

## ***A heart was not intended***

Pierre VINKEN

In his *History of Animals*, Aristotle described the shape of the heart as roundish, but pointed at the end and having three cavities, the third being referred to as "the odd one in the middle". The Hippocratic corpus includes a separate treatise on the heart, probably written in the first half of the third century BC. It too describes the heart as round and pyramid-shaped, but having two chambers. Galen, the second-century physician, summarized the medical knowledge of the ancient world. He described the heart as cone-like with the tip pointing downwards, but he explicitly denied the existence of a third chamber. He wrote that what Aristotle had taken for a third chamber was, in fact, a cavity (*fovea* in the medieval Latin texts) in the right chamber, in the broad base of the heart (1).

Medieval anatomists had to make do with faulty translations copied by scribes who had no understanding of their contents. Galen's extensive and detailed texts were often reduced to a few brief statements. The descriptions of the third chamber were inconsistent and for centuries it was variously referred to as *fovea*, *meatus* and *concauitus*; in Middle English it was said that the heart "has in the middle a ditch or a pit". It was not easy to represent all the elements in a diagram on the basis of these accounts. But it is obvious that someone who wished to draw a heart could represent the fovea as a dip in the outside wall of its base. Anatomists and artists thus introduced a detailed "refinement" into the classical contour of the heart: a dent appeared in the middle of the rounded base at the spot where the smaller third chamber was supposed to be located.

The dent first appeared in Northern Italy, where classical and translated texts were being intensively studied and taught (particularly in Bologna), from the beginning of the fourteenth century. It must have originated after 1304, the year in which Henry de Mondeville was still using a pyramidal diagram of the heart for his anatomy lectures in Montpellier. The earliest extant illustration of a scalloped heart in an anatomical work is contained in Guido de Vigevano's book of 1347. The scalloped form appeared more frequently as the century progressed, but it did not really come into its own until the early years of the fifteenth century. The conical heart began to disappear during the second half of the fourteenth century.

The "scallop correction" to the classical conical heart contour was an anatomical heresy which persisted for more than two hundred years. The increasing impact of direct anatomical observation dispelled the belief in the existence of the third ventricle and with it the need for the scalloped contour in anatomical illustrations which did not

correspond to reality. The most appropriate shape to represent the heart's contour remains that of the pine-cone. The anatomical drawings of real hearts made from direct observation by Leonardo da Vinci, Vesalius and by modern anatomists thus show the old round form.

The increase in anatomical knowledge after 1500 did not, however, create a consequential need to dispense with the indentation in what had become the accepted popular and artistic image of the heart. Clearly, the scalloped heart had become entrenched in the visual arts and it had come to lead a life of its own as a generally recognised symbol, an icon. It was obviously unnecessary (and probably impossible) to amend its shape to conform to its true contour.

In short, (1) from the earliest Greek texts to the anatomical treatises of the present day, the heart has always been *described* as an organ with a conical or pyramidal shape with a round base and a point, and, (2) in the first half of the fourteenth century, in *pictures* of the heart, a dent appears in its base. There is no representation of the heart prior to that date in which a dent or fold appears in the base. Figures in the form of a Saint Valentine's heart predating 1300 do not represent a heart.

Ornamental "heart"-shaped figures were common in antiquity. They were used decoratively and consist of (ivy) leaves, sometimes with tendrils, or a bunch of grapes. These leaves are often depicted with a stalk, which makes them look like the suit of spades in playing cards. Archaeologists refer to this ornamental leaf as the *folium hederæ*, spade leaf, or ivy. They also occur regularly as a graphic decoration in Roman inscriptions in stone or applied to the walls of catacombs. After the Roman era and through to the late Middle Ages, we find ivy leaves ornaments in Byzantine art and in Western Europe. Heart-shaped leaves also occur in Coptic textiles, in representations of Bacchic revels and as a herbal remedy in medieval medical texts. From the renaissance onwards, we find ivy leaves also being used as decorative elements in printed books. These leaf ornaments are sometimes interpreted as heart figures. In this article, I shall seek to set the record straight regarding a number of other well-known, but inaccurate, "heart" interpretations.

According to Erwin Panofsky, a (scalloped) picture of the heart is already to be found in a palaeolithic painting of a red-coloured elephant in the cave of Pindal in Spain (fig.1), which was discovered by the French *abbé*, Henri Breuil. He made a copy of it at the site, believing that the mark on the elephant's upper body was meant to represent an ear. It is so described in his 1911 report: "A large, more or less heart-shaped heart, situated in the middle of the body, represents its ear flap". However, it was later suggested to him by certain elephant hunters that the mark might well have been intended not to represent the ear but rather the heart, because a painting of an

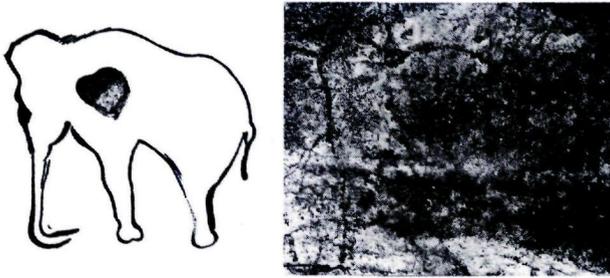


Fig. 1. - Prehistoric elephant in the cave of Pindal

elephant in a later prehistoric cave in Southern France shows it being pierced by three arrows above the left shoulder, the spot where it could most easily have been brought down.

Breuil did not reject this suggestion and, whilst he did not subsequently propose that the unknown Stone Age artist had been intent on depicting a heart, he did agree that the mark was approximately where the elephant's heart would have been (2).

Many years later, Richard Lewinsohn discussed the subject in detail with Breuil. He felt that the latter had been too easily swayed by the elephant hunters and thus accepting their suggestion that the mark did indeed represent a heart. In Lewinsohn's view, the mark, which Breuil had copied in the confined conditions of a narrow and

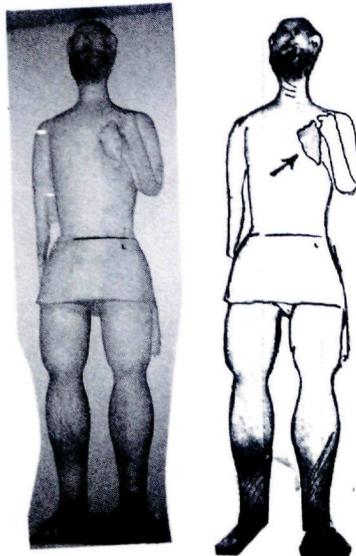


Fig. 2. - Terra cotta figure excavated at the Ayia Irini sanctuary

dark cave, was oval and not triangular in shape, with a flat, rather than scalloped, upper side. Indeed, comparison of Breuil's drawing with a photograph reveals that the patch in the latter does not have a clearly defined contour. Further, it bears no resemblance to the real shape of the heart, nor does it resemble the feature as copied by Breuil. In fact, it is insufficiently distinct even to support Lewinsohn's contention that it is oval shaped (3).

Another pseudo-heart is the object held by a terracotta figure excavated in Cyprus and dating from 750-600 BC. The figure holds it in a partially obliterated left hand against his breast (fig. 2). A stub can be seen on both sides of the base; that on the left side is double, which could be taken to represent the remains of blood vessels. Although there is a superficial resemblance to the classical description of the heart, its shape is too large and the apex is too sharp. Furthermore, an indentation can be seen in the foremost wall, which is not a feature of an actual heart. It is unlikely, therefore, that we are concerned here with a human heart, nor, indeed, with an animal's heart, since the same reservations obtain. What is probably closer to the truth is that the object is "a bird with head and legs missing" (4).



Fig. 3. – Terra sigillata fragment with *haruspex* viewing a liver

It has been claimed that a heart is depicted on a fragment of a Roman pot from the Augustan period (fig. 3). If this were to be taken to be the outline of a heart, it would be roughly four times the size of that of a hand, i.e. more than four times the actual size of the heart. In fact, the figure portrayed on this fragment is a *haruspex* inspecting entrails, and the organ he is holding in his hands is not a heart, but a liver (5).



Fig. 4. Graffiti in Marble Street

The paving stones half way along Marble Street in Ephesus dating from circa 100 BC is marked with graffiti. According to a local guidebook, these drawings, consisting of "a foot pointing southwards, together with a heart and the head of a woman, point the way to the brothel" (fig. 4). The female head, the foot and a rectangular contour (having contained a now vanished text?) are grouped together and the composition seems to suggest, as it were, an advertisement. It is unclear whether the figure shown on the left a little further up, above the foot, has anything to do with the other elements. Since the upper edge is damaged, it would seem that what we can still now vaguely detect is a broad and deeply indented Valentine's heart, and thus it is easy to understand the apparent association with a brothel made by today's onlooker. However, there were no representations of the heart during Roman times. Neither in the shape of a pine, and certainly not in that of a Valentine's heart, since the latter did not make its appearance until more than ten centuries later(6).

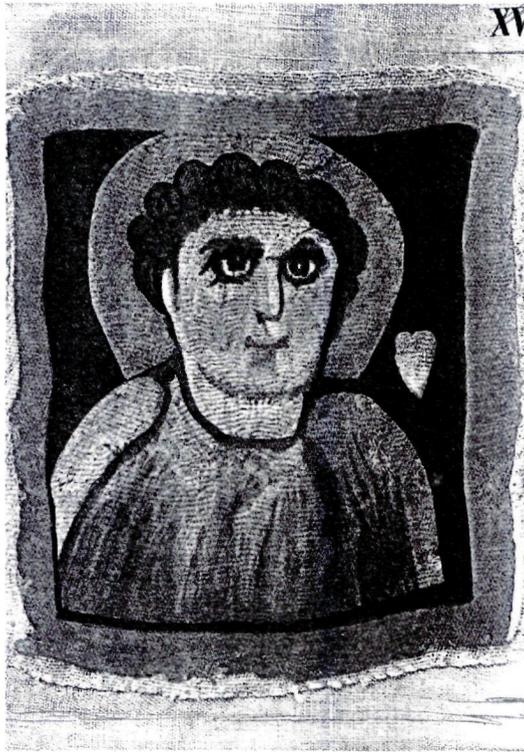


Fig. 5. - Portrait, Coptic textile

Certain scholars have suggested that there is a heart illustrated on a Coptic textile, woven in early Byzantine style and dating from the fourth or fifth century AD (fig. 5). A small but conspicuous reddish spot, shaped like a long, tapering pear with the dip in the upper edge, features in the background. Others have observed that, in view of the aureole around the head of the figure, it must be the portrait of a Greek deity or of a Christian saint who had a heart as an attribute. A further view is that it represents the Prophet Ezekiel, who wrote that God's Word would "take away the stony heart of your flesh, and (...) give you a heart of flesh". Yet another suggestion is that it is a portrait of a Roman emperor or of Saint Augustine, who, in the late Middle Ages, was represented with a heart. It has to be said that there are no grounds to support any of these hypotheses (7).

The elongated, scalloped shape, with its strongly tapering lower end, cannot have been based on direct observation. Nor could it have been derived from the then existing descriptions of the heart, although it is somewhat reminiscent of Galen's

statement that the heart becomes narrow and slender at its lower end. However, it does not have the roundish shape, which, as explicitly stated by Aristotle, is not elongated. Nor does it have Galen's "broad circular base above, rounder than that of any other animal"; nor Plutarch's "shape of a peach". If the weaver had indeed been intending to represent a heart, it would undoubtedly have had the classical Greek shape conventional at the time: rounder and less elongated, with the wide rounded surface at the top and ending in a cone shape (8).

The motifs in the form of a Valentine's heart in Coptic art are derived from the profusion of leaf-shaped decorations occurring in classical Greek and Roman art. A similar example to that referred to above is that shown in a textile bearing a representation of Christ; to the right of the figure, there are three "heart"-shaped foliage decorations in various colours (fig. 6) (9).

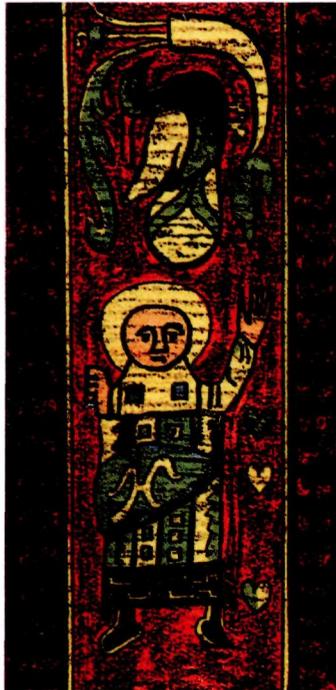


Fig. 6. - Christ on a Coptic textile

Striking figures, resembling a Valentine's heart, are formed by the upper part of the bodies of two men sitting cross-legged apparently looking at a donkey driver on another Coptic textile (fig. 7). Here, too, it was not the weaver's intention to portray a

heart. This shape has come about through stylised rendering of the pose adopted by the men, with their hands on their lap (10).

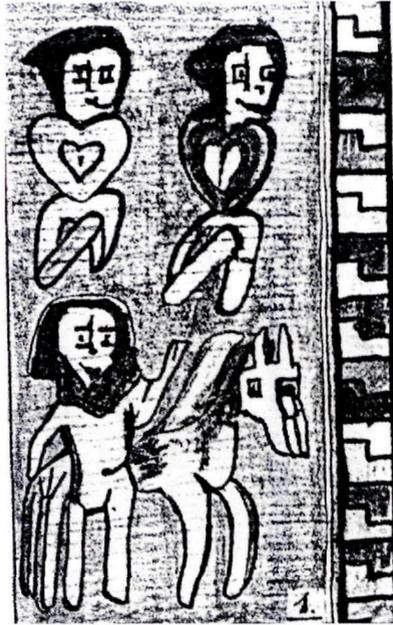


Fig. 7. - Two men resting. Coptic textile

Höfler has observed that a reversed heart, i.e. with the tip pointing upwards, appears on the body of the Crucified Christ in an eighth-century Coptic weaving (fig. 8): as a result of an error made by the weaver, the (green) heart has been shown inverted, with the point upwards and the two scallops pointed downwards. Two yellow protrusions, probably representing blood vessels, are hanging down from its cleavage. Höfler did not advance any arguments to support his contention. What we actually see on this textile are a few green spots, one on Christ's chest, a twin spot on the place where Christ's feet could have been expected and two spots on the place covered by His right hand. Between the Cross and the female figure on the left, a "heart-shaped" green spot is also visible, undoubtedly a "heart"-shaped foliage decoration, such as regularly occurs in classical and medieval (including Coptic) art (11).



Fig. 8. - Crucifixion, Coptic textile

The green spot on Christ's chest is, in fact, a stylised representation of the curve of the rib cage and the muscles of the chest. The two yellow bent arches below represent the lower bony outline of the chest cavity. Such a scalloped outline can be found in numerous depictions of the Crucifixion in Byzantine and medieval art, but they also occur in secular depictions of naked figures in Ancient Egyptian art (fig. 9) (12).

At a much later date, a similar "inverted heart" was claimed to have been seen in a fresco of (a supposed) Saint Ignatius of Antioch (fig. 10). Legend has it that Christ's name was imprinted in the saint's heart and that it was removed by pious Christians after his death. The fresco shows a saint with a large and bleeding abdominal wound. Exercising some degree of imagination, one could perhaps detect in the wound an inverted scalloped heart. On the basis of this, it has been suggested that the figure depicted is indeed Saint Ignatius. In point of fact, there is no known example of a heart being shown reversed, either on or in the body, and, by 1400, rarely in reversed form outside the body, for example, in anatomical sketches (13).

The saint's wound, as well as its place in the body, resembles those of a fourteenth-century blood-letter (fig. 11). One can also make out a rectangular structure



Fig. 9. - Pronounced curve of the rib cage in a limestone figure of Dionysos

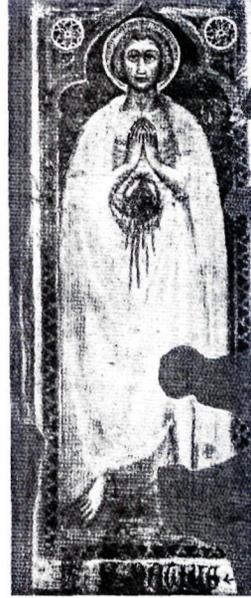


Fig. 10.- A supposed portrayal of Saint Ignatius of Antioch

with an upward point; here, too, the base of the triangle appears to be indented. On further consideration, one can see the intestines in the lower part of the blood-letter's wound. In the upper part, the trachea-lung-heart complex is shown in reduced size. This complex, with its triangular shape and with the upward point, occurs repeatedly as trachea-heart-lung-(liver) specimens in ancient anatomical texts and as *ex voto*. As a saintly attribute, we can also observe such a specimen in the hand of a fifteenth-century depiction of Saint Ansanus (fig. 12). We must then conclude that the supposed fresco of Saint Ignatius actually represents a martyr, with the wound and internal organs having been copied from a medical drawing (14).

On the title page of an *Evangeliarium* in Franco-insular style and dating from the second half of the ninth century, we encounter geometrically positioned edges with interlace (fig. 13). Two of these ornamentations, above and below the initial M (the beginning of the Gospel of the Feast of Saint Mary Magdalene), consists of interlace combining the heads of two birds. In its centre, one can detect a figure shaped like a Valentine's heart. The association with a heart is further strengthened by the fact that a cross has been drawn in the cleavage of the upper "heart". To the modern spectator, this would be taken to be the Sacred Heart. However, such a theme was unknown in the ninth century (15).

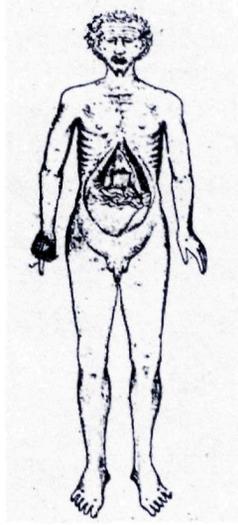


Fig. 11. - Blood-letter, with *situs anatomicus*

The Sacred Heart made its *début* in literature round about the year 1000, by analogy with the wounded heart of the bridegroom in the Canticles. As part of the growing religious mysticism then manifesting itself, there arose a veritable cult devoted to the unified concept of heart and love. Veneration of the Sacred Heart in literature reached its peak round about 1300. In the visual arts, it was not until later on in the fourteenth century that it made its *entrée*.



Fig. 12. - Saint Ansanus, Sant' Agnese basilica

The "heart"-shape in this ornamental ninth-century interlace can be regarded as a depiction of the heart. There are further examples of medieval art, where the spectator might well think that he is looking at a "heart"-shaped figure. A similar interlaced "heart" shape can be seen, for example, in the intricate ornaments of the eighth-century *Book of Kells* (fig. 14), or in that carved in an ivory plaque dating from circa 1200 (16).



Fig. 13. - Title page of a Flemish *Evangelium*

The scalloped heart icon is not derived from the hearts suit in playing cards; they came much later. According to some scholars, the figures featuring on to-day's playing cards are a development of the symbols used on Italian cards during the fifteenth century; the heart icon drawing its inspiration from figures representing vases or goblets.

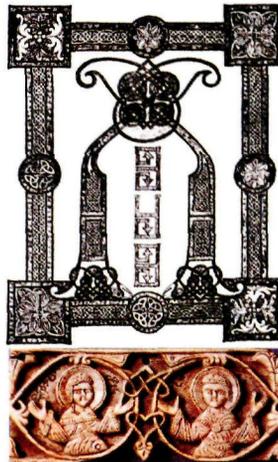


Fig. 14. - Ornamental interlacement in the *Book of Kells*

Other writers have suggested that they first appeared in France and Germany. There, too, however, the "heart" as shown on the card was not designed with a view to representing a real heart. They also arose through a stylisation of other and earlier vignettes, such as vases or pitchers. It was only from the final years of the fourteenth century that there was an attempt to project the "meaning" of a heart onto these leaf-shaped vignettes (17).

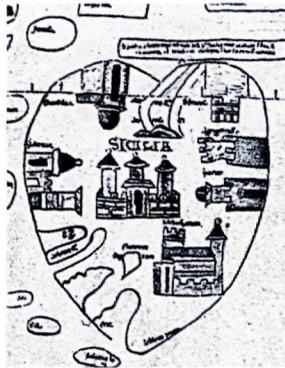


Fig. 15. - The island of Sicily on the Ebstorf world map

Let us now briefly consider the case of the island of Sicily as featured on the famous, early thirteenth-century *mappa mundi* drawn at the monastery of Ebstorf in Germany. Some writers have suggested that it was quite deliberately depicted as heart-shaped. (fig. 15). The map is believed to have been the inspiration of the monastery's provost, Gervase of Tilbury. He is thought to have conceived the heartshape for sentimental

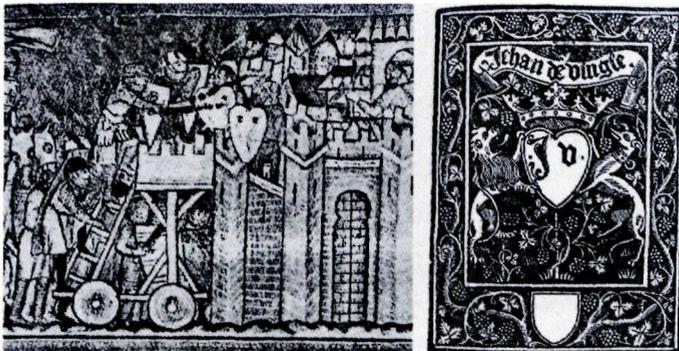


Fig.16. - Illustration from *Gran Conquista de Ultrama*

reasons, having been attached for a number of years to the court of Sicily's ruler. In fact, the artist showed the east coast pointing to the north and it is scalloped, as is the coast between Messina and Syracuse. The indentations in the north-western coastline (lower left) correspond to the Gulf of Termini Imerese, the Gulf of Castellammare and a number of other smaller bays near Palermo. The island is represented more accurately than on any other medieval map. It is clear that the map maker knew Sicily well (18).

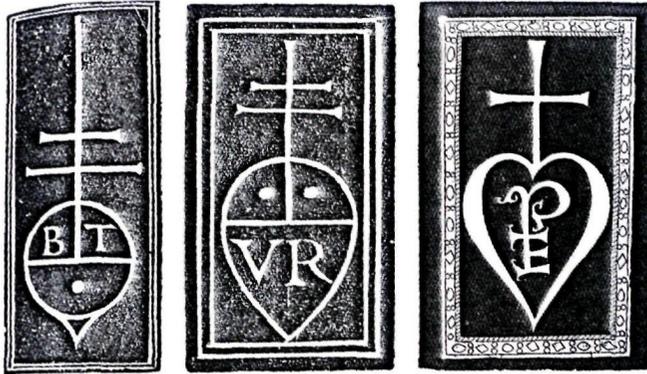


Fig. 17. – Printers' marks

Heraldic "hearts" developed from other forms, although, in the main, from leaf motifs. There are medieval shields extant which could well be described as heart-shaped, but they had nothing to do with the heart (fig. 16). They originated in Italy from the orb, which featured regularly in printers' marks. Devices showing variants on the orbicular form first appeared in the 1480s, for example, with a pointed base like that of Baptista de Torris and the shield shape in the device of Ugo Rugerius. During the same period, the heart icon began to be featured in printers' marks, the earliest known example probably being that of Pierre Levet of 1486 (fig. 17). Levet's heart was undoubtedly intended to represent a real heart; the theme of the Sacred Heart has here assumed, as it were, the shape of an heraldic shield (19).

The most suggestive example of a Valentine heart as a symbol of love is the figure formed by the vines of a tree in the Manesse Codex, a famous collection of poems of the *Minnesingers* written during the final decades of thirteenth century and the first years of the fourteenth century. It was compiled in Zürich round about 1310 and the illustrations date from the same period. On Master Altam von Gresten's page (fig. 18), the lover presents his poem to his Lady. There is an heraldic shield in the background bearing the legend AMOR in silver on a blue band. This, in turn, is placed



Fig. 18. - Heraldic illustration from the *Codex Manesse*

in a field of gold: the arms of Love itself. The shield is encircled by a symmetrical pattern of branches, with five-leaf red roses filling up the background. The ornamental image created by the branches is now interpreted as that of a heart (20).

Whilst the scalloped heart shape (initially with a shallow dent in the base) did originate during this period in Italy, it is highly unlikely that a heart was intended by the pattern created by these branches. Just as unlikely that the leaves of the trees in the other illustrations in this codex were deliberately given a heart shape. There are a con-



Fig. 19. - Floor of the Curia Julia

siderable number of illustrations by the Codex's miniaturist, devoted to scenes of love, with similar rose branches in other (also symmetrical) patterns such as these, but a

scalloped "heart" image does not feature in any of the 137 illustrations. Nor does it feature in other illustrated manuscripts devoted to love lyrics written during this period. It is probable, therefore, that the Codex's miniaturist was intent on painting a pretty, virtually symmetrical, background, (unknowingly) creating a pattern, in which today's spectator, of course, thinks he detects (incorrectly) the shape of a heart. An ornament closely resembling this can be found in the marble floor of the Curia Julia in the Roman forum. It is complete with a cross-shaped leaf ornament jutting out of the cleavage of the "heart" base, exactly like the Cross in the "heart" of the *Evangeliarium*. But a heart was not intended!

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## LEGENDS TO ILLUSTRATIONS

- Fig. 1.  
 Prehistoric elephant in the cave of Pindal; the drawing and the photograph.
- Fig. 2  
 Terra cotta figure excavated at the Ayia Irini sanctuary, Cyprus, 750-600 BC.
- Fig. 3.  
 Terra sigillata fragment with a *haruspex* viewing a liver, Augustan period.
- Fig. 4.  
 Graffiti in Marble Street, Ephesus, circa AD 135.
- Fig. 5.  
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- Fig. 8.  
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Fig. 9.

Pronounced curve of the rib cage in a limestone figure of Dionysos, Egypt, third-fifth century BC.

Fig. 10.

A supposed portrayal of Saint Ignatius of Antioch, fresco, church of Saint Francis, Montefalco, circa 1400.

Fig. 11.

Blood-letter, with *situs anatomicus*, fourteenth century.

Fig. 12.

Saint Ansanus, Sant' Agnese basilica, Rome, fifteenth century.

Fig. 13.

Title page of a Flemish *Evangeliarium*, ninth century.

Fig. 14.

Ornamental interlacement in the *Book of Kells*, eighth century, and on an ivory plaque with Saints Margareta and Juliana, circa 1200.

Fig. 15.

The island of Sicily on the Ebstorf world map, thirteenth century.

Fig. 16.

Illustration from *Gran Conquista de Ultramar*, fourteenth century, and the printer's device of Jehan de Vingle, 1500.

Fig. 17.

Printers' marks of Baptista de Torris (1485), Udo Rugerius (1501) and Pierre Levet (1486).

Fig. 18.

Heraldic illustration from the *Codex Manesse*, early fourteenth century.

Fig. 19.

Floor of the Curia Julia, Roman forum.

## NOTES

1. I thank Lucy Schlüter for her contributions to this article and Kenneth Ellison Davis for his translation of my Dutch text. - For a detailed account of the evolution of the shape of the heart, see Pierre Vinken, *The shape of the heart*, Amsterdam 2000. The change from the spherical to the scalloped form of the heart base occurred more or less in train with the way in which the heart was held, i.e. with the point upwards up to the middle of the fourteenth century and thereafter with the base held upwards. See Pierre Vinken, *How the heart was held in medieval art*. *The Lancet*, 358, 2001, 2155-2157.
2. H. Alcade del Rio, Henri Breuil and Lorenzo Sierra, *Les cavernes de la région Cantabrique (Espagne)*, Monaco 1911, fig. 57 and Pl. 44. Werner Nebel, *Zur Geschichte der Herzdarstellung*, *Archiv für Geschichte der Medizin*, 28, 1935, 279-295, also makes reference to the "heart" of the prehistoric elephant in the Pindal cave.
3. Richard Lewinson, *Eine Weltgeschichte des Herzens*, Hamburg 1959.
4. The quotation is from P. Flourentzos, director of the Department of Antiquities, Limassol, Cyprus, in a letter to the author of 14 June 2000.
5. The terra sigillata fragment is in the Archeological Institute of the University of Tübingen.
6. Naci Keskin, *Efeze*, Istanbul 2000, 37.
7. R. Forrer, *Die Gräber- und Textilfunde von Achmim-Panapolis*, Strasbourg 1891, Pl. XVI.
8. Aristotle's "not elongated but roundish" in *History of Animals*, 1.17; Galen, *On the usefulness of the parts of the body*, 6.7. The roundish form of the heart was confirmed circa 400 AD by a Roman contemporary, the *vir clarissimus et illustris* Macrobius, who was probably also of North African origin, round about the same time as the creation of the Coptic portrait. He wrote that "free-born boys were allowed to wear the heart-shaped figure of the bladder (*bullā*) on the breast, in order that the sight of this figure remind them that excellence of heart was needed to make them men". Macrobius, *Saturnalia*, 1, 6, 17 and 52. For the bladder-like shape of the heart, see also Vinken, *op.cit.* (*Shape*), 21 and note 20.
9. The textile with Christ is illustrated in R. Forrer, 6. *Die frühchristlichen Altertümer aus dem Gräberfelde von Achmin-Panapolis*, Strasbourg 1893, XVII,10.
10. Forrer, *op.cit.*, 1891, XV, 1.
11. For the crucifix, see M. Höfler, *Das Herz als Gebildbrot*, *Archiv für Anthropologie*, NF.5, 1906, 267, and Doris Bietenholz, *How come this means love*, Saskatoon 1994, 46 and fig. 31; colour illustration in R. Forrer, *op.cit.*, 1893, XVII, 3. "Heart"-shaped foliage decorations in classical and medieval heart have frequently ( but incorrectly) been associated with the heart, see Forrer, *op.cit.*, 1891, X, 5; XIV, 11, 18, and Forrer, *op.cit.*, 1893, VIII, 3, 7; XIV, 3, 7, 19; XVII, 3, 6; XVIII, 1, and Vinken, *op.cit.* (*Shape*), fig. 8. Also: Pierre du Bourquet, *Musée National du Louvre, Catalogue des étoffes Coptes*, 1, G 328.
12. Bietenholz (*op.cit.*, 46) also doubts Höfler's contention. The Sacred Heart was not depicted that early in the visual arts; the heart as such was never represented at all in Coptic art. The illustration in fig. 8 is from Klaus Wessel, *Koptische Kunst: Die Spätantike in Aegypten*, Recklinghausen 1967, fig. 57. Similar, almost female, curvature of the musculature of the male chest, with strongly delineated contours of the ribs in, for example, figs. 53 and 108. Also in John Beckwith, *The art of Constantinople*, London/New York, figs. 52, 54 and 179; *The art of medieval Spain AD 500-1200*, The Metropolitan Museum of Art, New York 1993, figs. 115a, 130, 136 and 166; *Die Zeit der Staufer*, Württembergisches Landesmuseum, Stuttgart, 1977, 2, and figs. 131, 169, 374, 383, 476-478, 480, 514 and 558, C.R. Dodwell, *The pictorial arts of the West 800-1200*, New Haven/London 1993, figs. 65, 103, 195, 203, 287, 331 and 365.
13. George Kaftal, *Iconography of the saints in Central and South Italian schools of painting*, Florence 1965, 565 and fig. 651. Kaftal has also doubted the accuracy of the identification: "tentative

- identification: the wound, considering its shape, may be an allusion to the legend about his heart"(565).
14. The blood-letter in fig. 11 is from a fourteenth-century manuscript in the Librario San Marco, (57 and 32), Venice, see Karl Sudhoff, *Beiträge zur Geschichte der Chirurgie im Mittelalter*, 1, 1914, 156 and Pl. 51, 6. For the trachea-heart-lung-liver specimens, see Vinken, *op.cit. (Shape)*, 70-71 and fig. 60. The painting of Saint Antanus is in the Sant' Agnese basilica, Rome.
  15. The *Evangeliarium* is in the Municipal Library, Arras, ms. 1045 (223), folio 43, illustration in Maurits Smeyers, *Vlaamse miniaturen*, Louvain 1998, 22 and fig. 9. Fig. 1 on page 25 and fig. 68 on page 108 show borderline ornaments in the shape of Valentine's hearts, the first in an *Evangeliarium* from the Meuse valley dating from the first half of the eighth century and the second in a Bible from the Meuse valley dating from the first half of the twelfth century. For similar ornaments, see also Plate 1 (page 56), Plate 5 (page 494) and figs. 26 and 60. Also Sigrid Schulten, *Die Buchmalerei des 11. Jahrhunderts im Kloster St. Vaast in Arras*, Münchener Jahrbuch der bildenden Kunst, 7, 1956, 49-90, and figs. 1, 7, 10 and 44, and André Boutemy, *Une Bible enluminée de Saint-Vaast*, Scriptorium IV, 1950, 67-81, and Plates 3 and 24a.
  16. For the *Book of Kells* and the ivory plaque, see Bietenholz, *op.cit.*, 38, and figs. 27 and 28. There are various ornamental "heart" forms in the *Book of Kells*, e.g. folio 34r.
  17. Kurt Bachmann, *Die Spielkarte: Ihre Geschichte im 15. Jahrhundert*, Altenburg 1932, *passim*; Han Janssen, *De geschiedenis van de speelkaart*, Rijswijk 1985, 31.
  18. Birgit Hahn-Woernle, *Die Ebstorfer Weltkarte*, Erbstorf 1987.
  19. H.W. Davies, *Devices of early printers 1457-1560: Their history and development*, London 1935, and figs. 149 and 177.
  20. The Codex is in Heidelberg, *Codex Platinus Germanicus* 848. Illustration in Ingo F. Walther, *Sämtliche Miniaturen der Manesse-Liederhandschrift*, Aachen 1981, folio 103. The (incorrect) assumption that we are concerned here with the outline of a heart was made by M. Pastoureau during the symposium *Le coeur, de l'Antiquité au XVIII siècle*, held in Lausanne, 15-18 November 2000. Other miniatures with similar background patterns of rose branches, all from the hand of the Painter of the Corpus, appear on folios 10, 25, 55, 60, 80, 87, 91 and 114. The Codex also contains a few illustrations by the Painter of the First Addition (folios 20 and 94). The background features the stylised trees, common in medieval miniatures, the large leaves of which have the shape of a scalloped Valentine heart. Here, too, a depiction of the heart had not been intended.

