

The stone-like, egg-shaped object looks rather unassuming at first glance (fig. 1). It is slightly larger than a chicken egg and has a blotchy, greyish-brown surface, but neither its size nor its colouring makes it stand out from the other objects in the drawer labelled *Magensteine* (stomach stones) in the wooden cabinet in the Mammal Collection of the Berlin Museum für Naturkunde. All of the objects in the drawer are whitish grey to dark brown in colour. Only when the object in question is removed from the open cardboard box and examined in the light does a slight sheen appear on its smooth surface, which is porous in places. Upon closer inspection, our attention is drawn to the middle, where it is cracked open in concentric circles, revealing several thin layers that are also greyish brown in colour.¹

The object is a stone-like concretion of undigested material from the internal organ of an animal. Objects like these have been known as “bezoars” since the early modern period. This one provides a glimpse of the various layers of meaning that have accumulated around objects surviving from the *Kunstkammer* in the Berlin Palace. Due to its appearance and current storage place, the stone may seem insignificant, but as a symbolic and actual reservoir of power,² valuable commodity,³ and “precious bit of foolishness”⁴ it conceals a variety of partially contradictory, partially intertwined meanings. What all bezoars have in common with other popular *Kunstkammer* objects such as mollusc shells [■ Nautilus], corals, fossils, bones, and tusks, is not only their relative sturdiness and the comparative ease with which they could be transported and preserved, but also their use as medicines and their corresponding value. As a result, the bezoar described above serves as a prism through which we can understand the semantic spectrum of early modern *Kunstkammer* objects.⁵

Stomach Stones from Mammals

The object under investigation here is of medium weight compared to the nearly forty other objects in the stomach stone drawer (fig. 2). While most of the cardboard boxes contain one or two round or oval bezoars and are easy to lift, some of the objects inside can only be removed with two hands. These include a “stone” that according to its label comes from “the intestines of a horse”, several whitish-grey bezoars more than ten centimetres in diameter, and an object from the Humboldt Collection classified as a malformed antler. Other stomach stones are surprisingly light, which is at odds with their stone-like appearance. A few are hairy, others have granular or grooved structures, but most are smooth. The diverse shapes are in line with the Berlin court apothecary Caspar Neumann’s definition of the term “bezoar” in the early eighteenth century: something that had “formed in an animal, either as a hard layered stone or a ball of all sorts of massed-together material”.⁶

The stomach stones are part of a special body of holdings that currently belong to the Mammal Collection. When the Zoological Museum was founded at Berlin University in 1810, this

◀ 1 | Bezoar inscribed with the number 145, Mammal Collection, Museum für Naturkunde Berlin.

- 1 I would like to thank Christiane Funk and Detlef Willborn (Museum für Naturkunde Berlin) and Anna Rosemann (formerly of the Museum für Naturkunde Berlin) for contributing their time and sharing their knowledge about objects in the Mammal Collection.
- 2 See Daston/Park 2001, p. 74.
- 3 See Stark 2003/2004; Borschberg 2010; Rankin 2021. For examples of bezoar collections, see Dettmann/Strehlau 2021, vol. 2, p. 363, and Pardo-Tomás 2021.
- 4 Neumann 1753, p. 644. On the changing meanings of bezoars in the Iberian colonies and the transatlantic world, see also Llamas Camacho/Ariza Calderón 2019; Podgorny 2018.
- 5 See Rankin 2021, pp. 151–3, for a discussion of the ideas that spread along trade routes about the effectiveness of unicorn horn.
- 6 See Neumann 1753, p. 339.



2 | Drawer of *Magensteine* (stomach stones) in the specimen cabinet of the Mammal Collection.

collection initially consisted of naturalia from the *Kunstkammer* and the Royal Academy of Sciences [■ Golden Plover]. In the course of the nineteenth and twentieth centuries, it underwent rapid growth, mainly due to the many expeditions to the German colonies in Africa. With around 150,000 objects, it is currently one of the world's largest collections of recent mammals.⁷ The holdings subsumed under the term “stomach stones” belong to a small collection that has not yet been taxonomically classified. Because little or no information has survived about the specimens, it has so far been impossible to determine the animal species to which the bezoars in the drawer can be assigned [■ Monkey Hand]. Only rarely do labels or handwritten notes provide clues as to their identity [◆ Cases, Boxes]. According to existing records, the drawer contains stones found in the bodies of giraffes, horses, and chamoix. Other bezoars have been identified as bladder stones from a wild boar and – according to their labels or attached to the objects themselves – were not acquired until the nineteenth or even the twentieth century and thus after the Zoological Museum was founded.

However, other pieces preserved in the drawer might have come from the early modern *Kunstkammer* in the Berlin Palace. Some of the objects that have survived in the Mammal Collection are marked with numbers that suggest a connection to the *Kunstkammer* under Friedrich III/I and Friedrich Wilhelm I. For example, under the number 145, which is found on the specimen above, the *Kunstkammer* inventory of 1694 lists “two oval bezoar stones”. In other words, the unassuming stone-like concretion could be one of the objects that the *Kunstkammer* acquired in

7 See Angermann 1989. The numerous acquisitions between 1880 and 1920 are currently being studied by the project Colonial Provenances of Nature; see Museum für Naturkunde Berlin, <https://www.museumfuernaturkunde.berlin/en/science/colonial-provenances-nature> (accessed 25 August 2022).

8 Inventar 1694, p. 10, no. 145, or Eingangsbuch 1688/1692, fol. 25r.

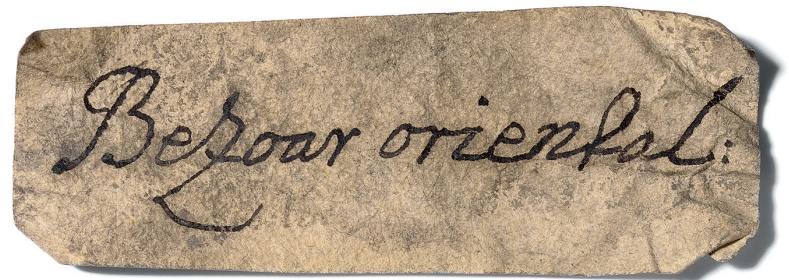
9 See Inventar 1694, p. 10, no. 136: “An oriental bezoar stone is round.” However, the same piece is described as “occidental: bezoar stone” under number 312 in the Eingangsbuch 1688/1692, fol. 19v.

10 Verzeichnis 1735, fols. 12v–13r.

11 See Borschberg 2010, p. 36.

12 See Stark 2003/2004, pp. 74–6.

March 1692 and that were reportedly found in “Indian cows”.⁸ At the time, the collection contained an additional round bezoar that had initially been identified as “occidental”, but was then reclassified as “oriental” when the naturalia holdings were recorded by *Kunst-kammer* administrators Lorenz Beger and Johann Casimir Philippi (fig. 3).⁹



3 | Preserved label from an “oriental bezoar”, Amber Collection, Museum für Naturkunde Berlin.

The acquisition of additional bezoars in the following years is documented in a copy of the 1694 inventory [■ Monkey Hand] that served as a kind of accession book until 1734. The three existing bezoars were supplemented by two “African” specimens (no. 238) whose shape, size, and colours are not described in greater detail, as well as by “four whitish African” (no. 240) and “four large bezoar stones” (no. 246). The inventory also mentions “woolly material, half covered with stone” (no. 239), which looked like “half an oval bezoar stone” and had been removed from a bull’s stomach.¹⁰ Of these markings, we also find 238, 240, and 246 on objects in the drawer of stomach stones in the Mammal Collection of the Berlin Museum für Naturkunde. It follows that they could be the specimens described in the eighteenth century as originating in Africa or as being large – even if their original “whitish” colour had in the meantime become brownish (fig. 4–5).



4–5 | Bezoars inscribed with numbers corresponding to specimens in the 1735 inventory of naturalia, Museum für Naturkunde Berlin.

13 See Findlen 1994, p. 249. According to Daniel Waldo, the Prussian king also “like[d] to divert himself” with these objects (GStA PK, I. HA Rep. 9 Allgemeine Verwaltung, Nr. D2, Fasc. 1, fol. 241).

- 14 See Daston/Park 2001, p. 74; Stark 2003/2004, esp. p. 72. For historical views on the origin of bezoars, see Asúa/French 2005, pp. 41 and 84. In some cases, as in Gotha, curiosity cabinets acquired human bezoars and the related medical histories; see Dettmann/Strehlau 2021, vol. 2, p. 363. On the presentation of a bladder stone in the Gotha collection, see "The Availability of Things" in this volume.
- 15 See Rankin 2021, p. 150.
- 16 See Stark 2003/2004, pp. 74–6; Duffin 2017, p. 219.
- 17 See Rankin 2021, pp. 147–8.
- 18 On the new acquisitions in this period, see *Eingangsbuch 1688/1692b*.
- 19 *Verzeichnis 1735*, fol. 17r. There were plans to transfer this bezoar to the academy's *naturalia* collection in 1735.
- 20 *GStA PK, I. HA Rep. 9 Allgemeine Verwaltung, Nr. D 2, fasc. 4, fol. 29r*.

Precious Wonders

While some of the specimens in the Berlin Museum für Naturkunde have a slight golden shimmer that probably increased their value in the eyes of early modern collectors,¹¹ the interest they stirred was not primarily visual in nature. Unlike the typical bezoars displayed in museum collections such as those in Munich or Vienna (fig. 6), the specimens from Berlin were assigned to the naturalia holdings and were unworked. In contrast to the bezoars worn at feasts, they were not set in rings or decorated with valuable goldwork.¹² Nor were they popular objects for curiosity cabinets solely because of a royal interest in naturalia as an entertaining field of study.¹³ What made them collectors' items were the healing powers attributed to them, aided by the limited knowledge about their origin and formation in foreign lands.¹⁴ In India, stories about concretions from animal intestines were handed down for centuries, and during the Middle Ages they reached Europe along with the objects themselves via Arab scholars and merchants.¹⁵ Legend had it that bezoars were antidotes and could even neutralize poisoned drinks if dipped in them. In an age when poison attacks and diseases such as the plague could end human life at any moment and thus threaten the power of entire dynasties, supposed antidotes such as bezoars and unicorn horn were of great importance.¹⁶ The increased availability of such objects, which reached Europe through the colonial activities of the Iberian powers in India and the Americas, further intensified the interest in them (fig. 7).¹⁷

For this reason, bezoars were essential items in the collection of the ambitious Prussian ruler Friedrich III/I.¹⁸ According to a 1735 list of naturalia, in addition to the above-mentioned specimens, which were described as "oval", "round", "large", "woolly", or "whitish", the *Kunstammer*

held a "bezoar stone framed in gold like a small bottle" (no. 334). Because this object was of interest from a natural-historical perspective, there were plans to make it available to the Academy of Sciences for research.¹⁹ It is lost today, as is the "stone found in a gall bladder of a wild cow", which Friedrich received from Andreas Bunemann, an East Indies traveller, together with other "rarities" such as shells and branches of coral [♦ *Canon and Transformation*, fig. 4].²⁰

In 1709, the Prussian king had another opportunity to acquire bezoars: Daniel Waldo, a physician working in India, sent him a small box containing butterflies, a "curious" conch shell, and other natural objects, some of which were set in

6 | Bezoar with handcrafted decorations, Goa, seventeenth century, Kunsthistorisches Museum, Vienna.



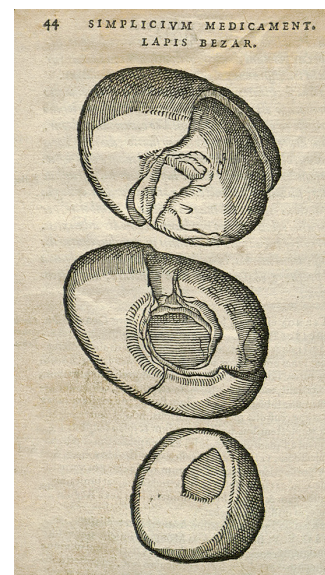
jewellery. He also offered to bring additional valuable objects to Berlin, including several bezoars, the largest of which reportedly weighed three pounds and came from an elephant.²¹ Waldo had heard that Friedrich I collected naturalia and for this reason had commissioned an assistant to gather, at the Cape of Good Hope, “some of the Wonders of God in the products of nature”. Waldo had gone to India in the service of the British East India Company and viewed the Prussian ruler’s interest as an opportunity to make a mutually beneficial deal. He promised to bring some of the most astonishing rarities to Friedrich in Berlin if the king would pay his passage in advance and secure permission for him to leave the country from the Dutch East India Company (VOC). His proposal covered not only the elephant bezoar but also one from a rhinoceros and several from snakes as well as precious stones.²² For Waldo, the bezoars were a means of expanding his scope of action when he returned to Europe. In this sense, they fulfilled the same function as the *ethnographica* [■Crystalline Gold] and drawings [■Anteater] that other travellers brought back to Europe. These objects made it easier to find positions, secure sources of income, or – as in the case of Daniel Waldo – to return to Europe in the first place.

The cost of Waldo’s return journey and thus of the bezoars he offered is mentioned neither in his letter nor in the accompanying correspondence by the courtly and diplomatic actors who ensured that the matter was brought to the Prussian king’s attention. However, an impression of the great economic value of bezoars is conveyed by details that were sporadically reported in pharmaceutical and commercial documents. In the VOC’s “price current” from the late seventeenth century, their value is estimated at between 135 and 275 guilders. Nut-sized monkey bezoars, for example, were comparable in price to precious pearls [■Pearls], while the highly popular porcupine bezoars sometimes brought forty times their weight in gold.²³ The almanacs used by Spanish merchants provide evidence that the price of oriental bezoars and the associated taxes remained high until at least the end of the eighteenth century.²⁴ As early as the sixteenth century, people who could not afford bezoars were given the chance to borrow the precious objects for a short time against a fee so that they could demonstrate their wealth and show that they were well protected against potential dangers.²⁵

A Remedy for All Ailments

However, for those who produced medicines for sale or for their own use, the effects attributed to bezoars went beyond their supposed effectiveness as antidotes. Stories about cured diseases were disseminated in medical publications and increased the interest in the novel “wonder drugs” imported from distant lands.²⁶ These anecdotes ensured that bezoars quickly came to be seen as panaceas for ailments ranging from “palpitations . . . [and] grievous afflictions” to the “plague itself”.²⁷ Bezoars had their place in the medicine cabinets of aristocratic women [●Around 1600] and were ingredients in the collected medicine recipes of well-run households, which were tested in daily life, modified, and handed down from generation to generation (fig. 8).²⁸ Bezoar powder was sold by apothecaries or added to the mixtures they produced. Like other objects collected in the *Kunstammer* in the Berlin Palace, bezoars were part of everyday medical practice.²⁹

This is why books on medical subjects and the inventories of apothecary cabinets sometimes resemble the contents of the cabinets of curiosities.³⁰ The *Medicinal Edict and Regulations of the Kingdom of Prussia and the Electorate of Brandenburg*, issued in 1704, includes a list of substances



7 | *Bezoars*, illustration from the Latin translation of Nicolás Monardes, *Historia medicinal: De simplicibus medicamentis*, 1574.

- 21 GStA PK, I. HA Rep. 9 Allgemeine Verwaltung, Nr. D 2, fasc. 1, fols. 238–46. The correspondence is archived in *Acta de 1603[–]1770 Die Kunstammer betreffend*, which includes the French translation made for the Prussian king.
- 22 *Ibid.*, fol. 242. Waldo also provided the English collector Hans Sloane with objects; see Delbourgo 2017, p. 211.
- 23 See Borschberg 2010, pp. 33–5.
- 24 See Podgorny 2017, p. 202.
- 25 See Borschberg 2010, p. 34.
- 26 See Rankin 2021, pp. 147–8.
- 27 This phenomenon is described by the Berlin chemist and court apothecary Caspar Neumann, who critically reflected on the use of bezoars as remedies in the eighteenth century (Neumann 1753, p. 362, including quoted passages). On the healing powers attributed to the bezoars from the Americas, see Asúa/French 2005, pp. 106–7, and Rankin 2021, esp. ch. 5.
- 28 See Rankin 2013, p. 103; Leong 2018, p. 167.
- 29 See Borschberg 2010, p. 37. See also Neumann 1753, p. 379, for the recipes that include small amounts of bezoar powder.
- 30 See Rankin 2021, p. 147, and Pardo-Tomás 2021. On apothecary furniture, see Holm 2019.
- 31 *Medicinal-Edict und Ordnung 1704*, pp. 57–146.

- 32 See Dilg 1994, esp. pp. 455–6, for a theoretical discussion of the spatial proximity of pharmacies and (courtly) collections and the function of both as sites of research.
- 33 *Ibid.*, p. 56.
- 34 GStA, II. HA Abt. 14 Kurmark, Städte Tit. CXV Berlin, Sekt. 01 Hof-Apotheker, Nr. 1. See Klein 2018, p. 41.
- 35 See Huwer 2006, p. 106; Pardo-Tomás 2021, p. 197.
- 36 See Borschberg 2010, pp. 33–5.
- 37 See Gänger 2020, ch. 1.
- 38 See Neumann 1753, pp. 335, 342. Financed by Friedrich I and Friedrich Wilhelm I, Neumann travelled through Germany, Holland, and England (1711–13) as well as through France and Italy (until 1719) before being appointed court apothecary; see Schwarz 1999 and Kraft 2015, pp. 117–19.

that pharmacies in the territory of the recently crowned King Friedrich I were required to stock. Many were also popular objects in curiosity cabinets:

Alcis cornu / elk antlers . . .
 Bezoar occidentalis / occidental bezoar . . .
 [Bezoar] orientalis / oriental bezoar . . .
 Chrysolithi / chrysolite . . .
 Coralliorum rubrorum / red coral
 Cornu Cervi . . . / staghorn . . .
 Eboris . . . / . . . ivory . . .
 Hippopotami Dentis / walrus tooth . . .
 Lapidis Aetitate / eagle-stone . . .
 Perlarum matris / mother of pearl . . .
 Rhinoceros cornu / rhinoceros horn . . .
 Serpentis exuviarum / 1 piece / shed snakeskin . . .
 Succini albi / white amber . . .
 Succini citrini / yellow amber . . .
 Testarum Cochlearum / snail shells
 Testarum Concharum / seashell . . .³¹

8 | Historical storage container from the early eighteenth century in the exhibition of the German Pharmacy Museum in Heidelberg Castle.

As *simplicia* (simple medicines) or ingredients in *composita* (multi-substance medicines), bezoars were part of the repertoire of remedies used by apothecaries and their customers. Because phar-

macists had access to such materials, they were among the early private collectors who for centuries determined which objects were considered worthy of collecting and were therefore available.³²

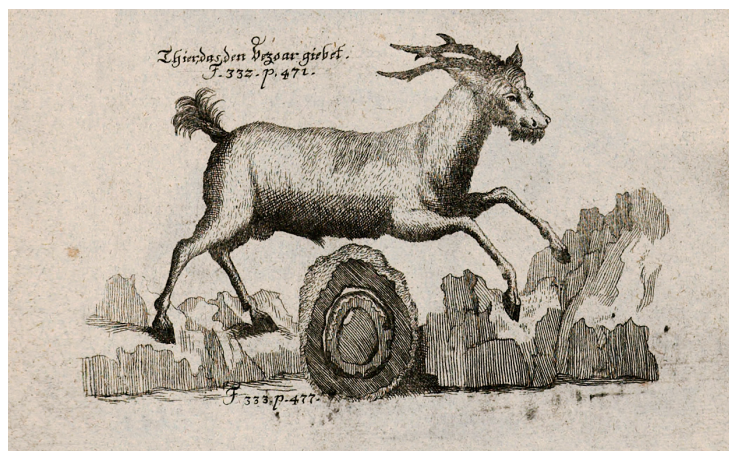
One purpose of the *taxa* (list) attached to the *Medicinal Edict* was to set the prices that apothecaries could charge their customers. It took into account the fact that many of the herbal and animal remedies, including bezoars, had to be “brought here from distant lands” and varied greatly in price (fig. 9).³³ Whereas the fats, staghorn, and elk hooves needed to make many remedies were available in Berlin’s immediate environs and could, for example, be procured for the court apothecary by the royal hunting department,³⁴ bezoars had to be purchased at trade fairs or in western port cities such as Amsterdam and London to meet the needs of the court and the apothecaries in Berlin and the rest of Prussia.³⁵ For a long time, it was said that bezoars came mainly from Persia and reached Europe via the Levant trade, although the places of origin and the trade routes were in fact much more diverse. Among the participants in the



bezoar trade were not only the Portuguese merchants who shipped mainly porcupine bezoars (which they considered valuable) from India, but also missionaries from Peru, the VOC, and additional trading companies from northern Europe.³⁶ The places of origin mentioned in the tales inflated the value of the bezoars and other “miracle” drugs, so it was in the interest of the sellers to emphasize their exotic provenance.³⁷

Even the pharmaceutical expert Caspar Neumann, who had travelled widely in Europe, conceded that he had “little or no firm knowledge of the things [bezoars] themselves”, nor could he say whether the “life-size gazelle” exhibited in the Berlin Kunstkammer was actually a *Gazella bezoardica* (fig. 10).³⁸ However, the fact that bezoars were “rarely . . . to be had for money in the first decades of the eighteenth century and their price had become exceedingly high”³⁹ prompted Neumann to study the bezoar stones, which had remained popular in apothecaries.⁴⁰ In his lectures and treatise *Chimia medica dogmatico-experimentalis*, edited by the physician Christoph Heinrich Kessel and released posthumously by the Waisenhaus publishing house in Züllichau, Neumann provided traditional book knowledge about the history, names, and different varieties of bezoars. In subsequent years, he criticized the use of the stones, whose makeup had not yet undergone sufficient chemical analysis and which all too often were mere “trickery” or “fabricated or artificial compositions” (i.e. fakes). Nor did he believe that real bezoars had healing powers.⁴¹ In the following decades, due to medical education reform, regulations in combination with new testing methods, and the successful application of other remedies, bezoars increasingly fell out of medical use⁴² and were found only in curiosity cabinets. To this day, they live on as curious relics of past collecting practices.

Like tusks, mollusc shells, corals, and fossils, when bezoars arrived in the Berlin Kunstkammer in the late seventeenth century they functioned as *semiophores*, or sign vehicles, which testified to the power of Prussian rulers. The effects ascribed to them as antidotes lent them the air of God-given invincibility and earned them a place in the courtly collection. At the same time, they continued to be used in medical practice, even though physicians and chemists questioned their curative effects and derided them as “costly absurdities”.⁴³ Well into the eighteenth century, bezoars in Prussia and other regions were not only rare collectors’ items with perceived exotic origins and fabulous effects, but common remedies, coveted and valued by rulers and their subjects alike.



9 | Animal from Which the Bezoar Comes, illustration from Pierre Pomet, *Neu-eröffnetes Materialien- und Naturalien-Magazin*, 1727. The original edition of the *Histoire générale des drogues* was published in 1694.



10 | Bezoar Goat, illustration from Ulisse Aldrovandi, *Quadrupedum omnium bisulcorum historia*, 1621. Caspar Neumann refers to this work in his critical discussion of bezoar stones.

Translated by Adam Blauhut

39 Neumann 1753, p. 346.
 40 See *ibid.*, pp. 340–1.
 41 *Ibid.*, pp. 347–53; for the centuries-long debate on fake bezoars, see also Asúa/French 2005, p. 108.
 42 See Klein 2018; Gänger 2020; Rankin 2021.
 43 Neumann 1753, p. 644.