eds. Mark C. Bandy & Jean A. Bandy (New York: The Geological Society of America, 1955); and Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 6, pp. 298-306. Another interesting absence from the *Coloquios dos simples* are the works of António Luís, a physician based in Lisbon, where he published in 1540 *De occultis proprietatibus*, dealing with plants, animals and minerals. On this rather understudied New Christian, who seems to have coincided in Salamanca with Orta, see Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 5, pp. 550-552; and also Américo da Costa Ramalho, "António Luís, corrector de Erasmo", *Humanitas*, vol. 45 (1993), pp. 243-254.

⁸⁰ Orta's use of this type of *stones* certainly deserves further research. Some of these products have already been approached, in an early modern context. See Jorge Manuel dos Santos Alves, "A pedra-bezoar – realidade e mito em torno de um antídoto (séculos XVI e XVII)", in Jorge Manuel dos Santos Alves, Claude Guillot & Roderich Ptak (eds.), *Mirabilia Asiatica: Produtos raros no comércio marítimo / Produits rares dans le commerce maritime / Seltene Waren im Seehandel* (Wiesbaden: Harrassowitz Verlag & Fundação Oriente, 2003), pp. 121-134; Francesca Trivellato, "From Livorno to Goa and Back: Merchant Networks and the Coral-Diamond Trade in the Early-Eighteenth Century", *Portuguese Studies*, vol. 16 (2000), pp. 193-217; R.A. Donkin, *Beyond Price – Pearls and Pearl-Fishing: Origins to the Age of Discoveries* (Philadelphia: American Philosophical Society, 1998); Peter Borschberg, "O comércio, uso e falsificação dos bezoares de porco-espinho na Época Moderna (c.1500-1750) / The Trade, Use and Forgery of Porcupine Bezoars in the early Modern Period (c.1500-1750)", *Oriente*, n. 14 (2006), pp. 60-78.

⁸¹ See for instance A.J. Andrade de Gouveia, *Garcia d'Orta e Amato Lusitano na ciência do seu tempo* (Lisbon: Instituto de Cultura e Língua Portuguesa, 1985), pp. 23-54.

⁸² Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 6, p. 303.

⁸³ On Antonio Brasavola, see Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 5, pp. 445-471; and Edward Lee Green, *Landmarks of Botanical History, cit.*, pp. 658-701.

⁸⁴ Garcia de Orta, *Coloquios dos simples, cit.*, vol. 1, p. 355. See Count of Ficalho, *Garcia da Orta, cit.*, p. 293: "Entre todos os auctores modernos, Antonio Musa era o seu predilecto". Also see Lynn Thorndike, *A History of Magic and Experimental Science, cit.*, vol. 5, pp. 467-468.

Orta's position concerning the use of gems in medicine seems to echo that of Brasavola, for while accepting implicitly its inclusion in the practicing physician's pharmacopeia, he completely dismisses any occult properties traditionally ascribed to them.⁸⁵ Was this a result of firm conviction, based on years of learning and experience as a physician in Portugal and in India? After all, he famously declared that "se sabe mais em hum dia agora pellos Portuguezes, do que se sabia em 100 annos pellos Romanos", which in his day and age more new information was revealed by the Portuguese in one day than had been disclosed by the Romans in one hundred years.⁸⁶ Perhaps Garcia de Orta was just being cautious, in a context where the Portuguese Inquisition and its overseas delegations closely watched New Christians, while at the same time, in the wake of the Counter Reformation, imposed severe limitations on the books people were allowed to possess and/or read.⁸⁷ The methodical study of the natural world and the use of the products of nature in the promotion of human wellbeing were very sensitive areas of activity, which could fall under the watchful eye of an institution the main aim of which was to guarantee the safeguard of the Catholic orthodoxy. Be that as it may, it seems perfectly clear that the *Colóquios dos simples* continues to be worthy of further inquiries: the extensive intellectual network that gives shape to Orta's book, formed by an enormous array of writers and their works, still needs additional study; the complex working methods of the Portuguese physician are not yet perfectly clear; and his vision of the natural world and all of its products and beings awaits deeper clarification.⁸⁸ The celebrated Garcia de Orta, 450 years after the publication of the *Colóquios dos simples*, has not yet disclosed all of his secrets, and namely the meanders of his 'split identity' as a New Christian,⁸⁹ which seems to have been methodologically relevant in the Portuguese physician's process of knowledge production.

⁸⁵ Lynn Thorndike, *A History of Magic and Experimental Science*, cit., vol. 5, p. 455.

⁸⁶ Garcia de Orta, *Colóquios dos simples*, cit., vol. 1, p. 210.

⁸⁷ On the censorship activities of the Inquisition involving scientific books, see Henrique Leitão (ed.), *O Livro Científico dos Séculos XV e XVI: Ciências Físico-Matemáticas na Biblioteca Nacional* (Lisbon: Biblioteca Nacional, 2004), pp. 45-51.

⁸⁸ Some of these issues have been dealt with in the recent and innovative work by Teresa Nobre de Carvalho, *O mundo natural asiático aos olhos do Ocidente. Contribuição dos textos ibéricos quinhentistas para a construção de uma nova consciência europeia sobre a Ásia*, unpublished doctoral dissertation (Lisbon: Universidade de Lisboa, 2013).

⁸⁹ For this extremely relevant topic, see Yirmiyahu Yovel, *The Other Within: The Marranos, Split Identity and Emerging Modernity* (Princeton, New Jersey: Princeton University Press, 2009). Also see Walter J. Fischel, "Garcia de Orta – A Militant Marrano in Portuguese India in the 16th Century", in Saul Liberman & others (eds.), *Salo Wittmayer Baron Jubilee Volume on the Occasion of His Eightieth Birthday*, 3 vols. (Jerusalem: American Academy for Jewish Research, 1974), vol. 1, pp. 407-432, which I have not been able to consult.

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