

that invisible particles, or “atoms,” radiated from disease- or health-giving substances and entered the body from a distance. For instance, Bacon argued that peony root, worn around the neck, could cure epilepsy because the particles comprising peony worked “by extreme and subtile attenuation” to lessen “the grossness of the vapors which rise and enter into the cells of the brain.” Bacon also speculated about the inherited cognitive effects of excessive intoxication, noting that when a pregnant woman consumed tobacco or “strong drink immoderately,” it “endangereth the child to become lunatick” because the intoxicating principles inherent in tobacco or alcohol were passed along to the child in her womb.³⁷ This, too, was an effect of sympathy.

Later in the seventeenth century, Paracelsans stressed the physical nature of qualities, including those associated with psychoactive drugs.³⁸ They envisioned these qualities as the invisible causes laying behind the “forces” that it was possible to observe directly. The chemical physician Daniel Sennert cited poisons and purgative drugs (of which the most famous in the seventeenth century was Brazilian ipecacuanha) as the prime examples of what he called “occult qualities.” These, he wrote, “are not immediately known to the Sences.” Instead, “their force is perceived mediately by the Effect, but their power of acting is unknown.”³⁹ A drug could be known by its *end result* (effect) but might not be understandable or even perceivable through the senses. Sennert listed opium, peony root, and “the Nephritick Stone” as substances possessing “occult qualities” that were “known by experience to be really true.”⁴⁰ An intoxicating and unexplainable drug like *bangha* or *dutra* became an object of natural philosophical interest because it possessed these same occult qualities, with a perceivable effect but mysterious mode of action.

Many writers seeking to understand the occult qualities referenced a the drug *mumia*, from which the contemporary English word “mummy” derives. In many (but not all) cases, this drug actually does appear to have included mummified human flesh.⁴¹ Medicinal mummies sometimes hailed from Egypt—but also, as early modern druggists recorded, from Persia and Arabia. Other commonly cited substances with occult qualities included oriental and occidental bezoar, Peruvian balsam, and Indies ambergris. Many of the natural substances that most demanded scientific explanation, in short, hailed from places with an Iberian colonial footprint. As a result, some British merchants and philosophers who were interested in occult virtues established ties with Lusophone merchants, physicians, and apothecaries in the East and West Indies.

At the same time, medical practitioners in the Iberian colonies emulated the new trends of chemical medicine in Europe.⁴² One of the most famous of these was the *Lapis de Goa*, an “artificial” version of a bezoar stone, which was invented by the Portuguese apothecary Gaspar Antonio in Goa in the middle decades of the seventeenth century. Semedo presented the drug as a “modern” innovation that was distinct from classical and medieval compound drugs like theriac: “These stones are not created by nature in the entrails of animals, but are artificially created from various ingredients, all of them chosen and known to have great cardiacal and bezoartical virtues.”⁴³ These virtues, Semedo wrote, “proceed from the artifice with which these stones are created by a member of the Society of Jesus living in India . . . the stones being made by the hands of this Jesuit have singular virtues.” In 1691, the Jesuit brothers who ran the Royal Hospital in Goa (which employed Gaspar Antonio as a lay apothecary) attempted to restrict sale of these bezoar-like “cordial stones” and license them using certificates of authenticity.⁴⁴ The stones were frequently counterfeited and sold in London in the 1680s and 1690s.⁴⁵ In his *Treasury of Drugs Unlock’d* (1690), John Jacob Berlu wrote of “Goa Stones (by some, not rightly called *Lapis Jasper Antonicus*)” composed of “seed-pearl, *Bezoar*, Gold, and other Ingredients.”⁴⁶ The merchant John Ovington’s report of his 1689 voyage to Surat included a substantial description of two different cordial stones produced by the Portuguese in India: the “Snake-stone,” made of “Ashes of burnt Roots, mixt with a kind of Earth, which is found at Diu, belonging to the Portuguese” and the “deservedly fam’d Gasper Antoni, or Goa Stone.” Ovington claimed that Europeans he met in India “carry always about them one of these Stones inclosed in a Heart of Gold . . . which hangs about their Necks.”⁴⁷

Drugs from the Portuguese world—both “simples” and compound remedies like the *Lapis de Goa* and the “Snake-stone”—emerged as a special interest of Robert Boyle and his circle in the years following the 1662 marriage alliance of Queen Catarina de Bragança and Charles II. The London physician Richard Griffith noted that his research arose out of his “being frequently importuned by Esq *Boyl* to make Experiments upon *Indian Simples*, and to give an Account of my Observation and Success to some London Physitians.”⁴⁸ Hans Sloane also took a strong interest in ipecacuanha, the introduction of which into European medicine he credited to “an anonymous Portuguese, who lived in Brasil” and “whose book [fell] into the hands of the English.”⁴⁹ In his work on hydrostatics, Boyle described a series of experiments on bezoar stones, nephritic stones, and “calculi humani” (concretions