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Power and Poison: A Medieval Sapphire Ring in the Gotlands Museum, Visby, Sweden

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Inscribed on the ring:

DICOR SAFIRVS / VINCIT VIRTVS MEA UIRUS
OPTO TUVS DICI BI/ A[NULIS?] QVI FVERAM LODOVICI

(I am called sapphire, my power counteracts poison/I wish to be called yours, once I
was [the ring?] of Lodovicus)

The first line of the inscription that surrounds the sapphire in this exceptional medieval ring--*I am called sapphire; my power counteracts poison*--offers striking testimony to the medieval belief that gems possess special powers; the ring itself attests to the practice of putting those powers to use (**Fig. 1**).¹ Today many might find this belief irrational or unscientific, supposing that medieval people attributed such power to uncanny magical qualities. Medieval thinkers, however, conducted inquiries in consultation with the scientific literature of their ancient predecessors and Islamicate contemporaries. The goal was to discover the underlying principles by which powerful gems operated. Those less learned would have had a general sense that the effective properties of medicinal stones were a natural part of a well-ordered, although mysterious, system that

¹ I would like to thank the two anonymous reviewers and the editor for their helpful suggestions. I am also grateful to Rita Stumper (St. Peter's Cathedral, Bremen); Mari James (St. Davids Cathedral, St. David's, Wales); Naomi Speakman (British Museum); Tove Åkesson (Gotlands Museum); Lena Idestrom (formerly Gotlands Museum); Pia Bengtsson Melin; Meredith Gill.



Figure 1 Gold ring with sapphire, 13th-14th centuries. Gotlands Museum, Visby, Sweden, GFC9605. Photo: courtesy of Pia Bengtsson Melin.

connected all of God's creation.²

A study of the inscription's first line offers the opportunity to examine both the claim for the sapphire's efficacy and its use for the particular problem of

² Genevra Kornbluth emphasizes the wide acceptance of naturalistic explanations in "Early Medieval Crystal Amulets: Secular Instruments of Protection and Healing," in *The Sacred and the Secular in Medieval Healing. Objects, Sites, and Texts*, eds. Barbara S. Bowers and Linda Migl Kaiser (London: Routledge, 2016), 143-181.

poison.³ In this essay the words *safirius*, *virtus*, and *virus* will be a guide to considering the ring as an object upon which converge religious and scientific concepts of natural power, medical theories about poison and disease, and medical and social practices of using gems for protection or healing.

THE RING

The ring was discovered in 1947 in an area outside Visby's medieval city walls. Because the find was accidental no archaeological context exists that might provide a date for the time in which the ring was made or when it was deposited (intentionally or accidentally) in the ground. In 1950 Greta Arwidsson, then head of the Gotlands Museum Hall of Antiquities, estimated the ring's date from 1200 to 1400 on the basis of the inscription's Lombardic letterforms that are generally confined to those dates (although earlier and later examples exist).⁴ The inscription's Leonine form of internal rhyme is not as strong a factor in determining a date since it is found throughout a wider span of the Middle Ages.

Arwidsson described the ring as a protective amulet that drew its power from the sapphire as well as from the enigmatic Lodovicus of the inscription. She believed he may have been of elevated religious status, perhaps a saint, bishop, or the head of a monastery, although her efforts to identify him were

³ I use the Latin and its English translation (with one exception) in Pia Bengtsson Melin, "For love, healing and protection: Notes on Medieval finger rings with sapphires and other gemstones in Swedish collections," *Fornvännen, Journal of Swedish Antiquarian Research* (2014), 262, <https://raa.divaportal.org/smash/get/diva2:1227120/FULLTEXT01.pdf>. Where Melin translates *virtus* as "task," I use the word "power." Greta Arwidsson's "Ludvigs Amulettring," *Gotländskt Arkiv* (1950): 28-30, translated *virus* as *sjukdomsgiftet*, "poison of sickness" (emphasis added); I believe the less specific "poison" covers more of the sapphire's circumstances of use. The Museum's display and website use the Swedish translation: "Jag benämnes safiren. Min kraft motverkar sjukdomsgiftet. Jag önskar kallas din ... Jag som har varit Ludvigs," <https://digitaltmuseum.se/search/?q=Ludvigs+Amulettring>.

⁴ Marion Campbell, *Medieval Jewellery in Europe 1100-1500* (London: V & A Publishing, 2009), 73, 75 notes that Lombardic inscriptions on jewelry are generally found from 1200 to 1350.

inconclusive.⁵ Pia Bengtsson Melin has suggested that the ring may have been that of a bishop (or abbot) and could have been passed from the original Lodovicus to his successors. This is certainly a possibility since sapphire was a popular choice for episcopal rings. No standard stone or style was mandated for episcopal rings so the question of what can be identified as one is problematic without other context.⁶

Lacking evidence to suggest when the ring was lost or buried, it may have been made and in use over an extended period from 1200 to 1400 based on the epigraphy and on stylistic comparisons to other rings. The ring currently exists in a wide cultural context; although found on Gotland, it could have been made elsewhere before being brought to Visby, a major Baltic port. Brian Copenhaver's definition of amulet serves here to describe the sapphire: a natural material (sapphire), worn on the body, that is not marked by images, symbols, or words (as distinct from a talisman, which does bear such marks). This is a useful distinction in the absence of agreement on what constitutes the essential features of amulets and talismans.⁷

Arwidsson described the gold ring as massive, with an impressive sapphire that would have been notable even in wealthy medieval Visby. The large cabochon gem is a rectangle with rounded edges, held in a bezel that folds over the stone; stone and bezel together measure 2.6 cm (1.0 inches) in height.

⁵ Arwidsson, 28-30; Estelle Ingrand-Varenne, "Verses in Latin Inscriptions: From Rhythm and Rimes to Aesthetics," International Medieval Congress, Jul 2013. Leeds, United Kingdom: 1, 3, <https://hal.univ-smb.fr/AO-HISTOIRE/halshs-01250317v1>.

⁶ Melin, 262; Charles Oman, *British Rings 800-1914* (Totowa NJ: Rowman and Littlefield, 1974), 46-52, the only requirement was that the ring be made of gold and contain an unengraved gem (a requirement that was not always followed). Edmund Waterton, "On Episcopal Rings" *Archaeological Journal*, 20:1 (1863), 224-238, describes a wide variety of styles and gems described in texts or discovered in excavations, <https://doi.org/10.1080/00665983.1863.10851251>.

⁷ Brian P. Copenhaver, "Scholastic Philosophy and Renaissance Magic in the *De vita* of Marsilio Ficino," *Renaissance Quarterly*, 37, no. 4 (Winter, 1984): 530, <https://doi.org/10.2307/2860993>.

The bezel's back is not open and thus allows no direct transmission of the gem's power to the wearer's finger. The inscription (originally filled with niello) covers the front and interior of the bezel's circumference and the exterior of the hoop. The edge of the bezel is crimped in places. The engraved letters and words are irregular in their spacing, perhaps because of difficulties engraving the curved bezel and fitting the lengthy inscription into the available spaces.

The Visby ring's distinctive feature is its single large sapphire. Rings of similar style have been found in the tombs of medieval bishops and so can be dated. The splendid 13th-century amethyst rings from the graves of Archbishop Gerhard II of Bremen (d. 1258) (**Fig. 2**) and of Bishop Bec (d. 1293) (**Fig. 3**) of St. Davids, Wales, offer close comparisons despite their finer execution and uninscribed bezels. This simple style is not limited to magnificent rings. Less costly secular examples extend the style into the 14th century, such as that from the Colmar Treasure (dated before 1349).⁸ A comparison to other popular contemporary ring styles highlights the visual impact of the Visby ring. A sapphire set in a pronged bezel and a garnet "tart mold" ring (**Figs. 4, 5**) are hardly trifles, but appear modest next to the Visby ring. As an objective measure, the Visby ring weighs 21 grams while the smaller sapphire ring weighs 6.32 grams.⁹

⁸ Personal communication from Rita Stumper, Jan. 3, 2024: Archbishop Gerhard's ring is currently in the Focke Museum in Bremen. The stone plus bezel is 3.0 cm high, <https://katalog.dommuseum-bremen.de/ais6/Details/collect/551>. Personal communication from Mari James, Jan. 10, 2024: Bishop Bec's ring is 1.5 cm in height; report of its finding in 1863: *Archaeologia Cambrensis a record of the antiquities of Wales and its Marches and the journal of the Cambrian Archaeological Association*, Third Series No. XLII, April 1865, 208-09. For secular examples see *Treasures of the Black Death*, ed. Christine Descatoire, (London: The Wallace Collection, 2009), 76, especially example "c," which at 2.78 cm high is nearly the same size as the Visby ring but is of silver-gilt with a glass "stone."

⁹ The weight of the Visby ring is given in Arwidsson, 30. I thank Naomi Speakman of the British Museum for providing the weight of the ring in Fig. 4; this ring is inscribed around the hoop: "alc god wils act betec c m."



Figure 2 Ring of Archbishop Gerhard II of Bremen (d. 1258). INV NR 398. Photo: © Rita Stumper, Dom-Museum, St. Petri Dom, Bremen.



Figure 3 Ring of Bishop Bec of St. Davids, Wales (d. 1293). Photo: © The Dean and Chapter of St. Davids Cathedral, St. Davids, Wales.



Figure 4 Finger-ring, 14th century; gold, sapphire. AF.1869. Photo: The Trustees of the British Museum CC BY-NC-SA 4.0



Figure 5 Tart Mold Ring, 1200-1300; gold, garnet. 2016.11, Chester D. Tripp Estate Fund, Art Institute of Chicago. Photo: Public Domain.

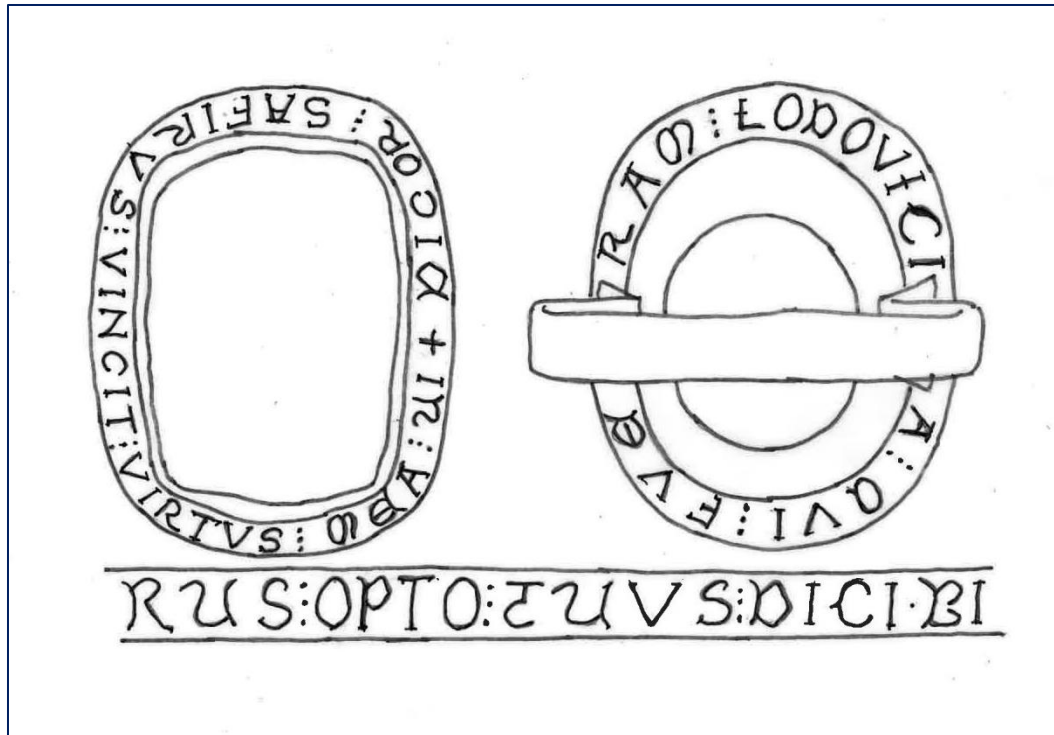


Figure 6 Simplified view of inscription placement on front, hoop, and reverse of ring. Drawing: (not to scale) by author after photographs of G. Arwidsson, Gotlands Museum, 1950.

The Visby inscription (**Fig. 6**) begins on the outer face of the bezel at the three o'clock position (marked by a cross) and moves counterclockwise (letters facing outward): DICOR SAFIRVS VINCIT VIRTVS MEA UI/ (I am called sapphire, my power vanquishes poi/) and continues on the hoop: /RUS OPTO TUVS DICI BI (/son I wish to be called yours). The inscription finishes clockwise (letters facing inward) around the inner edge of the bezel: A QVI FVE/RAM LODOVICI (once I was [the ring] of Lodovicus). Breaks occur in *virus* and *fuera*m. The meanings of *BI* and *A*, probably truncations, are not clear, although Arwidsson suggested that *A* stood for ANULIS (ring).

The changes in the inscription's direction and the letters' orientations are purposeful.¹⁰ The directional change, first counterclockwise, then clockwise, allows the words *safirius* and *Lodovici* to occupy roughly the same area of the upper bezel, front and back, thus creating an equivalence of the powerful gem and the generous benefactor. *Safirius* on the exterior sits visibly above the magnificent sapphire, while the name *Lodovicus* is inside, unseen by others. Whether the power of *Lodovicus* is saintly, familial, or dynastic, his name on the interior makes his memory and his particular *virtus* available to the wearer through direct contact. Other medieval brooches and rings also have hidden interior inscriptions that create an intimate connection between the recipient and the giver of a jewelry gift, or between the wearer and holy intercessors if the inscription is religious.¹¹

The inscription is unique to this ring in its reference to the sapphire and to *Lodovicus*, rather than the conventionally religious, amatory, or charm-like content of other inscriptions.¹² Unusual inscriptions do occur and among them are those that "speak" in the first person. For example, some form of the French IO SVI ICI EN LIV DAMI (I am here in the place of a friend) was popular for

¹⁰ A reviewer helpfully suggested to consult Sébastien Aubry, "Inscriptions on Portrait Gems and Discs in Late Antiquity (3rd-6th centuries AD)," in *Gems of Heaven: Recent Research on Engraved Gemstones in Late Antiquity, AD 200-600*, eds. Christopher Entwistle and Noel Adams (London: British Museum, 2012), 239-247, on the purposefulness of inscription direction, https://www.academia.edu/1833301/Inscriptions_on_Portrait_Gems_and_Disks_in_Late_Antiquity_3rd_6th_centuries_AD_.

¹¹ For example, a 14th-century brooch inscribed on both sides with AVE MARIA GRACIA PLENA DOMINV, https://www.britishmuseum.org/collection/object/H_1929-1021-1. For first-person inscriptions on objects see Aden Kumler, "Writing on the world beyond the page: medieval inscriptions as *facta* and *ficta*," *Deutsche Vierteljahrsschrift für Literaturwissenschaft Geistesgeschichte* (2023) 97, 453-457. <https://doi.org/10.1007/s41245-023-00196-8>.

¹² Examples of inscription content and placement are in Sandra Hindman, *Towards an Art History of Medieval Rings. A Private Collection* (London: Paul Holberton, 2007), 127-128, 147-149, 153.

rings and brooches given as tokens of love or regard.¹³ Although this is a conventional sentiment, the first-person voice endows the inscribed object with agency, allowing it to act as a substitute for one who is absent.

Figure 7 Signet-ring, early 14th century; Roman nicolo intaglio, medieval gold ring. Inscribed SIGILLVM SECRETI (“secret seal”). AF.556. Photo: The Trustees of the British Museum CC BY-NC-SA 4.0.



The Visby sapphire, however, is not a substitute for what is absent. It speaks boldly for itself. The sapphire announces its name, proclaims its power, expresses its choice, reveals its former owner. I, a sapphire with a remarkable ability to vanquish poison, choose you as my new owner. I belonged to Lodovicus once, but I am no longer his.

The inscription is unusual in length as well as content, requiring three surfaces to complete. It is not common to find inscriptions on the edge of a bezel except in seal-rings (**Fig. 7**), which are different in form and function. The engraved flat bezel (inscribed in reverse) and the intaglio gem at the center create

¹³ As just one example, see a 13th-century brooch engraved with IUSVI ICIE NILU DAMI, <https://www.metmuseum.org/art/collection/search/773198>.

a raised image when impressed into a soft substance, providing a means of authentication for the owner.¹⁴

Nor do most ring inscriptions make bold claims. A medieval ring (current location unknown) found in 19th-century Kent was reported to be inscribed on the hoop with a short but ambitious first-person boast: *Qui me portera ecploitera/Et a grant Joye revendra* (Who wears me shall perform exploits/And with great joy shall return). The wearer of this ring could attribute successful exploits to its diamonds, known as *adamas*, meaning unbreakable and hence, unconquerable. This ring and the Visby sapphire are the counterparts of the gem-set rings in medieval romances whose *virtutes* provide protection or invincibility to literary heroes.¹⁵

One who wore the Visby ring may have often toyed with it, enjoying its weight and the sapphire's color, taking pride in its possession. The wearer may have felt secure in or hopeful of its *virtus* and thankful to Lodovicus for bequeathing it. Those who saw the ring would have been impressed, even awed. Indeed, the Visby ring could be characterized as a "charismatic object."¹⁶ The sapphire is a powerful natural material with the ability to act; it is visually

¹⁴ Early 14th-century seal-ring with Roman intaglio, reversed legend reads SIGILLVM SECRETI, "secret seal," https://www.britishmuseum.org/collection/object/H_AF-556. Briefly, for seal-rings see Campbell, 76, 78 with examples on pages 74, 79, 104. A 14th-century example of a seal-ring with engraved bezel and hoop can be found at <https://collections.vam.ac.uk/item/O121097/signet-ring-unknown/>.

¹⁵ For *adamas*: *Hildegard von Bingen's Physica*, trans. Priscilla Throop (Rochester VT: Healing Arts Press, 1998), 151-152. The discovery of the Kent ring is described in "Appendix: Meeting of December 23, 1819," *Archaeologia* xix (1821), 411-412. Examples of literary rings are in *King Horn, Floriz and Blauncheflur, and the Assumption of Our Lady*, ed. Rev. J. Lawson Lumby, B. D, intro. George H. McKnight, Ph.D. (London: Kegan Paul, Trench, Trübner for the Early English Text Society, 1901), 26, 28, 40, 68, 80, 106, <https://resources.warburg.sas.ac.uk/pdf/neh3228b2330321.pdf>.

¹⁶ In general, see essays in *Charismatic Objects. From Roman Times to the Middle Ages*, eds. M. Vedeler et al (Oslo: Capellen Damm AS, 2018) and also Roberta Gilchrist, "The Materiality of Medieval Heirlooms: from sacred to biographical objects," in eds. H. P. Hahn and H. Weiss, *Mobility, Meaning and Transformation of Things. Shifting Contexts of Material Culture through Time and Space* (Oxford: Oxbow Books 2013), 170-182.

arresting in size and color, encased in precious gold. It is not an ordinary ring but a showpiece that recalls legendary rings and gems. The sapphire itself speaks, promising protection and naming its former owner. The inscription records a transfer of ownership, creating a relationship between past and present owners to which future owners might be admitted if the ring were bequeathed again. If the ring were to be passed from generation to generation, accumulating stories, lore, and new meanings, it would be endowed with even greater charisma.

SOURCES OF KNOWLEDGE AND DEVELOPMENTS IN SCIENCE: A CHRONOLOGICAL OVERVIEW

The Visby ring was made at a time when the transmission of ancient knowledge to Europe via the Islamic world had a strong impact on the developing science of both stones and poisons. This following brief chronology introduces the people and ideas involved in these developments.

In ancient Greece, Aristotle (d. 322 BCE) used reasoned inquiry to consider *how* and *why* nature operates. His endorsement of the four elements of fire, air, earth, and water as the basis for all matter was important for later discussions of stones and medicine. In ancient Rome, Pliny the Elder (d. 79 CE), in his encyclopedic *Historia Naturalis (Natural History)*, described the appearances, uses, and places of origin of many different stones. *De Materia Medica (On Medical Materials)* of the physician Dioscorides (d. 90 CE) concentrated on practical uses for health and disease. In the late antique period, *De Lapidibus (On Stones, 4th-6th centuries CE)*, attributed to Damigeron, is a work of magic that records the use of stones to achieve wondrous effects such as warding off demons or facilitating divination.¹⁷

¹⁷ David C. Lindberg, *The Beginnings of Western Science. The European Scientific Tradition in Philosophical, Religious and Institutional Context*, 2nd ed. (Chicago, University of Chicago Press), 53. An overview of

Medical texts attributed to Hippocrates (5th-4th centuries BCE) developed the theory of humors (the vital fluids of the body) as the basis of health and disease. The physician Galen (d. after 210 CE) further elaborated the Hippocratic system into a more complex model. He theorized that powerful drugs and poisons worked because each acted through a unique “total substance” or “specific form” that was separate from its component elements.¹⁸

Many ancient texts that did not survive in Europe after the break-up of the Roman empire remained accessible in areas under Byzantine and Islamic rule. Starting in the 10th century, physicians and philosophers translated these texts into Arabic and produced their own commentaries and original works. The physician and philosopher Avicenna (Ibn Sina, d. 1037), working in the Aristotelian tradition, affirmed the Galenic theory of specific form as the active principle of drugs and poisons.¹⁹ Other significant authors of works on medicine and poison are Avenzoar (Ibn Zuhr, d. 1162), Averroes (Ibn Rushd, d. 1198), and Maimonides (d. 1204).

Beginning in the 11th century Latin translations of Arabic works brought the ideas of Aristotle, Galen, and Avicenna to the west. Albert the Great (d. 1280) used the theory of specific form to explain how gems acquire their properties in *Mineralia* (*Minerals*). The physician Pietro d’Abano (d. 1316) in *De Venenis* (*On Poisons*) cited it as the mechanism by which poisons and their antidotes worked. Regarding poison as a source of illness, physicians had long recognized that harmful excess humors generated poisons that could sicken an individual. The catastrophic mid-14th century Black Death was the occasion for physicians to

ancient works is in Albertus Magnus, *Book of Minerals*, trans. Dorothy Wyckoff (Oxford: Clarendon Press, 1967), 264-271.

¹⁸ Lindberg, 113-117, 124-131. Frederick Gibbs, *Poison, Medicine, and Disease in Late Medieval and Early Modern Europe* (London: Routledge, 2019), 16-19.

¹⁹ Lindberg, 163-188, Gibbs 25-27.

consider that a poison with a powerful specific form was circulating in the air and might be a cause of the widespread contagion.²⁰

The lapidaries available in medieval Europe compiled information about stones from ancient and earlier medieval sources. The *Etymologiae*, Book XVI (*Etymologies*) of Isidore of Seville (d. 636) adopted Pliny's naturalistic, descriptive approach, while *De Lapidibus* (*On Stones*) of Marbode, bishop of Rennes (d. 1123), drew from Damigeron's magical lapidary. Hildegard of Bingen (d. 1179) included a section on stones as part of *Physica*, a work concerned with healing uses of natural materials. Albert the Great's treatise *Mineralia* contains a lapidary while that of Bartholomew the Englishman (d. 1272) is a portion of his encyclopedic *De proprietatibus rerum* (*On the properties of things*).

SAFIRUS: SAPPHIRE

To discover how medieval people thought of and used sapphires we can turn to lapidaries, the texts most concerned with stones, although inventories and travel literature will be enlightening as well. What did people know about the stone, its appearance, its value, even its name? What benefits could they expect to obtain from the gem beyond its power over poison?

The owners of the Visby ring may not have known a great deal about gems, but the inscription assured them that their transparent blue stone was a highly desirable *safirus*. This association of name and gemstone seems obvious to us today, but at that time the ring's gem could have been identified as another blue stone. Ancient sources described *sappirus* as an opaque blue stone containing golden speckles, which describes lapis lazuli. For centuries thereafter

²⁰ All further references to these medieval authors, ideas, and works will be discussed further on, beginning with the next section "*Safirus*: Sapphire."

“sapphire” in lapidaries often meant lapis lazuli.²¹ A stone known as jacinth (*hyacinthus*) might at times also have been identified as sapphire; some authors claimed that dark blue jacinths *were* sapphires or close in power to sapphires and were also able to work against poison. By the 13th century sapphire was more frequently and correctly identified as the translucent or transparent blue stone that we know today and see in the Visby ring.²² The confusion of nomenclature would have persisted, however, and a true sapphire might occasionally have been misidentified.

Lapidaries are an important source for learning about medieval beliefs, but these works cannot be judged by the scientific standards of modern mineralogy. No author could have seen or studied most of the stones they described and thus they relied largely on the work of earlier authors who themselves may have had little firsthand knowledge. Lapidaries also contain much that is not credible to us today. Authors collected and preserved knowledge that had accumulated over time but were not obliged to verify what they recorded. They frequently adopted conventional expressions such as “it is said” or “if we can believe it” to allow for their own and their readers’ skepticism.²³ Medieval lapidaries are not standardized; they vary from one to

²¹ Pliny, *Natural History*, trans. D. A. Eicholz, Loeb Classical Library, vol. X (Cambridge MA: Harvard University Press, 1962), 262-263.

²² Wyckoff, *Book of Minerals*, 97-98, 115, 125 on the confusion of lapis lazuli, sapphire, and jacinth; Bartholomew the Englishman, *On the Properties of Things. John Trevisa’s Translation of Bartholomeus Anglicus “De Proprietatibus Rerum.” A Critical Text* (Oxford: Clarendon Press, 1975), vol. II, 854.

²³ For example, *Etymologies*, 288; *Book of Minerals*, 119; Marbode of Rennes, *De Lapidibus. Considered as a medical treatise with text, commentary and C. W. King’s translation. Together with text and translation of Marbode’s minor works on stones*, by John M. Riddle (Wiesbaden: Franz Steiner Verlag, 1977) all use “*dicitur*,” “it is said,” throughout. On credibility and truth in the literature of natural wonders see Lorraine Daston and Katherine Park, *Wonders and the Order of Nature 1150-1750* (New York: Zone Books, 1998), 60-62. Also see Brigitte Buettner, *The Mineral and the Visual. Precious Stones in Medieval Secular Culture* (University Park: The Pennsylvania University Press, 2022) who presents an extended discussion of manuscript lapidaries and other texts, with special attention to their illustrations, 75-146.

another because authors may have had access to a limited number of exemplars or may have selectively included or excluded material depending upon their needs and interests.²⁴ Lapidaries describe not only precious stones, but a wide range of other minerals considered to have monetary, decorative, architectural, industrial, healing, or wonder-working value. They also include non-mineral materials of animal or plant origin, such as pearl, coral, jet, amber, and some fossils.

The sapphire's blue color and rarity made it one of the most esteemed gems of the Middle Ages, along with the emeralds, diamonds, rubies, and pearls that adorned religious objects and jewelry.²⁵ Sapphire's celestial blue was redolent of heaven in biblical exegesis. The large sapphire on an 11th-century gold cross (**Fig. 8**) becomes the *gemma gemmarum* at the center of the heavenly Jerusalem. Precious stones provided opulent display on the body, communicating wealth and taste, as in a 14th-century brooch where pale sapphires and wine-colored spinels alternate in a circle of textured gold (**Fig. 9**).²⁶

According to Arwidsson, the sapphire in the Visby ring is from Sri Lanka and would therefore have been highly prized. The island of Ceylon (Sri Lanka) was an important source for sapphires and other precious stones. Like spices and silks, eastern sapphires had the allure--and expense--of luxury goods imported

²⁴ John Riddle, "Lithotherapy in the Middle Ages: Lapidaries considered as Medical Texts," *Pharmacy in History*, 12, no. 2 (1970), 46-50.

²⁵ Urban T. Holmes, "Medieval Gem Stones," *Speculum*, 9, no. 2 (April 1934), 198, <https://doi.org/10.2307/2846596>.

²⁶ Alberto Virdis, "Color in Suger's Saint-Denis: Matter and Light," *Convivium. Exchanges and Interactions in the Arts of Medieval Europe, Byzantium, and the Mediterranean*, 8 issue 2 (2021): 89-92, <https://www.brepolonline.net/doi/abs/10.1484/J.CONVI.5.131116>. The reliquary processional cross is in the Cleveland Museum of Art, its inscription can be read at <https://www.clevelandart.org/art/1931.55>; 14th- century brooch in the Metropolitan Museum of Art, <https://www.metmuseum.org/art/collection/search/477239>.



Figure 8 Ceremonial Cross of Countess Gertrud, 1038 or shortly thereafter, German; gold, enamels, gems, pearls (wood core). Purchase from the J. H. Wade Fund with the addition of a gift from Mrs. Edward B. Greene, Cleveland Museum of Art. Photo: Public Domain.

from Asia.²⁷ “Eastern sapphires are best,” one lapidary states, although less impressive specimens could be found in France at Puy-en-Velay. The difference in quality could be worth noting, as in a 1324 English royal inventory that distinguishes between “*sapphirs d’orient*” and “*sapphirs de Puy*” in a crown. The inventory of the possessions of Charles V of France, taken at his death in 1380, listed a “*saphir d’Orient*” set in a ring and another used for healing the eyes. A sapphire’s Indian origins, then, might have been presumed to offer greater

²⁷ Arwidsson, 30; Marco Polo, *The Travels*, trans., intro, notes. Nigel Cliff, (Penguin Random House UK, 2015), 244; Daston and Park, 27-38; Buettner on the routes of the gem trade, 187-200.

Figure 9 Ring
Brooch, c. 1340-49,
German; gold,
spinel, sapphires.
2018.355. The
Cloisters Collection,
2006. Photo: Public
Domain.



effectiveness. Bartholomew the Englishman specified that Indian sapphires were needed to kill a spider or stanch a nosebleed.²⁸

Sapphire, the *gemma gemmarum*, possessed a wide array of virtues, many related to physical well-being. Aside from its power over poison, the gem promoted good general health and could prevent or treat eye and heart problems, swellings, cancers, abscesses, and fevers. Such a noble stone was most suitable for kings to wear in their rings, and could banish fear, bring victory, and aid in peacemaking. One who wished to take advantage of sapphire's properties

²⁸ Joan Evans, *Magical Jewels of the Middle Ages and Renaissance* (Oxford: Oxford University Press, 1922; rpt. New York: Dover Publications, 1976), "orientales sapphire sunt optimi," 233; *Book of Minerals*, 115; Holmes, 198; Jules Labarte, *Inventaire du Mobilier de Charles V, Roi de France* (Paris: Imprimerie Nationale, 1879), 87, 308; *On the Properties of Things*, II: 870.

was advised to live chastely. Witches and magicians, however, could pervert sapphire's helpful properties for their own evil ends.²⁹

Hildegard of Bingen's lapidary is unusual since it is also a manual of medical theory and practice. For her, precious stones had an affinity for human bodies because of a shared composition of elements. Her chapter on sapphire explains that it is largely composed of the element of fire; thus, several of her treatments involve warming the gem before allowing it to touch the patient, thus transferring fire's associated quality of heat to the sufferer. Hildegard prescribed sapphire for eye conditions, general debility, and anger, as well as problems caused by demonic interference.³⁰

VIRTUS: POWER

Understanding *virtus* requires answers to several questions. Virtus made it possible for a sapphire to act against poison, but what was the origin of this invisible force? How did *virtus* perform its task? This had been a difficult question to answer in antiquity; Albert the Great made a more thorough reassessment with the help of Aristotelian science and the concept of specific form. Could the invisible force of *virtus* be considered magic? Although certain

²⁹ The most comprehensive account is that in *On the Properties of Things*, II: 869-71. On tumors and abscesses: *De Lapidibus*, 43, *ulcera*; Evans, 213, *ulcerus*; 216, *tumorositates* and *apostemata*; *On the Properties of Things*, II:870, *postemes* and *antrax*; Albertus Magnus, *De Mineralibus et rebus metallicis* (Cologne: Johannes Birckmann and Theodore Baum, 1569), 34, 92, 98, 173, *antraces*, https://www.google.com/books/edition/De_mineralibus_et_rebus_metallicis_libri/819WAAAACAAJ?hl=en. *Antrax* (*antraces*) is a "poisoned" tumor (*apostemata venenose*), see *Sinonoma Bartholomei. A Glossary from a Fourteenth-Century Manuscript in the Library of Pembroke College, Oxford*, ed. J. L. G. Mowat (Oxford: Clarendon Press, 1882), 11, https://www.google.com/books/edition/_/ZPOQcuf_jREC?hl=en&gbpv=1; *Guigonis de Caulhiaco (Guy de Chauliac) Inventarium sive Chirurgia Magna*, ed. Michael R. McVaugh, vol. 1: *Text* (Leiden: E. J. Brill, 1997), 225: "...smaragdus et saphirus deportavi valent ad cancrum..." both emerald and sapphire are effective against cancer. For eye problems: *De Lapidibus*, 43; *Book of Minerals*, 115; *Physica*, 142-143; *On the Properties of Things*, II: 870.

³⁰ *Physica*, 142-143.

types of magic were problematic in the eyes of some church authorities, others argued that a reliance on *virtus* was an acceptable use of stones for health. Could *virtus*, however, guarantee a successful outcome in every case?

The Visby ring's inscription states that its sapphire's *virtus* acts against poison. *Virtus* may be translated as virtue or power, but also as efficacy or force.³¹ *Virtus* is derived from *vir*, meaning man, and could connote qualities such as prowess, strength, or courage.³² *Virtus* has the capacity to act: the *virtus* of the sign of the cross banishes demons; the *virtus* of the borage plant strengthens the blood; the *virtus* of the sapphire works against poison.³³

Many gems and stones were considered marvels (*mirabilia*) of nature. Natural *mirabilia* contained properties that operated through occult, that is, hidden, powers that could not be explained by the current understanding of nature.³⁴ Some *mirabilia* displayed their properties openly. The magnet, for example, was a much-cited mineral marvel because of its ability to attract iron; this property could be easily demonstrated, but its source remained hidden to inspection.³⁵ Not all marvels displayed their powers as obviously as the magnet

³¹ Paula De Vos describes medicinal *virtus* as "potential" in "The 'Prince of Medicine': Yūḥannā Ibn Māsawayh and the Foundations of the Western Pharmaceutical Tradition," *Isis*, 104, no. 4 (2013): 668 and note 4, <http://www.jstor.org/stable/10.1086/674940>.

³² Christopher Fletcher, "Manhood, Freedom and Nation in Later Medieval England," *Edad Media. Revista de Historia*, 21 (2020): 86-89, <https://doi.org/10.24197/em.21.2020.81-111>.

³³ *Jacobi a Voragine Legenda Aurea Vulgo Historia Lombardica Dicta*, ed. Johan Georg Theodor Graesse (Leipzig: Arnold, 1850), 310-311: "Quanta autem sit virtus crucis. . . statimque edidit signum crucis, omnis illa daemonum multitudo evanuit,"

<https://archive.org/details/jacobiavoragine00jacogoog/page/310/mode/2up>; *De virtutibus herbarum* (Venice: Simon Bevilacqua, 1499) XXII *Borago*: "virtutem habet generandi bonum sanguine,"

<https://archive.org/details/CAT31000255/page/n75/mode/2up>; *De Mineralibus*, "virtus eius co[n]tra toxicu[m]," 151.

³⁴ Daston and Park, 24, 41, 60-63, 74, 86, 88, 116, 127-129; *Book of Minerals*, 69, 70, 86, 102, 103, 107, 112.

³⁵ For example, *Book of Minerals*, 24, 56, 103; Daston and Park, 21, 39, 89-90, 95, 111 among many.

still Albert the Great was convinced that “there is hardly any little stone that does not have some power [*virtus*] or other.”³⁶

Marbode ended the prologue to his lapidary by saying that God implanted *virtus* in gems. Hildegard, always concerned with health and illness, said further that God “willed that [stones] would be held in honor and blessing on earth and used for medicine.”³⁷ Stones were bound up with God’s creation of Paradise as Genesis 2: 10 recounts: the Phison, one of the four rivers flowing from Paradise, watered lands replete with gold and stones. Although Paradise was shut after the Fall, many believed it still existed on an inaccessible eastern mountaintop and continued to send its gifts into the world, making some of its prelapsarian goodness available to humanity. Precious stones continued to flow from Paradise in the rivers Euphrates and Phison and in the gem-laden river Ydonus of the kingdom of the legendary Prester John.³⁸

A belief in divine origin, however, was not the only way to understand the power of stones. Before the arrival of Aristotelian speculative science in the Latin West, the explanations were general: stones possessed intrinsic natural qualities that operated through affinities between stones and other matter or that originated in a stone’s elements. Hildegard identified the combined elements of fire and water as the active principle that caused stones to “have many powers and [be] effective for many needs.”³⁹

³⁶ *Book of Minerals*, 126; *De Mineralibus*, 185, “. . .vix lapillum invenient quinon habeat aliquam virtutem.”

³⁷ “Quin sua sit gemmis divinitus insita,” *De Lapidibus*, 35; similarly, *Physica*, 138.

³⁸ Richard Raiswell, “Geography is Better than Divinity: The Bible and Medieval Geographical Thought,” *Canadian Journal of History/Annales canadiennes d’histoire*, XLV (autumn/automne 2010): 213-216, <https://utpjournals.press/doi/10.3138/cjh.45.2.207>; *Etymologies*, 281; *The Travels of Sir John Mandeville*, ed., trans. C. W. R. D. Moseley (London: Penguin, 1983), 184; Buettner, 161, and her examination of “Edenic geography,” 155-164.

³⁹ Kornbluth, 150-153, 174; *Physica*, 138; Faith Wallis, “Hildegard of Bingen: Illness and Healing,” in Jennifer Bain, ed. *Cambridge Companion to Hildegard of Bingen* (Cambridge: Cambridge University Press, 2021), 154, 158-160, 164.

Albert the Great, however, rejected the long-held idea of elemental effectiveness in a rigorous study of *virtus* in his work on gems and minerals. In this endeavor he took up the task of 13th-century science to understand nature by investigating the causes of phenomena in line with Aristotelian natural philosophy. To understand *virtus* and its ability to act in stones Albert drew upon the idea of “specific form” promoted by Avicenna, as well as work attributed to Al-Kindi (Ya'qub b. Ishaq al-Kindi, 9th century) who posited that rays from the stars influenced earthly matter.⁴⁰

Albert did not believe, as so many did, that the marvelous properties of stones--“such as counteracting poison, driving away abscesses, attracting or repelling iron”--came only from their elemental content.⁴¹ Rather, he argued that their extraordinary powers are due to a unique “specific form” that is generated in them when the stellar rays strike elemental matter on the surface of the earth.⁴² Albert explained this transformation of earthly matter thus: “precious stones are stars composed of elements.” Since the stars are of an incorruptible, perfect nature they impart extraordinary properties to earth’s base, corruptible elements.⁴³ Specific form thus renders an elemental substance more potent than the sum of its parts.

⁴⁰ *Book of Minerals*, 59-64. See also Isabelle Draelants, “The notion of ‘Properties’: Tensions between *Scientia* and *Ars* in medieval natural philosophy and Magic” in eds. Sophie Page and Catherine Rider, *The Routledge History of Medieval Magic* (Abingdon: Routledge, 2019), 169-172, <https://www.routledgehandbooks.com/doi/10.4324/9781315613192-14>.

Gibbs discusses specific form in the context of what makes drugs and poisons effective, 51-55. For Al-Kindi see Lynn Thorndike, *A History of Magic and Experimental Science During the First Thirteen Centuries of Our Era* (New York: Columbia University Press, 1923), 1: 642-46. For specific form and celestial influence, see Nicolas Weill-Parot, “Astrology, Astral Influences, and Occult Properties in the Thirteenth and Fourteenth Centuries,” *Traditio*, 65 (2010): 205-215, <https://www.jstor.org/stable/41417994>; on celestial influence, Buettner, 83, 86, 135-136.

⁴¹ *Book of Minerals*, 24; earth and water, 12-16; celestial origins, 17, 18, 22, 23, 25, 29-30, 55-67.

⁴² *Book of Minerals*, 24, 41, 64-67, 151, 169; Copenhagen, 540-45.

⁴³ *Book of Minerals*, 29-30, 60-61, 151.

Medieval ideas about stones were rooted in basic tenets of religion, descriptive natural history, and speculative natural philosophy. One explanation draws on the history of creation and divine beneficence, the other on the mechanics of stellar influence. These explanations were not exclusive of one another. Hildegard explicitly acknowledged God's hand in nature, but also credited the elements for their actions. Albert said nothing of God. Although a theologian, he wrote *Mineralia* as a work of natural philosophy utilizing classical conventions of inquiry. Already acknowledging that God designed the world to operate by natural causes, Albert needed only to investigate the natural, rather than the divine, causes of the powers of gems.⁴⁴

Would the *virtus* of an amuletic gem have been considered magical? Modern scholarship and museum materials sometimes speak of the magical properties of gems. Magic is a thorny subject, and the line between religion, medicine, and magic was not sharply drawn in lapidaries or in any area of medieval life. The purported magic quality of amuletic gems is nonetheless worth considering briefly. Here is Nicolas Weill-Parot's succinct and useful statement about the relationship of amulets to magic:

By definition, magic implies an artificial operation: in one way or another human work is necessary to make the magical power being produced; therefore amulets, being natural objects, do not belong to magic properly. They are related to natural wonders (*mirabilia*).⁴⁵

Lapidaries did not claim that gems were *inherently* magical but did report that their powers could be manipulated or enhanced; magical texts described the "artificial operations" and "human work" necessary for magical use. Such work could involve consecrations, offerings, incantations, and the engraving of signs on gems in the manner

⁴⁴ Edward Grant, *God and Reason in the Middle Ages* (Cambridge: Cambridge University Press, 2001), 182-206.

⁴⁵ Weill-Parot "Astrology, Astral Influences, and Occult Properties," 203; Draelants, 172-173.

of late-antique Mediterranean magic.⁴⁶ Lapidaries often reported that particular gems could be used to divine the future, to commune with spirits, or to control weather.⁴⁷ These were the types of activities that some early Christian authorities frowned upon, believing that demons, rather than human operators, manipulated natural *virtus* to produce the desired effects.⁴⁸

Augustine of Hippo (d. 430 CE), always wary of demonic magic, nevertheless acknowledged the medical use of material “that acts by a natural virtue.” By the 13th century university scholars and clerics promoted the concept of a “natural” magic that acted through a substance’s hidden powers without connection to demonic magic.⁴⁹ Albert the Great’s study of minerals and of specific form led him to defend the practice of attaching amuletic stones to the body because “healing and help are conferred by solely natural powers.”⁵⁰

A plain gem such as the Visby sapphire only needed to be worn, touched, even looked at, to be effective as an amulet. Some users may have supplemented their gem use with Christian prayers or charms.⁵¹ In general, wearing gems for their restorative or preventative properties was a common practice that would not have been considered magic of the illicit, demonic type. It would be more

⁴⁶ Carla Sfameni, “Magic in Late Antiquity: The Evidence of Magical Gems,” in *Religious Diversity in Late Antiquity*, eds. David M. Gwynn, Susanne Bangert (Late Antique Archaeology 6, 2008), 440-476.

⁴⁷ On the medieval interest in ancient, engraved gems see Buettner, 127-134. For divination see *silenites* in *Book of Minerals*, 118; spirits and demons see *diadocos* or *diadocus* in *De Lapidibus*, 88; *Book of Minerals*, 86; and in *On the Properties of Things*, II: 843. For weather see coral in *Etymologies*, 323 and *On the Properties of Things*, II: 843.

⁴⁸ *Etymologies*, 181-183; Lynn Thorndike “Some Medieval Conceptions of Magic,” *The Monist*, 25 no. 1 (January 1915): 108-114, <http://www.jstor.org/stable/27900521>.

⁴⁹ Steven P. Marrone, “Magic and the Physical World in Early Thirteenth-century Scholasticism,” *Early Science and Medicine*, 14, no. 1/3 (2009): 167-173, <https://www.jstor.org/stable/20617782>.

⁵⁰ *Book of Minerals*, 146. Brigitte Buettner offers an extended study of Albert’s ideas about the natural power of engraved and naturally figured stones, 134-417.

⁵¹ *Physica*, 138-140, 143, 145, 148. Catherine Rider surveys pastoral advice on licit and illicit practices in “Medical Magic and the Church in Thirteenth-Century England,” 8-11, Europe PMC Funders Group, Author Manuscript, originally in *Social History of Medicine*, 24, Issue 1 (April 2011): 92-107, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4326677>.

accurate to describe the operative powers of gems as *natural* magic: hidden natural properties dwelling in divinely wrought matter.

Virtus in use

For physical well-being gems could treat various conditions or protect against unfavorable outcomes. The challenge in using a gem or stone was to transfer its *virtus* to the body. A 12th-century Anglo-French lapidary described four effective methods: touching, carrying or wearing, ingesting in a liquid, or viewing.⁵² Many lapidaries, for example, claimed that to prevent miscarriage a woman should tie *aetites* to her arm or thigh as an amulet; to promote lactation, she should drink ground *galactides* dissolved in wine.⁵³ Hildegard of Bingen prescribed looking at beryl to encourage tranquility and at onyx to relieve sadness. Vision was itself a form of touch according to the intromission theory of sight; things seen impressed their images on the eye and transmitted their properties to the mind and soul.⁵⁴

Medieval documents show that people owned stones whose natural powers could be accessed in simple amuletic ways. In England in 1220 Philip de Albini sued Alice de Lundreford for payment for three gold rings, at least one of which held a sapphire. She borrowed them during an illness and kept them because she said they had helped her, and she would not recover without them.⁵⁵ Among Charles V's possessions was a "holy stone" that helped women in

⁵² Paul Studer and Joan Evans, *Anglo-Norman Lapidaries* (Paris: Librairie Ancienne Édouard Champion, 1924), 261-262: "Entsurquetut quatre maneres / Mustrat medicine des peres: / Pur le tocher, pur le porter, / Pur le beivre, pur l'esgarder."

⁵³For *aetites* or *echites* see *De Lapidibus*, 64; *Book of Minerals*, 88. For *galactites* see: *De Lapidibus*, 79; *On the Properties of Things*, II: 852, *Book of Minerals*, 94-95.

⁵⁴ *Physica*, 140, 141; C. M. Woolgar, *The Senses in Late Medieval England* (New Haven: Yale University Press, 2006), 20-21, 148. Also see Buettner for many ways of activating *virtus*, 115-125, and for gems that affect vision, ocular health, or that create visual effects, 93, 103-110.

⁵⁵ Evans, 112.

childbirth and a stone that cured gout. The childbirth aid was possibly *aetites* and was clearly important since it was noted as being in a gold setting adorned with precious stones.⁵⁶ These royal possessions may have been individual gems that could be brought out of safekeeping and attached or applied to the body when needed.

Beginning in the 11th century the diffusion of translated Greek and Arabic medical works into the Latin West brought more complex ways to use medicinal materials, including minerals. Arabic pharmacology introduced the idea of combining medicinal substances to create compound drugs. These compounds often took new forms such as the electuary and the lozenge, both types composed of many ingredients sweetened with sugar. The gem electuary was known in the West by the 13th century. This paste-like remedy consisted of ground sapphires, jacinths, emeralds, rubies, and other natural materials. Arabic medicine taught that breaking down medicinal ingredients released *virtus*, making it available to the body. Records of such preparations appear in the accounts of the English royal household in the 14th and 15th centuries, which twice show the purchase of gems destined for the royal physicians.⁵⁷

A case from about 1400 demonstrates both medical and amuletic ways of using gems in the palliative treatment of a Parisian woman with an ulcerated, fatal, breast tumor. Her doctors recommended (among other treatments) lozenges made from “chips of jacinths, emeralds, and sapphires” pulverized with other ingredients. The physicians also advised the patient to wear sapphires, rubies, and emeralds and to keep them nearby, perhaps to be viewed.⁵⁸ Since the

⁵⁶ *Inventaire*, 93; Holmes, 203.

⁵⁷ De Vos, 671-684, 686, 691-694, 707, 710-711; Duffin, “The Gem Electuary,” 80, 85, 87.

⁵⁸ The doctors were Guillaume Boucher and Pierre d’Ausson; Faith Wallis, *Medieval Medicine. A Reader* (Toronto: University of Toronto Press, 2010), 351.

organs of sense were gateways that allowed influences into the body, the ingestion, touch, and sight of gems would all have had therapeutic value. In suggesting both amuletic and medicinal remedies, the physicians hoped their patient would receive the greatest possible benefit. Her prescriptions included sapphires and jacinths that helped abscesses, cancers, and fevers, promoted sleep and peace of mind, and fostered piety; emeralds also worked against cancer.⁵⁹

Medieval people believed in the efficacy of gems and used them if they could. Their confidence could be bolstered by the frequent mentions in lapidaries that a particular gem's effectiveness was confirmed by "experience." This word generally refers to the testimony of a credible witness who saw a successful demonstration of lapidary power. Such testimony might be the author's own, although it more often came from respected authorities of the past whose work provided the foundation of lapidary knowledge.⁶⁰ Despite reports of good outcomes, however, people recognized that *virtus* was potential and provisional.

A poor outcome could result from the imperfect nature of earthly matter. Despite their charge of celestial *virtus*, even stones were subject to change and decay. According to Augustine, God had diminished nature's goodness after the Fall to "set before the eyes of men the judgment upon human sin."⁶¹ The nature of fallen humankind also affected the use of gems. Stones would not aid the

⁵⁹ *Physica*, 140-141; sapphire for fever and to promote piety, *On the Properties of Things*, II: 869-870; *Book of Minerals*, 115; jacinth to prevent melancholy, *On the Properties of Things*, II: 854; surgeon Guy de Chauliac (d. 1368) recommended emerald and sapphire for cancer, note 5 above.

⁶⁰ *Book of Minerals*, 40-41, 56; *On the Properties of Things*, II: 870 where Bartholomew reports seeing a sapphire prove fatal to a spider. See Adam Gwyndaf Garbutt, *Assessing the Exotic: Authority, Reason, and Experience in the Construction of Medieval Natural Knowledge* (PhD Diss, University of Toronto, 2018), 16-21 on the medieval scientific concept of experience,

https://tspace.library.utoronto.ca/bitstream/1807/91796/3/Garbutt_Adam_G_201811_PhD_thesis.pdf.

⁶¹ Saint Thomas Aquinas, *Summa contra Gentiles*, Book Three: "Providence," Part II, trans. Vernon J. Bourke (Notre Dame IN: University of Notre Dame Press, 1975), 66.

wicked and sin could inactivate a diamond's power.⁶² A number of lapidaries contain a Christian blessing and ritual to return lost powers to gems that had had contact with sinful users. Although this blessing may have originally been intended for engraved gems its existence shows that the loss of *virtus* was of some concern.⁶³

Albert the Great's argument about celestial influence offered a scientific explanation. No two stones are alike because astral rays strike each location on earth at different angles and with different lengths, thus rendering some stones weaker in power than others. *Virtus* could also be lessened in stones whose elemental matter was disorganized or depleted with use. A stone's power could even "die" over time, leaving it ineffective yet visibly no different.⁶⁴ Perhaps such a dead stone was noted in the 1413 inventory of John, Duke of Berry. Described as a large green stone that protected against poison, it later proved unable to do so and was given away to servants.⁶⁵

VIRUS: POISON

Poison referred to a remarkably wide range of substances. Once again, the theory of specific form could account for the efficacy of both poisons and antidotes. This period saw increasing importation and use of poison, which was

⁶² Saint Augustine, *Two Books on Genesis. Against the Manichees and On the Literal Interpretation of Genesis: An Unfinished Book*, trans. Roland J. Teske, S. J. (Washington, D. C.: The Catholic University of America Press, 1991), 67; *Physica*, 138; *De Lapidibus*, 43; *Book of Minerals*, 119-120; *Travels of Sir John Mandeville*, 119; Buettner, 81, 94, 133.

⁶³ Evans, 64-65; the blessing in Latin lapidaries is a Christianized form of Arabic magic, known in several variations, see Vajra Regan, "The *De consecratione lapidum*: A Previously Unknown Thirteenth-Century Version of the *Liber Almandal Salomonis*, Newly Introduced with a Critical Edition and Translation," *The Journal of Medieval Latin* 28 (2018), 277-333, <https://www.brepolonline.net/doi/epdf/10.1484/J.JML.5.116033>.

⁶⁴ *Book of Minerals*, 66, n. 7, 67. Albert expressed surprise that the same sapphire cured an abscess twice, expecting it to become ineffective after its first use, 115.

⁶⁵ Daston and Park, 75.

of great concern to the elite who feared murder by poison. Poison was also associated with illness when an individual's body produced its own toxins. An entirely new theory arose at the time of the plague in the mid-14th century: physicians suspected that poison could spread disease through "infected air" to large numbers of people during epidemics.

By the Middle Ages the general Latin word for poison from any source was *venenum*. In antiquity *virus* usually referred to venoms injected by snakes, spiders, and scorpions, poisons secreted by toads and marine creatures, and the saliva of rabid dogs.⁶⁶ *Virus* continued to be used with this specific meaning in medieval compilations that drew from ancient sources. Venomous snakes became emblematic of poison in general and were sometimes reputed to be ingredients in poisonous concoctions.⁶⁷ (It should be noted that Isidore of Seville in *Etymologiae* claims that semen is called *virus*. He probably made an association with *vir*, although he does not explicitly say so. While *Etymologiae* was widely read, it is not clear that *virus* was commonly used elsewhere in this sense.⁶⁸ Nonetheless, Isidore's *virus* is a potent fluid just as venom is; one is generative, the other destructive.)

I suggest that the Visby ring's inscription is thoughtfully constructed, using the less common *virus*, rather than *venenum*, to rhyme with *safirius* and to highlight the oppositional natures of *virus* and *virtus* as harmful and helpful.

⁶⁶ Celsus, *De Medicina*, trans. W. G. Spencer (London: William Heinemann, 1938; rpt. 1961, Loeb Classical Library) II: 110, 112, all bites contain poison: "omnis autem fere morsus habet quoddam virus," <https://archive.org/details/demedicina02celsuoft>; Bartholomaeus Anglicus, *De proprietatibus rerum* (n. p.: Petrus Ungarus, 1482), *Liber XVIII*, "De Animalibus," describes the prister asp dripping venom from its open mouth: "Prister est aspis. . . semper ore patente et virus evaporante inceden," https://www.google.com/books/edition/De_proprietatibus_rerum/56vBXFIB-FgC?hl=en&gbpv=1&bsq=virus.

⁶⁷ Franck Collard, *The Crime of Poison in the Middle Ages*, trans. Deborah Nelson-Campbell (Westport CT: Praeger, 2008), 48-49.

⁶⁸ *Etymologies*, 23, and, following Isidore, in *On the Properties of Things*, I: 261.

According to Estelle Ingrand-Varenne, rhymed epigraphic inscriptions might employ unexpected or atypical words to create conceptual links within a necessarily brief form. *Virus* preserves the rhyme, creates a tie between poison and antidote, and accommodates the limited space of the bezel and hoop. The alliterative *vincit* also concentrates meaning; as a form of *vincire* it means to constrain and as a form of *vincere* it means to overcome.⁶⁹

Poisonous substances originated in animals, plants, and minerals. Many such substances were processed into useful items such as drugs or pigments that could be deadly if used incorrectly. The plants hellebore and scammony, for example, could serve as medications, but were poisonous at the wrong dosage. Arsenic, in the forms of realgar and orpiment, added color to paint but excessive contact was toxic.⁷⁰ While overexposure and overdose could be accidental, the same materials could also be used for intentional poisoning. From the 11th century onwards, the Latin West augmented its native plant and mineral materials with imported substances, many of which also had toxic potential. Domestic and imported substances could be acquired legitimately from apothecaries, but they could also be procured from clandestine sellers.⁷¹

The period in which the ring was made saw natural philosophers and physicians undertake to define the nature of poison, as Frederick Gibbs has documented. This was a new task; ancient writings on poison had focused on the practical matters of identifying poisons and treating their effects and on the elements as the source of their efficacy. As with stones, by the 14th century

⁶⁹ Estelle Ingrand-Varenne, "Verses in Latin Inscriptions," mentions thematic unity, original vocabulary, and compression as strategies, 4, 5, 6.

⁷⁰ Lists appear, for example, in Nicander's *Theriaca* and *Alexipharmica* (2nd century BCE), Avicenna's *Materia Medica* (11th century), or Pietro d'Abano's *De Venenis* (*On Poisons*, before 1316). See Gibbs, 60-64, on poisonous drugs and their regulation; Collard, 275.

⁷¹ Collard, 39-48; Gibbs, 5-6, 60-64.

European physicians were endorsing specific form (endowed by the stars) to explain poison's destructive actions. Physician Pietro d'Abano (d. 1316) spread the theory widely through his treatise *De Venenis (On Poisons)*.⁷²

Specific form also gained acceptance to explain the effectiveness of antidotes. If the specific form of a strong poison could harm, the specific form of another strong material could help by removing, counteracting, or weakening poison.⁷³ The word *vincit* in the ring's inscription explains the action of the sapphire. Whether to bind or restrain, to counteract, as the Gotland Museum interprets it, or to overcome, the word expresses the gem's action to inactivate or neutralize poison, just as 14th-century physicians expected an effective antidote should.

Some gems were acknowledged to have a specific form strong enough to neutralize poison. Emerald was paramount among these. The most respected physicians of Islamic and Arabic medicine were especially enthusiastic about emerald. Avenzoar (Ibn Zuhr, d. 1162) tested it on himself by suspending an emerald above his abdomen to successfully treat symptoms from ingesting a noxious plant. He confidently proclaimed the stone good against all poisons.⁷⁴ The Italian physician Gentile da Foligno (d. 1348) relied on his knowledge of Islamicate physicians when he used powdered emerald in liquid to treat a snakebite victim. Sapphire, as we already know, and diamond, were considered

⁷² Avicenna and Averroes (Ibn Rushd, d. 1198) were important for this development; see Gibbs, 16-28, 48-49; 52-53; 81-85; 91-93. See *El "Tractatus De Venenis" de Pietro d'Abano. Estudio Preliminar, Edición Crítica y Traducción*, Alba Aguilera Felipe (PhD Thesis, Autonomous University of Barcelona, 2017), <https://ddd.uab.cat/record/190482>.

⁷³ Gibbs, 58, 93-94.

⁷⁴ Henry A. Azar, *The Sage of Seville. Ibn Zuhr, His Time and His Medical Legacy* (Cairo: American University in Cairo Press, 2008), 51, 57; Lynn Thorndike, "A Case of Snakebite from the *Consilia* of Gentile da Foligno," *Medical History*, 5, Issue 1 (January, 1961): 91-94, lists the several eastern physicians whose advice Gentile recalled, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1034588/?page=3>.

panaceas for poison; chrysoprase would weaken any strong poison in its vicinity.⁷⁵

The stereotype of the Middle Ages as the heyday of murder by poison has a basis in reality. Franck Collard's study of criminal poisoning has shown that it certainly existed although its frequency may have been overestimated both then and now. According to Collard, the number of incidents reported in chronicles or judicial documents from the 6th to 16th centuries appears to have risen around 1250. He credits several factors. A larger number of cases began to be prosecuted as poisoning rather than subsumed under a charge of witchcraft. At the same time learned and medical communities engaged with newly available translated Greek and Arabic works on drugs and toxins, while greater trade with the east had increased the number of poisonous materials available.⁷⁶ Certainly the awareness of poison, if not the fact of poisoning, increased.

What Collard calls the "crime of poison" reached into all levels of the social hierarchy although most victims in the cases he studied were of the higher classes.⁷⁷ Anxiety about poison among the elite is evident in the numerous treatises directed to or commissioned by them in the 13th century and later. The Latin translation of around 1300 of *On Poison and the Protection from Lethal Drugs* (Maimonides, d. 1204) was dedicated to Pope Clement V. The treatise provided guidance on detecting poisons in food and drink and treating a person who has been poisoned.⁷⁸ Pietro d'Abano in his treatise warned kings, prelates, and officials of the danger of being poisoned while dining. He recommended the use of various natural materials such as the green stone *prasius* that had a history of

⁷⁵ For example: *Natural History*, Book XXXVII, XV, 211, diamond; *Physica*, emerald, chrysoprase, 148; *Book of Minerals*, sapphire, 98; *On the Properties of Things*, sapphire, II: 870.

⁷⁶ Collard: 11-26, 39-43, 45-46; also see Gibbs 41-52, 60-64.

⁷⁷ Collard, 90-93, and throughout chapters 3 through 6.

⁷⁸ Gibbs, 86-87, translation by physician Armengaud Blaise.

protecting kings by changing color in the presence of poison or the emerald that could counteract ingested poison if placed in the mouth or in a drink.⁷⁹ Other writers advised their patrons to employ trustworthy servants, monitor their kitchens, and screen guests. In rituals carried out at the table, tasters and carvers tested food, wine, and cutlery to ensure that nothing had been adulterated.⁸⁰

Some stones had the potential to act specifically against the danger of adulterated food. Topaz would “sweat” in the presence of poison and therefore should be held near food suspected to be adulterated. If one was unlucky enough to ingest poison, it was advisable to drink ground beryl to remove it from the body. To reveal a suspected poisoner: place the stone *aetites* under his dish and he will be unable to eat anything from it. Once the stone is removed, however, he will eat greedily.⁸¹

Gems and other natural materials guarded against poison on elite tables. Ornate structures called *languiers* held pendant emeralds, sapphires, or rubies alongside “serpents’ tongues,” actually triangular fossil shark teeth mistaken for snakes’ tongues (**Fig. 10**). Diners could detach and dip the various stones into wine or food. The serpents’ tongues were purported either to change color or to “sweat” in the presence of poison and presumably other gems neutralized it. *Languiers* and serpents’ tongues are recorded in great numbers in papal and royal inventories from Italy, France, Germany, and Sweden.⁸²

⁷⁹ *Tractatus de Venenis*, “prasius. . . praeseruat reges a uenenis. . . ad praesentiam ueneni uirorum statim amittit,” 78; “Smaragdus etiam optime ualet. . . si in ore teneatur uenenum uirtutem inficiendi dimmit. Et si detur in potu post uenenum, peroptime a morte liberat,” 80; Gibbs, 87-94.

⁸⁰ Collard, 62-67; Gibbs, 100-104.

⁸¹ *Physica*, topaz, 144-145, beryl, 141-142; *De Lapidibus*, *echites*, 64; *On the Properties of Things*, *echites*, II: 846; *Book of Minerals*, *echites*, 87.

⁸² George Zammit-Maempel, “Fossil Sharks’ Teeth. Medieval Safeguard against Poisoning,” *Melita Historica*, vol. 6, No. 4, 1975, 391-410, <https://www.um.edu.mt/library/oar/handle/123456789/37544>; *Circa 1492. Art in the Age of Exploration*, ed. Jay A. Levenson (Washington, D. C.: National Gallery of Art, 1991), catalog 12, Jean Michel Massing, “Serpent’s Tongue,” 130; Evans, 114-116.



Figure 10 Languier (also known as Natternzungenkredenz) of coral with pendant “serpents’ tongues,” 15th or 16th century. Vienna, Treasury of the German Order. Photo: Wikimedia Creative Commons.

Rings could be especially beneficial. They were portable and worn on hands that touched food, drink, clothing, and weapons, all of which could be poisoned.⁸³ An emerald in a ring could keep a poisoner away from the wearer or mitigate physical symptoms if poisoning occurred.⁸⁴ The manual for carvers at

⁸³ Collard, 50-54.

⁸⁴ Azar, 57, 61.

the Spanish royal table advised them to wear rings set with rubies, diamonds, emeralds and other stones to protect against poison in food (and in “infected air,” about which more later).⁸⁵ Many a magnate owned a toadstone ring to protect against poison. Toadstone (actually a fossil fish tooth) was believed to originate in the heads of toads and was included among precious stones in lapidaries. It warned of poison by “sweating” or by burning the hand. Serpents’ tongues and toadstones were probably considered to possess their power because snakes and toads produce toxins without being harmed by them.⁸⁶

Fear of deliberate poisoning among the elite made protective gems desirable, as contemporary documents show. Poisoning could also be accidental, as in the case of contact with a plant, animal, or mineral, or an inadvertent overdose of a drug; such instances would have occurred with greater frequency than malicious poisoning. Other forms of poison were intangible. The belief that the gaze of an envious person, the “evil eye,” might emit vapors that could poison from a distance was a topic of academic speculation as well as a common belief.⁸⁷ A sinister and insidious allegation of mass poisoning arose in 1321 in areas of France and Spain. A rumored conspiracy to poison water sources generated fear in populaces that then acted violently against falsely accused lepers, Muslims, foreigners, and especially Jews. No one is known to have sickened, but many were persecuted and executed and similar accusations

⁸⁵ Enrique de Villena, *Arte de Cistoria, con varios estudios sobre su vida y obras y muchas notas y appendices por Felipe-Benicio Navarro* (Madrid: Murillo, 1879), 18, “. . .guarnidos sus manos de sortijas que tengan piedras o engastaduras, Valientes contra poçona e ayre infecto, asy como rubi e diamante e girgonca [?] e esmeralda . . .”

<https://babel.hathitrust.org/cgi/pt?id=uc1.b4052888&view=2up&seq=120&skin=2021&size=125>.

⁸⁶ For example, Swedish king Magnus Eriksson (d. 1374), Melin, 265; the 14th century Valois princes, Léon de Laborde, *Glossaire Français de Moyen Age* (Paris: Adolphe Labitte, 1872), 232-233; Christopher J. Duffin, “Toad Stones,” in *Fossils as Drugs, Ferrantia* 54 (2008), 34-39,

<https://ps.mnhn.lu/ferrantia/publications/Ferrantia54.pdf>; *Book of Minerals*, called *borax*, 76; *On the Properties of Things*, called *noset*, II: 861.

⁸⁷ Gibbs, 167-169, *fascinatio*.

targeting Jews continued to be made for centuries afterward.⁸⁸ If the sapphire was indeed potent against all poisons, wearers of the Visby sapphire should have felt protected in all these situations.

***Virus*: The poison of individual disease**

Virus is related to illness through words such as *virulentus*, full of poison, and *virulentia* (*virulencia*), an exudation from open abscesses, tumors, pustules, or wounds.⁸⁹ *Virulentus* and *virulentia* pertain to a body in a diseased state. To understand *virulentia* we must start with the humoral theory of health and sickness of Hippocratic/Galenic medicine, which considered most disease to be largely the result of dysfunction in an individual's humors. Four humors, or fluids--blood, choler, black bile, and phlegm--distributed digested nutriment to organs of the body. Humors that were improperly processed could accumulate in the body and become "corrupt," that is, decayed or rotten. Corrupt humors led to illness, causing serious conditions such as fevers, *lepra* (skin disorders), cancer, and melancholy; they also contributed in part to many other conditions.⁹⁰

Corrupt humors could become poisonous and collect in swellings called apostemes. Apostemes could be internal or external, large tumors such as

⁸⁸ Collard, 104-105; Malcolm Barber, "Lepers, Jews, and Moslems: The Plot to Overthrow Christendom in 1321," *History* 66, no. 216 (1981): 1-17, <http://www.jstor.org/stable/24417053>.

⁸⁹ John of Gaddesden's *Rosa Anglica* (c. 1304-1314) says the lesions of *variola* may exude "virulent" pus: "emittunt sanie[m] virulenta[m]," *Rosa Anglica practica medicine a capite ad pedes* (Venice: Boneto Locatelli, 1502), 41, <https://archive.org/details/hin-wel-all-00000770-001/page/n91/mode/2up>. Guy de Chauliac (d. 1368) describes *virulentia* as derived from an excess of watery humor: "virulencia est superfluitas subtilis ex superfluitate humorum aquasom generator est," 209; its terrible odor ("horribili et fetida") was noticeable in ulcerated cancer, for example 1:224; see references in *Guigonis de Caulhiaco* I: 80, 105, 180, 219, 246 for *virus* and *virulencia* pertaining to lesions.

⁹⁰ Gibbs, 18-19; Luke Demaitre, *Medieval Medicine. The Art of Healing from Head to Toe* (Santa Barbara CA: Praeger, 2013): humoral system, 15-21; corruption, 38, 77; fever, 37-38, 43; cancer, 98; lepra, 103; melancholy, 135. A full account of the history of the humoral system is in Noga Arikha, *Passions and Tempers. A History of the Humours* (Harper Collins e-books; 2007).

cancers, or small pustules typical of many skin conditions. The humoral material in apostemes could continue to putrefy until it became truly poisonous or venomous matter, *materia venenosa*; *virulentia* was one of its resulting forms.⁹¹ Poisonous humors, like other poisons, caused death by finally overwhelming the heart.⁹² Such may have been the fate awaiting the Parisian lady with the ulcerated breast tumor. At the extreme end of the process of humoral corruption and putrefaction the body created its own poison.⁹³ Lapidaries recorded a variety of gems to address humoral dysfunction: emerald, topaz, jasper and celidonium for fever; ruby for general humoral imbalance; topaz for *lepra*; and amethyst and sapphire for apostemes, external ulcers, and sores.⁹⁴

***Virus*: The poison of widespread disease**

If the ring was in use in the later 14th century, *virus* could have taken on an additional and especially frightening meaning. The arrival in Europe of the “great mortality” (the so-called Black Plague, 1347-51, with frequent recurrences) prompted physicians to offer a new theory of disease causation that relied on

⁹¹ Bern. *Gordonii Opus Liliium Medicinæ Inscriptum* [. . .] (Lyon: Guillaume Rouillé, 1550), 65, “*apostema est inflatio seu tumor præter naturam*” of which there are many types, such as melancholia, cancer, anthrax, 67, 68; some of them can develop (“*transire in naturam veneni*”) into “*materia venenosa*”: 49, 68, 69, 71, 75, 81, 91, 108, 810,

https://www.google.com/books/edition/Bern_Gordonii_opus_lilium_medicinæ_insc/nutzYJR8_sC?hl=en&gbpv=1.

⁹² Gibbs, 118; *Lilium Medicinæ*, 91-92: in terminal cases of *lepra*, for example, it is important that the poison not go to the heart: “*materia venenose. . . no[n] vadat ad cor.*”

⁹³ Demaitre, 38, 77, 90, 98.

⁹⁴ *De Lapidibus*, jasper, 41, emerald, 45, sapphire, 43, celidonium, 55; *Physica*: topaz, 145, jasper, 146, ruby and amethyst, 149; Studer and Evans, sapphire for “*apostumes et a toutes manieres de boches*,” 141; in later works, *On the Properties of Things*, celidonium, II: 84, sapphire, II: 869-70; *Book of Minerals*, celidonium, 80, jasper, 100, emerald, 120.

virus/venenum as a model to explain why entire communities became infected with the “poison of disease.”⁹⁵

Physicians had long understood that individuals fell ill and even died from their own corrupt or poisoned humors. What they did not satisfactorily understand, however, was how large numbers of people could contract a disease that spread rapidly from person to person. Since antiquity the suspected agent in these epidemic “pestilential fevers” was miasma, a mass of corrupted vapors that arose from swamps or other places filled with rotting, putrid matter. As miasma wafted through the air its vapors entered and infected people. Those who sickened then exhaled their corrupted breath onto others.⁹⁶

The devastating nature of the 14th-century plague led some physicians to consider that poison might be the responsible agent. They reasoned that plague’s unusually quick onset and high mortality could be attributed not just to miasmatic vapors, but also specifically to a poison *within* miasma that acted in the swift, deadly manner of *venenum*.⁹⁷ The medical faculty of the University of Paris, writing at the beginning of the plague in 1348, considered poisonous vapor in miasma as a cause.⁹⁸ John of Burgundy’s plague tract (1365) used the analogy of venom: the poison of plague was comparable to that of a serpent’s bite in its power to destroy the body’s organs.⁹⁹ Some physicians proposed that the plague’s distinctive swellings, *bubones* (buboes), formed when corrupt vapors in

⁹⁵ The medieval use of *virus* should not be confused with the modern use of the same word, which designates a specific type of infectious microorganism, see M. W. Taylor, “Introduction: A Short History of Virology,” in *Viruses and Man: A History of Interactions* (Cham, Switzerland: Springer, 2014), 13-16.

⁹⁶ Demaitre, 60-66.

⁹⁷ Gibbs, 116-118, 122; Demaitre, 61-63.

⁹⁸ H. Émile Rébouis, *Étude Historique et Critique sur La Peste* (Paris: Alphonse Picard, 1888), 82, “vapores malos, putridos, et venenosos,” https://archive.org/details/BIUSante_70399/page/n89/mode/2up.

⁹⁹ Rébouis, 118; Dorothea Waley Singer, “Some Plague Tractates (Fourteenth and Fifteenth Centuries),” *Proceedings of the Royal Society of Medicine*, 9 (1916) (Section of the History of Medicine): 206: “tout venin a de la substance nature a destruire co[m]me il appert en morsure de serpent,” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2017705/>.

the air poisoned humors that then collected in *apostemata*.¹⁰⁰ Others reasoned further that the great strength of plague's poison, as of all strong poisons, must come from its specific form.¹⁰¹

The idea of poison as a factor in contagious disease also appears in non-medical literature. An account of the 1346 siege of Caffa in Crimea (probably written in 1348) described survivors spreading the plague as they fled. The words *venenum* and *venenare* appear repeatedly to describe the disease, its transmission, and those infected.¹⁰² A rare use of the word *virus* in reference to the plague appears in Simon de Couvin's classicizing allegory of the plague (1350) in which the gods use *virus* (rabid saliva) from the hell-hound Cerberus to spread the plague.¹⁰³ The ancient word *virus* is apt in the poem's classical setting, yet also accords with the concept of a disease-causing poison infecting many victims. These literary uses of *venenum* and *virus* may be metaphorical or allegorical, but they suggest that the idea of poison as a cause of epidemic disease was known beyond the medical community in the mid-14th century.

The association of widespread contagion with poison was new but the remedies were time-honored prophylactics or treatments for poison, humoral corruption, and *apostemata*. Some gems had long been renowned for use in epidemics. Jacinth would protect travelers in pestilential lands; in the Islamicate

¹⁰⁰ Melissa P. Chase, "Fevers, Poisons, and Apostemes: Authority and Experience in Montpellier Plague Treatises," *Annals of the New York Academy of Sciences*, 441 (1985): 155-157, see especially notes 36, 38, 41, <https://doi.org/10.1111/j.1749-6632.1985.tb14580.x>.

¹⁰¹ Gibbs, 119-121; also 52-56, 92.

¹⁰² By Gabriele de' Mussis: see A. G. Togni, "La peste dell'anno 1348," *Giornale Linguistico di Archaeologia Storia e Letteratura*, XI (1884), "uenenato morbo infectis; moriens vniversam familiam uenenabat," 146, https://www.storiapatriagenova.it/Scheda_vs_info.aspx?Id_Scheda_Bibliografica=2240.

¹⁰³ Thomas Haye, "Simon von Couvin: 'De Iudicio Solis in Conviviis Saturni': Einleitung Und Kritische Edition," *Wiener Studien* 127 (2014): 285, "virus quod Cerberus expuit ore"; also mentioned on 286, 288, 289, 290, <http://www.jstor.org/stable/24752204>.

world sapphire had a reputation against epidemics.¹⁰⁴ The emerald was a long-standing panacea, which the Paris medical faculty specifically endorsed during the initial outbreak of the plague.¹⁰⁵ During the initial and subsequent outbreaks John of Burgundy and Guy de Chauliac (d. 1368) prescribed electuaries that included crushed emerald, jacinth, ruby, and sapphire. Guy took this remedy himself during a recurrence of plague and credited it with safeguarding his health.¹⁰⁶ Because the ruby had the ability to “disperse poison in the air,” the ruby rings of the wealthy or of the carvers at the royal table could be expected to provide protection.¹⁰⁷ In the wake of the “great mortality” one who wore the Visby sapphire might hope for deliverance from poison in the air, whether from a drifting miasma or from the breath of others.

SUMMARY/CONCLUSION

The Visby ring is a singular object, not least because of its costly large sapphire. The gem was equally valuable as a remedy to offset the dangers of a myriad of poisons and illnesses. The ring’s lengthy inscription is ambitious and original. It contains not only a striking first-person address that establishes the sapphire’s agency, but also a carefully composed wordplay on *safirus*, *virtus*, and *virus*. In addition, the inscription preserves the name and memory of Lodovicus, the former owner of this important gem and surely a person of consequence.

¹⁰⁴*De Lapidibus*, 52: a *hyacinthus* ring offers protection in plague-affected areas; Duffin, “The Gem Electuary,” 91. *Physica*, 138-139.

¹⁰⁵ *Physica*, 138-39; Rébouis, 126: “smaragdus est etiam insignis medicina contra omne venenum.”

¹⁰⁶ Singer, 210-211; *Guigonis de Caulhiaco*, 1:120; Azar, 51, 57. Pre-plague, see *Lilium Medicinæ* for a prescription to treat pestilential fever that includes jacinth, 4; also discussed in Nicolas Weill-Parot, “La rationalité médicale à l’épreuve de la peste: médecine, astrologie et magie (1348-1500),” *Medievals* 46 (Spring 2004): 6-9, <http://journals.openedition.org/medievals/884> DOI : 10.4000/medievale, 884.

¹⁰⁷ *Book of Minerals*, 77; Cardo of Milan’s comments on ruby rings were made specifically for plague conditions, see Weill-Parot, “La rationalité médicale à l’épreuve de la peste,” 9, n. 34, “magnificus et potens debet portare in digito carbunculum vel rubinum, unum aut plures, quoniam aerem venosum et vapores fugat”; *Arte de Cistoria*, 18.

The sapphire was charged with *virtus* from divine and cosmic sources. It may have been considered especially powerful because of its origin in southern Asia, in proximity to the presumed earthly Paradise, from whence the finest specimens came. As an amulet set in a ring the gem could transfer its *virtus* through wearing, touching, perhaps placing it near or in food and drink, or even gazing at the stone or the word *safirius*. The active principle worked without the need for magical words or actions. The sapphire might prove ineffective, however, if it was of low quality or its power was depleted through repeated use or the user's sinfulness.

To understand the widest meanings of *virus* we can imagine the ring in use from 1200 to 1400 (and beyond). Up to the mid-13th century *virus* could refer to poisons entering from *outside* the body such as animal venoms and plant poisons, or developing *within* the body when humoral imbalance became toxic. After the plague years and a new explanation of disease causation, the word could take on an additional meaning: airborne poison that caused widespread, contagious disease.

Intellectual, scientific, and social developments in the thirteenth and fourteenth centuries are concurrent with the Visby ring's presumed manufacture date of 1200 to 1400. This was a period when poisonous substances became more readily available in the Latin West, and poisons and their antidotes received new scrutiny as Europeans engaged with Greco-Arabic scientific and medical works. The theory of specific form explained the efficacy of the powers in gems, poisons, antidotes, and diseases. Specific form was also a useful concept in defining a "natural" magic that did not rely on demonic activity. In this period the recognition and prosecution of cases of poisoning also increased. Fearful elites seeking protection against malicious poisoning had recourse to the advice in newly written treatises. Physicians identified the "poison of disease" as an agent

in humoral conditions and as a source of contagion in epidemics. Precious stones served in these and other instances to prevent, detect, or counteract any type of poison.

The Visby ring's original commissioner--whether it was Lodovicus or someone else--was a person of high secular or ecclesiastic rank for whom this impressive sapphire served as a display of wealth and a source of protection and healing.¹⁰⁸ Although the sapphire possessed many properties, the commissioner specified its action against poison, perhaps from fear, as an elite person, of political poisoning. The sapphire would be understood to prevent or treat poison encountered in accidental circumstances as well.

It cannot be known if the original commissioner possessed the degree of scientific and medical knowledge presented in this essay. Nor can we know if this person devised the wordplay of *safirius* and *virus* or planned the disposition of the inscription. Perhaps a learned adviser was on hand to assist with these matters. In any case, the commissioner (and later owners) could have acquired knowledge of stones and medicine from academic study, from university-trained physicians attending them, or from Latin and vernacular lapidaries, which were broadly distributed in society. Some owners may have known basic medicine or gem-lore while others knew little. For all of them, however, the ring's *safirius* and the words *virtus* and *virus* spoke of the means of averting a fearsome danger.

¹⁰⁸ Wealthy merchants could also have had access to precious stones. In the late 14th century Richard de Preston, "citizen and grocer," donated a sapphire to old St. Paul's, London, for the use of those with eye ailments; see William Dugdale, *The History of S. Paul's Cathedral in London from its Foundation until these Times* (London: Tho. Warren, 1658), 21. As a grocer Preston would have been involved in the lucrative trade of materials such as spices, <https://archive.org/details/historyofstpauls01dugd/page/n9/mode/2up>.

FINAL NOTE

This article was researched and written in 2020-2022, a period that offered ample opportunity to ponder the resonances of *virus* and *virtus* in the modern world. COVID-19 is a virus, which in modern medical terms is a distinct type of pathogen, while the medieval *virus* was a general word applied to a wide range of substances. Modern “virus,” however, shares with the *virus* of medieval epidemics an understanding of contagious spread: virus or *virus* can be carried by the air and transferred by the breath. While in antiquity snakes had been considered the quintessential origin of *virus*, early in this pandemic scientific researchers proposed that snakes may have been the animal reservoir of the COVID-19 virus.¹⁰⁹ The animal origins of *virus* and virus should remind us that the natural world affects us powerfully but is not under our control. *Virus* also functioned in a less literal, yet no less deadly way in this and earlier pandemics. Dangerous misinformation, engendered by fear, manipulated by the ignorant or powerful, spread in a way that we now call “viral,” rapidly passing from person to person like poison borne on a miasma.

As for the *virtus* of remedies, while we now know that vaccines, antivirals, and antibody treatments operate through scientific principles rather than through occult virtues, modern medicines may almost seem to be *mirabilia* from the hand of God. *Virtus* of another sort played a vital role during the recent pandemic. Doctors, medical professionals, researchers, teachers, essential workers, neighbors, and many others embodied human virtues, acting with courage, endurance, and self-sacrifice. 🙏

¹⁰⁹ Wei Ji, *et al*, “Cross-species transmission of the newly identified coronavirus 2019-nCoV,” *Journal of Medical Virology*, 92, issue 4 (April 2020): 433-440, <https://onlinelibrary.wiley.com/doi/10.1002/jmv.25682>.