

# Colonization and Multi-culturalism in 16<sup>th</sup> Century: A Study of India's Contribution to Development of Modern Medicinal Sciences

**REWANT VIKRAM SINGH**

*Head, Department of History, Maharshi Dayanand College of Arts, Science, Commerce  
Parel, Mumbai, Maharashtra*

## Abstract

*Between the 14<sup>th</sup> century and 17<sup>th</sup> century, the Renaissance generated immense curiosity about the orient, particularly India, in the west. People were not only interested in the lucrative trade routes leading to India but also in its culture, trade, economy, polity, history, language, literature, religions, philosophy, medicinal systems, antiquities, art, and architecture. The development of maritime technologies facilitated maritime expeditions and the discovery of a new sea route via the Cape of Good Hope to India in 1498. The subsequent arrival of Europeans introduced profound changes in the social, political, and economic traditions and institutions of India which ultimately led to the establishment of European colonial rule in India. Apart from the drain of wealth from India and subjugation of the people to an exploitative imperial system, the colonization process also initiated a new phase of multi-culturalism. The west took note of the ancient Indian knowledge traditions and studied them. Their investigations eventually contributed to the growth and development of modern socio-political and economic thoughts and academic disciplines, directly or indirectly. In the present research paper, the relationship between colonization of India and the development of modern medical science in the west is studied by reviewing the contribution of Garcia d'Orta, a Portuguese physician, herbalist, and naturalist, who introduced the Indian indigenous medicinal systems to Europe.*

**Keywords:** *colonization, coloquios, indigenous medicinal systems, maritime discoveries, renaissance.*

## Europeans in India

The pursuit for riches of India encouraged Europeans to undertake expeditions via sea. Portuguese King John II initiated the plan for reaching India via the Cape of Good Hope<sup>1</sup> to save the cost of trading as well as monopolize the spice trade. King John II ruled from 1481 to 1495 and also for a brief time in 1477. He is known for re-establishing the power of the Portuguese monarchy, strengthening the Portuguese economy, and renewing his country's exploration of Africa and Asia, reviving the work of Henry the Navigator, his great-uncle and a key personality in the 15<sup>th</sup> century European maritime discoveries and maritime expansion. Henry the Navigator is regarded as the main initiator of the Age of Discovery.<sup>2</sup>

In 1498, Vasco da Gama sailed to India by circumnavigating Africa via the Cape of Good Hope.

He arrived in Calicut (Kozhikode in Kerala) on the west coast of India. His expedition established a direct sea link between Europe and Asia. This development initiated a new phase of globalization, colonization, and multi-culturalism.<sup>3</sup> The search for sea routes to India also led to the accidental discovery of the Americas by Christopher Columbus in 1492.

The Portuguese, with their galleons<sup>4</sup> loaded with potent cannons, ended the Arab dominance in the Indian Ocean, and in 1510, they took control of Goa. Soon, Goa became the center of their commercial and political powers in India. Later, the British successfully challenged the Portuguese and other European powers who had arrived in India and had established their political power.

<sup>1</sup> It is a rocky coastal cliff on the southern tip of the Cape Peninsula, South Africa.

<sup>2</sup> Ivana Elbl (1991), "Man of His Time (and Peers): A New Look at Henry the Navigator." *Luso-Brazilian Review* 28.2:73-89.

<sup>3</sup> Nigel, Cliff (2011). *Holy War: How Vasco da Gama's Epic Voyages Turned the Tide in a Centuries-Old Clash of Civilizations*. Harper.

<sup>4</sup> Sailing ships used both in trade and war between the 15<sup>th</sup> and the 18<sup>th</sup> centuries. They were typically square-rigged and had three or more decks and masts.

Nevertheless, the Portuguese continued to control Goa for nearly four and a half centuries. After a long struggle, Goa was liberated from the Portuguese colonial rule on 19<sup>th</sup> December 1961, that is, more than 14 years after India's independence.

### Garcia d'Orta's Study of Indian Indigenous Medicinal Systems

In sixteenth century, one notices a growing interest in Asian plants and herbs in Europe. Academics in Italy, France, Portugal, Spain, Netherlands, and Germany were revitalizing the botanical sciences. The Portuguese physician, herbalist, and naturalist Garcia de Orta arrived in Goa in 1534 as a personal physician to M. A. de Sousa, who had been appointed as "captain-general by sea" of the Portuguese in India. M. A. de Sousa later became the viceroy of Portuguese India. Goa had become a strategic commercial hub, where due to trade linkages, peoples representing different cultures interacted and lived side-by-side. Over the next 30 years, Garcia de Orta extensively studied herbs, spices, and the indigenous medicinal systems of India. He never returned to Portugal and died in India in 1568. But before his death, he compiled his research works in a volume titled "*Coloquios dos Simples e Drogas da India*" (Conversations on the Simples, Drugs and Medicinal Substances of India)<sup>5</sup>, which was published in 1563 in Goa by the German or Dutch printer Johannes van Enden. He initiated the investigation of Indian diseases and medical conditions, such as chronic dysentery, cobra bite, and datura poisoning. These were new to the European medicinal system. His description of Asian cholera and its symptoms became a standard reference.



"Portuguese Medicine" (1906), by José Maria Veloso Salgado (1864–1945)

<sup>5</sup> The "conversations" refer to the dialogues, and the "simples" refer to the wild varieties of plants and their medicinal properties.

(In this painting, Garcia de Orta is standing in the center with a book in his left hand)

Garcia d'Orta traveled extensively in India, particularly along the western coast of India and Sri Lanka, attending M. A. de Sousa on his campaigns. During his travels, he met and provided medical treatment to some of the leading rulers of Indian princely states, such as Burhan Nizam Shah, the sultan of Ahmadnagar. Many of these ruling elites became Garcia d'Orta's close friend over a period of time.

In 1538, Garcia d'Orta settled permanently in Goa. In 1554-1555, the King of Portugal, through the Viceroy Dom Pedro Mascarenhas, granted a lifelong lease of Bombay to Orta.<sup>6</sup> Garcia describes the people around Bassein<sup>7</sup> and their traditions in his book.<sup>8</sup> He spoke several languages, which helped him interact and work closely with the local community, such as Hindus, Muslims, and Parsis, and learn about their indigenous medicinal systems, diet, and local herbs and spices.

Owing to his services with the Portuguese East India Company, Garcia de Orta had the advantage of exploring and studying the Indian plants, animals, and minerals, some of which had been exported to Europe for centuries, while many others that were unknown to the western world. He strived to revise and amend the misunderstandings about the Indian natural history and materia medica in Europe and provide detailed explanations about the Indian indigenous medicinal systems and the herbs and spices used in these systems.<sup>9</sup>

Military expeditions of Garcia de Orta as a personal physician to M. A. de Sousa in India, as well as his associations with the Indian elites and practitioners of Indian indigenous medicinal systems, helped him gain a fundamental understanding of India as well as its fauna, flora, and materia medica. His book *Coloquios dos Simples e Drogas da India* is in the form of dialogues between

<sup>6</sup> Malabari, Phiroze B.M. (1910). *Bombay in the making*. London: T. Fisher Unwin. p. 21.

<sup>7</sup> Bassein (Vasai) is a historical place and a town near Mumbai (Bombay)'s western suburbs. The Portuguese built the Bassein Fort.

<sup>8</sup> Da Cunha, J. Gerson (1900). *The Origin of Bombay*. Bombay: Bombay Branch of the Royal Asiatic Society. pp. 98–114.

<sup>9</sup> Kapil, R. N., & Bhatnagar, A. K. (1976). Portuguese Contributions to Indian Botany. *Isis*, 67, 449-452. <https://doi.org/10.1086/351635>

Garcia de Orta and an imaginary physician Ruano (his alter ego), who had recently arrived from the Iberian Peninsula to Goa and was anxious to know about the materia medica of India.<sup>10</sup> It has 57 chapters elucidating the physical and medicinal properties of about six dozen plants, drugs, and minerals from Asia, particularly India. These are arranged alphabetically and cover plants, drugs, and minerals, such as aloes, amber, benzoin, calamus, camphor, cardamom, cassis, cinnamon, galangal, ginger, opium, pepper, rhubarb, sandalwood, senna, simlax china, stramonium, and tamarind. Most of the discussions in the book were about the origin and properties of the herbs and spices. However, ivory, amber, and pearls were also discussed. For each variety, Garcia d'Orta mentioned its local as well as Greek and Arabic names. He referred to areas where it is grown and the method of its cultivation. He also elucidated the sizes and forms of various types of plants, their leaves, flowers, and fruit. He explained the parts of a plant that should be used, the method of their preparation, and the medical cases in which they should be used. His book was the first western treatise on Indian indigenous medicinal systems, which played a key role in establishing the fundamental principles of modern phytotherapy and pharmacology. His works established a medical science based on plant preparations and derivatives studied and manipulated through botany and chemistry – the antecedents of pharmacology.

Garcia de Orta set up a scientifically organized herbarium. He observed, analyzed, experimented, contemplated, and then made conclusions. He compared his observations and learning in Asia with what he studied in Europe, with Dioscorides' Pharmacopeia and Latin translations of Arabic and Medieval works. Based on his findings, he acknowledged that the medieval Arabic scholars on materia medica had a better understating of India than the Greeks and challenged the authority of classical texts.

### Socio-Intellectual Background of Garcia de Orta

In addition to South Asian fauna, flora, and materia medica, Garcia de Orta also studied the role of social practices, such as chewing betel (locally called *supari*) and the use of

cannabis (locally called *bhaang*). Though he patriotically referred to Portuguese accomplishments, one notices that he appreciated local cultures and the indigenous medicinal systems of India. He was one of the first few western academics who believed that European medical science would benefit from closer contact with Asia. Some scholars have argued that "this cultural relativism and skepticism toward Western tradition may be attributed in part to his origins."<sup>11</sup> Garcia de Orta's parents, Fernão and Leonor d'Orta, were Jews from Spain. When Spain expelled the Jews in 1492, his parents took asylum in Castelo de Vide, Alentejo province of Portugal. Later, in 1497, his parents were again forced to choose between converting to Christianity or taking asylum somewhere else. They eventually converted to Christianity. His religious background of his family finally caught up with Garcia de Orta. Inquisition investigations by the Holy Office scrutinized his family background and socio-religious beliefs. Perhaps his social status helped him safeguard himself and his family. However, after his death in 1568, his sister Catarina da Orta was arrested on 28<sup>th</sup> October, the same year. During her interrogations, she testified against her brother for following Judaism.<sup>12</sup> On 25<sup>th</sup> October 1569, Catarina da Orta was convicted of following Judaism and burnt at stake as "an impenitent Jewess" in Goa. The Inquisitor who convicted Catarina da Orta left office in 1572. The new Inquisitor filed a lawsuit against Garcia de Orta. In 1580, Garcia de Orta's remains were exhumed from his grave, brought before the Inquisitional tribunal, and he was convicted for following Judaism. His bones were thrown into the fire and burnt during an "act of faith," auto-da-fé, at Goa, as a posthumous punishment for being a crypto-Jew during his life.<sup>13</sup> This "deed of faith"

<sup>11</sup> <https://www.encyclopedia.com/science/dictionaries-thesauruses-pictures-and-press-releases/orta-garcia-dor-da-orta>. Last Accessed on 9th November 2021.

<sup>12</sup> Often testimonies were forcefully obtained. When Catarina da Orta was taken to be burnt at the stake, she confessed that "the reason of her false denunciations was because it appeared to her that she might receive mercy and would save her life, and the devil would refrain from tempting her." (Source: <https://daortagoa.wordpress.com/catharina-da-orta/> Last accessed on 11<sup>th</sup> November 2021)

<sup>13</sup> Veni Vidi. Goa, by Luis S.R Vas, Travellers Views of Goa, Ancient and modern. p.68.

<sup>10</sup> It was a convention during this period to write books in the form of a dialogue.

was performed on December 4, 1580, that is, about twelve years after Garcia de Orta's death.<sup>14</sup>

It seems that Garcia de Orta's book was suppressed, and the original edition of the book was lost until a copy of the book was discovered and acquired by a French botanist Charles de l'Écluse (1526-1609), during his visit to Lisbon, capital of Portugal, in 1564.<sup>15</sup> Charles de l'Écluse was also famous by his Latin name, Carolus Clusius. He translated Garcia de Orta's work into Latin and published it in 1567.<sup>16</sup> A summarised and annotated version was published three years later, which was widely distributed throughout Europe. Italian and French translations were also published. A large portion of Garcia de Orta's data later reappeared in a Spanish work. Though the engaging dialogue and insightful annotations were lost in translations, Garcia de Orta's contributions to botanical and medicinal sciences survived and immersed into the mainstream of modern natural history.

### Concluding Remarks

In the sixteenth century, the Renaissance and maritime discoveries generated interest in the orient, particularly India. The arrival of European traders and travelers in India initiated a new phase of globalization, colonization, and multi-culturalism. One has to look at Garcia de Orta's visit to Goa in this background. Working in India for more than thirty years, Garcia d'Orta created his legacy - his book, which described tropical diseases and medicinal plants and drugs that were not known to Europe. He introduced the Indian indigenous medicinal systems to Europe. Through his works, he demonstrated how inadequate were the classical Greek and medieval Arabic sources on Indian botany and pharmacology and believed that western medical science could benefit from Indian indigenous medicinal systems. Eventually, further investigations in the Indian indigenous medicinal systems and the rich fauna, flora, and materia medica of India played a vital role in the development of modern botanical and medicinal sciences in the western world. This research is a humble attempt to investigate the contribution of ancient Indian knowledge traditions in the making of the modern world.

---

<sup>14</sup> Ficalho, C. D. (1886). Garcia da Orta e o seu tempo. Lisboa: Imprensa Nacional.

<sup>15</sup> This original copy is currently archived in the library of the University of Cambridge, England.

<sup>16</sup> Clusius' *Aliquot notae in Garciae Aromatum Historiam* was published in 1582 as a supplement to Garcia da Orta's book.