

1 The social life of poisons

Poisons are material objects. For much of history they have been commodities, much like any others, that are bought, sold and exchanged, and have served a wide range of commercial, industrial, medicinal and domestic uses. Some poisons may be rare and exotic, but most are common substances. They belong to a history of 'everyday things'.¹ As such, poisons help us to appreciate the nature and texture of people's lives, the material circumstances of their daily existence. They are registers of experience – of the poverty and desperation, for instance, that might drive an individual to murder or to suicide. As material substances, poisons have 'social lives'. They exist within a social matrix that endows them with specific meanings and distinct usages. Their cultural signification is informed by history, religion and myth, and their status and character are influenced by local, as well as global, configurations of race, class and gender.² Later chapters of this book are concerned with the public face of poisons, with the politicization and governance of poisonous substances. The function of this chapter, however, is to establish as a baseline the quotidian existence of poisons in Indian society in the nineteenth century, to show how and why poisons were, in the main, everyday objects.

India's poison culture

Poisoning has always had public roles and political uses. From the death of Socrates, condemned to drink hemlock in Athens in 399 BCE, through the poison-laced intrigues of the Borgias in Renaissance Italy, to the murder of the Russian defector Alexander Litvinenko in London in

¹ Daniel Roche, *A History of Everyday Things: The Birth of Consumption in France, 1600–1800* (Cambridge: Cambridge University Press, 2000), 1–7.

² Arjun Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge: Cambridge University Press, 1986), especially Igor Kopytoff, 'The Cultural Biography of Things: Commoditization as Process', *ibid.*, 64–91. Cf. Susan Reynolds Whyte, Sjaak van der Geest and Anita Harden, *Social Lives of Medicine* (Cambridge: Cambridge University Press, 2002); Zheng Yangwen, *The Social Life of Opium in China* (Cambridge: Cambridge University Press, 2005), 1–2.

2006, poisoning has been deployed as an instrument of state – to remove rivals and dissidents, to eliminate individuals whose popularity had grown too great, to punish those suspected of betrayal and treachery. India has a long history, often inseparable from myth, of poison practices. One example from India's antiquity was the attempt on the life of the Mauryan king Chandragupta, a contemporary of Alexander the Great, in the fourth century BCE, by means of a 'poison maiden'.³ This designation was sometimes applied to women who administered poison to their victim concealed in food or drink. More dramatically, the phrase signified women whose bodies had, over time, through small but incremental doses, become so impregnated with poison as to be fatal to any man who lay with them or even came into close physical contact. Such toxic embraces formed part of Indian legend and yet the idea was considered sufficiently plausible to be included in Sanskrit medical treatises like the *Sushruta Samhita*, dating back to well before the start of the Common Era.⁴ There was more than a hint of misogyny and male anxiety in this idea. As one later commentator observed of Sushruta's account of the *vishakanya* or 'venomous virgin', 'If she touches you, her sweat can kill. If you make love to her, your penis drops off like a ripe fruit from its stalk.'⁵ Clearly, such women were to be feared and shunned: but the idea of poisoning as a politics of bodily intimacy and betrayal, as something to be evaded but also perhaps knowingly embraced, is one that will recur throughout this book.

A rich vein of poison-lore runs, too, through the medieval and early modern chronicles of Islamic South Asia from the early thirteenth century onwards.⁶ These relate how poison was concealed in the food and drink offered by Hindu 'unbelievers' to destroy Muslim conquerors, or how the wise ruler and canny commander preserved his life by suspecting and detecting a poison plot against him. Poison became a formulaic device by which the warrior and statesman was tested and thereby revealed his superior powers.⁷ In his memoirs, the Mughal ruler Babur recounted how in 1526, the year of his conquest of northern India, he suspected

³ L. A. Waddell, *Lyon's Medical Jurisprudence for India* (5th ed., Calcutta: Thacker, Spink, 1914), 414.

⁴ Jivanji Jamshedji Modi, 'The Vish Kanya or Poison Damsel of Ancient India', in *Anthropological Papers, Part IV* (Bombay: British India Press, 1929), 226–39; Dominik Wujastyk, *The Roots of Ayurveda: Selections from Sanskrit Medical Writings* (New Delhi: Penguin, 2001), 124–26.

⁵ Cited in Wujastyk, *Roots*, 126.

⁶ Peter Jackson, *The Delhi Sultanate: A Political and Military History* (Cambridge: Cambridge University Press, 1999), 77, 176.

⁷ H. M. Elliot and John Dowson, *The History of India, as Told by Its Own Historians: The Muhammadan Period, Vol. II* (London: Trübner, 1869), 522–23.

an attempt had been made to poison him. The food served to him made him sick, so he fed his vomit to a dog (a common means of detecting poison): it became lethargic and ‘out of sorts’ but did not die.⁸ According to contemporary European travellers, India’s Mughal rulers used poison to eliminate rivals and fulfil their dynastic aims. Emperors bestowed on princes and the high-ranking nobility robes of honour, known as *khilats*. Their conferment normally signalled the high regard in which the ruler held the recipient, so they could hardly be refused. But such a gesture of honour and appreciation was sometimes inverted: the lining of the robes was impregnated with poison, causing the wearer to die a miserable, agonizing death. Aurangzeb, last of the ‘great Mughals’, who died in 1707, was particularly fond of this device, once unsuccessfully attempting to eliminate his rebellious son Akbar with a ‘killer *khilat*’.⁹

Reports from the Mughal era (again mostly from European sources) further indicate how the emperors used poison to silence or punish dissent. The appeal of this toxic instrument of power was that it could be used without recourse to the shedding of blood by decapitation or by maiming (a fate more fitting for a common criminal) or to imprisonment and exile, from which there was always the possibility of return. Poisoning offered a less violent, arguably less extreme, method of execution, one that allowed the victim to preserve a degree of dignity and status. Like Socrates sipping his hemlock, high-ranking subjects suspected of treachery were obliged to drink a concoction of raw opium known as *post*: this caused stupor, madness and, without a reprieve, death.¹⁰ François Bernier noted in his description of Aurangzeb’s reign:

This *post* is nothing but poppy-heads crushed, and allowed to soak for a night in water. This is the potion generally given to Princes confined in the fortress of Gouāleor [Gwalior in central India], whose heads the Monarch is deterred by prudential reasons from taking off. A large cup of this beverage is brought to them early in the morning and they are not given anything to eat until it be swallowed . . . This drink emaciates the wretched victims, who lose their strength and intellect by slow degrees, become torpid and senseless, and at length die.¹¹

⁸ [Babur], *Babur Nama: Journal of Emperor Babur* (New Delhi: Penguin, 2006), 285–88.

⁹ Michelle Maskiell and Adrienne Mayor, ‘Killer Khilats, Part 1: Legends of Poisoned “Robes of Honour” in India’, *Folklore* 112 (2001): 23–45, esp. 32. Further references to ‘poison robes’ and political poisonings can be found in James Tod, *Annals and Antiquities of Rajasthan* (3 vols, London: Oxford University Press, 1920).

¹⁰ John Fryer, *A New Account of East India and Persia in Eight Letters* (London: Richard Chiswell, 1698), 32, refers to *post* as consisting of bhang (Indian hemp or cannabis) and datura, ‘the deadliest sort of Solanium, or Nightshade’, which made the recipient ‘foolishly mad’. For *post* and its effects, see R. N. Chopra and N. N. Ghose, ‘Addiction to “Post” – Unlanced Capsules of *Papaver somniferum*: Part II’, *IJMR* 19 (1931): 415–21.

¹¹ François Bernier, *Travels in the Mughal Empire, A. D. 1656–1668* (Westminster: Archibald Constable, 1891), 105–07. *Post* was reserved for members of the Mughal

Political execution by means of poison might appear to elevate the practice of poisoning into the realms of the exceptional, and yet even these tales of courtly conspiracy and imperial punishment hint at a more subaltern consciousness. They are an indication of how widely in pre-colonial India knowledge existed about the nature and effects of vegetable and mineral poisons. These accounts passed from imperial memoirs and court chronicles into bardic tales, common legend and popular folklore. Further, the circulation of Indian poison tales in the West, disseminated through widely read narratives like Bernier's, helped shape European perceptions of India as a land of poisons and poisoners. Such tales might even eventually fuel the anxieties of the colonial British, concerned about their own power and vulnerability.¹²

These are themes to which later chapters of this book will return. But for the moment let us persist with the idea that one of the things that made poisons and poisoning matters of everyday importance, that gave them 'lives', was their pervasiveness – or at least the pervasive idea of their presence – in the cultural life of India and in the intimacies of imagination, myth, religion and speech that poison engendered or enriched. Unlike the Judaeo-Christian tradition, in which poison tales are conspicuously absent, Hindu mythology contains a remarkably rich store of poison-lore.¹³ The central Creation myth of the Churning of the Ocean involved a cosmic struggle between gods and anti-gods, between good and evil. It eventuated in the simultaneous generation of the nectar of immortality (*amrita*) and a fiery poison (*visha*) that threatened to engulf and destroy the entire universe. From this primordial source all the world's poisons were said to originate.¹⁴ The conceptualization of poison as a universal negative, a coruscating, life-destroying principle in dialectical opposition to the nectar of purity and virtue, coursed through Indian religious imagery and permeated idioms of the everyday. In another epic myth, the god Shiva swallowed (and forever retained in his throat) the poison spewed out by the serpent Vasuki, thus preventing the contamination of the ocean of milk, which would have destroyed the gods and burned the universe to cinders. Such was the ferocity of this venom that Shiva was himself only saved from destruction by his consort Parvati, who seized him by the neck to prevent his ingesting the poison, but the venom,

royal family 'as being a more secret death, free from the outward signs of laying violent hands upon one of the Blood Royal': *ibid.*, 107.

¹² Michelle Maskiell and Adrienne Mayor, 'Killer Khilats, Part 2: Imperial Collecting of Poison Dress Legends in India', *Folklore* 112 (2001): 164–65.

¹³ British writers saw closer parallels with Rome than with the Bible: A. H. Giles, 'Poisoners and Their Craft', *CR* 81 (1885): 84–85.

¹⁴ N. Subramanya Aiyar, 'Certain Facts Regarding the Poison-Lore of the Hindus', *IMG* 31 (1896): 6.

though contained, remained so intense that it turned his body blue.¹⁵ In further renditions of this story, the terrifying spectre of the *visha purusha*, or poison monster, created by the Churning of the Ocean could only be defeated by the intervention of Brahma, Lord of Creation, who forced the monster to shed its terrifying form and take refuge in the lesser form of venomous snakes, scorpions and spiders.¹⁶ Again, in one of the many tales told of the young Krishna, an ogress named Putana tried to poison him with the milk from her breasts, but she was killed when the infant god, unharmed, sucked the life out of her.¹⁷ There is some resemblance here – in the identification of poisoning as a female trait perversely allied to sex, reproduction and nurture – with the ‘poison maiden’ myth cited earlier.¹⁸

Poison thus stood as the sign for all manner of things that were wicked, corrupting and destructive but also, more positively, those substances that tested – and thereby proved – the divine attributes and doughty qualities of gods, saints and heroes. Monarchs, holy men and their humbler imitators might thus demonstrate their prowess by eating poison or proving immune to its effects. In the Vedas, the god Rudra was described as ‘the master of poison and medicines’, a controller of toxic substances as well as of *soma* and other consciousness-altering drugs.¹⁹ At the other end of the spectrum of divinity, poison might be used to test whether an old woman was a witch – even though death alone might be the demonstration of her innocence.²⁰ Poison thus bore a dual identity: it was both destroyer and enabler. It could cause or threaten the destruction of kings, gods, demons, even the universe, but it could also be the means by which – contained, overcome, redirected – the superior intellect, courage, wisdom or spiritual strength of the god, sage and warrior-king could find demonstration and proof. This was a mythic principle, but it was also an idea fecund in its historical implications, in its social and even scientific application.

Poison featured in the high Hindu tradition and in Sanskrit texts but it surfaced, too, in many of the popular, vernacular works of the *bhakti* (devotional) canon. Thus, for the ardent devotee, separation from the divine presence could itself be understood as a species of poison, so

¹⁵ Veronica Ions, *Indian Mythology* (London: Newnes, 1983), 43.

¹⁶ K. M. Shyam Sundar, *Treatment for Poisons in Traditional Medicine* (Madras: Centre for Indian Knowledge Systems, 1996), 3.

¹⁷ Wendy Doniger, *The Hindus: An Alternative History* (New York: Penguin, 2009), 478.

¹⁸ Lee Siegal, *Sacred and Profane Dimensions of Love in Indian Traditions as Exemplified in the Gitagovinda of Jayadeva* (Delhi: Oxford University Press, 1978), 130–31.

¹⁹ Doniger, *Hindus*, 120.

²⁰ ‘It is a common superstition in the country that witches withstand the action of poisonous drugs’: *ARCED (Bengal)*, 1899, 16.

intense was the sense of physical and spiritual loss.²¹ In the *Adi Granth*, the collection of sacred hymns compiled during the period of the Sikh gurus (1469–1708), poison is repeatedly invoked as a metaphor to represent the falsehoods and temptations that stand in the way of the devotee's pursuit of the divine, just as egotism and neglect of the guru amount to poison in almost literal form. In the verses of the 'Siri Raag', the deluded worshipper, swayed by passion and by lust ('the great poison'), imagines himself in pursuit of nectar when he is in fact drawn to the poison of ignorance and so lured to moral and spiritual death.²² In another of the hymns, the 'Raag Gauri', the devotee who is attached to 'lust, wrath and love', 'eats poison considering it a sweet thing', while of the false believer it is said that 'In his heart is poison, [but] with his mouth he utters nectar'.²³ The world is an ocean of poison, a sea of illusion, across which only the wise guru can navigate and guide the devotee. If true belief is *amrita*, then poison, 'the liquor of folly', is its malign antithesis.²⁴ These sacred verses display a common religious tendency to associate women, and the lust they arouse in men, with moral and spiritual poison. But several of them also depart from a purely metaphorical idiom by identifying poison with specific plants, seeds and fruits, thereby conflating poison as moral message with poison as material object.²⁵

Looking forward in time for a moment, it is hardly surprising that the mythic modelling and scriptural appropriation of poison found its way into later literary convention and the political imagery of the nineteenth and twentieth centuries. In 1873, the Bengali writer Bankim Chandra Chatterjee published a novel entitled *Bisha Briksha* ('The Poison Tree'), which drew upon the popular idea of a poison tree that (like the poison maiden) fatally infected and corrupted all those who came near it: this was the 'upas tree' of European literature and legend.²⁶ In Bankim's novel, the poison tree symbolizes human desire, anger and envy. In the words of the author, 'The want of self-control is the germ of the poison tree, and also the cause of its growth. This tree is very vigorous; once nourished, it cannot be destroyed. Its appearance is very pleasing to the eye . . . But its

²¹ Siegal, *Sacred*, 149, 27, 274.

²² Ernest Trumpp (ed.), *The Adi Granth, or the Holy Scriptures of the Sikhs* (London: William Allen, 1877), 53, 59, 106, 129.

²³ *Ibid.*, 250, 276. ²⁴ *Ibid.*, 499, 561. ²⁵ *Ibid.*, 206.

²⁶ On the 'upas' myth, see Henry Yule and A. C. Burnell, *Hobson-Jobson: A Glossary of Colloquial Anglo-India Words and Phrases* (2nd ed., London: Routledge & Kegan Paul, 1985), 953–59. The real upas tree (*Antiaris toxicaria*) grew in India's Western Ghats and had medicinal as well as toxic properties: R. N. Chopra, R. L. Badhwar and S. Ghosh, *Poisonous Plants of India* (New Delhi: Indian Council of Agricultural Research, 1965), 2: 811–12.

fruit is poisonous; who eats it dies.'²⁷ In the story, Nagendra, a wealthy young landlord (zamindar), becomes smitten with the young orphan girl Kunda whom he has adopted, causing his devout, self-sacrificing wife, Surya Mukhi, to try to escape her emotional turmoil by leaving home. Nagendra belatedly realizes his mistake, and Surya returns home from her ordeal of separation and wandering to find a repentant husband. Bankim ends the story remarking: 'The "Poison Tree" is finished. We trust it will yield nectar in many a house.'²⁸ It gives added weight to this moral tale that Bankim took a keen personal interest in Western medical ideas and their application to everyday life. In 1878, he published in *Bangadarshan*, the Bengali journal he had founded six years earlier, an account of a 'toxicological chart' compiled by a Calcutta Medical College graduate, Harishchandra Sharma. Intended for hanging on the wall for household use, the chart gave a brief description of various metallic, herbal and animal poisons, their symptoms and treatment.²⁹ In the 1870s, poison (as both a material and a moral entity) and its potential dangers within the home were evidently much on Bankim's mind.

The rhetorical invocation of poison did not end with the nineteenth century. Mohandas Gandhi frequently used the image of poison not just to formulate a moral agenda like Bankim did, but also to make his anti-colonial message more compelling. In 1909, he likened sexual vice and the passion for money to a poison, one that was worse than the bite of a snake: snake venom 'merely destroys the body' whereas lust and greed 'destroy body, mind and soul'.³⁰ In a speech made in 1916, following his return from South Africa, he remarked: 'England has sinned against India by forcing free trade upon her. It may have been food for her, but it has been poison for this country.'³¹ When violence erupted at Chauri Chaura in northern India in February 1922, and threatened to engulf Gandhi's non-violent civil disobedience movement, the Mahatma inveighed against 'the crime', and then 'the poison', of Chauri Chaura.³² Two decades later, speaking at Patna in 1947, he argued that while foreign mill cloth was 'like poison', handmade homespun cloth (*khadi*) was 'like

²⁷ Bankim Chandra Chatterjee, *The Poison Tree: A Tale of Hindu Life in Bengal* (London: T. Fisher Unwin, 1884), 191–92.

²⁸ *Ibid.*, 314.

²⁹ *Bangadarshan* 6 (1285 Bengali era): 101–03, with thanks to Projit Bihari Mukharji.

³⁰ M. K. Gandhi, *Hind Swaraj* (1909) in Anthony J. Parel (ed.), *M. K. Gandhi: Hind Swaraj and Other Writings* (Cambridge: Cambridge University Press, 1997), 108.

³¹ Speech at Madras, 14 February 1916, [M. K. Gandhi], *Collected Works of Mahatma Gandhi* 13 (New Delhi: Publications Division, Ministry of Information and Broadcasting, 1964), 223.

³² [M. K. Gandhi], *Gandhi's Speeches and Writings* (Madras: G. A. Natesan, n.d.), 657.

nectar'.³³ A device to differentiate the Indian self from its colonial other, poison also had its post-colonial usages. Shortly after Gandhi's assassination in January 1948, India's prime minister, Jawaharlal Nehru, made an impassioned speech in Delhi, calling on India to rid itself of the 'poison' of communalism. 'The flow of poison', he warned, 'if not checked immediately, was sure to lead the country to even greater disasters'.³⁴

Poison and the healing art

The Sanskrit word *visha* – the *bish* of north Indian vernaculars and springing from the same etymological root as the English word 'vicious' – could signify all that was evil, destructive and corrupting. But a notion of *bish* as both poison and cure was widely present in Indian medicine, from the written texts of Ayurveda and Unani medicine through to the many variants of folk medical practice and belief.³⁵ Indeed, India's medical traditions can be categorized as being as much systems of toxicology – or poison management – as of therapeutics. As stated in the *Caraka Samhita*, 'Even acute poison is converted into an excellent medicine by the right method of preparation; while even a good medicine may act as an acute poison if improperly administered'.³⁶ Or, as paraphrased by Uday Chand Dutt, 'Taken in large doses, poisons destroy life, but, judiciously used, they act as curatives and restore health, even in dangerous diseases'.³⁷ Toxicity might thus be a power worthy of embrace, not a poison damsel to be shunned.

Poisons figured prominently in early Ayurvedic texts, their properties, symptoms and antidotes forming one of the eight principal branches of medical knowledge. Great importance attached to the *vaid* (physician) having an extensive knowledge of poisons so as to serve the king for whom poisoning was 'a peril from which he is rarely free'.³⁸ Ayurveda divided *visha* into several categories. These included the broad characterization of

³³ Address to Workers, Patna, 24 April 1947, [M. K. Gandhi], *Collected Works of Mahatma Gandhi* 87 (New Delhi: Publications Division, Ministry of Information and Broadcasting, 1983), 349.

³⁴ *ToI*, 3 February 1948, 8.

³⁵ The idea of medical systems in India has been much criticized, partly on the grounds that medical beliefs and practice exhibited enormous internal differences and regional variations, exchanged ideas and practices among themselves (and latterly with Europe) and were only coherent 'systems' in Western eyes. The concept remains useful, however, in addressing the broad divisions in medical belief, practice and agency in India.

³⁶ *Caraka Samhita* (6 vols, Jamnagar: Shree Gulabkunverba Ayurvedic Society, 1949), 2: 27.

³⁷ Uday Chand Dutt, *The Materia Medica of the Hindus* (Calcutta: Thacker, Spink, 1877), 7.

³⁸ Henry R. Zimmer, *Hindu Medicine* (Baltimore: Johns Hopkins University Press, 1948), 85–86.

a poison according to its plant, mineral or animal origin, further differentiated by its source within a given plant (such as roots, leaves, fruits and tubers) or from a particular animal part or product (saliva, faeces, vomit, menstrual fluid). Poisons were variously said to be rough, hot, quick, penetrating, slow and subtle. As therapeutic substances, their nature and functions were classed according to their physical effects on the human body, understood within a humoral system of physiology and diagnostics in terms of wind, bile and phlegm, while in their toxic guise they were thought of as attacking and vitiating the essential organs and tissues of the body and so extinguishing the elements that gave or sustained life.³⁹ In Ayurveda and across Indian medicine more generally, poisons were thought of as substances that had a 'heating' or stimulating effect. Their 'hot' energy excited the body, enabling it to overcome lethargy, impotence and frigidity.⁴⁰ Given in therapeutic doses, such substances were not inherently toxic: they acted as stimulating tonics rather than life-threatening drugs. Indeed, their potency was valued for the added efficacy they brought to healing medicaments and compounds designed to counter dangerous or intractable complaints, as in the use of arsenic and mercury to treat leprosy.⁴¹

Turning a lethal substance into a medicinal one was an art that required the knowledge and skill of a trained physician – or at least one well versed in the texts. In many drug preparations, the technique lay in knowing ways to manage toxicity and turn its dangerous potency to sound therapeutic use. This might be done by combining the raw drug with other substances so as to harness its strength while moderating its toxicity, or by marinating, soaking and 'cooking' the ingredients so as to render them fit for human use. In 1826, in one of the first European descriptions of the preparation of Indian medicines, H. H. Wilson detailed the treatment of cholera patients by Bengali *vaid*s. According to his Indian informant, if the disease failed to respond to initial medical intervention, the physician, having first sought the permission of relatives, would turn to animal or vegetable poisons. The ingredients in these potions included cobra venom and *bish* or *bisk* (here meaning the drug aconite from the roots of *Aconitum ferox*), made up into pills with such formidable names as the 'death-destroying pill' and 'the recovery of the dead'. One of the most popular medicaments was a compound prepared from *bish*, red and yellow arsenic, mercury, mica, sulphur and vermilion, steeped in lime juice, ginger and cannabis. The mixture was boiled, cooled, beaten into a

³⁹ Sundar, *Treatment for Poisons*, 5–8.

⁴⁰ Francis Zimmermann, *The Jungle and the Aroma of Meats: An Ecological Theme in Hindu Medicine* (Berkeley: University of California Press, 1987), 112, 122.

⁴¹ H. H. Wilson, 'Kushta, or Leprosy, as Known to the Hindus', *TMPSC* 1 (1825): 43–44.

paste and combined with animal and fish gall. From this, tiny pills were prepared (small enough to pass through the eye of a needle) and administered with a cooling draught of coconut milk. The medicine was said to raise the pulse rate and encourage natural heat to return to the body (which in cholera became deadly cold). If necessary, a second dose was administered.⁴² In 1877, fifty years after Wilson, Uday Chand Dutt placed a chapter on poisons at the very start of his account of the 'materia medica of the Hindus', as if to demonstrate the unapologetic centrality of toxicological knowledge to indigenous medical practice. Like Wilson, Dutt gave a detailed description of how medicines containing poisons were prepared, including one which required a portion of *Aconitum* root to be purified by steeping in cow's urine for three days before use. Another preparation called for aconite to be mixed with sulphur, black pepper, borax and cinnabar, before being made up into pills as a febrifuge.⁴³

How far such elaborate instructions and intricate techniques were followed in practice is unclear. But such accounts do show that the therapeutic, as well as toxic, properties of metals and minerals were well known to pre-colonial India. However, as many of these substances were not used or available in a pure form, understanding of their toxic potency was perhaps limited. Mercury was principally used in the form of cinnabar (sulphide of mercury). Arsenic was most widely known through its sulphides, red arsenic (realgar) and, more especially, yellow arsenic (orpiment), which were far less toxic than pure white arsenic. It further appears that a number of metallic poisons like mercury, as well as vegetable drugs like opium, were absent from, or little used in, ancient Ayurveda. They became more common with the arrival of Muslim hakims, practitioners of the Unani ('Greek' or Hippocratic) system of medicine, from the thirteenth century onwards.⁴⁴ In most Ayurvedic texts, vegetable and animal poisons far outweighed minerals in their number and utility. But India's toxic knowledge did not flourish in isolation. Poison-lore circulated for centuries between India and the Middle East: several Indian treatises on poison and other branches of medicine, some now lost in the original, were translated into Persian and Arabic between the eighth and twelfth centuries. Among these was an influential text attributed to an Indian author identified only as 'Shanaq': his work in turn formed a major source for Ibn Wahshiya's *Book on Poisons* in ninth-century Iraq.⁴⁵ Long before the *Arabian Nights*

⁴² H. H. Wilson, 'On the Native Practice in Cholera', *TMPSC* 2 (1826): 284–87.

⁴³ Dutt, *Materia Medica*, 96–97. ⁴⁴ *Ibid.*, xi, 23.

⁴⁵ Martin Levey, 'Medieval Arabic Toxicology: The *Book of Poisons* of Ibn Wahshiya and Its Relation to Early Indian and Greek Texts', *Transactions of the American Philosophical Society* 56 (1966): 6–10.

reached Europe and infiltrated the Western imagination, Middle Eastern texts had already assigned an exceptional potency to Indian poisons. Alongside ‘poison maidens’, they noted such powerful drugs as ‘Indian aconite’ (*bish*), and poison mixtures of Indian origin such as *bishrahi*.⁴⁶ Indian works were further cited by Middle Eastern writers as authorities on ‘sex potions’ and aphrodisiacs.⁴⁷

Medical texts and treatises, whether by Muslim or Hindu authors, continued into early modern times to make reference to specific poisons, their uses, symptoms and antidotes, though the extent of their description and the importance ascribed to particular substances varied widely. A seventeenth-century text by Noureddeen Mohammed Abdullah Shirazi, court physician to the Mughal emperor Shah Jahan, made only passing reference to wolf’s bane (a drug of the aconite family) and other poisons.⁴⁸ A century later, another Unani treatise, translated into English as the *Taleef Shereef*, referred to a number of vegetable, mineral and animal substances that were identified as having both therapeutic and toxic properties, including aconite, datura, orpiment and nux vomica – the latter the source of deadly strychnine.⁴⁹

Beyond the formal texts and orthodox practices of Ayurvedic and Unani practitioners, there existed a vast popular poison-lore and a great range of practitioners from rural *vaid*s and hakims through itinerant sadhus and fakirs to individual villagers – women and men – who were renowned for their healing skills. For instance, leaves of the datura plant, a drug that features prominently in the following chapters for its criminal associations, were pounded and mixed with turmeric to make a cooling paste applied to inflamed parts of the body. The leaves were mixed with opium and oil to remove body lice and cure skin diseases, or made up into pills to treat toothache. Datura leaves were smoked to relieve asthma and other respiratory ailments.⁵⁰ Given the plant’s wide distribution, such medicinal uses were common, did not require formal doctoring, and belied the notoriety that became attached to datura in colonial times.

⁴⁶ *Ibid.*, 14–15, 85, 118.

⁴⁷ David L. Newman (ed.), *The Sultan’s Sex Potions: Arab Aphrodisiacs in the Middle Ages* (London: Saqi Books, 2014), 33–35.

⁴⁸ Francis Gladwin, *Ulfaz Udwiyyeh, or the Materia Medica in the Arabic, Persian, and Hidevy Languages Compiled by Noureddeen Mohammed Abdullah Shirazy* (Calcutta: Chronicle Press, 1793).

⁴⁹ George Playfair, *The Taleef Shereef, or Indian Materia Medica* (Calcutta: Medical and Physical Society, 1833), 29–31, 81–82, 107–08.

⁵⁰ William Dymock, *Pharmacographia Indica: A History of the Principal Drugs of Vegetable Origin, Met With in British India* (3 vols, Calcutta: Thacker, Spink, 1890–91), 2: 586.

The social function of poison

Within the wide ambit of pre-colonial medicine, toxicology was an established art and poison management a significant mode of therapeutic activity. In other social and cultural realms, toxic substances had a seemingly less prominent role, but this did not make them unimportant. Indeed, to think about the social uses of poison in pre-British and early colonial India is to reflect on the extent to which a knowledge of poisons was widely dispersed across society, as a matter of popular, and not merely elite, understanding and practice. But it is often difficult to document the nature and extent of this social engagement with poison except through colonial sources that were hostile to its use. Poisons and intoxicants of one description or another came to be implicated in what J. C. Marshman referred to as those ‘barbarous customs’, ‘atrocious rites’ and ‘criminal acts’ – from female infanticide through sati to *thugi* – which Western commentators so decried and saw as an urgent rationale for colonialism’s ‘mission of humanity’, and whose extirpation was presented as proof of Europe’s ‘benevolent labours’.⁵¹ Precisely because of the way in which commonplace drugs like opium and datura were drawn into this condemnatory rhetoric and the science it spawned, it is difficult to reconstruct their everyday use except through sources colonial rule itself generated.⁵² Any attempt to present the social life of substances is thus tainted by colonialism’s epistemological quest and politicizing agenda, as poisons and poisoning became subject to the regime’s ideology, policing and judicial and forensic processes.

If we take, for instance, what colonial sources described as the ‘peculiar and unnatural crime’ of female infanticide, then opium poisoning was identified as one of the means by which unwanted girl children met their deaths in the Rajput lineages of western, central and northern India, where that practice was followed.⁵³ Contemporary accounts include reference to asphyxiation, drowning, starvation and general neglect, but

⁵¹ John Clark Marshman, *The History of India* (3 vols, London: Longmans, Green, Reader & Dyer, 1867) 3: 51, 59, 104, 107.

⁵² Daniel J. R. Grey, ‘Creating the “Problem Hindu”: Sati, Thuggee and Female Infanticide in India, 1800–60’, *Gender and History* 25 (2013): 498–510.

⁵³ Charles Raikes, *Notes on the North-Western Provinces of India* (London: Chapman & Hall, 1852), 4. On female infanticide, see Malavika Kasturi, ‘Law and Crime in India: British Policy and the Female Infanticide Act of 1870’, *Indian Journal of Gender Studies* 1 (1994): 169–93; idem, ‘Taming the “Dangerous” Rajput: Family, Marriage and Female Infanticide in Nineteenth-Century Colonial North India’, in Harald Fischer-Tiné and Michael Mann (eds), *Colonialism as Civilizing Mission: Cultural Ideology in British India* (London: Anthem Press, 2004), 117–40; Satadru Sen, ‘The Savage Family: Colonialism and Female Infanticide in Nineteenth-Century India’, *Journal of Women’s History* 14 (2002): 53–79.

opium was reported as one of the main methods used to extinguish infant lives. It is not hard to find reasons for this. Opium was a common household commodity across the region where female infanticide occurred. It was used among Rajputs as a narcotic and domestic remedy for various ailments including fever: indeed, there were few locally available substances that had a wider range of medical applications. Its capacity to kill (especially when given to infants) was clearly not the reason for its domestic presence, just as opium and laudanum were present in Victorian households in Britain without being thereby intended for suicide and murder. Opium was representative of the way in which in India, as elsewhere, poisons were everyday substances put to exceptional uses. Unlike some of India's more ferocious drugs, such as aconite and nux vomica, opium promised a milder manner of death, one more akin to sleep than murder. Moreover, while within a patriarchal social system it was the male heads of Rajput households who directed or approved the killing of infant girls – for reasons of caste status and social prestige rather than marry them into families socially inferior to their own – they did not do the killing themselves. That was a task delegated to women. As an Indian informant told the British political agent in Gujarat in 1808, it was an 'affair of the women' and 'no part of the business of men'. Opium was smeared on the mother's nipples or kneaded into a small ball and inserted into the baby's mouth by *dais* (midwives) and other household servants with ready access to opium.⁵⁴

The identification of poisoning with women, rather than men, can be seen as one of its most striking trans-cultural characteristics, though how far this represents a negative stereotype of women or reflects a social reality in which women were more frequently poisoned than men is open to question.⁵⁵ According to one textbook of medical jurisprudence, women in India, 'more so than in Europe, employ poison rather than bodily violence, and their crime is directed for the most part against their husband, or some rival in his affections'.⁵⁶ Certainly, to omit poison from the social history of India would be to deny women (and men) a kind of

⁵⁴ Alexander Walker to Jonathan Duncan, Governor of Bombay, 15 March 1808, in Edward Moor, *Hindu Infanticide: An Account of the Measures Adopted for Suppressing the Practice of the Systematic Murder by Their Parents of Female Infants* (London: J. Johnson, 1811), 53.

⁵⁵ Ian Burney, *Poison, Detection, and the Victorian Imagination* (Manchester: Manchester University Press, 2006), 21–24. Katherine Watson, *Poisoned Lives: English Poisoners and Their Victims* (London: Hambledon Continuum, 2004), 45, notes that 'contrary to popular opinion' in Victorian England, the number of male and female poisoners was roughly equal. On women poisoners in Britain, see George Robb, 'Circe in Crinoline: Domestic Poisonings in Victorian England', *Journal of Family History* 22 (1997): 176–90.

⁵⁶ Waddell, *Lyon's*, 29–30.

agency in their own lives as well as to overlook a significant marker of their subordination and victimhood. In India, men were rarely reported as having poisoned women. This is not to suggest that uxoricide did not happen: it clearly did, but, with other forms of violence available to men, many of them socially sanctioned, arsenic and opium were not the usual means of doing so.

It was observed in the Introduction that statistical evidence for poisoning during the colonial era was often scanty. Female infanticide is a case in point. If the practice was as widespread as many British commentators believed, then opium poison was implicated in the death of thousands (even tens of thousands) of female children every year and thus a significant factor in depressing India's population overall and in creating a marked gender imbalance in which, across large swathes of northern and western India, males greatly outnumbered females.⁵⁷ Of course, it was infanticide as such, rather than the instrumental use of opium, that the British sought to suppress and which became the subject of the 1870 Female Infanticide Act, and yet by association drugs like opium and datura came to be seen as the embodiment of a singularly Indian barbarity and a specific danger to human life.

Suicide, like murder, can reasonably be assumed to have had many different motives, but most of these passed unrecorded in India's colonial archive. According to Robert Harvey, 'One man killed himself because he was blind and helpless; another on account of a disagreement about some land; a third on being arrested on a charge of theft; a fourth because he was out of work and tired of life; but the motives, as a rule are not given'.⁵⁸ Although Harvey referred only to men's motives, it was more usually women than men who took their own lives. They might find any number of means to do so. Fanny Parks, living in Allahabad in 1828, was concerned about the oleanders growing in her garden, fearing that horses and cows might eat their poisonous leaves, but more especially that they would be used by Hindu women, who, 'when tormented by jealousy, have recourse to this poison for their self-destruction'.⁵⁹ But opium was

⁵⁷ Walker's informant suggested that 20,000–30,000 female Rajput infants perished in Gujarat in this way every year, but admitted that there were no firm data: Moor, *Hindu Infanticide*, 60.

⁵⁸ Robert Harvey, 'Report on the Medico-Legal Returns Received from the Civil Surgeons in the Bengal Presidency during the Years 1870, 1871, and 1872', *IMG* 11 (1876): 60. On suicide, see also W. J. Buchanan, 'A Chapter on Medical Jurisprudence in India', in Fred. J. Smith (ed.), *Taylor's Principles and Practice of Medical Jurisprudence* (7th ed., London: J. & A. Churchill, 1920, 2 vols), vol. 2, 894–95, 894–95; T. E. B. Brown, *Punjab Poisons* (3rd ed., Lahore: 'Civil and Military Gazette' Press, 1888), 119–23.

⁵⁹ Fanny Parks, *Wanderings of a Pilgrim in Search of the Picturesque* (2 vols, London: Pelham Richardson, 1850), 1: 78.

most commonly the substance employed. In an analysis of suicides in one district of the North-Western Provinces in 1891, G. D. McReddie reported that just over half of recent victims (97 out of 180) had taken opium and nearly 80 per cent of these were women. He found their use of opium easy to explain: opium poppies grew in the fields, and opium was a common household commodity. 'Hanging and drowning require a certain amount of forethought and preparation', he added, while opium was 'a means close to hand; all that is required is to swallow a small quantity and the passage to another world is easy and speedy'.⁶⁰

Like female infanticide, suicide by opium showed women as both perpetrators and victims but within a patriarchal system that assigned women low status and allowed them few independent choices. One might set against this the many reported cases in which a young wife, sometimes at a lover's instigation, tried to kill her much older husband by putting arsenic in his food and, in this limited sense, might be said to have defied patriarchy.⁶¹ This suggests the possibility of viewing poison as, actively or implicitly, an act of 'everyday resistance'.⁶² But all too commonly, the consequence of oppression and unhappiness was suicide, an act that turned the agency of poison not against father, husband and in-laws but against the lonely, shamed, troubled woman herself.

Unlike some of the poison crimes considered later in this book, one can sometimes detect a degree of sympathy for women who resorted to suicide, abortion and murder. In the colonial system of justice, empathy seldom ensured exemption from punishment, but it might favour its modification. For instance, in 1830, a 16-year-old woman named Fatima was charged with trying to murder her husband with arsenic and lead acetate: the appeal judges in Bombay reduced the lower court's sentence of ten years' imprisonment to 18 months on account of her youth and the fact that her husband had survived her attempts to poison him.⁶³ In another Bombay case two years earlier, Johre Kome Babnya was accused of murdering her husband 'by putting poison into his *kitcheree* [kedgerie], of which he partook and died the same evening'. When it was claimed that she wanted to kill her husband in order to live with her lover, she countered by alleging that she was being falsely accused because she

⁶⁰ G. D. McReddie, 'Opium Suicides in Hardoi District', *IMG* 26 (1891): 168.

⁶¹ For one such case, involving a 15-year-old Muslim girl and the death by arsenic poisoning of her older husband, see *ARCED (Bengal)*, 1915, 6.

⁶² James C. Scott, *Weapons of the Weak: Everyday Forms of Peasant Resistance* (New Haven, CT: Yale University Press, 1985). Cf. Giles, 'Poisoners', 108: 'Poison is naturally the weapon of the weak.'

⁶³ For domestic poisonings, see A. F. Bellasis (comp.), *Reports of Criminal Cases Determined in the Court of Sudder Foujdaree Adawlut of Bombay* (Bombay: Government Press, 1849), 37–38.

had refused her brother-in-law's 'incestuous solicitations'. The sessions judge sentenced her to two years' imprisonment, but the judges of the superior court questioned the evidence in the case, especially the absence of a post-mortem, believed Babnya's 'confession' had been forced out of her, and quashed her conviction.⁶⁴

The use of poisons – or, more exactly, what came in the course of the nineteenth century to be designated poisons – was often deeply paradoxical. Substances like opium, aconite and even arsenic were widely regarded as having aphrodisiac powers. By the late nineteenth century, 'love potions' of this kind were not only prescribed by local *vaid*s and hakims but also widely advertised – and, in British eyes, scandalously displayed – for sale in the Indian press.⁶⁵ Such substances might be sought after as an aid to sexual prowess and pleasure but more commonly they were seen as medicaments, a cure for impotence and infertility (but also for syphilis) and as an aid to procreation, and hence the fulfilment of the social imperative to bear children, especially male ones. Reflecting a staunchly masculine view of the world and the gendered function of therapeutics, the *Caraka Samhita* left readers in no doubt that the purpose of aphrodisiacs was to stimulate male sexual desire, increase the flow of semen and so create progeny.⁶⁶ The paradox is that what functioned as a poison – as a life-destroying force – in one context served in another as an empowering substance – to facilitate the creation of life itself. To extend the paradox still further, the aphrodisiacs and elixirs in popular use were identified by practitioners of Western medicine as a source not of pleasure but, by dint of their toxic ingredients, of death or serious injury by poisoning. And the same substances that were touted as being conducive to pleasure and procreation in one context were in another among those used, in suicide, infanticide and husband murder, to end life. In this topsy-turvy world, wives who murdered their spouses with arsenic or aconite could claim in their defence that they had intended the 'medicine' that killed their husband as a 'love philtre' to regain his waning passion or to ensure the birth of a much-needed child.⁶⁷

The observation about poison's ambiguous nature and paradoxical effects can be taken a stage further if we turn to abortions. Like female infanticide, the use of poisons to cause abortion can be seen not only as a

⁶⁴ *Ibid.*, 16–18.

⁶⁵ Charu Gupta, *Sexuality, Obscenity, Community: Women, Muslims, and the Hindu Public in Colonial India* (Delhi: Permanent Black, 2001), 72–73, 80; Deana Heath, *Purifying Empire: Obscenity and the Politics of Moral Regulation in Britain, India and Australia* (Cambridge: Cambridge University Press, 2010), 175–76, 197.

⁶⁶ *Caraka Samhita* (5 vols, Delhi: Sri Satguru Publications, 1996), 3: 700.

⁶⁷ C. H. Bedford, 'Notes of Some Toxicological Experiences in Bengal and in the Punjab', *IMG* 37 (1902): 204.

further example of a toxicity operating within a female domain of knowledge and practice, but also as simultaneously serving to uphold patriarchal social values and caste authority. Abortions were largely sought after by women to destroy the foetal evidence of proscribed or involuntary sexual relations – between members of the same family (brothers-in-law, fathers-in-law), between men and women of different castes (where marriage between castes was proscribed) or between widows and their lovers in a society where women married at a very young age but on becoming widows were prohibited from remarrying. In the view of one colonial medical officer discussing abortion, ‘The prohibition of widow-marriage is . . . at the bottom of these evils’, adding that ‘fear of excommunication [from their caste] leads the unfortunate creatures to become either active or passive agents in the crime’.⁶⁸ Another doctor remarked that ‘The system of infant marriages and enforced widowhood have a great deal to do with the frequent recourse to abortive agents’.⁶⁹

The extent to which abortion was practised to prevent the birth of an unwanted child is difficult to establish for any society, especially before legislation was introduced to legalize its use. Abortion was illegal under colonial law and regarded as a ‘defining moral sin’, on a par with killing a Brahmin, in Hindu religious texts.⁷⁰ In 1854, C. R. Baynes expressed a widely held view when he remarked that ‘It may be feared that this crime [abortion] prevails in this country to a far greater extent than we have any accurate idea of’.⁷¹ In 1920, W. J. Buchanan similarly observed: ‘It is impossible to obtain statistics of the degree of prevalence of this offence, as it is only the fatal cases that come to the notice of the police.’⁷² The bodies of women who died following an abortion were often concealed or their deaths attributed to other causes. Among the 361 medico-legal cases referred to Bengal’s chemical examiner in 1873–74, 45 involved suspected abortion.⁷³ In the 1880s, Dulip Singh, on leave in rural Punjab, heard of fifteen abortions being carried out in two adjacent villages (with a combined population of around 4,000) over a two-month period – all performed by one old woman.⁷⁴ Abortionists were mostly village women, especially *dais* – low-caste midwives – who were themselves an object of

⁶⁸ V. Richards, ‘Criminal Abortion’, *IMG* 6 (1871): 230.

⁶⁹ Dulip Singh, ‘Modes of Inducing Criminal Abortion in the Punjab’, *IMG* 20 (1885): 9.

⁷⁰ Doniger, *Hindus*, 572.

⁷¹ C. R. Baynes, *Hints on Medical Jurisprudence, Adapted and Intended for the Use of Those Engaged in Judicial and Magisterial Duties in British India* (Madras: Pharos, 1854), 128.

⁷² Buchanan, ‘Medical Jurisprudence’, 896.

⁷³ Supriya Guha, ‘The Unwanted Pregnancy in Colonial Bengal’, *Indian Economic and Social History Review* 33 (1996): 412–13. On the difficulty of detecting abortion, see Harvey, ‘Report’, 145.

⁷⁴ Singh, ‘Modes’, 9.

intense colonial hostility for their crude, violent and unhygienic birthing techniques. Their association with abortion further diminished their standing among colonial medical officers.⁷⁵ But bazaar apothecaries and druggists (*pansaris*) also supplied the necessary drugs where these were not found growing locally.

Various methods were used to cause an abortion. Some sources suggested that abortion was ‘largely done by drugs’; others questioned this, suggesting that external, ‘mechanical’ means were more common.⁷⁶ ‘Mechanical’ methods involved putting pressure on a woman’s abdomen, or forcing twigs or a wedge of cotton and other objects into her uterus. Ingestion of, or internal exposure to, toxic substances, presented in the guise of ‘medicines’, was another technique, and the *materia medica* of British India contain a large number of substances, most of vegetable origin, used for this purpose. The root of *lal chitra* (*Plumbago rosea*) was the drug most commonly cited, but a host of other plant substances such as oleander and marking nut were used, as were quicklime, arsenic and potassium carbonate.⁷⁷ These toxic doses brought on violent spasms, retching, vomiting and purging. Smearred on suppositories and thrust into the uterus, poisons caused severe internal inflammation and violent uterine contractions. Given the crude manner in which they were performed, abortions were life threatening – alike to mother and foetus. Women suffered severe internal injuries (particularly from perforation of the wall of the uterus) and died an intensely painful death from blood poisoning and peritonitis.⁷⁸ Nowhere, perhaps, than in abortion was the violence of poison made more apparent.

⁷⁵ On *dais*, see Geraldine Forbes, ‘Managing Midwifery in India’, in Dagmar Engels and Shula Marks (eds), *Contesting Colonial Hegemony: State and Society in Africa and India* (London: Academic Press, 1994), 152–72; Sean Lang, ‘“Drop the Demon *Dai*”, Maternal Mortality and the State in Colonial Madras, 1840–1875’, *Social History of Medicine* 18 (2005): 357–78.

⁷⁶ Brown, *Punjab Poisons*, 5; [Anon.], ‘The Poisons Used to Destroy Human Life in Bengal’, *IMG* 20 (1885): 321.

⁷⁷ Kanny Lall Dey, ‘Medicinal Substances Used by Native Practitioners’, in A. M. Dowleas, *Official Classified and Descriptive Catalogue of the Contributions from India to the London Exhibition of 1862* (Calcutta: Bengal Printing Co., 1862), 75–77; *RCA (Bombay), 1874–75*, 11. On *lal chitra*, see J. C. Lisboa, ‘Famine Plants: Wild Herbs, Tubers, Etc. Used as Food during Seasons of Scarcity’, in *Gazetteer of the Bombay Presidency. Vol. 24: Botany* (Bombay: Government Central Press, 1886), 266; John D. Gimlette, *Malay Poisons and Charm Cures* (3rd ed., Kuala Lumpur: Oxford University Press, 1971), 201–04.

⁷⁸ Richards, ‘Criminal Abortion’, 230–31; Ranajit Guha, ‘Chandra’s Death’, in Partha Chatterjee (ed.), *Ranajit Guha, The Small Voice of History: Collected Essays* (Ranikhet: Permanent Black, 2009), 271–303; Indira Chowdhury, ‘Delivering the “Murdered Child”: Infanticide, Abortion, and Contraception in Colonial India’, in Deepak Kumar and Raj Sekhar Basu (eds), *Medical Encounters in British India* (New Delhi: Oxford University Press, 2013), 275–98.

Poverty and poison

Poison had as close, and as troubling, a relationship with poverty as it did with gender. In the course of the nineteenth century, India was convulsed by a series of major famines. Few areas of the country were immune to hunger, dearth and the epidemics of smallpox, cholera, malaria and dysentery that accompanied famine or crowded in its wake. Millions died from starvation, disease and their combined effects. A common factor in India's famines was the failure of food crops or a fatal combination of food scarcity and high prices with the loss of employment and purchasing power. One of the many responses of famine-struck populations was thus to look beyond their normal means of subsistence, beyond field crops and the marketplace, and to forage instead for 'famine foods'. These 'surrogate' foods might be found growing on the margins of cultivation, on waste ground, in forests and jungles. Some were wild grasses, grains and greens, while others were the roots, fruits and leaves of plants that were familiar to consumers in normal times, but used only sparingly or seasonally to supplement more wholesome foods.⁷⁹ But famine necessitated the eating even of ill-favoured foods normally considered too bitter or irritant for use. Others required cooking to make them palatable – a task that was impossible in desperate times when fuel was in short supply, cooking utensils had been sold and famine-struck survivors were too weak to do more than gather and eat what they found in the wild. Some plants were actively toxic: one account of famine in mid-1890s Bengal refers to tribal Santhals emerging from the forest with armfuls of wild plants, 'enough', an observer wrote, 'to poison a regiment'.⁸⁰ Some surrogate foods, even if they did not kill outright, caused severe diarrhoea or acute irritation to the gut and bowels, further weakening the hungry and malnourished. As with the use of poison in infanticide and abortion, the extent of the debility and mortality caused by recourse to famine foods is impossible to quantify but it is bound to have increased the already soaring number of deaths from starvation and disease.

Most contemporary accounts of famine in India make some reference to the collecting and eating of these emergency foods. Reporting on their nature, use and physiological effects became, by the second half of the nineteenth century, a task taken up by many colonial physicians and

⁷⁹ A. H. Church, 'Vichka Seed as a Famine Food in the Bombay Presidency', *Agricultural Ledger* 6 (1899): 1–2; O. Reinherz, 'The Seeds of *Shorea robusta* as a Famine Food', *Agricultural Ledger* 11 (1904): 33–36.

⁸⁰ Malabika Chakrabarti, *The Famine of 1896–1897 in Bengal: Availability or Entitlement Crisis?* (Hyderabad: Orient Longman, 2004), 319.

botanists and their Indian counterparts.⁸¹ In 1886, José Camillo Lisboa, a Goan botanist resident in Bombay and already the author of a pioneering study of the ‘useful plants’ of the province, published a detailed account of ‘famine plants . . . used as food during seasons of scarcity’. His evidence came principally from the famine of 1876–78, during which, he noted, many British officials had for the first time become aware of the extensive range of ‘wild herbs’ resorted to by the poor ‘for want of ordinary food’. Lisboa speculated that, while unfamiliar to Europeans and even to most city-dwelling Indians, knowledge of these plants – he listed nearly a hundred – had perhaps been the ‘result of [the] accumulated experience of bygone generations’, exposed to repeated episodes of drought, conquest and failed crops.⁸² In 1906, Chunilal Bose, the Chemical Examiner in Calcutta, investigated the toxic principles of one such famine food, the fruit of the *dhoondool* plant (*Luffa aegyptiaca*). This, he reported, was occasionally eaten by poor people in Bengal, after being repeatedly washed and boiled to remove its bitter taste and poisonous content. Cultivated varieties of the plant tasted sweet and were relatively harmless, but the uncultivated form, gathered as a famine food, was bitter and poisonous and caused severe vomiting and diarrhoea.⁸³

Twenty years divided Lisboa’s descriptive list from Bose’s more scientifically exacting analysis of *dhoondool* and its toxic properties: in that period botanical and biochemical enquiry had made considerable advances. But it is significant that in both cases Indians – a Goan and a Bengali – were motivated to undertake scientific enquiries into the foods of the poor and chose to position themselves between Western science (and European ignorance) on the one hand and ‘native’ knowledge and experience on the other. At the same time, such studies showed how, by investigating nutrition and poisoning among the poor, colonial medicine (and colonial science more generally) was able to move out of the enclave of European need and European agency to which it had hitherto been largely confined.⁸⁴ Poverty, in its more literally toxic manifestations, was on its way to becoming a subject of scientific scrutiny and informing a wider discourse of deprivation, health and nutrition.

⁸¹ David Arnold, ‘Famine in Peasant Consciousness and Peasant Action: Madras 1876–8’, in Ranajit Guha (ed.), *Subaltern Studies III* (Delhi: Oxford University Press, 1984), 94–95.

⁸² Lisboa, ‘Famine Plants’, 190–91.

⁸³ Chunilal Bose, ‘The Toxic Principles of the Fruit of *Luffa aegyptiaca*’, in J. P. Bose (ed.), *The Scientific and Other Papers of Rai Chunilal Bose Bahadur* (Calcutta: Forward Press, 1924) 1: 86–103.

⁸⁴ On enclavism, see Arnold, *Colonizing*, ch. 2. For nutritional science, see David Arnold, ‘The “Discovery” of Malnutrition and Diet in Colonial India’, *Indian Economic and Social History Review* 31 (1994): 1–26.

It was a short step from emergency foods, resorted to in times of dearth and famine, to foodstuffs that were grown and consumed on a more regular basis but whose poisonous nature was known to their consumers. The principal example of this was lathyrism, the condition caused by consumption of a pulse known as *kesari*, from the vetch *Lathyrus sativus*, which contains a powerful neurotoxin. This plant was grown – or occurred in a semi-wild state – in many parts of central and eastern India, especially on poor soils where no other crops would thrive. In the form of dal, it was consumed by extremely poor peasants, whose livelihood was dependent upon landlords who controlled their labour and kept them in abject poverty. *Kesari* was one of the few means by which labourers were rewarded for their toil or the only crop that would grow, especially in rain-deficient seasons, on the meagre land assigned to them. The consequence of such extreme reliance upon a single food source was a form of paralysis that caused progressive loss of mobility in the victims' lower limbs and a slow death.

References to lathyrism in Sanskrit medical texts can be dated back to the sixteenth century.⁸⁵ The first British observations were made by the East India Company surgeon-naturalist Francis Buchanan during his travels in Bihar in 1811–12. He reported a 'species of lameness', affecting villagers of all ages and both sexes, and resulting in muscular weakness in the legs and painful, irregular movement. But he dismissed the idea that *kesari* dal might be the cause of this disease as 'fanciful'.⁸⁶ Further notices of the disease soon followed. In 1839, the civil surgeon of Sarun district, Robert Rankine, remarked on the presence of the disease, attributing it to the extreme poverty of the labouring classes in the district and their 'complete dependence' on the zamindars.⁸⁷ A few years earlier, Colonel William Sleeman (better known for his role in the suppression of *thugi*), travelling in central India, also noted the paralysis caused by lathyrism. He linked it to the recent famine of 1833 and more specifically to consumption by the poor of a wild vetch, 'which though not sown of itself, is left carelessly to grow among the wheat and other grain'.⁸⁸ The most assiduous investigation of the disease was made in a series of remarkable reports in the 1850s and 1860s by James Irving, the civil surgeon at Allahabad. He gave a precise medical description of the 'palsy', prepared

⁸⁵ Wujastyk, *Roots*, 15.

⁸⁶ Francis Buchanan, *An Account of the Districts of Bihar and Patna in 1811–12* (2 vols, Patna: Bihar and Orissa Research Society, n.d.), 1: 274.

⁸⁷ Robert Rankine, *Notes on the Medical Topography of the District of Sarun* (Calcutta: G. H. Huttman, 1839), 37.

⁸⁸ W. H. Sleeman, *Rambles and Recollections of an Indian Official* (2 vols, London: Hatchard & Son, 1844), 1: 134.

detailed tables showing the extent of its 'injurious effects' and its local distribution and was in no doubt that eating the 'poisonous vetch' was the cause. Through his enquiries, Irving was able to establish that villagers, while recognizing the connection between eating *kesari* dal and the onset of paralysis, saw no choice but to rely on it as the main item in their diet when other crops failed or they had no alternative means of subsistence, only hoping that they would not become permanently incapacitated by doing so. In other words, they took the risk of poisoning themselves rather than starve to death. Behind all this lay 'the poverty of the people'.⁸⁹

Lathyrism became the subject of a remarkably detailed and enduring scientific investigation, stretching from the 1830s into the 1960s. Discussion of the disease and its connection with *kesari* dal continued throughout the colonial period and beyond, with controversy over its aetiology kept alive by claims that some other plant or ergot might perhaps be to blame.⁹⁰ In all of this extensive and technical literature, the underlying connection between poverty and poisoning was seldom lost sight of. The paralysis caused by lathyrism was particularly known to occur following periods of famine and food shortages, as during the late 1930s and again in the later stages of the Second World War and its aftermath, when food prices in northern and central India soared to exceptional levels.⁹¹

But *Lathyrus sativus* was not the only plant to fall under suspicion as being responsible for outbreaks of poisoning. Another was the millet *Paspalum scrobiculatum*. Known as *varagu* in Tamil and in Hindi-speaking regions as *kodo* (or *kodon*), the grain was cultivated as a staple crop in drier, un-irrigated areas. In Tamil-speaking south India, it was – and still is – prized as a tasty and nutritious alternative to rice. But from the 1860s and 1870s, as the scientific investigation of Indian diets gathered momentum, reports began to circulate in the Madras Presidency that *varagu* was a potentially dangerous crop that (at least during certain seasons or conditions of storage) caused illness and even death to humans and animals. It was even rumoured that *varagu* was so potent it could be

⁸⁹ James Irving, 'Report on a Species of Palsy Prevalent in Pergunnah Khyragurh, in Zillah Allahabad, from the Use of Kessaree Dall, as an Article of Food', in *Selections from the Records of Government, North-Western Provinces, Vol. 2* (Allahabad: Government Press, North-Western Provinces, 1866), 265–76; idem, 'Notice of Paraplegia Caused by the Use of *Lathyrus sativus* in the Various Districts of the North-Western Provinces of India', *LAMS* 12 (1868): 89–124.

⁹⁰ E.g., Andrew Buchanan, *Report on Lathyrism in the Central Provinces in 1896–1902* (Nagpur: Albert Press, 1908); Hugh Acton, 'An Investigation into the Causation of Lathyrism in Man', *IMG* 57 (1922): 241–47; L. A. P. Anderson, A. Howard and J. L. Simonsen, 'Studies on Lathyrism, I', *IJMR* 12 (1924–25): 613–44.

⁹¹ Editorial, 'Lathyrism', *IMG* 74 (1939): 421–22; K. L. Shourie, 'An Outbreak of Lathyrism in Central India', *IJMR* 33 (1945–46): 239–48.

used to kill tigers.⁹² At one stage, the Madras government toyed with the idea of banning *varagu* cultivation entirely, but this seemed utterly impractical and insufficient scientific evidence could be produced of its toxicity. In 1874, the chemical examiner reported on a sample of the grain that ‘neither chemistry nor the microscope has been able to detect either poison or disease’.⁹³ The matter was then dropped, and perhaps we can regard this scare, unlike lathyrism, as more speculation than science. But reports continued to appear in the medical press of acute (but not fatal) poisoning from *kodon* flour.⁹⁴ The grain’s hazardous nature was further highlighted towards the close of the Second World War when the Madras government, grappling with massive food shortages, encouraged the consumption of this and other millets. Laboratory tests showed it could be toxic to dogs.⁹⁵

Poison – and an awareness or knowledge of the multifarious uses of poisonous substances – was widely disseminated in pre-colonial and early-nineteenth-century India. A notion of poisons and poisoning existed in India’s high literary tradition – in its medical texts, especially – alongside a conviction that such poisons could be managed and either used therapeutically or their most damaging effects removed. Acquaintance with substances like opium, datura and *lal chitra* informed subaltern medical practice and was used in infanticide, suicide and abortion. But this is not to suggest that Indians had a complete and comprehensive mastery over poisons. They did not. The medical literature of the nineteenth century is replete with references to Indians who fell ill or died as a result not of homicidal poisoning with arsenic or aconitum but from the supposedly therapeutic use of dangerous drugs like nux vomica or oleander root in tonics, elixirs, aphrodisiacs and putative cures for venereal disease, or from accidental poisoning, caused by eating seeds, fruits and roots that they mistakenly thought to be harmless or which, from poverty and desperation, they took the calculated risk of eating.⁹⁶ India’s

⁹² William Robert Cornish, *Reports on the Nature of the Food of the Inhabitants of the Madras Presidency* (Madras: United Scottish Press, 1863), 7; G. D. Leman, Collector, Kistna, to Secretary, Madras, Board of Revenue, 21 August 1874, Madras, Board of Revenue, no. 2847, 2 October 1874, IOR.

⁹³ H. King, Madras, to District Surgeon, Salem, 22 September 1874, Madras, Board of Revenue, no. 3107, 27 October 1874, IOR.

⁹⁴ Anand Swarup, ‘Acute “Kodon” Poisoning’, *IMG* 57 (1922): 257–58.

⁹⁵ K. V. Sundara Ayyar and K. Narayanaswami, ‘Varagu Poisoning’, *Nature* 163 (1949): 912–13.

⁹⁶ T. Murray, ‘Case of Poisoning from the Oleander Root’, *IMG* 12 (1877): 319–20; Editorial, ‘Strychnia Poisoning in India’, *IMG* 20 (1885): 76–77; J. Venkata Swamy, ‘Poisoning by Strychnos Nux Vomica’, *IMG* 24 (1889): 113; P. Fitzpatrick, ‘Case of Oleander Poisoning’, *IMG* 24 (1889): 307; Chunilal Bose, ‘On the Chemistry and Toxicology of *Nerium odorum*’, *IMG* 36 (1901): 287–90.

poison culture was extensive and complex but also fragmented and contradictory. India lacked a more homogeneous and scientifically grounded understanding of what poisoning was or might be, and, more especially, how it could be governed and made subject to law. From early in the nineteenth century, that was precisely what colonialism began to construct.