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Spilled Wine, Spilled Blood: Spilling the Secrets of the Covered Cup from the Chungul Kurgan

The covered cup, discovered in 1981 during the salvage excavation of a burial mound in southern Ukraine, is an impressive example of secular metalwork from around 1200. The cup's interior contains a cast silver-gilt lion and a hitherto undetected siphon mechanism, making it one of the first preserved automata from Europe and the earliest known Western medieval example of this type of trick vessel. The cup from the Chungul Kurgan helps to clarify the probable operation of the *chantepleure* illustrated in the sketchbook of Villard de Honnecourt and sheds light on possible other medieval automata. The cup's presence in the same burial with other works from the same approximate date and region suggests historical circumstances that might have resulted in its burial with a nomadic leader in the steppe.

Keywords: Chungul Kurgan; archaeology of Ukraine; automata; covered cup; medieval metalwork; steppe nomads

The covered cup that is the object of this study has spent the majority of its existence in darkness (fig. 1).[1] Placed in a grave in the steppelands of southern Ukraine only a few decades after its manufacture, it was brought to light again in 1981 with the excavation of the nomadic burial mound in which it had been interred. It now sits, as of this writing, in a secure and undisclosed location to prevent its destruction or looting in the ongoing Russian attacks on Kyiv.[2] Apart from being an impressively large and well-preserved example of secular metalwork from around the year 1200, the cup conceals a couple of surprises that further underscore its importance. First, when one removes the lid, one finds within the bowl of the cup a cast silver-gilt lion poised on its hind legs against a centrally positioned post (fig. 2). Second, that same post conceals a hitherto undetected siphon mechanism, making the cup one of the first preserved automata from Europe and so far the earliest known Western medieval example of this type of trick vessel. Although the cup finds no exact stylistic parallels in Western European metalwork of the late twelfth century, its presence in the same burial with other works that seem to emerge from the same approximate date and region can suggest something of the historical circumstances that might have resulted in the cup's burial with a nomadic leader in the steppe.

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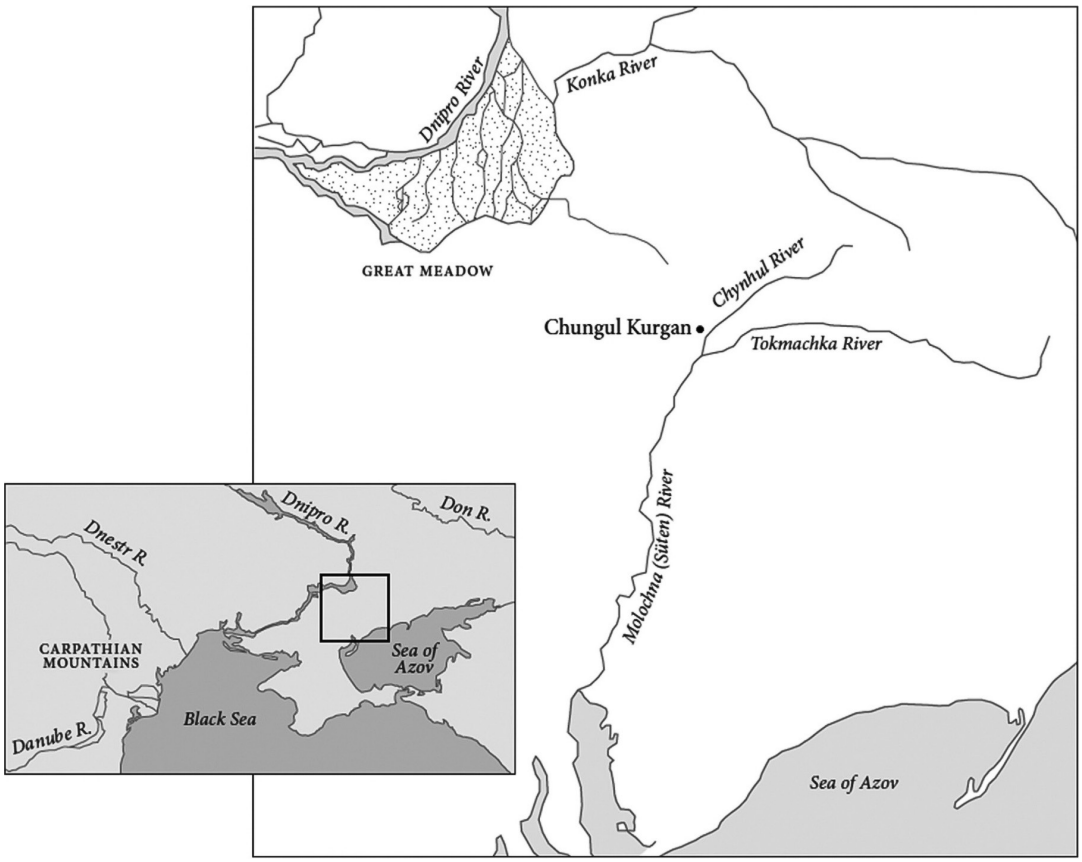
1 Covered cup from the Chungul Kurgan burial (conserved state), late 12th – beginning of the 13th century, gilded silver, 29.5 × 16.5 cm. Kyiv, Treasury of the National Museum of History of Ukraine

2 Covered cup from the Chungul Kurgan burial, view of cup interior



3 Map of the Black Sea region, with enlarged detail showing Dnipro and Azov watersheds

The covered cup was discovered in 1981 in the course of the salvage excavation of a kurgan, or burial mound, in the Zaporizhzhia Oblast of southern Ukraine (fig. 3). The dig was carried out by a team from the Institute of Archaeology of the (then) Academy of Sciences of the Ukrainian SSR, with the objective of clearing the way for new irrigation systems.[3] With the expansion of Soviet agriculture setting the timeline, the kurgan was fully excavated in a single season using motorized earth-moving equipment.[4] The mound, designated as the Chungul Kurgan, contained a series of burials dating from the early Bronze Age (*Yamna* culture, ca. 3300–2600 BCE) to the late Bronze Age (*Zrubna* culture, ca. 1900–1200 BCE).[5] At its center, the excavators discovered a medieval burial, dating to the early thirteenth century CE, sunk through the preexisting Bronze Age kurgan and topped with an impressive tumulus reaching almost five meters in height. It contained the skeleton of a male, estimated to have been 50–60 years old at his death. Around the perimeter of the burial pit were found the skeletons of five sacrificial horses, at least three of which were buried with bridles, saddles, and other trappings.[6] The burial chamber itself contained two large amphorae—likely to have been filled with wine—and the carcasses of approximately ten sheep to supply the deceased with food and drink for the afterlife, along with a variety of grave goods (fig. 4).[7] The back of the skull of the deceased bore a sharp

wound, as from a sword. Pinholes on either side of this fissure, as though from a suture, and a trepanation drilled into the skull with some signs of bone regrowth at its edges attest that he survived for a time after this blow and received medical attention.[8] The glazed albarello found in the grave (of a type associated with Ayyubid Raqqa in the early thirteenth century) probably contained medicinal remedies or analgesics meant to mitigate the suffering of the wounded leader.[9]

At the time of its excavation, the lower half of the cup was partially filled with remnants of organic matter, some of it consisting of charred herbs.[10] Together with the contents of the albarello, these botanical remains were evidently part of the pharmacopoeia placed in the burial to ease the pain of the deceased in the afterlife. The presence of these burned materials led to the initial—and erroneous—description of the cup as a censer (*kuryl'nytsia* or *kadilo* in Ukrainian), an error repeated in some subsequent publications.[11] Presumably the cup was still used as a drinking vessel by its owner up to the time of his death and its final reuse in the burial. The confusion of the cup for an incense burner is the more understandable due to the presence of perforations, as though to facilitate the aeration of coals, in the base of the interior column. Rather than being intended for air, however, these holes are integral to the function of the hidden siphon, as will be explained below.

A burial of this type in this location, carried out within a nomadic religious tradition of providing necessities for the afterlife, must have belonged to a leader of the Qıpčaqs (known as Cumans or Polovtsy in Byzantine and Slavic sources, respectively), a nomadic confederation that dominated the Pontic steppe from the mid-eleventh century until the Mongol invasion in the mid-thirteenth century.[12] The grave contained weapons and a gilded iron helmet of a type comparable to finds from Kyivan Rus', armor apparently of nomadic manufacture, a

4 Chungul Kurgan, view of burial pit at time of excavation, showing skeleton and grave goods

splash-glazed ceramic bottle and a ring-handled silver cup with enamel decoration possibly from Constantinople, and silk textiles of Eastern Mediterranean origin.[13] The metalwork attributable to Western Europe includes the covered cup itself, three elaborate belt buckles also of gilded silver, and two finger rings of gold, mounted with stones. The dates that can be assigned to the grave goods mean that the burial can date no earlier than the first decade of the thirteenth century. The mobilization of Qıpčaq labor necessary to erect this impressive tomb would have been well-nigh impossible after the consolidation of Mongol control over the Black Sea Steppe in 1237.[14] There is, therefore, a window of roughly

5 Covered cup from the Chungul Kurgan, detail of cup and attachment of foot

thirty years in the early thirteenth century when this burial is likely to have been deposited.[15]

Within the Qıpčaq notable's burial, the covered cup was found lying just above the right shoulder of the deceased. At some time in the modern era, the mound suffered a partial collapse, leading to the crushing of the internal platform that protected the burial pit and sending debris into the pit itself. Fortunately, the cup escaped destruction. Although the foot was separated from the body and lay at an angle to the cup's upper section, the vessel emerged largely intact from the excavation. Local museum officials in the Zaporizhzhia Regional Museum, anxious to put this impressive find on display, carried out a hasty restoration process in the months following the excavation, cleansing the cup of encrusted corrosion, reattaching the foot to the vessel, and restoring the broken portions of the acanthus collar. Unfortunately, apart from photographs taken of the cup at the time of excavation, the process of restoration was not documented.

The cup measures about 29.5 cm high and 16.5 cm in maximum diameter; it weighs a bit under a kilogram in total. The vessel sits on a flaring conical foot, 10.5 cm in maximum diameter, open at the bottom. A ring of acanthus leaves marks the transition from the foot to the bowl of the cup. The profile of the cup and its lid approximates a sphere compressed at the waist. This slightly "cinched" shape is remarkably consistent across both Byzantine and Western medieval covered drinking vessels of the twelfth and thirteenth centuries. The two parallel bands of ornament at the waist of the cup—rather than a

6 Covered cup from the Chungul Kurgan, detail of finial of lid

single band attached to the lower section—seem to distinguish covered cups of Western manufacture from those that can be attributed to Byzantium or its eastern neighbors.[16] The lid features a high finial consisting of an openwork sphere on a flaring conical foot; both are rendered as a network of vines and tendrils with cupped leaves, crowned by a bud with four radial petals. This is an unusually elaborate handle for a cup lid, and its closest parallels can be found among much larger objects such as reliquaries and shrines.

The surface of the cup and its lid are decorated with engraved ornament against a matte ground. The principal motif, seen in the six wide bands (two each on the lid, bowl, and foot), consists of interlaced sprays of very attenuated acanthus leaves (figs. 1, 5). The bands where the lid and cup meet are decorated with a motif of four leaves radiating diagonally from a central point. On the lower surface of the cup, there is an additional band formed as a row of tendrils, which branch alternately to the right and to the left. The corresponding position on the lid has only a narrow band of engraved lozenges, within which is secured the cast finial. The way in which this ring of ornament frames the attachment of the finial makes clear, as will be discussed below, that the cast and engraved components of the cup's decoration were coordinated from the outset.

At the join between the cup and the foot is a ring of acanthus leaves apparently worked by cutting and hammering silver sheet. Each leaf is formed as a five-lobed structure, articulated with parallel grooves. They are separated at their bases by round notches around the collar from which all eight leaves emerge and curve upward toward the bowl of the cup. Two of the leaves were broken off prior to the cup's excavation and were re-attached as part of the restoration.

The finial, as already mentioned, consists of a cast openwork of tendrils that form a ball and a flaring conical foot, which ends in an attachment ring connected to the lid with rivets (fig. 6). The upper and lower halves of the ball each consist of six tendrils, spiraling alternately clockwise and counterclockwise. In this respect they resemble the tendril ornament of the cup's bowl, only here translated from two dimensions into three. The two zones of scrolls are separated around the circumference of the ball by a torus-shaped "equator." Another torus separates the neck of the finial's foot from the ball. The foot is formed of four larger tendrils, all right-hand spirals, with their smaller branches. The foot terminates in a solid ring with a scalloped edge, 6.2 cm in diameter, in which are placed the rivets affixing the finial to the cup's lid.

When the lid is removed, the inside of the cup reveals a central post, which supports the cast figure of a lion reared on its hind legs. The lion measures nearly 8 cm long from its rear paws to its muzzle, from which its enormous tongue protrudes as though the creature were licking the post's berry-like finial (fig. 7). Its eyes are inlaid with a glossy black material, probably jet, and its mane is articulated with engraved decoration. The body is lean and sinewy, and the ribs are clearly articulated on the lion's flanks. The tail is modeled as passing between the hind legs and then curling around the belly and over the left side of the back, ending in a tuft. The lion sits atop a raised base, 3.4 cm in diameter, with a flat flange through which pass the four rivets that attach it to the cup. Six holes are pierced in the domical part of the base, out of the center of which rises the post, 1.5 cm wide and 6.7 cm tall, terminating in a stylized berry. This form, representing a berry, pinecone, or, perhaps, beehive is articulated with rows of indentations from a ring punch. This object is now partially torn away, revealing an inner silver cylinder within the encasing silver-gilt post.

The interior surface of the cup, in contrast to the exterior and to the central lion and pillar, is mostly plain silver apart from a few details picked out in gilding. Four small gilt roundels on the sides of the bowl, each about 2.5 cm in diameter, feature engraved animals: a canid (?),

7 Lion and post from interior of covered cup

8 Engraved roundel with griffin on interior of covered cup

a griffin (fig. 8), a ram (?), and an eagle. As the question marks indicate, these are rather sketchily rendered, and they form a contrast to the far more careful anatomical delineation of the cast lion. Around the latter, near the bottom of the bowl, is a narrow, gilded band engraved with overlapping S-shaped motifs to create a wavy pattern.

Morphology

The cup's form, style, and artistic techniques place its creation in northwest Europe sometime in the last quarter of the twelfth or beginning of the thirteenth century. As we shall see, there is no absolute match that can pinpoint a date and location of manufacture, but comparisons can help us to define a zone of probable origin and plausible date. The Chungul cup is by no means alone in this respect—dating and localization of treasury objects in the decades around 1200 seems to be a particularly thorny issue, both because of the number of objects found far from their place of manufacture and because of the emulation of similar motifs by artisans in a number of different locales.

We can begin with the covered cup form, the origins of which have concerned historians of metalwork for many decades.[17] Whether sacred or secular, this vessel type, with a bulbous, domed cover approximately matching the shape of the bowl and with a cinched waist where bowl and cover meet, appears rather suddenly in works around 1150 and disappears again around the middle of the thirteenth century. Examples appear more or less simultaneously around Western Europe, from England to Scandinavia

9 Ciborium of Master Alpais, ca. 1200, gilded copper with champlevé enamel and glass cabochons, 30.1 × 16.8 cm. Paris, Musée du Louvre

to the Limousin.[18] These vessels include a number that have an unambiguously liturgical function as a container for the reservation and distribution of consecrated hosts. The Ciborium of Master Alpais in the Louvre (fig. 9) is very similar in its overall shape and dimensions to the Chungul cup, but it was clearly meant as a sacred vessel, as attested by its decoration of angels and apostles. There is an engraved roundel with the *dextera Domini* within the lid, while in the bottom of the bowl, the figure of a gesticulating angel is surrounded with the maker's inscription: *+MAGISTER G. ALPAIS. ME FECIT. LEMOVICARUM* ("Master G. Alpais made me at Limoges").[19] The location information in the inscription is in keeping with the medium of gilded copper and the techniques of champlevé enamel and die-cast appliqués typical of Limoges.

Unfortunately, no other cups of this form from the period so helpfully name their place of manufacture. A case in point is the covered cup known as the "Coupe de Charlemagne" in the treasury of the abbey of St. Maurice d'Agaune in Switzerland (fig. 10). Like Master Alpais's ciborium, it shares with the Chungul cup the same general form of a near-spherical vessel pinched at the waist and mounted on a trumpetlike foot. In contrast to the Chungul cup, however, it is constructed as a double shell, with an outer part supporting the repoussé roundels and an inner lining providing a smooth interior surface. The attribution of the St. Maurice cup has been much disputed: England, the Meuse valley, and Cologne have all been proposed.[20] Furthermore, there has been debate over whether it was originally meant as a eucharistic ciborium or a secular drinking vessel. Despite the repoussé decoration of angels and narrative scenes from the Infancy of Christ, recent scholarship seems relatively united in the opinion that the cup is, in origin, a secular object. Furthermore, the cast group of a centaur teaching a young student (likely meant to represent Chiron and Achilles) is currently attached as the finial of the lid, but in an inventory of 1659, it was recorded as being mounted to the bottom of the bowl.[21] Scholars are not in agreement as to which was the original position.[22] Whatever its original placement, the cast and gilded silver figural group is significant as a parallel to the gilded silver lion from the Chungul cup.

Another close formal parallel to the Chungul cup is the gilded silver "Sainte Coupe" in the Cathedral Treasury of Sens. Despite lacking any obvious iconographic signifiers of its function, its finial on the lid is fitted with an integral suspension ring, which suggests that it was always intended to hold eucharistic wafers and be suspended above an altar (fig. 11).[23] Traditionally, the cup has been linked with Thomas à Becket and his exile at Sens from 1166 to 1170. The implied manufacture in England prior to 1166 seems a

10 Coupe de Charlemagne, ca. 1210–1220, gilded silver, 27.8 × 20 cm. Saint-Maurice d'Agaune, Treasury of the Abbey

bit early for the elegant style of the cup, however, and scholars seem more comfortable placing it somewhat nearer the year 1200.[24]

Apart from the Coupe de Charlemagne at St. Maurice—assuming that it was, in fact, a drinking cup—most of the secular examples of covered cups from Western Europe survive only as fragments.[25] The partly gilded and nielloed silver bowl from the Basilevsky collection, now in the Cloisters, for instance, lacks its original foot as well as its lid.[26] The Dune Treasure has a bowl with its conical foot but without a lid, as well as another drinking vessel lacking both lid and foot.[27] Numerous other examples have been found in the former territories of the Russian Empire and Soviet Union. From the trove of vessels found near Muzhi in the Ob' valley of northwest Siberia, for instance, we have two separate lids from lost cups as well as a cup not associated with either lid.[28] An extraordinary lid of solid gold—once again lacking its cup—was found in Chernihiv in 1957. It bears an elaborate inhabited rinceau in repoussé, and the interlace motif around its rim recalls that on the cup from Tahancha in central Ukraine, now in Warsaw.[29] Again, it bears emphasizing that the Chungul cup is exceptional in being found in damaged but complete condition.[30]

11 Sainte Coupe de Sens, ca. 1200, gilded silver, 31 × 19 cm. Sens, Cathedral Treasury

Representations of this covered cup form also appear in various artistic media from the second half of the twelfth century and into the early thirteenth century. Notable among these are the twin cups held by the king at the top of Fortune's wheel in the *Hortus Deliciarum* of Herrad of Landsberg.[31] On a leaf of pen sketches within a twelfth-century manuscript of Isidore of Seville's *Etymologies* in Vienna, a figure in secular dress holds up a similar cup by its foot (fig. 12).[32] In a Parisian *Bible Moralisée,* likewise in Vienna, a gilded lidded cup sits among the spoils of Egypt taken by the fleeing Israelites.[33] One of the Magi presents such a cup to the infant Christ on a Limoges casket in the Walters Art Museum.[34] The use of this type of vessel for liquids—and not exclusively for holding consecrated eucharistic hosts—is made clear by a set of cast and gilded bronze personifications of the four elements, attributed to the Meuse valley and now in Munich. The figure of Water holds a covered cup in her hands (fig. 13).[35]

In considering the history of the vessel's form, we should be attentive to how fragmentary our surviving evidence is. A striking reminder of this comes in Galbert of Bruges's account of the assassination of Count Charles the Good of Flanders in 1127—a text to which we shall return. Galbert makes explicit mention of a gold covered cup that belonged to the count (and was misappropriated by clerics after his murder) that, with its lid, weighed some seven marks of gold (about 1.6 kg).[36] The cup does not survive, despite

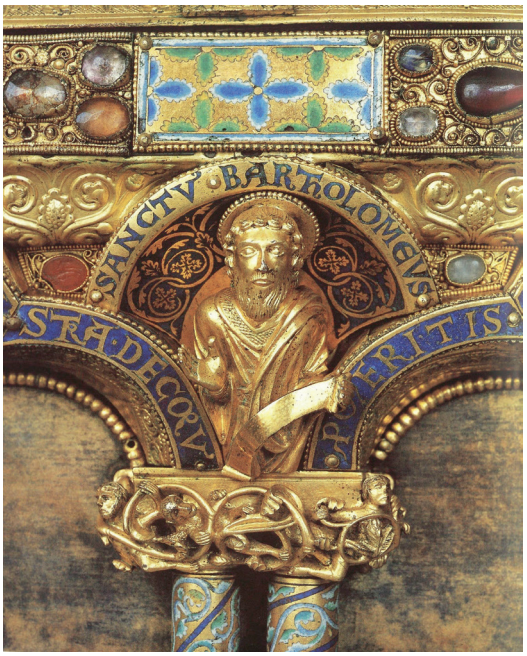
12 Leaf of drawings from a volume of Isidore of Seville, second half of 12th century, ink on parchment, 30.6 × 21.4 cm. Vienna, Österreichische Nationalbibliothek, Cod. 67, fol. 1v

13 Personification of Water, ca. 1180, gilded bronze, 10.5 × 5.7 × 4.9 cm. Munich, Bayerisches Nationalmuseum

being recovered from the church and passed on to William Clito, Charles's successor as Count of Flanders, so we cannot reconstruct its shape, but it raises the possibility that such lidded vessels were in circulation a good half century earlier than we have surviving evidence for them.

Ornament

The patterns chased and engraved on the exterior of the Chungul covered cup consist of attenuated, "leggy" acanthus interlaced against a finely matted ground. I have not been able to find any examples of twelfth- or thirteenth-century metalwork with precisely this pattern. A cup of Western European style found in Kyiv in 1876 and now in the Hermitage features a narrow band of windblown acanthus ornament around its lip and a central rosette of long acanthus leaves in its bowl,[37] but the angular quality of the engraving and the technique of the matted background are distinctly different from those of the Chungul cup. The engraved ornament of a pyx of the late twelfth or early thirteenth century from Saint-Omer shows a similar overall aesthetic to the Chungul cup, but again, without exact parallel to the form of leafy interlace.[38] The intertwined forms on the Saint-Omer vessel are thicker and bolder than the leggy acanthus of the Chungul cup, and they merge without any border into the burnished surface of the pyx's stem. This feature stands in contrast to the clean divisions between the bands of plain gilded sil-



14 Figure of St. Bartholomew and surrounding ornament, detail of Shrine of St. Anno, ca. 1183, gilded bronze, champlevé enamel, rock crystal and other stones over a wooden core, overall dimensions 78 × 157 × 46 cm. Siegburg, St. Michael

ver and matted-ground registers of ornament on the Chungul cup. Vaguely similar, too, is the border formed of interlaced leafy motifs on an enamel plaque of ca. 1180 in Chantilly, attributed to the master of the portable altar of St. Gregory in the treasury of St. Servatius in Siegburg.[39] The Gregory altar itself, generally placed in the 1170s, features analogous forms around the perimeter of its top, but again in champlevé enamel rather than engraved silver.[40] The interlaced acanthus spray turns up again in several variations in the enamels of the tower reliquary in Darmstadt, attributed to Cologne ca. 1180.[41] Finally, there are somewhat similar sprays of acanthus and other vegetation in the enameled background of some of the apostles from the shrine of St. Anno made for St. Michael's in Siegburg, dated to about the time of the archbishop's canonization in 1183 (fig. 14).[42]

Turning from engraved acanthus to the hammered leaves of the collar below the cup's bowl, one finds similar leafy transitional zones on a number of works of *ars sacra* found in western Germany and eastern France in the late twelfth and early thirteenth centuries. The elaborate enameled finials of the shrines associated with late twelfth- and early thirteenth-century Cologne, such as the shrine of St. Anno just mentioned, are frequently set off with collars of gilt leaves. The champlevé enamel orb from a shrine at St. Ursula in Cologne, for instance, formerly in the Stoclet collection and dated ca. 1180, bears rings of gilded copper-alloy leaves above and below. The upper group centers a berry with ring-punched drupelets very similar to the form that crowns the central post of the Chungul cup.[43] The pinnately lobed leaves, however, are distinct from the leaves of the Chungul cup, and they are also cast in copper alloy rather than hammered from a sheet of silver. Somewhat closer in form to the Chungul acanthus collar is a gilt copper and enamel finial in the Metropolitan Museum of Art, attributed to a Rhenish workshop and dated 1185–1200 (fig. 15).[44] Here the leaves, rather than being scored by a sharp division at the central vein, are arranged in parallel lobes much like the leaves on the Chungul cup. The closest analogy of form and medium, however, comes with the leafy collars on the silver reliquary of the True Cross from Laon (fig. 16), where rings of alternately upward- and downward-facing leaves surround the knop at the foot of the cross. The socles that support the figures of the Virgin Mary and John the Evangelist are formed as cups of leaves that, like the leaves on the Chungul cup, spring from a ring and are bent 180° back towards their stem (fig. 17).[45] The inscription, *CRUS [sic] HUGONIS ABBATIS*, allows the cross to be associated with Hugh, the abbot of Saint-Vincent at Laon from 1174 to 1205, thus establishing a window for the dating of the object and a probable manufacture in or around northern France.[46]

15 Spherical knop, late 12th century, gilded copper and champlevé enamel, 13.7 × 9.4 cm. New York, The Metropolitan Museum of Art

16 True Cross reliquary of Abbot Hugh from Saint-Vincent, Laon, datable to between 1174 and 1205, silver with gilding, filigree, stones, and colored glass, 46.8 × 12.5 cm. Paris, Musée du Louvre

17 Figure of St. John on a base of leaves, detail of the True Cross reliquary of Abbot Hugh. Paris, Musée du Louvre

The other applied ornament of the cup's exterior, the elaborate cast finial of openwork design (see fig. 8), is both highly distinctive and surprisingly difficult to place. Numerous analogies suggest themselves, but none are exactly parallel. Somewhat similar to the foliage of the Chungul finial is the curling head of a crozier in the treasury of St. David's Cathedral in Wales, dating to the twelfth century but of uncertain attribution.[47] The cupped leaves of the gilt bronze crook echo the forms of the finial, although their scale is somewhat larger (the whole measures 16 cm across) and the rinceau is formed into a disk rather than a ball. Some of the capitals from the colonnettes of the St. Anno shrine in Siegburg (see fig. 14) show the same round profile as the tendrils from the Chungul cup finial, together with somewhat analogous curled-over leaves. Here, again, the work is cast in bronze rather than in silver.[48]

For analogies to the spherical form taken by the tendrils, the most obvious parallel is the finial of the domed reliquary from the Guelph Treasure, now in the Kunstgewerbemuseum in Berlin and dated on stylistic grounds to about 1200 (fig. 18).[49] The round profile of the vines matches the scrolls of the Chungul cup finial; the compound leaf forms on the Berlin reliquary, how-

18 Domed reliquary from the Guelph Treasure, end of the 12th century, champlevé enamel and *vernis brun* on copper, gilded bronze, silver and gilded silver, walrus ivory, over a wooden core, 45.3 × 41 × 41 cm. Berlin, Kunstgewerbemuseum

ever, are both larger and more precisely defined than the leaves on the cup lid, there is no division around the midline of the sphere, and the sphere is supported on a short, solid collar rather than the high foot of further openwork. The material of the Berlin reliquary finial, moreover, is cast and gilded bronze rather than the gilded silver of the Chungul finial. Another openwork finial appears on the silver-gilt mounted mazer of ca. 1180 known as the "*skyphos* of St. Nicholas," in Brauweiler, which is crowned by a cast, openwork knob.[50] While the technique is the same as the Chungul cup, the Brauweiler knob is divided into four vertical sections, each dominated by a pinnate leaf form. The sphere sits directly on a thin silver collar, which is connected in turn to the wooden lid of the mazer; there is no openwork neck, as on the finial of the Chungul cup, nor any tendrils.

Interestingly, in his posthumously published revised and expanded study of "oriental" silver, Boris Marshak proposed an attribution for the Chungul cup. Working from published photographs, Marshak attributed the cup itself to Picardy or Flanders around 1200, but, based on the false assumption that the vessel functioned as an incense burner, he proposed that it was later altered into a censer by a second craftsman's addition of the openwork finial, which he attributed to a Cologne workshop of the 1170s or 1180s.[51] He arrived at the attribution to Picardy or Flanders by comparison with the engraved surface decoration of the pyx from Saint-Omer, mentioned above.[52] The Cologne attribution of the knob comes from comparisons we have already made—with the finial from the Guelph reliquary now in Berlin and the finial of the mazer in Brauweiler—as well as with the knobs of filigree openwork atop the Shrine of St. Anno.[53] These formal comparisons are reasonable—although the wire filigree knob of the St. Anno shrine is quite different from the much smaller, cast silver knob on the Chungul cup—but close examination shows the scenario Marshak proposed to be highly unlikely. The lid of the cup has no perforations for smoke to escape; furthermore, as already mentioned, the perimeter of the finial's foot matches almost precisely the innermost ring of engraved decoration on the lid, and no decoration can be seen within the circumference covered by the finial. The base ring of the finial is affixed to the lid by four rivets that match the gilded silver finish of the remainder of the cup's exterior. Moreover, they are consistent with the attachment of the inner group of the lion and post to the bottom of the bowl. Finally, the tendril pattern engraved near the bottom of the cup (see fig. 5) shares the same organizing principle as the cast tendrils of the finial. In short, Marshak's hypothesis of a *bricolage* of Cologne and northeast French work of different dates is almost certainly wrong.[54] The confusion of the great Russian scholar of medieval metalwork is itself, however, illustrative of the conundrum posed by the Chungul cup and its decoration.

Most puzzling of all is the cast and gilded silver lion dominating the interior of the bowl of the Chungul cup. The twelfth-century treatise on the arts by Theophilus recommends animal figures in repoussé (not cast) silver for the insides of secular drinking vessels: "Also, in the same workmanship, one fashions, in the middle of gold or silver cups or dishes, horsemen fighting against dragons, or lions or griffins fighting, the figure of Samson or David breaking the mouths of lions, also lions and griffins by themselves …."[55] Such a figural group of a lion and a basilisk is found (in cast silver, rather than in repoussé) in the center of one of the drinking bowls from the Dune Treasure in Sweden.[56] Another cast and gilded silver figure of a hybrid creature (a senmurv?) sits within a footed cup found in the Kyiv region, now in a private collection.[57] As already mentioned, if the cast group of Chiron and Achilles from the Coupe de Charlemagne at St. Maurice d'Agaune originally sat within the bowl, it would provide still another parallel from the period (see fig. 10).[58]

The lion from the Chungul cup is distinctly more naturalistic than most twelfth-century depictions. It bears little resemblance, for instance, to the cast and gilded bronze evangelist symbol of St. Mark found on the cross base from Saint-Omer or to the strangely anthropomorphic lion-headed angel on the St. Anno shrine.[59] In the articulation of the ribcage and the form of the mane, the lion from the Chungul cup calls to mind the griffin-form feet from the domed shrine in the Victoria and Albert Museum, attributed to a Cologne workshop around 1180 (fig. 19).[60] The rearing pose is surprisingly rare in metalwork of this period; it finds its closest parallels in the trio of bronze lions that form the foot of a cross from the Guelph Treasure, now in the Kunstgewerbemuseum in Berlin, attributed to Saxony or Lower Saxony and dated ca. 1130–1140 (fig. 20).[61] The lions of the cross base share with the Chungul lion the detail of the tail wrapped between the legs and around the body, albeit in opposite directions (wrapped right to left rather than left to right). The object that the lion licks, on the other hand, can be compared to finials on Rhenish metalwork such as the shrine of St. Anno mentioned above, where it crowns the central ball-form finial. Furthermore, one of the capitals of the St. Anno shrine features a pair of lions, each with his tail wrapped between his legs and terminating in a tuft on his flank.[62] This same wrapping of the lion's tail is seen in the drawing from the Österreichischen Nationalbibliothek in Vienna (see fig. 12). Again, the comparisons are not precise, but details shared with other objects seem to confirm an attribution of the Chungul cup to the region of the lower Rhine or Meuse valley and a date in the final decades of the twelfth century.

19 Griffin-form foot, detail of a domed tabernacle, probably from St. Panteleon in Cologne, ca. 1180, gilded copper, overall dimensions 55.5 × 51 × 50.8 cm. London, Victoria and Albert Museum

20 Base of an altar cross in the form of three rearing lions, gilded bronze, base 13.4 × 19.1 cm.
Berlin, Kunstgewerbemuseum

The Siphon

As noted above, the lion and post stand on a shallow dome-shaped foot, about 3.4 cm across, which has a flattened flange around its outer edge. This flange is pierced by four rivets that secure the casting to the base of the cup (fig. 21). Above these, on the domical foot of the post, six holes are pierced. These holes, together with the concentric tubes making up the central post, were noted in earlier publications of the cup, although no conclusions were drawn as to their function.[63]

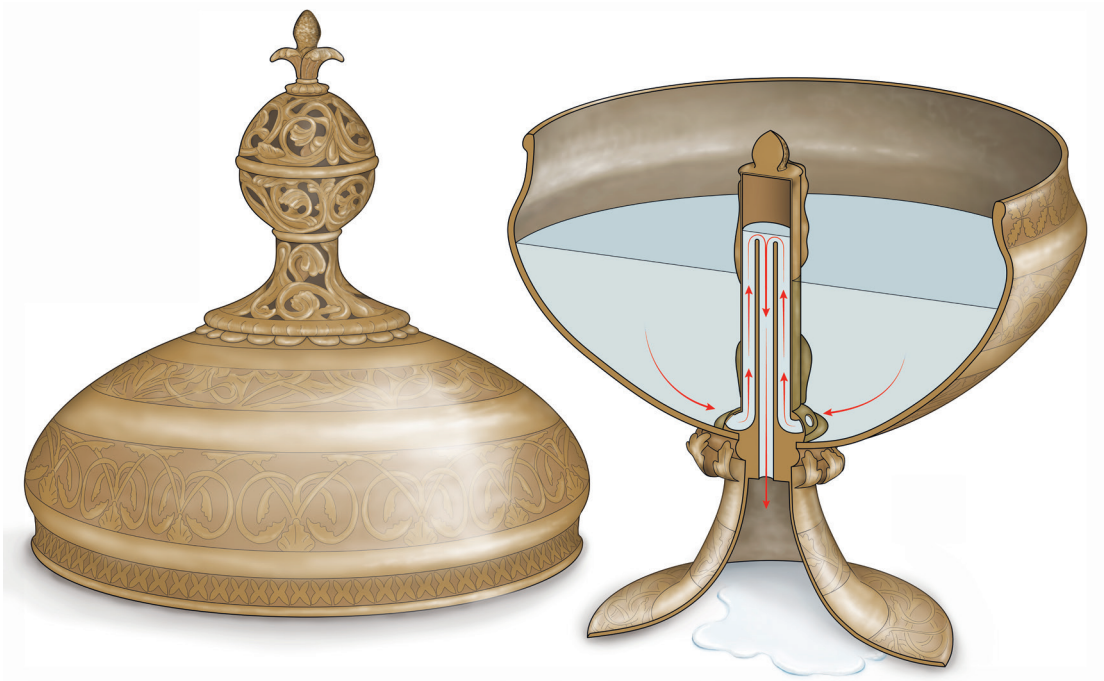
Their logic becomes apparent when compared with another extraordinary cup of much earlier date, the fourth-century Roman Tantalus cup from Vinkovci in eastern Croatia (fig. 22).[64] This cup was discovered in 2012 in excavations in the town of Vinkovci, which stands on the site of the ancient Roman settlement of Cibalae.[65] This cup has a central figure of Tantalus, who is seated on a rock, bending forward, with his hands outstretched in front of him. Around the base of the rock, which is raised from sheet silver, there are four openings. These small holes permit the flow of liquid into a siphon tube concealed within the figural group. Thus when the bowl was filled to a level just below Tantalus's outstretched hands, the siphon would be triggered and the bowl's contents would drain out through the pierced foot of the cup, potentially soaking the unwary drinker.[66] An inscription around the rim, a quotation from Phaedrus, makes the figure of Tantalus a metaphor for the greedy who are unable to grasp the good things around them.[67] The engraved aphorism and the repoussé figure thus work together to enhance the humorous effect of the vessel's secret mechanism.

The Chungul cup would have functioned in a similar manner to the Vinkovci bowl. When filled to the level of the top of the hidden tube within the post, the wine in the cup would trigger a siphon mechanism, causing the cup's contents to drain out via the holes placed around the feet of the lion (fig. 7, 23). An opening within the foot of the cup (fig. 24) would direct the liquid either onto the ground or onto the person holding the cup. Although the Chungul cup has no inscription, the lion straining at the berry or beehive at the top of the column conveys something analogous to Tantalus's futile reach for the liquid in the Vinkovci vessel.

The Tantalus cup from Vinkovci is the lone identified example from antiquity of a type of trick vessel described in the works of Hero of Alexandria.[68] Hero's twelfth model in the *Pneumatica* is entitled "A type of vessel, which if not filled up, does not run, but if filled empties itself of all the liquid it holds."[69] His example consists of a basin fitted with a tube in the form of either a bent siphon or an enclosed tube within a larger cylinder (a so-called concentric siphon) that pierces the bottom of the vessel.[70] When filled to the level of the bend in the bent siphon—or the top of the inner tube of the concentric siphon—the siphon action is triggered.[71] As Hero notes, if

21 Section drawing and details of Chungul cup

22 Tantalus cup from Vinkovci, Croatia, silver, 8.3 × 19.6 cm diameter. Zagreb, Archaeological Museum in Zagreb



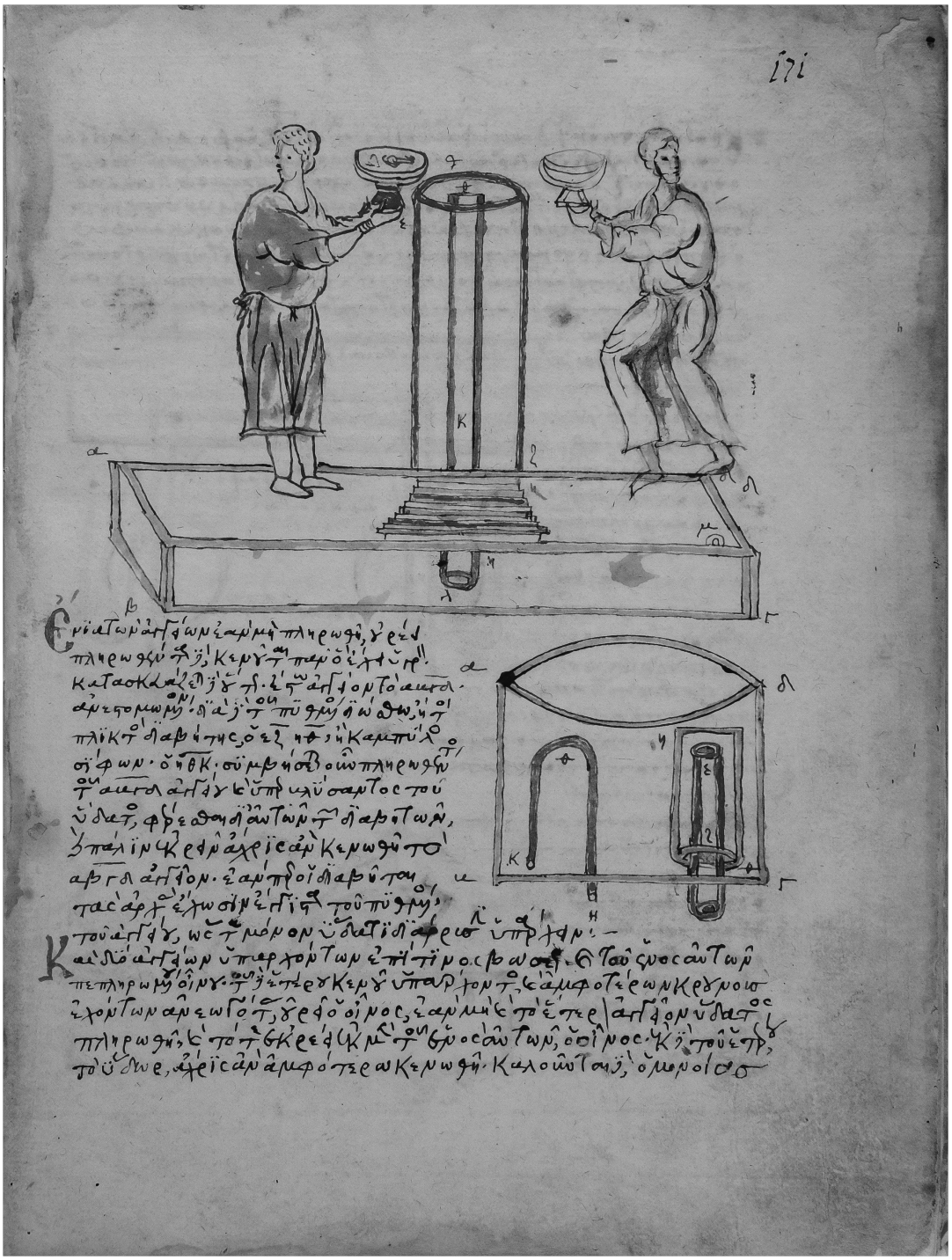
23 Conceptual diagram of siphon mechanism within the Chungul cup

24 Chungul cup seen from below

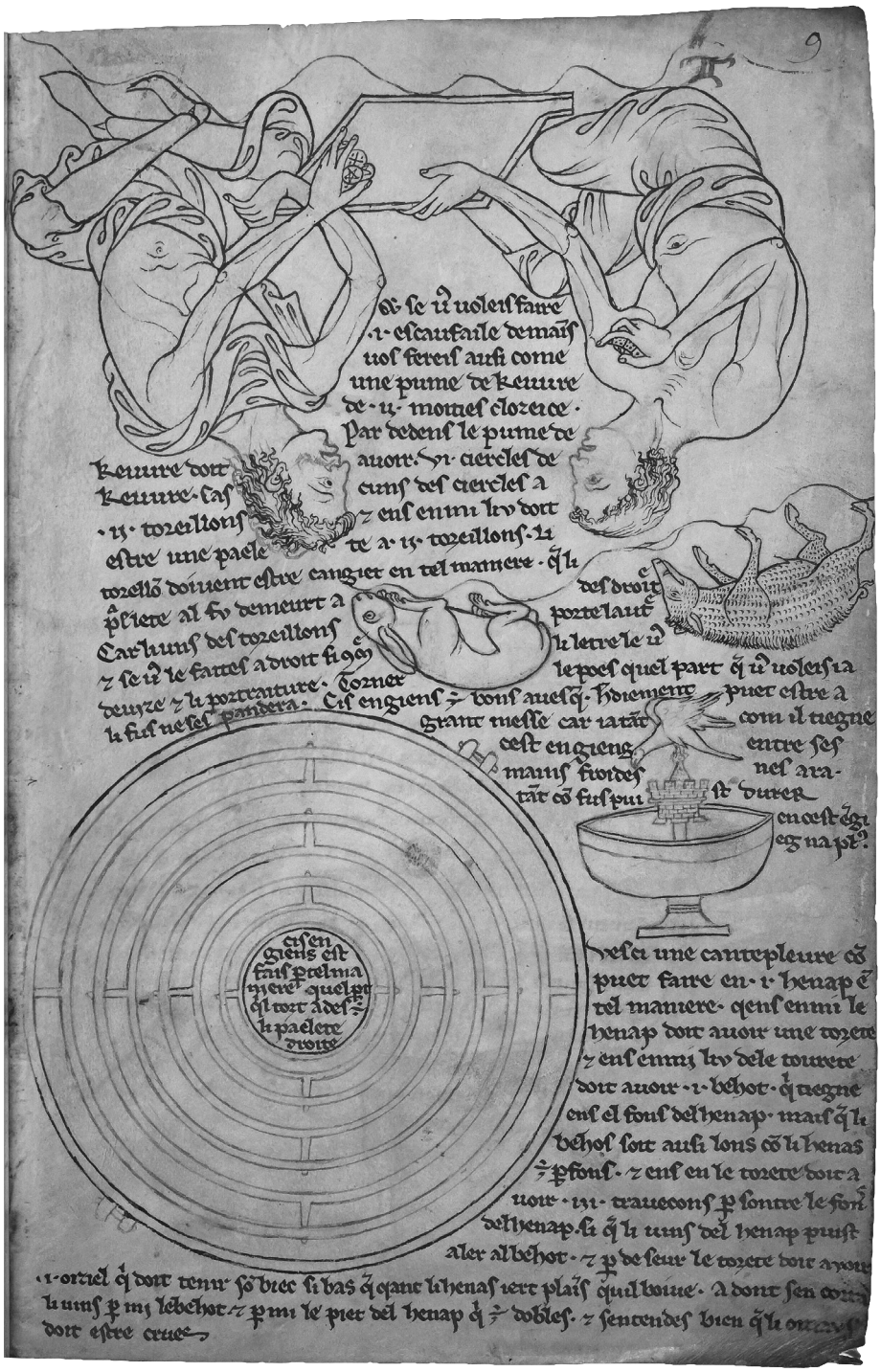
the opening of the siphon is placed sufficiently close to the bottom of the vessel, the liquid will drain completely.[72] The diagram illustrating Hero's trick cup in *Marcianus graecus* 516, fol. 171r (a manuscript of the fourteenth century, which is generally assumed to be modeled on the late antique original of Hero's text) shows both the bent and the concentric siphon within the same vessel (fig. 25).[73] The concentric siphon mechanism is the same one used in both the fourth-century Vinkovci cup and the twelfth-century cup from the Chungul Kurgan. This variant siphon mechanism appears in the work on fine mechanics (*Kitab al-hiyal*) by the Banu Musa in the mid-ninth century, where it is introduced in the first example vessel,[74] but is absent from the most famous work on pneumatics in the Islamic world, the *Kitab fi ma 'rifat al-hiyal al-handasiya* (The Book of Knowledge of Ingenious Mechanical Devices) of al-Jazari, completed in 1206, which appears to rely on the bent siphon tube exclusively for its elaborate automata.[75] Both the bent and the concentric siphons can be found among the so-called "Pythagoras cups" produced as novelty items in Greece and Italy since the nineteenth century. The attachment of the philosopher's name to the device seems to be a product of modern whimsy, although in continuity with the near-mythical status accorded Pythagoras from antiquity onward.[76]

The notebook of Villard de Honnecourt (datable to ca. 1220–1240) also contains a sketched design for a cup with a central siphon mechanism (fig. 26).[77] Villard accompanies the drawing with a short description of its function in Old French:

> See here a *chantepleure* [lit.: sing-and-cry] that can be made in a goblet, in such manner that in the middle of the goblet there must be a little tower. And in the middle of the little tower there must be a tube that touches the bottom of the goblet, so that



25 Hero of Alexandria, *Pneumatica,* illustration (lower) of vessel with bent and concentric siphons, ink on paper, 30.7 × 22 cm. Venice, Biblioteca Nazionale Marciana, MS gr. 516, fol. 171r



26 Villard de Honnecourt, sketchbook leaf showing drawing of a *chantepleure,* ink on parchment, 23.5 × 15.5 cm. Paris, Bibliothèque nationale de France, MS fr. 19093, fol. 9r

> the tube is as long as the goblet is deep. And in the little tower there must be three crosspieces across the bottom of the goblet, so that the wine in the goblet can go into the tube. And above the little tower there must be a bird that must hold its beak so low that, when the goblet is full, it drinks. Then the wine will flow through the middle of the tube and through the middle of the foot of the goblet, which is double. And understand well that the bird must be hollow.[78]

This elaborated *hanap,* or *chantepleure,* as Villard terms it, has at its center a crenelated tower.[79] When the cup was filled past the trigger-point of the siphon, the bird perched atop the tower would appear to suck up all the liquid from the cup. There are some inconsistencies between Villard's description and his drawing, and the somewhat garbled account of the cup's functioning has led previous authors to suggest that Villard encountered such a vessel only through hearsay.[80] On the one hand, Villard's insistence that the bird be hollow and "drink" when the cup is full implies a bent siphon (which would not function in the cup as he has drawn it, because the bird sits too high above the rim of the vessel).[81] On the other hand, the interior fittings of the turret that he describes match with the concentric siphon found in the Vinkovci Tantalus cup and in the covered cup from the Chungul Kurgan. The key to the interpretation lies in the enigmatic "IIJ. traveçons par sontre le fons del henap."[82] These seem to be tubes—explicitly mentioned as being at the bottom of the cup—that allow the wine to flow into the siphon. This would seem to rule out a bent siphon channeling wine from the beak of the bird, but would agree with a concentric siphon concealed within the tower.

Earlier reconstructions of Villard's *chantepleure* have failed to make full sense of the information given in his description. The discovery of actual late antique and medieval trick vessels can help us now in clarifying how Villard's cup must have been meant to function. In their reconstructions, both Hans Hahnloser and Roland Bechmann passed over the possibility of a siphon in favor of a mechanism relying on displacement of air by the overflowing liquid.[83] Both scholars gave priority to the movement of the "drinking" bird—a movement not actually specified in Villard's text—over the drainage of the liquid itself. Bechmann's reconstruction, in fact, renders the object hardly usable as a drinking cup at all, as the reservoir of air that is meant to power the bird's supposed movement takes up almost the entire volume of the vessel. Already in the mid-nineteenth century, Robert Willis, commenting on Villard's notebook, correctly recognized the cup as an iteration of Hero of Alexandria's twelfth example from the *Pneumatica*.[84] The bird, in this analysis, has no mechanical function, but rather by appearing to drink aids in the illusion and amusement created by the cup, much as the figure of Tantalus does for the cup from Vinkovci.

Willis also recognized a surviving parallel to Villard's *chantepleure* in the cup known as the Swan Mazer, belonging to Corpus Christi College, Cambridge (fig. 27).[85] This vessel must be dated to ca. 1380, when it is recorded as entering the collections of the college. It consists of a silver-gilt mounted wooden drinking cup, or mazer, with a central, crenelated turret, crowned by the eponymous swan.[86] The conceit is highly reminiscent of Villard de Honnecourt's *chantepleure.* In this case, it is clear that the bird's position is fixed and that the illusion of its drinking the cup's contents is only notional. The tower, like the central features of the Vinkovci and Chungul cups, is fitted with a concentric siphon that, when the cup is filled to just below the swan's beak, empties its contents into the lap of the over-eager drinker.[87] Interestingly, this cup was originally fitted with a lid, which in the sixteenth century was converted into a second cup and given away by the college to one of its benefactors. Its present whereabouts are unknown.[88]

Despite Villard's drawing of a cup with a siphon, the longstanding scholarly consensus has been that such mechanical toys were not produced in the medieval West prior to the turn of the fourteenth century. Elaborate automata were, of course, well-known features of court ceremonial in Constantinople and Baghdad, and were even emulated in Mongol Karakorum.[89] In Western Europe, however, no automata seem to have been known or conserved from antiquity into the Middle Ages, and no evidence has hitherto come to light for the actual production of such devices prior to the end of the thirteenth century.[90] In terms of the transmission of the Alexandrian tradition of fine technology, the current consensus of textual historians is that no complete Latin translation of Hero's *Pneumatica* was in circulation in Western Europe prior to the fifteenth century.[91] On the other hand, Western romance literature drew extensively on automata as motifs in their narratives, often as a means of enhancing the exoticism of the settings.[92] In her study of medieval automata, Elly Truitt places the rise of Western European manufacture of—as opposed to fantasy about—automata at the very end of the thirteenth century, with the furnishing of the park at Hesdin by Robert II, Count of Artois (1250–1302) with elaborate fountains

27 The Swan Mazer, ca. 1380, maple wood with gilded silver, 7 × 13 cm diameter. Cambridge, Corpus Christi College

and other hydraulic tricks.[93] The table fountain preserved in the Cleveland Museum of Art, with its miniature water-wheels and bells, represents a small-scale version (ca. 1320–1340) of this phenomenon of playful engineering, the popularity of which is attested in French and Burgundian court inventories of the fourteenth and fifteenth centuries.[94] With the Italian Renaissance, of course, came both renewed copying and translation of Hero of Alexandria's works and the application of their principles in gardens, theaters, and other courtly entertainments.[95]

The discovery of the siphon mechanism hidden in the Chungul cup obviously complicates this narrative. There is also another, tantalizing mention of a hydraulic automaton in the medieval West about a century before Villard's drawing of a self-draining cup. An analogous vessel appears in the *Vita* of Charles the Good, Count of Flanders, composed by Galbert of Bruges. Just days prior to his murder in March 1117, Charles paid Lombard merchants at Ypres 21 marks of silver for a wine jug (*kanna* in the Latin text, *pot a vin* in the Old French version) which, when filled, emptied itself by a hidden mechanism, to the wonder of onlookers.[96] This is obviously not the same vessel as the cup from the Chungul Kurgan, nor can we tell at this point whether it was of local manufacture, produced in northern Italy, or created in some more distant center before being brought to Flanders. One might nevertheless suggest that the presence of this self-emptying wine jug in the treasury of the Counts of Flanders might have helped to inspire a silversmith later in the twelfth century to undertake the fabrication of a cup with the same siphon mechanism. The trick wine jug—like the gold covered cup of Count Charles the Good mentioned above—achieved uncharacteristic prominence in Galbert's life of the unfortunate noble, as the clergy of Bruges absconded with both vessels in the wake of Charles's assassination.[97] Several months later, the cup and jug would be returned to their rightful owner, Charles's successor as Count of Flanders, William Clito. Presumably, these were in turn passed down along with the count's other properties to William's successor, Thierry of Alsace, Thierry's daughter, Margaret of Flanders, and Margaret's son, Baldwin IX, who would eventually become Latin Emperor of Constantinople as Baldwin I.

The Spoils of Adrianople?

It has been suggested that the fourth-century Vinkovci cup was deposited in the panic and confusion of 378 CE, when the native son of Cibalae, the Eastern Roman Emperor Valens, was killed on the field of battle at Adrianople.[98] The Goths, having risen up against the authority of the ruler in Constantinople, rampaged erratically around Thrace for months afterward until being brought under control by the new emperor, Theodosius I. A second violent confrontation of the steppe and the settled peoples occurred in the same location centuries later, during the 1205 siege of Adrianople by the Crusader forces led by Baldwin of Flanders. The light cavalry of Qıpčaq (Cuman) mercenaries allied to the Bulgarian leader Kalojan routed the heavily armed, but slow-moving knights of the Crusaders. The French knight Robert de Clari gives a description of the disaster:

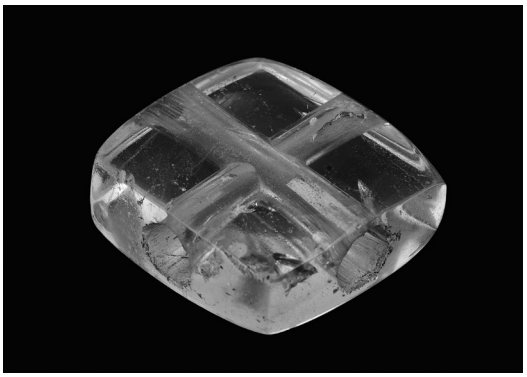
> When they came to this city, they laid siege to it, and while they were encamped there, behold one day John the Vlach [i.e., Kalojan], he and the Comans, with a very great force, came into the land of Constantinople, as they had done before, and found the emperor with all his host encamped before Adrianople. When they of the host saw these Comans clothed in their sheepskins, they had no more fear or care for them than for a troop of children. And these Comans and this horde came at a great pace and they rushed upon the French and slew many of them and defeated them all in this battle. And the emperor was lost, so that it was

28 Belt buckle with a siren excavated from the Chungul Kurgan, ca. 1200, gilded silver, 2.1 × 6.7 cm. Kyiv, Treasury of the National Museum of History of Ukraine

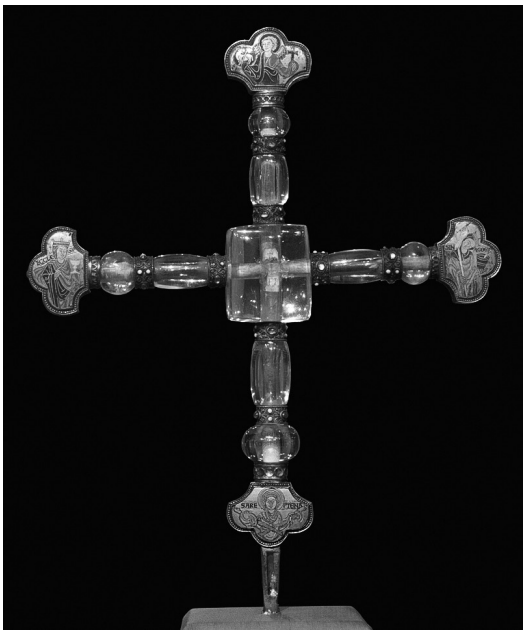
> never known what became of him, and Count Louis [of Blois] and many other high men, and so many others that we do not know the number of them, but fully three hundred knights were lost there.[99]

Robert de Clari presents two mysteries: first, the Qıpčaqs, whose ways of war seem to have taken the Crusader knights completely by surprise, and second, the fate of the emperor Baldwin. About the latter, we are better informed than Robert, as we know from an exchange of letters between Kalojan and Pope Innocent III that Baldwin had died in Kalojan's custody by about September of 1205.[100]

What became of the belongings of Baldwin and his vassals who were captured or killed at Adrianople? Could the Qıpčaqs have carried them back to their core lands in the Black Sea steppe?[101] While there are dozens of one-off finds of Western medieval metalwork in the territories of Ukraine and Russia, the concentration of finds in the Chungul Kurgan burial is extraordinary. Even though we have not been able to pinpoint a precise locus of manufacture for the Chungul cup, we can at the least sketch out a probable origin within a zone stretching from Picardy in the west to Lower Saxony in the east and encompassing Flanders, the Low Countries, and the middle Rhine. There is also a coherence within the finds themselves that suggests a common origin. A silver-gilt belt buckle with a siren (fig. 28), for instance, bears a resemblance to various works of German, Mosan, and northern French metalwork to which we have already compared the ornament of the cup.[102] More closely than any of these works, however, the buckle resembles the workmanship of the cup itself, with its use of cast silver for an animal figure, the extensive employment of the ring punch to create textures and details, and the cupped leaf forms of the siren's palmette tail. These details all suggest that the two works originated from a common center. Similarly, among the trappings of the five horses buried alongside the notable in the Chungul Kurgan there was found a partly gilded and engraved silver knob from an otherwise lost object.[103] Its windblown acanthus design, with leaves facing alternately to the right and to the left, echoes the pattern found on the lips of the cup and lid of the Coupe de Charlemagne at St. Maurice d'Agaune.[104] Still more intriguingly, attached to



29 Rock crystal tablet excavated from the Chungul Kurgan, late 12th century, rock crystal, 4.6 × 5.0 × 1.4 cm, diameter of perforations 1.1 cm. Kyiv, Treasury of the National Museum of History of Ukraine



30 Rock crystal cross from Scheldewindeke, ca. 1175–1200, rock crystal on wooden armature with gilded copper, champlevé enamel, and stones, 42 × 38.5 cm. Brussels, Musées Royaux d'Art et d'Histoire

the bridle of one of the horses was a tablet of rock crystal (4.6 × 5 × 1.5 cm) drilled through crosswise (fig. 29).[105] This object can be identified as the center piece of a rock crystal cross of a type similar to the cross from Scheldewindeke that survives intact in Brussels, adorned with filigree and champlevé enamels (fig. 30).[106] This fragment of what must have been an impressive and valuable cross raises a question: from what sort of enemy might the Qıpčaqs have looted such an object? Might it not have been an army of Crusaders? Evidence linking the 1205 Battle of Adrianople to the finds from the Chungul Kurgan is, of course, entirely circumstantial, but it would explain both the richness of the finds and the inclusion among them of works such as the siphon cup that bespeak patronage at the highest levels. Furthermore, the origins of Emperor Baldwin and many of his high nobles in the counties of Flanders, Hainault, and Naumur and in contiguous areas of northern France would explain the concentration of artifacts that can be associated with this region.[107]

Just as cups of precious metal were an accoutrement of rulers in medieval Western Europe, so they were also an attribute of leadership in the nomadic world. The shared vessel, passed around from the leader to the members of his entourage, was an important symbolic marker of princely status.[108] The size of the covered cup from the Chungul burial marks it as a vessel meant for sharing, whereas the smaller cup found in the grave—the one with enameled decoration—which was probably created in a Byzantine workshop in the twelfth century, is characterized as a personal drinking vessel for a single individual by the presence of the ring handle.[109] Archaeological evidence from the time of the Avars indicates that cups often came in two distinct forms, one for personal, the other for communal use.[110] The nature of the trick concealed in the Chungul cup naturally implies shared drinking; the joke would be rather pointless if the cup were used exclusively by its owner. While we cannot be sure that the Qıpčaq buried with the covered cup knew the secret of its hidden siphon, other evidence points to a nomadic appreciation for trick vessels. The Mala Pereshchepina hoard, for ex-

ample, associated with the seventh-century Bulgarian Khan Kubrat, contained silver and gold goblets with rattles inserted in their feet.[111] From the thirteenth century, the so-called Coupe de St. Sigismond at St. Maurice d'Agaune in Switzerland, attributed to a workshop operating in the Mongol Empire, has a "singing" device concealed in the spherical knob of its lid.[112] In the end, however, the individuals who placed the potion of charred herbs in the Chungul cup at the time of the leader's burial may not have been at all aware of the siphon mechanism, and the vegetal matter would likely have stopped it up and prevented it from working as intended.

Returning to the unfortunate Baldwin of Flanders, the thirteenth-century Byzantine historian George Akropolites gives a succinct account of his ultimate fate: "They say that after [Kalojan] killed Baldwin, his head served as a goblet for the barbarian, after it had been cleaned of all its contents and decorated all round with ornament."[113] Whether or not this account is literally true—one can be forgiven for hoping that it is not—it doubtless was written to echo the fate of the Byzantine emperor Nikephoros I after his defeat by an earlier Bulgarian leader, Khan Krum, at the Battle of Pliska in the year 811.[114] However gruesome, it would be a poetic twist if Baldwin's ultimate end was as a luxurious drinking cup, while his own cup wound up in the grave of a nomadic leader responsible for his disastrous defeat at Adrianople.[115] All conjecture aside, the Chungul Kurgan has now yielded up new information not just for the history of luxury metalwork in the late twelfth century, but for the history of technology and its use in courtly settings of the medieval West.

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1 Treasury of the National Museum of History of Ukraine, Kyiv, inv. no. A3C-3623/1–2. The cup has thus far not received a comprehensive publication. It has recently appeared (without bibliography) in the survey text by Jill Caskey, Adam S. Cohen, and Linda Safran, *Art and Architecture of the Middle Ages: Exploring a Connected World*, Ithaca, New York 2022, 8–9, fig. I-5. Previous brief mentions include Boris Marshak, *Istoriia vostochnoĭ torevtiki III–XIII vv. i problemy kul'turnoĭ preemstvennosti* [History of oriental toreutics of the 3rd–15th centuries and problems of cultural continuity], St. Petersburg 2017, 395, figs. 232, 233; Oleksandr Halenko et al., Trofeï polovetskoho vozhdia z Chunhul'skoho kurhanu: Perezhytok, rytual'ni funktsiï, ta symvolika [A Cuman chief's trophy from Chunhul Barrow: Reuse, ritual functions, and symbolism], part 1, in: *Arkheolohiia* 3, 2016, 28–48, here 40–41, part 2, in: *Arkheolohiia* 4, 2016, 42–71, here 50–51, 67, fig. 14; Oleksandr Minzhulin, Svitskii posud davnoi rusi [Secular vessels of Old Rus'], in: *Visnyk iuvelira Ukraïny* 6, 2006, 35–43, here 41 (as a "чаша-курильница," i.e., "cup-censer"); *Gold der Steppe: Archäologie der Ukraine* (exh. cat. Schleswig, Archäologisches Landesmuseum; Kyiv, Institute of Archaeology of the Academy of Sciences of the Ukrainian SSR), ed. by Renate Rolle, Michael Müller-Wille, and Kurt Schietzel, Neumünster 1991, 343, 420–421, cat. no. 207; Vitaliy Otroshchenko and Yuriy Rassamakin, Polovets'kyi kompleks Chynhul'skoho kurhanu [The Polovtsian complex of the Chynhul Kurgan], in: *Arkheolohiia* 53, 1986, 14–36, here 28–29.

2 Konstantin Akinsha, Culture in the Crossfire: Ukraine's Key Monuments and Museums at Risk of Destruction in the War, in: *The Art Newspaper,* 25 March 2022, URL: https://www.theartnewspaper.com/2022/03/25/ukraine-culture-in-peril (last accessed 3 December 2023); Jeffrey Gettleman and Oleksandra Mykolyshyn, As Russians Steal Ukraine's

Art, They Attack Its Identity, Too, in: *The New York Times,* 14 January 2023, URL: https://www.nytimes.com/2023/01/14/world/asia/ukraine-art-russia-steal.html (last accessed 3 December 2023).

3 The Zaporizhzhia Expedition was headed by Vitaliy Otroshchenko, and the excavation of the Chungul Kurgan was carried out by his younger colleague Yuriy Rassamakin. The site is situated in the village of Zamozhne, on the outskirts of the former *raion* capital of Tokmak. Vitaliy Otroshchenko, Raskopki kurganov v Zaporozhskoi oblasti [Excavations of kurgans in the Zaporozh'e Oblast'], in: *Arkheologicheskie otkrytiia 1981 goda*, Moscow 1983, 300–302; Otroshchenko and Rassamakin 1986 (as in note 1). As of this writing, the site sits within the area under occupation by the Russian armed forces.

4 On the methods of excavation employed in the Soviet archaeology of the region, see Dmitro Telegin and Stanislav Bratchenko, Rozkopky kurhaniv epokhy bronzy za dopomohoyu mekhanizmiv [The excavation of Bronze Age kurgans with mechanical means], in: *Arkheolohiia* 3, 1974, 111–121.

5 Otroshchenko 1983 (as in note 3), 300–302. The site takes its name from the adjacent Chynhul River (*Chingul* in Russian orthography). In recent publications by Halenko, Holod, Rassamakin, and Woodfin, the spelling *Chungul* has been favored in order to more closely approximate the earlier Turkic place name that lies behind the name, with the root sense of "marshy place" or "quagmire"; that usage is followed here. On the regional landscape and its history, see Renata Holod and Oleksander Halenko, The Harsh Landscapes of "Mother Sarmatia": Steppe Ukraine through the Eyes of a Sixteenth-Century Polish Diplomat, in: *Harvard Ukrainian Studies* 32–33, 2011–2014, 349–376.

6 The uncertainty is due to pillaging of the site by locals during the process of excavation. See Halenko et al. 2016 (as in note 1), part 1, 44–45.

7 The amphorae are of Günsenin Type IV, datable to the twelfth – thirteenth century, with a presumed place of production in the Sea of Marmara near Constantinople. Nergis Günsenin, La typologie des amphores Günsenin: Une mise au point nouvelle, in: *Anatolia Antiqua* 26, 2018, 89–124, here 108.

8 Some paleopathological findings from the burial were published by Michael Schultz, Archäologische Skelettfunde als Spiegel der Lebensbedingungen früher Viehzüchter und Nomaden in der Ukraine, in: Rolle et al. 1991 (as in note 1), 41–42. On trepanation more generally, see Daniel T. Potts, An Archaeological Meditation on Trepanation, in: Brooke Holmes and Klaus-Dietrich Fischer (eds.), *The Frontiers of Ancient Science: Essays in Honor of Heinrich von Staden,* Berlin 2015, 463–492.

9 On the albarello and its possible contents, see Renata Holod and Yuriy Rassamakin, Imported and Native Remedies for a Wounded "Prince": Grave Goods from the Chungul Kurgan in the Black Sea Steppe of the Thirteenth Century, in: *Medieval Encounters* 18, 2012, 339–381, here 364–373.

10 These were evidently charred before being added to the cup, rather than burned within it. For analysis of the medicinal contents of the cup, see ibid., 374–380; an initial analysis of the flora appeared in Ljudmyla Bezus'ko et al., Paleobotanichniy analiz orhanichnykh zalyshkiv iz kuril'nytsi Chynhuls'koho Kurhanu (Zaporizhs'ka Oblast') [Paleobotanical analysis of the organic remains from the incense burner of the Chynhul Kurhan], in: *Ukrains'kyi botanichniy zhurnal* 46, 1989, 30–32.

11 Otroshchenko and Rassamakin 1986 (as in note 1), 28–29; Bezus'ko et al. 1989 (as in note 10), passim; Marshak 2017 (as in note 1), 395. Based on this mistaken assumption, Marshak postulates the alteration of the cup to an incense burner by a second craftsman, a point to which we shall return.

12 For an introduction to the Qıpčaqs and their predecessors in the Black Sea Steppe, see Peter Golden, The Peoples of the South Russian Steppes, in: Denis Sinor (ed.), *The Cambridge History of Early Inner Asia,* Cambridge 1990, 256–284. On the fate of the Qıpčaqs during and after the Mongol invasion, see Dimitri Korobeinikov, A Broken Mirror: The Kipçak World in the Thirteenth Century, in: Florin Curta and Roman Kovalev (eds.), *The Other Europe in the Middle Ages: Avars, Bulgars, Khazars and Cumans*, Leiden 2008, 379–412.

13 The imported objects and their reuse in the burial are discussed in Halenko et al. 2016 (as in note 1), part 1, 28–48; part 2, 42–71. The textile finds are discussed in Warren Woodfin, Yuriy Rassamakin, and Renata Holod, Foreign Vesture and Nomadic Identity on the Black Sea Littoral in the Early Thirteenth Century: Costume from the Chungul Kurgan, in: *Ars Orientalis* 38, 2010, 155–186. On the silver and enamel cup, see Warren Woodfin, Within a Budding Grove: Dancers, Gardens, and the Enamel Cup from the Chungul Kurgan, in: *The Art Bulletin* 98, 2016, 151–180.

14 Calculations of the labor force and time needed to complete the kurgan have been made by Jordan Pickett et al., Architectural Energetics for Tumuli Construction: The Case of the Medieval Chungul Kurgan on the Eurasian Steppe, in: *Journal of Archaeological Science* 75, 2016, 101–114. For a dissenting view, placing the burial later in the thirteenth century, under Mongol Rule, see Vitaliy Otroshchenko, Uhors'ka tema v biohrafiï shliakhetnoho kipchaka z Chynhul's'koï mohili [The Hungarian theme in the biography of the noble Kipchak from the Chynhul grave], in: *Skhidnyĭ svit*, 2012, 103–107.

15 Vitaliy Otroshchenko and Yuriy Rassamakin, Tridtsiat' rokiv u XIII stolitti [Thirty years in the thir-

teenth century], in: *Nauka i kul'tura: Shchorichnyk* 21, 1987, 247–254. On the reconstructed chronology of the Mongol conquest of the Qıpčaqs and Rus', see Peter Jackson, *The Mongols and the West, 1221–1410*, Harlow 2005, 48–49, 58–61. Of the primary sources, the most comprehensive view is provided by Ibn al-Athīr in his *al-Kāmil fī'l-ta'rīkh*, trans. by Donald S. Richards, *The Chronicle of Ibn al Athīr for the Crusading Period*, vol. 3, Farnham 2008, 222–224, 235.

16 Compare the cups found at Tartu in Estonia (St. Petersburg, Hermitage, inv. no. ω 1217) and near Surgut in western Siberia (St. Petersburg, Hermitage, inv. no. ω 1230) and also the lid of similar form found in the Nenets autonomous region of the Russian arctic (St. Petersburg, Hermitage, inv. no. ω 1193). Vladislav Darkevich, *Svetskoe iskusstvo Vizantii: Proizvedeniia vizantiĭskogo khudozhestvennogo remesla v vostochnoĭ Evrope X – XIII veka* (Secular art of Byzantium: Works of Byzantine artistic handicrafts in Eastern Europe, 10th to 13th century), Moscow 1975, 103–117 and 118–126, figs. 163–179 and 180–187, cat. nos. 5 and 6; Alicia Bank, *Byzantine Art in the Collections of Soviet Museums*, Leningrad 1985, 313–314, figs. 220–226; Boris Marshak and Mark Kramarovskii (eds.), *Sokrovishcha priob'ia / Treasures from the Ob' Basin*, St. Petersburg 1996, 140–141, 146–148, cat. nos. 66, 68; Boris Marshak, *Silberschätze des Orients: Metallkunst des 3.–13. Jahrhunderts und ihre Kontinuität*, Leipzig 1986, 115, fig. 150. The Nenets cover also appears in the essay by Ioli Kalavrezou, Luxury Objects, in: *The Glory of Byzantium: Art and Culture of the Middle Byzantine Era, A.D. 843–1261* (exh. cat. New York, The Metropolitan Museum of Art), ed. by Helen Evans and William Wixom, New York 1997, 219–223, here 223, where it is mistakenly identified as the vessel from Tartu.

17 A 1965 article by the Polish art historian Piotr Skubiszewski attempted a comprehensive treatment of the question: Piotr Skubiszewski, Romańskie cyboria w kształcie czary z nakrywą: Problem genezy [Romanesque ciboria in the form of a covered chalice: The problem of origin], in: *Rocznik historii sztuki* 5, 1965, 7–46. For the evolution and possible origins of the form as seen in Islamic art, see Richard Ettinghausen, The "Wade Cup" in the Cleveland Museum of Art: Its Origins and Decorations, in: *Ars Orientalis* 2, 1957, 327–366. The paradigmatic example of a covered cup from the Islamic world is the Vaso Vescovali in the British Museum, although its lid is now considered not to be original to the artifact, having been altered slightly to fit the bowl. *Court and Cosmos: The Great Age of the Seljuqs* (exh. cat. New York, The Metropolitan Museum of Art), ed. by Sheila Canby et al., New York 2016, 207–208, cat. no. 124 (ead.).

18 Skubiszewski 1965 (as in note 17), 19.

19 Isabelle Biron, *Émaux sur métal du IX^e^ au XIX^e^ siècle: Histoire, technique et matériaux*, Dijon 2015, 49–51, fig. 32; 197–199, figs. 22b, 26a – e, 27, 208, figs. 38a – d.

20 Attributed to the "pays germaniques, vers 1210–1220 (?)," and more specifically Cologne by Élisabeth Antoine-König, in: *Le Trésor de l'abbaye de Saint-Maurice d'Agaune* (exh. cat. Paris, Musée du Louvre), ed. by Élisabeth Antoine-König, Paris 2014, 96–99, cat. no. 25; the entry by Cécile Genetti in the catalogue of the treasury published only a year later gives the attribution "Angleterre? Pays germaniques? vers 1210–1220," in: *L'abbaye de Saint-Maurice d'Agaune: 515–2015,* vol. 2, *Le trésor,* ed. by Pierre Alain Mariaux, Gollion 2015, 138–141, inv. no. 14. Past attributions have focused on England (following Otto Homburger, Früh-und hochmittelalterliche Stücke im Schatz des Augustinerchorherrenstiftes von Saint-Maurice und in der Kathedrale zu Sitten, in: *Frühmittelalterliche Kunst in den Alpenländern*, Olten-Lausanne 1954, 339–354, here 339; *The Year 1200: A Centennial Exhibition at the Metropolitan Museum of* Art (exh. cat. New York, The Metropolitan Museum of Art), ed. by Konrad Hoffmann, New York 1970, 81–83, cat. no. 90; *English Romanesque Art 1066–1200* (exh. cat. London, Arts Council of Great Britain, Hayward Gallery), ed. by George Zarnecki, Janet Hold, and Tristram Holland, London 1984, 288, cat. no. 309 (Neil Stratford); Peter Lasko, *Ars Sacra,* 2nd edition, New Haven 1994, 258, 259, fig. 359.

21 Antoine-König, 2014 (as in note 20), 98; Édouard Aubert, *Trésor de l'abbaye de Saint-Maurice d'Agaune,* 2 vols., Paris 1872, vol. 2, 247.

22 Martin Conway, The Treasury of S. Maurice d'Agaune, part 2, in: *The Burlington Magazine* 21, 1912, 344–350, here 349–50, describes the figural group as "recently" replaced to its "original position" (sic?) atop the lid. Antoine-König 2014 (as in note 20), 98, seems to agree that this was the original emplacement, while Aron Andersson, *Medieval Drinking Bowls of Silver Found in Sweden*, Stockholm 1983, 30, assumes that it belonged originally in the bowl of the cup.

23 Jean Taralon, *Treasures of the Churches of France*, New York 1966, 264, pl. 73, where it is dated to the beginning of the thirteenth century.

24 Hoffmann 1970 (as in note 20), 83. The Sens vessel has not, so far as I know, received any detailed study subsequent to the exhibition catalogue of 1966.

25 Leaving aside, for the present, the "Coupe de Saint Sigismond" at Saint-Maurice, which is attributed to a Mongolian workshop of the thirteenth century. Amandine Cabrio in Mariaux 2015 (as in note 20), 134–137, inv. no. 13; Antoine-König 2014 (as in note 20), 100–101, cat. no. 26.

26 New York, The Metropolitan Museum of Art, inv. no. 47.101.31. Peter Barnet and Nancy Y. Wu, *The*

Cloisters: Medieval Art and Architecture, 75th Anniversary ed., New York and New Haven 2012, 63.

27 Neil Stratford in exh. cat. *English Romanesque Art* 1984 (as in note 20), 383–385, cat. nos. 305, 306; Andersson 1983 (as in note 22), 19–23, 56–58, pls. 16A–P; 25–29, 59–60, pls. 18A–I.

28 Marshak and Kramarovskii 1996 (as in note 16), 165–197, cat. nos. 72–74.

29 Attributed by Darkevich to the Meuse river region around 1170–1175. Vladislav Darkevich, *Proizvedeniia zapadnogo khudozhestvennogo remesla v vostochnoĭ Evrope (X-XIV vv.)* (Works of Western artistic handicrafts in Eastern Europe, 10th to 14th century), Moscow 1966, 18–20, cat. no. 34, pl. 18. The same interlace pattern on the lip of the lid from Chernihiv appears in slightly elaborated form on an arm reliquary from St. Gereon in Cologne and on a cylindrical reliquary of rock crystal in the Schnütgen Museum. *Ornamenta Ecclesiae: Kunst und Künstler der Romanik* (exh. cat. Cologne, Schnütgen Museum, Josef-Haubrich-Kunsthalle), ed. by Anton Legner, 3 vols., Cologne 1985, vol. 2, 243–244, cat. no. E 36, vol. 3, 145–147, cat. no. H 51; *Magic Rock Crystal* (exh. cat. Cologne, Schnütgen Museum), ed. by Manuela Beer, Cologne 2022, 106, 107, 109, cat. no. 79, figs. 86, 87. For the Tahancha cup, see Wiesława Gawrysiak-Leszczyńska and Krystyna Musianowicz, Kurhan z Tahańczi, in: *Archeologia Polski* 47, 2002, 287–344, here 317–320.

30 Two other footed cups found in the Kyiv region and now in private collections have preserved their domical covers. Oleksandr Minzhulin, Svitskii posud davnoi rusi [Secular vessels of ancient Rus'], in: *Visnyk iuvelira Ukraïny* 6, 2006, 35–43, here 40 (silvered copper with gilt accents), 42 (silver with gilt accents), figs. 10, 12. Minzhulin dates both to the early- to mid-thirteenth century.

31 Formerly Strasbourg, Bibliothèque de la ville, fol. 125r. Rosalie Green et al. (eds.) *The Hortus Deliciarum of Herrad of Hohenbourg (Landsberg, 1176–96): A Reconstruction*, Leiden 1979, pl. 123. The two cups most likely derive, in turn, from the description of Fortune's wheel in Boethius's *Consolation of Philosophy* II, pt. 2,13, where he references the vessels of prosperity and adversity at the threshold of Jupiter's house. The author thanks Elaine Beretz for this reference.

32 Vienna, Österreichische Nationalbibliothek, Cod. 67, fol. 1v. The manuscript is tentatively attributed to the abbey of Göttweig (Lower Austria) in the second half of the twelfth century, and contains, in addition to Isidore of Seville, the *Aenigmata Tullii,* the *Tractatus de computo,* and the *Sphaera divinatoria Pythagorica.* Werner Telesko, *Göttweiger Buchmalerei des 12. Jahrhunderts: Studien zur Handschriftenproduktion eines Reformklosters* (Studien und Mitteilungen zur Geschichte des Benediktinerordens und seiner Zweige, Ergänzungsband 37), St. Ottilien 1995, 164–165.

33 Vienna, Österreichische Nationalbibliothek, Cod. 2554, fol. 21r. Gerald Guest, *Bible Moralisée: Codex Vindobonensis 2554*, London 1995, 75–76. On the date of the manuscript, see John Lowden, *The Making of the Bibles Moralisées*, vol. 1, *The Manuscripts*, University Park, PA 2000, 50–52.

34 Baltimore, Walters Art Museum, inv. no. 44.247. *Treasures of Heaven: Saints, Relics, and Devotion in Medieval Europe* (exh. cat. Cleveland, Cleveland Museum of Art), ed. by Martina Bagnonli, Cleveland 2010, 185, cat. no. 96.

35 Munich, Bayerisches Nationalmuseum, inv. no. MA 195. Renate Eikelmann (ed.), *Bayerisches Nationalmuseum: Handbook of the Collections of Art and Cultural History*, Munich 2009, 24. Note that the finial of the lid is formed in this case as a second foot—a feature normally associated with "double cups" of the fourteenth century and later.

36 Galbert of Bruges, *De Multro, traditione, et occisione gloriosi Karoli comitis Flandriarium* (Corpus Christianorum: Continuatio Medieaevalis, vol. 131), ed. by Jeff Ridder, Turnhout 1994, ch. 85; Galbert of Bruges, *The Murder, Betrayal, and Slaughter of the Glorious Charles, Count of Flanders,* ed. and trans. by Jeff Rider, New Haven 2013, 139.

37 Darkevich 1966 (as in note 29), 12, cat. no. 13, pls. 17.3, 17.5, 17.7; St. Petersburg, Hermitage, inv. no. FP 1381. Attributed by Darkevich to Aachen or Cologne, end of the twelfth – beginning of the thirteenth century. Marshak 2017 (as in note 1), 395, compares the engraved ornament of the Chungul cup to a pyx from Saint-Omer, but the resemblance is not particularly close.

38 Saint-Omer, Musée de l'hôtel Sandelin, inv. no. D. 41. *Une renaissance: L'art entre Flandre et Champagne 1150–1250* (exh. cat. Saint-Omer, Musée de l'hôtel Sandelin), Paris 2013, 154, cat. no. 90. The author thanks Joseph Ackley for this reference. A similar foliate motif appears on the gilded copper base of a rock crystal reliquary from Saint-Riquier, attributed by Hahnloser and Brugger-Koch to the Rhine-Meuse region around 1220–1230. Hans R. Hanloser and Susanne Brugger-Koch, *Corpus der Hartsteinschliffe des 12.–15. Jahrhunderts,* Berlin 1985, 171, cat. no. 310.

39 Chantilly, Musée Condé, inv. no. OA 3305. Dietrich Kötzsche and Lothar Lambacher, *Höhepunkte romanischer Schatzkunst: Die Kuppelreliquiare in London und Berlin und ihr Umkreis*, Berlin 2006, 25–26, fig. 3; Lasko 1994 (as in note 20), 230, fig. 314; Marie-Madeleine Gauthier, *Émaux du moyen âge occidental*, Fribourg 1972, 356–357, cat. no. 103.

40 Kötzsche and Lambacher 2006 (as in note 39), 22, fig. 2, 78–79, cat. no. 8; Lasko 1994 (as in note 20), 227–228, fig. 311.

41 Kötzsche and Lambacher 2006 (as in note 39), 74–77, cat. nos. 5, 6, 7; Lasko 1994 (as in note 20), 229–230, fig. 313.

42 Exh. cat. *Ornamenta Ecclesiae* 1985 (as in note 29), vol. 2, 458, cat. no. F 90.

43 *The Ronald S. Lauder Collection: Selections of Greek and Roman Antiquities, Medieval Art, Arms and Armor, Italian Gold-Ground and Old Master Paintings, Austrian and German Art and Design* (exh. cat. Neue Galerie, New York), ed. by Elizabeth Szancer, Munich 2022, 138–139, 436, cat. no. 41. Compare also the finial from an unknown shrine, with leaves and a central berry, dated ca. 1200, at the Victoria and Albert Museum, London, inv. no. 4525-1858. Paul Williamson, *The Medieval Treasury: The Art of the Middle Ages in the Victoria and Albert Museum*, London 1986, 10–11, fig. 6.

44 New York, The Metropolitan Museum of Art, inv. no. 17.190.347. Hoffman 1984 (as in note 24), 186–187, cat. no. 193.

45 Paris, Louvre, inv. no. OA 4. Exh. cat. *Une renaissance* 2013 (as in note 38), 148, cat. no. 81. Like the leaves on the Chungul cup, several of these leaves have evidently been broken off and been repaired with solder.

46 An argument has been put forward that the cross may be more precisely dated to 1204–1205, between the sack of Constantinople by the armies of the Fourth Crusade on 12 April 1204 and the death of Abbot Hugh on 17 August 1205. Élisabeth Taburet-Delahaye, La croix de Saint-Vincent de Laon au département des Objets d'art du Louvre, in: *Bulletin de la Société nationale des antiquaires de France*, 2004–2005, 344–352.

47 Lloyd de Beer and Naomi Speakman, *Thomas Becket: Murder and the Making of a Saint*, London 2021, 41–42, fig. 1.30, where it is dated to the mid-twelfth century. Neil Stratford in exh. cat. *English Romanesque Art 1066–1200* 1984 (as in note 20), 257, cat. no. 268a, links the motif back to Northern France and the cast metalwork of Rhenish and Mosan manufacture ca. 1150–1180, although he remarks that the foliage "is difficult to parallel, whether in England or elsewhere."

48 Exh. cat. *Ornamenta Ecclesiae* 1985 (as in note 29), vol. 2, 457–458, cat. no. F 90.

49 Lasko 1994 (as in note 20), 236–238. The similar finial on the shrine in London is alleged to be a replacement made in Paris before 1859. Kötzsche and Lambacher 2006 (as in note 39), 15, 41, 58–59.

50 Exh. cat. *Ornamenta Ecclesiae* 1985 (as in note 29), vol. 3, 156, 158 cat. no. H 61.

51 Marshak 2017 (as in note 1), 395, figs. 232, 233. The finial is here described as "филигранное," i.e., "filigreed," but this is not correct.

52 Exh. cat. *Une renaissance* 2013 (as in note 38), 154, cat. no. 90.

53 For the Siegburg shrine, see Dietrich Kötzsche in *Rhein und Maas: Kunst und Kultur 800–1400* (exh. cat. Cologne, Schnütgen Museum), ed. by Anton Legner, Cologne 1972, 321–22, cat. no. K 3.

54 Marshak seems not to have ever seen the work in person in Kyiv. Personal communication, Yuriy Rassamakin, 3 June 2023.

55 "Fiunt etiam eodem opere in cyphis aureis sive argenteis vel scutellis, in medio equites contra dracones sive leones vel grifes pugnantes, imago Samsonis vel David ora leonum confringentes, leones quoque siplices et grifes …." Theophilus, *De Diversis Artibus*, cited after id., *The Various Arts*, trans. by Charles R. Dodwell, London 1961 (repr. Oxford 1986), 141.

56 Andersson 1983 (as in note 22), 19–20, pls. 16B–16D. Andersson suggests that the Basilevskii cup now in the Cloisters might also have had a figural group in its bowl.

57 Minzhulin 2006 (as in note 30), 37, fig. 5. Minzhulin dates the cup to the beginning of the thirteenth century.

58 Antoine-König 2014 (as in note 20), 96–99, cat. no. 25.

59 For the cross from Saint-Omer, see Lasko 1994 (as in note 20), 198, pl. 270; exh. cat. *Une renaissance* 2013 (as in note 38), 114–115, cat. no. 47. See Lasko 1994 (as in note 20), 240–241, and exh. cat. *Ornamenta Ecclesiae* 1985 (as in note 29), vol. 2, 457–458, cat. no. F 90, for the St. Anno shrine.

60 London, Victoria and Albert Museum, inv. no. 7650-1861. Two of the griffins are possibly nineteenth century electrotype copies. Kötzsche and Lambacher 2006 (as in note 39), 15, 57; Alfred Darcel, La Collection Soltykoff, in: *Gazette des Beaux Arts* 10, 1861, 169–178, 212–226, 253–255, here 215.

61 Berlin, Kunstgewerbemuseum, inv. no. W10. Peter Springer, *Kreuzfüße: Ikonographie und Typologie eines hochmittelalterlichen Gerätes* (Bronzegeräte des Mittelalters, vol. 3), Berlin 1981, 109–112, cat. no. 16, figs. K129–K132.

62 Exh. cat. *Rhein und Maas* 1972 (as in note 53), 322, cat. no. K 3. The same posture of the tail is found on an isolated cast copper alloy lion in New York, The Metropolitan Museum of Art, inv. no. 66.180, which is attributed to twelfth-century Germany or the Meuse valley.

63 Rolle et al. 1991 (as in note 1), 343.

64 Hrvoje Vulić et al., The Vinkovci Treasure of Late Roman Silver Plate: Preliminary Report, in: *Journal of Roman Archaeology* 30, 2017, 127–150. DOI: https://doi.org/10.1017/S1047759400074055 (last accessed 3 December 2023).

65 Šime Vrkić carried out the excavation and published a preliminary, short report in *Hrvatski arheološki godišnjak* 9, 2012, 63–68; followed by a publication co-authored with Goran Skelac, Vinkovačko blago: Rezultati preliminarne analize kasnoantičke ostave srebrnih predmeta [The Vinkovci treasure: Results of the preliminary analysis of a hoard of silver items from late antiquity], in: *Vjesnik arheološkog muzeja u Zagrebu* 49, 2017, 145–218. The siphon mechanism

was not described in these earliest publications of the vessel.

66 Vulić et al. 2017 (as in note 64), 139.

67 "… quod stans in amne Tantalus medio sitit, AVARI DESCRIBVNTVR QVOS CIRCVMFLVIT. VSVS BONORVM SED NIHIL POSSUNT TANGERE [In the figure of Tantalus, standing athirst in the midst of a river,] the miserly are depicted, who are surrounded by a river of ways to enjoy their goods but can touch none of them." Phaedrus, *Appendix Perottina,* Fable 7. Vulićet al. 2017 (as in note 64), 130–131, 139. Translation after Ben E. Perry (ed.), *Babrius and Phaedrus*, Cambridge, MA 1965, 378–381.

68 Hero, or Heron, of Alexandria, is often given a *floruit* dating of ca. 60 CE, based on a lunar eclipse he is said to have witnessed on 13 March of 62 CE. Hero's description of a lunar eclipse in his *Dioptra*, however, can be read as a general example rather than as an eye-witness account, so he may in fact have lived in the second or third century CE rather than the first century. On the question, see Ramon Masià, On Dating Hero of Alexandria, in: *Archive for History of Exact Sciences* 69, 2015, no. 3, 231–55. The 62 CE date was proposed by Otto Neugebauer, Über eine Methode zur Distanzbestimmung Alexandria–Rom bei Heron, in: *Det Kongelige Danske Videnskabernes Selskab* 26, 1938, no. 2, 3–26.

69 Ἔνια τῶν ἀγγείων, ἐὰν μὴ πληρωθῇ, οὐ ῥέει· πληρωθέντων δὲ κενοῦται πᾶν ὃ ἔχει ὑγρόν. Hero of Alexandria, *Pneumatica* 13, ed. by Wilhelm Schmidt, *Heronis Alexandrini opera quae supersunt omnia,* vol. 1, Leipzig 1899, 84; *The Pneumatics of Hero of Alexandria, from the Original Greek*, trans. by Joseph George Greenwood, ed. by Bennet Woodcroft, London 1851, 27.

70 Hero describes this mechanism in his second demonstration. Woodcroft 1851 (as in note 69), 14–15; Schmidt 1899 (as in note 69), 40–42.

71 The actual physics underlying the operation of the siphon principle is surprisingly complex. The traditional theory, that atmospheric pressure is the primary driver, is disproven by the operation of siphons in vacuum chambers, but theories of fluid cohesion also fail to provide a comprehensive explanation of the mechanism. William D. Jumper and Boris Stanchev, Towards Explaining the Water Siphon, in: *The Physics Teacher* 52, 2014, 474–478.

72 ἐάνπερ οἱ διαβῆται τὰς ἀρχὰς ἔχωσιν ἔγγιστα τοῦ πυθμένος τοῦ ἀγγείου, ὥστε μόνον ὕδατι διάρρυσιν ὑπάρχειν. Schmidt 1899 (as in note 69), 84.

73 The technical diagrams within Venice *Marcianus graecus* 516 have recently been studied by Merih Danali Cantarella, *Art, Science, and Neoplatonic Cosmology in Fourteenth-Century Byzantium: The Illustrations of Marcianus Graecus 516 (=904)*, PhD dissertation, Harvard University 2019.

74 Called *ka's al-'adl* in Arabic. Muḥammad ibn Mūsá ibn Shāḳir, *The Book of Ingenious Devices (Kitāb al-ḥiyal),* trans. by Donald R. Hill, Dordrecht 2012, 25, 45–46.

75 Ibn al-Razzāz al-Jazarī, *The Book of Knowledge of Ingenious Mechanical Devices: Kitāb fī ma 'rifat al-ḥiyal al-handasiyya*, trans. by Donald R. Hill, Dordrecht 1973, 95–126; editorial notes at 9, n. 2, 272. Interestingly, no trace of a trick drinking vessel appears in the *Book of Gifts and Rarities,* although an elaborate mechanical tree and fountain with chirping birds is described at paragraph 162. *Book of Gifts and Rarities: Kitāb al-Hadāyā wa al-Tuḥaf,* trans. by Ghāda al Ḥijjāwī al-Qaddūmī, Cambridge, MA 1996, 154.

76 On the reception of Pythagoras in the Late Antique and medieval periods, see Andrew Hicks, Pythagoras and Pythagoreanism in Late Antiquity and the Middle Ages, in: Carl A. Huffman (ed.), *A History of Pythagoreanism*, Cambridge 2014, 416–434. My thanks to Dhananjay Jagannathan for this reference.

77 Paris, Bibliothèque nationale de France, MS Fr 19093, fol. 9r.

78 "Vesci une cantepleure c'on puet faire en I. henap en tel maniere q'ens enmi le henap doit avoir une torete, et ens en miliu de le tourete doit avoir I. behot, qui tiegne ens el fons del henap, mais que li behos soit ausi lons com li henas est parfons, et ens en le torete doit avoir IIJ. traveçons par sontre le fons del henap, si que li vins del henap puist aler al behot, et par deseur le torete doit avoir I. oiziel, qui doit tenir son biec si bas, que qant li henas iert plains, qu'il boive ; adonc s'en corra li vins parmi le behot et parmi le piet del henap qui est dobles ; et s'entendés bien que li oiziaus doit estre crues." Transcription after Alain Erlande-Brandenburg et al. (eds.), *Carnet de Villard de Honnecourt d'après le manuscrit conservé à la Bibliothèque nationale de Paris (n° 19093)*, Paris 1986, 122; literal translation after Carl F. Barnes, *The Portfolio of Villard de Honnecourt (Paris, Bibliothèque Nationale de France, MS Fr 19093): A New Critical Edition and Color Facsimile*, Farnham 2009, 67.

79 On the literary valences of *chantepleure* and the idea of the siphon, see Jean-Marie Fritz, La clepsydre et l'oxymore: Variations sur la "chantepleure," in: *Romania* 134, 2016, 346–401. On the term *hanap* and examples from medieval French inventories, see Henry Havard, *Dictionnaire de l'ameublement et de la décoration depuis le XIII^e siècle jusqu'à nos jours*, vol. 2, Paris 1894, cols. 1255–1262.

80 Elly Truitt, *Medieval Robots: Mechanism, Magic, Nature, and Art*, Philadelphia 2015, 118–119; Erlande-Brandenburg et al. 1986 (as in note 78), 36. The author thanks Shirin Fozi for referring him to Truitt's work.

81 Truitt 2015 (as in note 80), 119, suggests that air forced up into the hollow bird may have caused it to move and appear to drink, as well as to make sounds, although this is not explicit in Villard's text.

82 "[T]hree crosspieces across the bottom of the goblet." Barnes 2009 (as in note 78), 67. Transcription after Erlande-Brandenburg et al. 1986 (as in note 78), 122.

83 Roland Bechmann, *Villard de Honnecourt: La pensée technique au XIII^e siècle et sa communication*, Paris 1991, 298–300, fig. 184; Hans R. Hahnloser, *Villard de Honnecourt: Kritische Gesamtausgabe des Bauhüttenbuches ms. fr. 19093 der Pariser Nationalbibliothek*, 2nd edition, Graz 1972, 48–49, fig. 84. Hahnloser notes, 352, that in updating from the first edition, he substituted *Überlauf* ("overflow") for the earlier *Syphon,* in order to agree with his own reconstruction diagram.

84 Robert Willis (ed. and trans.), *Facsimile of the Sketchbook of Wilars de Honecort, an Architect of the Thirteenth Century: Illustrated by Commentaries and Descriptions as Arranged with Various Additions, and Published by Alfred Darcel from the Mss. of M. J. B. A. Lassus*, London 1859, 53–54. The link to Hero's twelfth model is also recognized in Erlande-Brandenburg et al.1986 (as in note 78), 36.

85 Willis 1859 (as in note 83), 54, note d, where the mazer is incorrectly ascribed to the fifteenth century.

86 Oliver Rackham, *Treasures of Silver at Corpus Christi College, Cambridge*, New York 2002, 57–59, pl. 2; Marian Campbell in *Age of Chivalry: Art in Plantagenet England, 1200–1400* (exh. cat. London, Royal Academy of Arts), ed. by Paul Binsky and J. J. G. Alexander, London 1987, 436–437, cat. no. 543; H. D. Catling, Plate at the Cambridge Colleges, no. II: Corpus Christi College, part 1, in: *The Connoisseur* 3, 1902, 229–234, here 231, 233.

87 Rackham 2002 (as in note 86), 57; Christina Normore, *A Feast for the Eyes: Art, Performance, and the Late Medieval Banquet*, Chicago 2015, 60. The siphon mechanism seems to have become clogged in the nineteenth century but restored in the twentieth. Oliver Rackham affirms that it was functional as of his writing.

88 Rackham 2002 (as in note 86), 59.

89 Gerard Brett, The Automata in the Byzantine Throne of Solomon, in: *Speculum* 29, 1954, 477–487; Avinoam Shalem, Manipulations of Seeing and Visual Strategies in the Audience Halls of the Early Islamic Period: Preliminary Notes, in: Franz Alto Bauer (ed.), *Visualisierungen von Herrschaft*, Istanbul 2016, 213–232, here 226; William of Rubruck, *The Journey of William of Rubruck to the Eastern Parts of the World*, *1253–55*, trans. by William Woodville Rockhill, London 1900, 207–212.

90 Truitt 2015 (as in note 80), 4, 19, 27. Truitt states categorically that automata "were imagined but not built in the Latin Christian West of the twelfth and thirteenth centuries," 27, although water clocks, or *clepsydrae,* were an exception to the rule, 142–143.

91 Ibid., 19, 118; Edward Grant, Henricus Aristippus, William of Moerbeke and Two Alleged Mediaeval Translations of Hero's *Pneumatica*, in: *Speculum* 46, 1971, 656–669.

92 Truitt 2015 (as in note 80), 22–30.

93 Ibid., 122–125.

94 Stephen N. Fliegel, The Cleveland Table Fountain and Gothic Automata, in: *Cleveland Studies in the History of Art 7*, 2002, 6–49, here 16–19; idem and Elina Gertsman, *Myth and Mystique: Cleveland's Gothic Table Fountain*, Cleveland 2016, 12–18. Note that the table fountain would have been fed by gravity or a hand pump from a reservoir rather than functioning by the siphon principle.

95 Philip Steadman, *Renaissance Fun: The Machines Behind the Scenes*, London 2021, 123–129.

96 "Eodem tempore ex Longobardorum regno mercatores descenderant ad idem forum, apud quos comes argenteam kannam emerat marci viginti una, quae miro opera fabricata, suis spectatoribus potum quem in se continebat furabatur." Galbert of Bruges 1994 (as in note 36), ch. 16, 41; Rider 2013 (as in note 36), 32–33. There is a bit of slippage in the text between 21 marks of silver as the price of the vessel (at chapter 16) and its weight (at chapter 85). Which of the two is correct seems to be insoluble at this point.

97 On the symbolic importance of this vessel in the story of Charles's assassination, see Jeff Rider, *God's Scribe: The Historiographical Art of Galbert of Bruges*, Washington, D.C. 2001, 79–81.

98 Suggested by Vulić et al. 2017 (as in note 64), 149–150.

99 Robert de Clari, *La conquête de Constantinople,* CXII, ed. by Philippe Lauer, Paris 1956, 105–106; trans. by Edgar Holmes McNeal, *Robert of Clari: The Conquest of Constantinople*, New York 1996, 125–126.

100 Alexandru Madgearu, *The Asanids: The Political and Military History of the Second Bulgarian Empire, 1185–1280*, Leiden 2016, 149, 152.

101 Robert de Clari mentions that the defeated Crusader force did not dare go back to their camp to retrieve anything from their tents, but rather fled with haste towards Constantinople. Lauer 1956 (as in note 99), p. 106.

102 Rolle et al. 1991 (as in note 1), 417, cat. no. 202. Compare, for example, the dragons with foliate tails that form the cresting of the St. Anno shrine in Siegburg. Exh. cat. *Ornamenta Ecclesiae* 1985 (as in note 29), vol. 2, 390, 457, cat. no. F 90.

103 Kyiv, Treasury of the National Museum of History of Ukraine, inv. no. A3C-3631.

104 Cécile Genetti in Mariaux 2015 (as in note 20), 140, inv. no. 14.

105 Kyiv, Treasury of the National Museum of History of Ukraine, inv. no. A3C-3630. Rolle et al. 1991 (as in note 1), 417, cat. no. 192.

106 Brussels, Musées Royaux d'Art et d'Histoire, inv. no. 3669. Exh. cat. *Rhein und Maas* 1972 (as in note

53), 260, cat. no. G 24; Hans R. Hahnloser and Susanne Brugger-Koch, *Corpus der Hartsteinschliffe des 12.–15. Jahrhunderts*, Berlin 1985, 96, cat. no. 53, color pl. VIII, pl. 58.

107 Filip van Tricht, *The Latin Renovation of Byzantium: The Empire of Constantinople (1204–1228)*, Leiden 2011, 149. Crusader Constantinople cannot be excluded as a potential place of manufacture. Boris Marshak proposed to attribute the dish with Ascension of Alexander (inscribed in Greek) found at Muzhi to a Constantinopolitan workshop of the early thirteenth century, and Baldwin's successor, Henry of Hainault, commissioned a golden reliquary of the True Cross from the Mosan goldsmith Gerard who was resident in Constantinople. Marshak 1997 (as in note 16), 399–401; Danielle Gaborit-Chopin, *The Treasury of San Marco,* Milan 1984, 244–251.

108 Oleksandr Halenko, Wine in the Public Discourse and Banqueting Practices of the Early Ottomans, in: Lucienne Thys-Şenocak (ed.), *Of Vines and Wines: The Production and Consumption of Wine in Anatolian Civilizations through the Ages,* Leuven 2017, 119–154, esp. 150–151. Drinking vessels are also frequently depicted in the hands of the stone statues, *balbals,* of the Qıpčaqs. Svetlana Pletnëva, *Polovetskie kamennye izvaianiia* [Polovtsian stone sculptures], Moscow 1974, 50–52.

109 Woodfin 2016 (as in note 13), 171.

110 Elvira H. Tóth and Attila Horváth, *Kunbábony, das Grab eines Awarenkhagans*, Kecskemét 1992, 35–36, nos. 19, 20, figs. 8, 9.

111 Vera Zalesskaya et al., *Sokrovyshcha Khana Kubrata* [Treasures of Khan Kubrat], St. Petersburg 1997, 200–201, cats. 72–75; Joachim Werner, *Der Grabfund von Malaja Pereščepina und Kuvrat, Kagan der Bulgaren* (Bayerische Akademie der Wissenschaften, Abhandlungen, n. s., no. 91), Munich 1984, 13–14, 29–31. Perhaps there are distant connections to be made with the "bell cups" of Silla-period Korea, possibly associated with shamanistic rites. Kidong Lee, The Indigenous Religions of Silla: Their Diversity and Durability, in: *Korean Studies* 28, 2004, 49–74. Noise-making cups were also known in Classical-period Greece: A. Seeberg, Musical Drinking-Cups, in: *The Journal of Hellenic Studies* 92, 1972, 183–84.

112 Antoine-König 2014 (as in note 20), 100–101, cat. no. 26; Cabrio in Mariaux 2015 (as in note 20), 134–137, inv. no. 13, including an x-radiograph of the "singing" sphere.

113 George Akropolites, *History,* 13, translation after Ruth Macrides (ed.), *George Akropolites: The History*, Oxford 2007, 139–140.

114 George Ostrogorsky, *History of the Byzantine State*, Rutgers, NJ 1969, 196; Theophanes, *Chronographia, sub anno mundi* 6303, ed. by Carl de Boor, Leipzig 1883, 491.

115 According to Niketas Choniates, the leader Kalojan's allied Cuman forces was called "Κοτζᾶς." This is not a proper name, but the Greek transliteration of a Turkic title, *Qoja,* meaning "great" or "senior," derived in turn from the Persian *khawājah,* "master." Johannes van Dieten (ed.), *Nicetae Choniatae Historia*, Berlin 1975, 616.

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