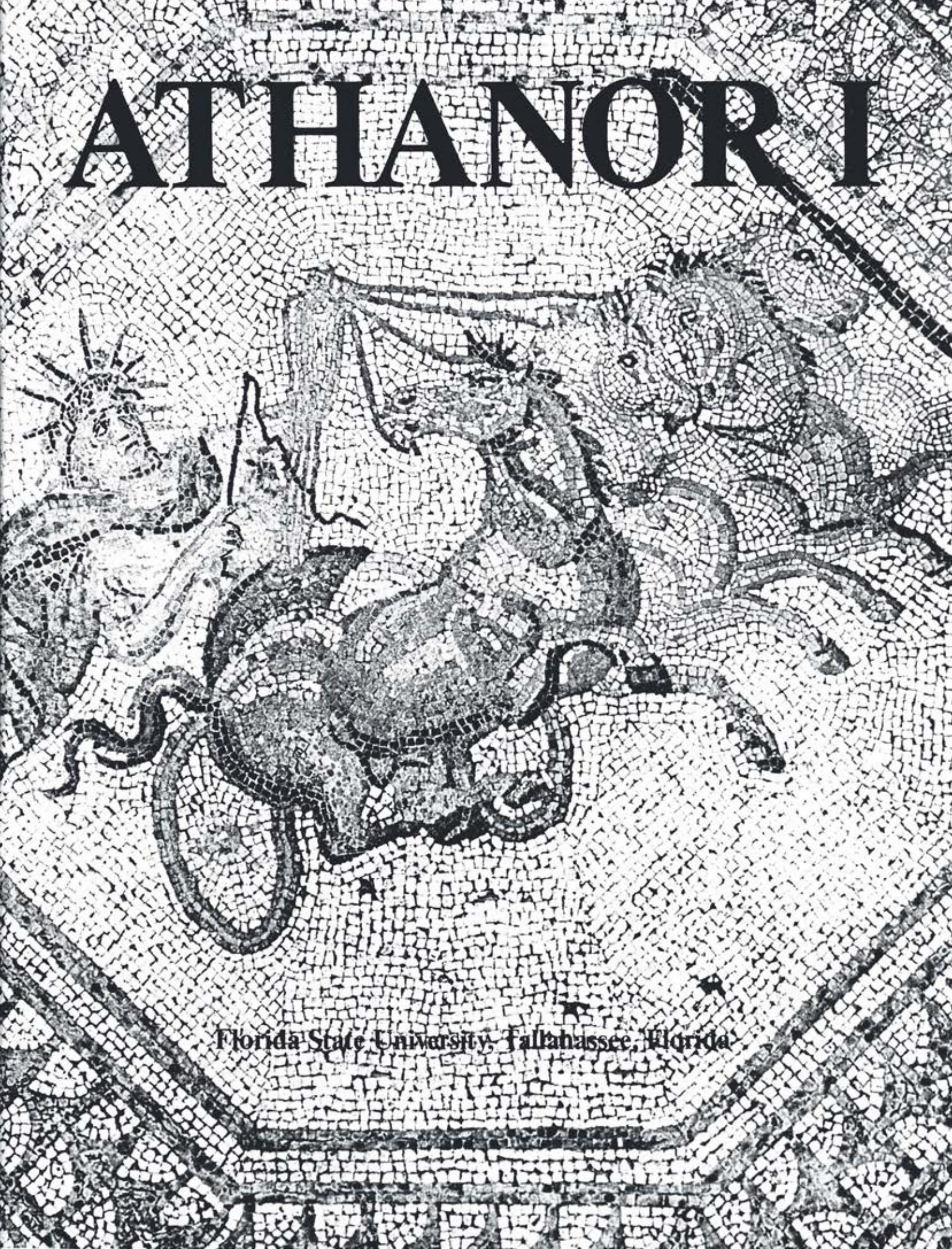
ATHANOR I

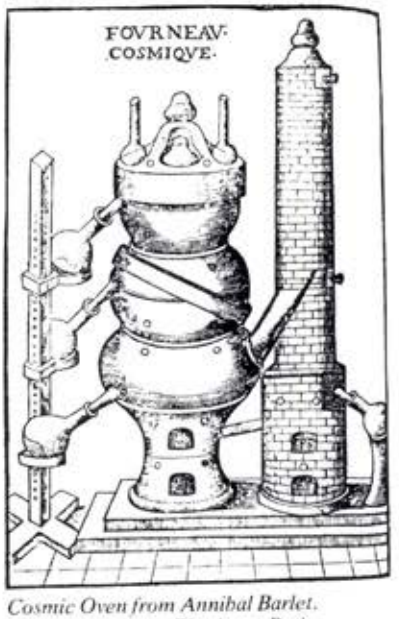


Florida State University, Tallahassee, Florida

ATHANOR I

The Athanor is the cosmic and philosophical furnace that condenses and liquefies the elements of the red philosophers' stone within the liquid of the uppermost crucible. The process requires forty days to a year of constant care by a less-experienced adept. A master may perform the seven "royal steps" in a shorter time. The vessel is the key to the hidden treasure, perhaps it is the alchemist himself, who—through hard work and discipline—has achieved the perfect spiritual union of opposites.

Francois Bucher, Advisor
Professor of Art History
Florida State University



Cosmic Oven from Annibal Barlet. Le Vray Cours de Physique. Paris. 1653

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The Perennial Axe

Berit Bihl-Greechie

As we look at the development of the axe from the stone age to the present, we note the perennial interest in the symbolism of the image. It appears that the single axe has connoted power of gods and men and that the double-axe has been associated with goddesses. However, whether attributed to male or female gods or to human beings, the axe has been a symbol of power throughout history.

The oldest surviving objects made by man are bone and stone tools. Knives made of reindeer antlers, with which the early Scandinavian hunting groups could carve grooves in bones, have been dated from the end of the glacial period. In the Paleolithic age about 12,000 B.C., during the Pleistocene epoch, axes, also made from reindeer antlers, came into use. The Mesolithic age's Continental phase, 9000-5000 B.C., produced flint core or flake axes. The earliest known settlement at Maglemoss, Denmark, has yielded axes with sharpened flint-stones inserted in grooved handles with zoomorphic inscriptions. In the later Atlantic phase, 5000-3500 B.C., greenstone axes were made by grinding. T-shaped antlers were also used and may have been the forerunner of the double-axe.

Thickbutted battle-axes were buried in the megalithic dolmens of the Neolithic period of 2500-1500 B.C. Several generations were inhumed in these burial chambers along with their crude flint axes and more elaborate battle-axes. The term 'battle-axe culture' was coined to describe the Jutland groups.

Scandinavian stone axes have been found in bogs inscribed with runes attributing them to the Nordic gods: Loki, Thor, Odin, and Belgthor or Balder.[1] Ancient lore held that the stone axe-heads had celestial origin and were sent by the gods through lightning. It was believed that if one dug in the spot three years after the strike, one might find a magic stone called a celt which could be used as an axe-head. Some celt-shaped stones have a natural hole at the centers of gravity and were used as hammers, wedges, or axes.[2] Many of these stones were also thought to have protective powers against lightning and were kept in houses in Sweden.

The axe was used to cut, to kill, and to intercede with the gods. Magic names were given to celts in many parts of the world, and ancient axe worship appears to have been universal.[3] The animistic belief that wind, trees, and rocks are alive and have souls also undoubtedly contributed to the myth of the magical origin of the celts. Thus, the axe made from a magic celt became a symbol of the gods. A Boetian goddess, the *Lady of the Beasts*, 2500 B.C., has a double-axe painted on her skirt (Fig. 1).

At the Palace in Knossos, the Cretan seals made from steatite, clay, and onyx which have been dated from the Early Minoan period, 2500 B.C., also depict double-axes (Fig. 2). The "Spiritual Transformation Seal" (Fig. 3) provides us with a great number of details regarding worship in the Middle Minoan period, 2100-1600 B.C. The double-axe is the central theme; it is surrounded by female votives, a tree bearing fruit, and the sacred lily of Crete. A sun, a moon, and water are represented at the top along with a small warrior behind a figure-eight shield.

A Late Middle Minoan fresco shows the mother goddess holding two upright double-axes before her worshippers, who are all young male celebrants (Fig. 4). It appears that priestesses were replaced by priests during the Minoan period. One might be tempted to conjecture that this reflects a shift from a matriarchal to a patriarchal society.

The Minoan linear script has clear images of double-axes in all three calligraphic forms (Fig. 5). The inscriptions occur throughout the Tomb of the Double-Axe in Knossos and indicate the intimate connection of the Minoan goddess to the cult of the dead. The sepulchre was itself a columnar shrine with ritual double-axes and vases for libations, and the rock-cut grave was actually hewn in an outline of the sacred symbol.[4] In Psychro's cave at Hagia Triada, thin ritual axes are inserted into a socket of black steatite stone (Fig. 6).

Sir John Evans, in his massive work on stone implements, tells of at least one instance when the Greek god Bacchus was worshipped under the form of a hatchet or πέλεκυς.[5] He also describes the image on a Chaldean cylinder, in which a priest is represented as making an offering to a hatchet placed upright on a throne. Greek inscriptions on celts with Mithraic scenes and perforated axes with Chaldean characters can be seen in the Borgia collection.[6]

The double-axe image was called a *Sagaris* by Pliny, and the Greek author catalogues the Amazonian arsenal of weapons as consisting of shields, bows, arrows, and double-axes. Greek legend also tells of Hephaestus, who was ordered by his father Zeus to split his head with a double-axe. From the opening sprang the goddess Athena. In the *Odyssey,* Odysseus tested Penelope's suitors by setting up twelve axes in a single file and challenging the suitors to shoot an arrow through the holes of the axes using a bow. As they failed, Odysseus caught up his bow and sent his arrow straight through the twelve axes. It sounds like an impossible feat, but the excavations at Knossos, which have uncovered bronze axes with flaring crescent blades and holes in the center of the heads, make us reconsider that judgment.[7]

The double-axe has also been used as a symbol of power over life and death. The Roman magistrates at the time of Christ used that image as a badge of their authority. Benito Mussolini adopted the same axe image for his fascist political organization. The bound sticks with an axe projecting was called a 'Fascine,' and each rod represented

a local branch of the party, called 'Fascio.'[8]

The axe, single or double, seems to have symbolized both male and female deities. Mackenzie warns in his *Myths of Crete and Pre-Hellenic Europe* against the hypothesis that patriarchal conditions were preceded by matriarchal and that goddesses preceded gods everywhere. He cited India as a place where male and female deities were worshipped simultaneously.[9]

Mary Daly, in *Beyond God the Father* and now in her latest book *Gyn-Ecology*, suggests that God the Father did indeed replace God the Mother. Daly states that "the killing of the goddess was necessary in order to establish a male-dominated society. The killing has continued throughout the world in the form of customs that ritually maim and kill women." She notes African genital mutilation, Chinese footbinding, and the burning of widows in India as accepted norms in their cultures. An image of a Minoan gold votive double-axe (*cf.* Fig. 7) is engraved on the cover of her new book,[10] while the concert poster of Holly Near, a feminist singer, composer, and performer, uses the double-axe image inside the female symbol (Fig. 8).[11]

Since the stone age, the axe has been attributed to gods and goddesses and has been a recurrent symbol of authority over life and death. It continues to be a tool, a weapon, and a power symbol.

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1 John Evans, *The Ancient Stone Implements, Weapons and Ornaments of Great Britain* (London: Longmans, Green & Co., 1897), p. 58.

2 *Ibid.*, p. 63.

3 D. Mackenzie, *Myths of Crete and Pre-Hellenic Europe* (London: Gersham Pub. Co. Ltd., 1917), p. xxxvi.

4 Arthur Evans, *Palace of Minos at Knossos* (London: McMillan & Co., 1928), vol. II, p. 438.

5 John Evans, p. 62.

6 *Ibid.*, p. 61.

7 A. C. Vaughan, *House of the Double-Axe* (New York: Doubleday & Co., 1959), pp. 168-170.

8 The collective organization, represented by all the rods bound together for strength, is termed 'Fasci.'

9 Mackenzie, p. xxxv.

10 Mary Daly, *Gyn-Ecology: Metaethics of Radical Feminism* (New York: Beacon Press, 1979), pp. 111-112.

11 Holly Near's message is female unity, political awareness, and a demand for a future free of nuclear danger. As a result of awakened interest in the double-axe image, some women in the United States are wearing small double-axes in gold or silver on a chain as a symbol of strength and solidarity.

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Fig. 1, *The Lady of the Beasts*, *ca.* 2500 B.C., Louvre, Paris.

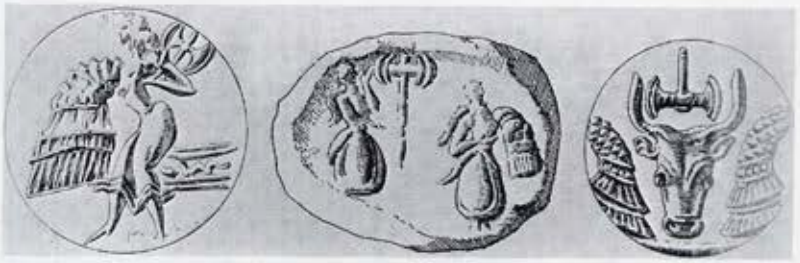

Fig. 2, Line drawings after *Seals from Knossos* (steatite, clay and onyx), *ca.* 2000 B.C. (Evans, II, p. 435).

Fig. 3, Line drawing of *Spiritual Transformation Seal*, Crete, *ca.* 1500 B.C. (Neumann, p. 59).

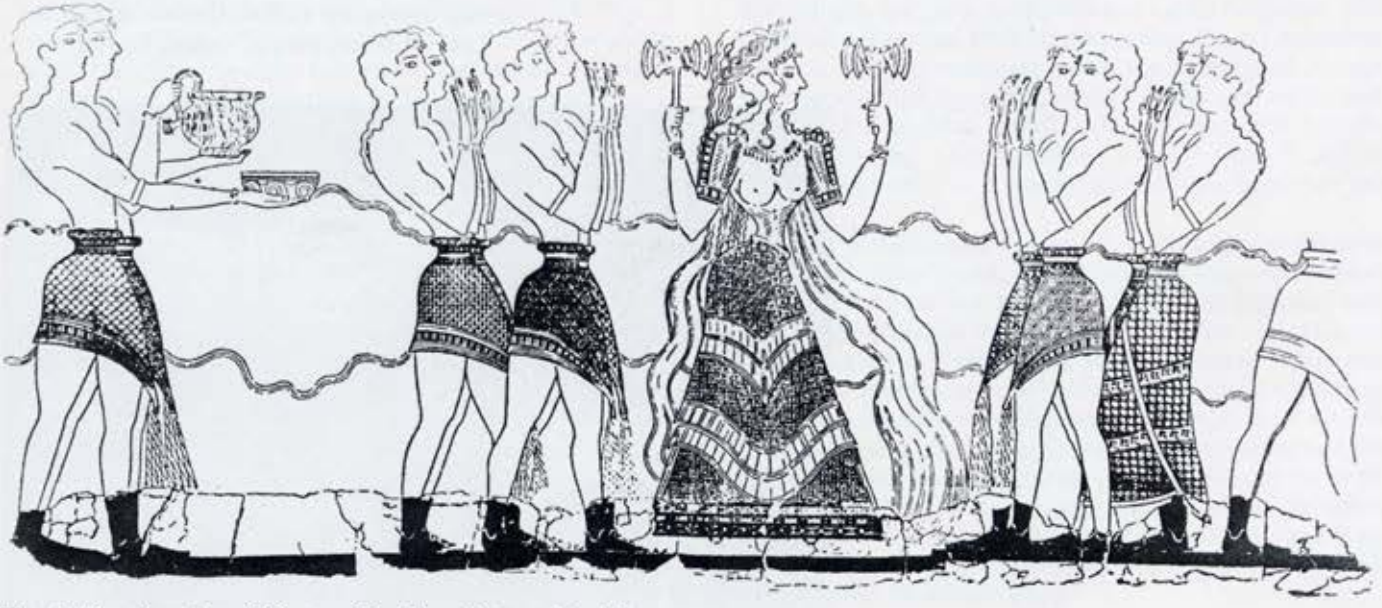

Fig. 4, Line drawing of *Cretan Goddess Before Her Worshippers*, 2nd millenium B.C., fresco, Crete (Neumann, p. 117).

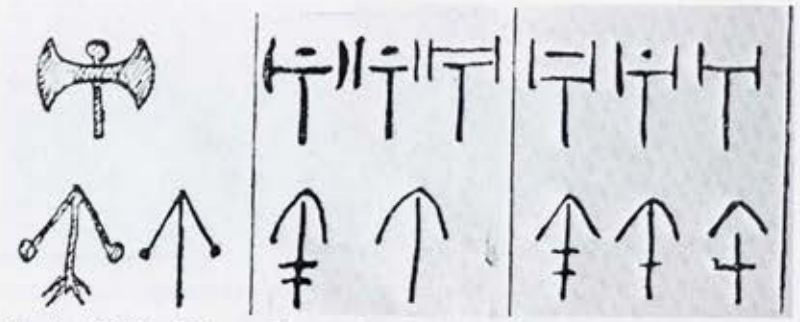

Fig. 5, *Middle Minoan Linear Script*, Crete (Pendlebury, p. 28).

Fig. 8, *Holly Near Concert Poster*, 1979, Tallahassee, Florida.

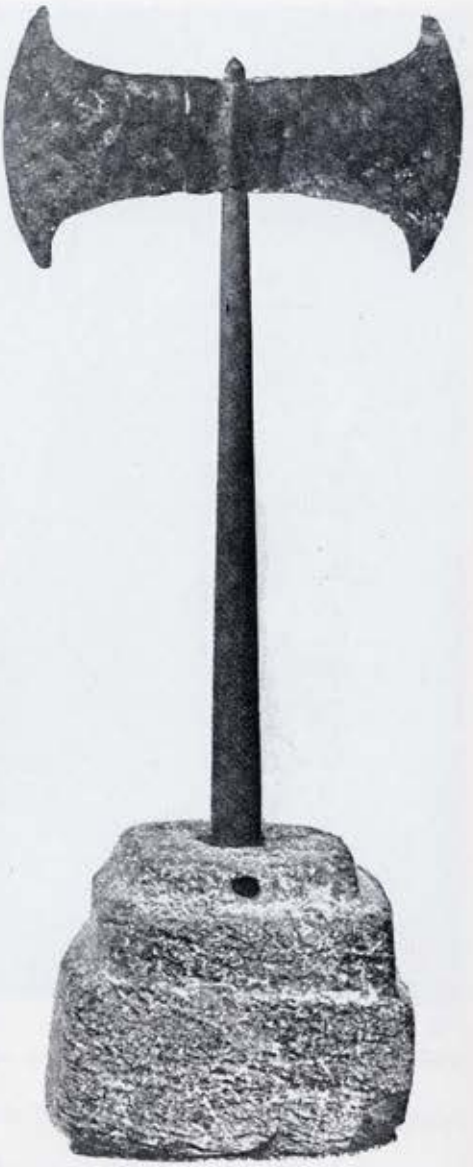

Fig. 6, *Bronze Ritual Double-Axe*, Late Minoan, Hagia Tradia, Crete.

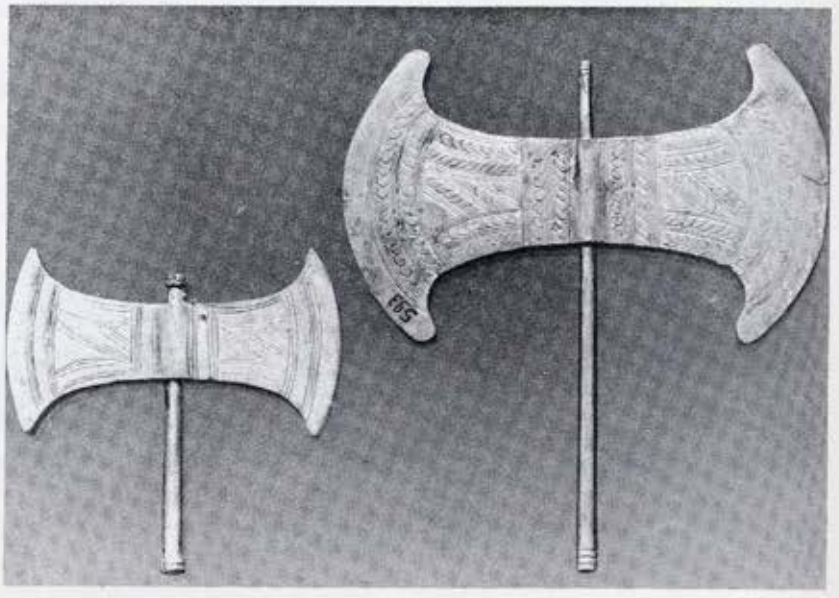

Fig. 7, *Gold Votive Double-Axes*, Late Minoan, Herakleion, Minos (Karo, p. 77).

Solar Imagery and Early Christian Iconography

James E. Walker

In 1953, excavations were begun beneath the basilica of St. Peter's in an attempt to find the tomb of the apostle. The basilica, which had been constructed during the reign of Constantine (A. D. 306-337), appeared to be an ideal site for digging and promised to reveal much concerning the church in the early fourth century.[1] The necropolis was soon discovered, and a considerable number of tombs, both pagan and Christian, were unearthed. One of the Christian tombs, the tomb of Julii, had on its interior walls, a fascinating mosaic that portrayed Christ as the sun god, encircled by a rayed nimbus, in a chariot sweeping across the heavens (Fig. 1). The conflicting symbolism in this, the earliest known Christian mosaic, provoked serious discussion among those art historians who were interested in the evolution of symbolic representation in early Christian art.[2]

That such a depiction should appear beneath this important Christian basilica is significant, for it provides another example of the tenuous nature of the Christian faith during its formative stages in the empire period. That Christ was identified with the cult of the unconquerable sun (Sol invictus) is also significant as it points to the political trend of the age that tended toward a syncretism of the various cults within the empire. This syncretism had become the policy of emperors preceding Constantine and was a strategem designed to provide the empire with at least the semblance of religious unity.

This politically motivated syncretism posed two very substantial threats to the emerging Christian faith. First, a cult that refused to be integrated within the state worship could only be viewed as subversive and would therefore be the object of persecutions ordered to counter its expansion. Second, there was always the danger of becoming too closely associated with one of the many cults with the resultant dilution of the Christian mystery.

History has shown, of course, that Christianity was able to survive the persecutions and, in fact, became stronger through the sacrifices of the martyrs. The second threat was much more difficult to overcome however, and early Christian history is replete with heresy as the church struggled to establish a theosophy consistent with the teachings of Christ and free of the influences of such dualistic faiths as Mithraism and Sol invictus. This latter cult and the faiths it absorbed became the chief rival of the Christian church under Aurelian (A. D. 270-275) and Diocletian (A. D. 284-305), both of whom worshipped the unconquerable sun.

The struggle of the early Christian church to retain its exclusivity in an age of syncretism was most intense during the reign of Constantine (A. D. 306-337). It was during the reign of this emperor that Christianity became legitimized within the empire. After A. D. 313, Constantine showed increasing favoritism for the Christians within the bureaucracy, and many Roman officials found it politically expedient to adopt the faith. Many of these new converts continued to worship Sol invictus and Mithras and often confused the historical figure of Christ within the competing theologies.[3] This confusion produced an uncertain iconography in the early church as artists attempted to portray the Christian narrative while their patrons were under the influence of competing philosophies concerning the nature of god. This confusion and the iconography that was its result is the focus of this study.

John Ferguson, in his excellent work[4] on Roman religions, outlines the corresponding development of the cult of the emperor with the worship of the sun. He points to the gradual deification of the emperor beginning with Augustus (27 B. C.-A. D. 14), and culminating in the reign of Constantine, some three hundred years later. Such a process, although not continuous, appears to have been conscious and illustrates the attempt by various emperors to solidify their hold on the people by associating themselves with a deity common to all parts of the empire. Ferguson believes that the sun was an ideal object of imperial worship as solar cults existed throughout the empire and had meaning for virtually all elements of Roman society.[5]

Early in the republican period there had been a sun worship (Sol indiges) that had been limited to the area around the city of Rome. This cult was associated with agriculture, but grew in importance under Augustus, who constructed several shrines in its honor. Under Augustus, the cult became associated with the worship of Apollo, who became the figurative symbol of the sun. In his dedication to Augustus, Vergil reflected this early association by stating, "Your Apollo is king at last,"[6] and by making reference to Augustus as the "new light over the world."[7]

Solar worship and its identification with the emperor continued under Nero, who ruled fifty years later. Nero was referred to as Apollo and had his coins engraved with the radiant crown of the sun. In Greece, Nero was revered as the "new Sun-God shining on the Greeks."[8] Here one should probably make allowances for the excesses of fawning courtiers; nevertheless, the sources bear witness to a developing relationship between the emperor and the cult of the sun. This association continued under succeeding rulers and can be clearly demonstrated by other literary sources. Under Domitian (A. D. 81-96), and Hadrian (A. D. 117-138), we have some excellent examples. A scribe under Domitian wrote:

> In glory the emperor's robe of office joins the sixteen terms accomplished;

the conqueror of Germany sheds splendrous on
the year he opens;
he rises with the rising sun, with the mighty con-
stellations,
shining with great brilliance, more powerful than
the star of the morning.[9]

Another author wrote twenty years later in the reign of Hadrian:

I have just risen on high with Trajan in my white
horsed chariot,
I come to you, People—you know me—Phoebus,
god,
to proclaim Hadrian as the new ruler
whom all things serve for his ability
as the genius of his divine father, gladly.[10]

The worship of the sun underwent a profound transformation early in the third century when it became associated with the Syrian deity, Baal. A description of this god notes:

> With beardless face he stands, his right hand raised with a whip like a charioteer, while on his left hand he holds a thunderbolt . . . the image of the God of Heliopolis is carried on a platform . . . and usually the chiefs of the province come to bear it with shaven head and purified by a long period of chastity: they are guided by divine inspiration and carry their burden not where they choose, but where the god leads them.[11]

This description becomes even more interesting when the author goes on to discuss Baal as Apollo, involved in the service of the sun.[12] In A. D. 218, Heliogabalus, a former servitor of Baal, became emperor in Rome and established the worship of Sol invictus Elagabal. This cult was supported by the Roman legions as many of their numbers had embraced the dualistic philosophy of Baal. As a matter of fact, the Roman soldiery was of paramount importance in the changing religious climate of the third century. Their outposts in Syria and Persia often brought them into contact with the ancient Near-Eastern cults, and these faiths gradually diffused westward to Rome where they exerted a profound influence on the regional worship of central Italy. Sol indiges slowly gave way to a new cult of the sun that was less involved with agriculture and seasonal change, and more concerned with eschatological questions. "This transformation tended to manifest itself in two ways: first in the dramatic representation of the death and resurrection of a hero closely associated with a female goddess[13] and second, the idea became individualized and focused on the assurance of a future life of happiness for the individual worshipper attained through a rite of initiation."[14]

The worship of Sol invictus Elagabal is of primary importance for the understanding of the syncretistic nature of Roman religion. "The epithet invictus seemed to convey to the Romans the idea of a god above all gods, a god omnipotent."[15] Such a concept did not, of course, eliminate the possibility of other deities, but rather suggested the primacy of one in association with the emperor. This thesis appears valid since Sol invictus tended to absorb rival solar deities from all corners of the empire. This, coupled with the apparent desire of many emperors to establish a state religion or pantheon, contributed to the growing strength of the cult in the third and fourth centuries. It was at this time that the mosaic of Christ as Apollo was completed[16] beneath the altar of St. Peter's which suggests at least a partial integration of the two forms (Fig. 1).

I have previously mentioned the significant role played by the Roman legions in the dissemination of eastern faiths in the empire. In the second and third centuries this force was instrumental in the introduction of still another important cult into the mainstream of Roman worship. The popularity of Mithraism was kindled among the Roman soldiery and rapidly became the leading worship of the Roman legions. Its worship was also attractive to emperors seeking to strengthen the imperial dignity, for it carried with it ideas of divine kingship granted by the sun god.

The cult of Mithras posited a duality of good and evil forces fighting to gain control of the world. It is easy to see how the legions could identify with the virile figure of Mithras, as they sought to extend the empire's borders through force of arms. The attraction of Mithras to the population in the larger cities of the empire went beyond this however. Mithraism was an active faith that promised salvation through ritual and practiced many of the ceremonies central to other religious groups, including Christianity. This point is illustrated by the Christian apologist Justin Martyr (A. D. 100?-165?), who wrote: "The wicked demons have imitated the Eucharist in the mysteries of Mithras, commanding that the same thing be done."[17]

In his work dealing with Roman religion, Gordon Laing outlines the many similarities between Mithraism and Christianity.[18] He notes that the birth of Mithras occurred in the presence of shepherds who were in apparent wonder at the event. A Mithraic relief of the period portrays Mithras ascending into heaven, and both cults practiced immersion and confirmation.[19] In the western Roman areas, Mithras was usually portrayed as the active agent of Sol invictus and there are some excellent reliefs from a Mithraeum in Rome to illustrate this. The reliefs have been sketched due to their poor condition and are presented elsewhere in this article.[20] (Fig. 2).

To the many worshippers of Sol invictus and Mithras, the worship of Christianity could not have appeared much different from the practices with which they were involved. Thus, it would not have been difficult for many individuals to accept the rituals demanded as part of the early Christian service. It is likely then, that few people balked at accepting the Christian faith when it became politically expedient to do so under Constantine. Also, it was not unusual for Romans to worship at the shrines of various deities in order to obtain the advantages promised by each. This practice produced some interesting associations. There are examples of sarcophagi from this period that are decorated in both Christian and pagan themes, and this decoration includes the interiors of mausoleums as well.[21]

Beyond this, there is also a striking similarity in the portrayals of the central figure in each of the cults. An examination of Figures 1, 3, and 4 will illustrate this. Figure 1 is the depiction of Christ, Figure 3 is a sketch of Mithras done from a damaged relief of the period, and Figure 4 is a representation of Apollo as Sol.[22]

The genre is virtually the same and all three forms suggest a dynamic central figure. For a Roman who was not cognizant of the subtleties of the Trinity, Christ must surely have seemed similar to Mithras, an active crusader

on earth representing a higher celestial deity. For many, this deity remained Sol invictus and Gaston H. Halsberghe in his book *The Cult of Sol Invictus* remarks: "From the beginning of the fourth century we have sufficient data at our disposal to demonstrate the definitive triumph of the cult of Sol."[23]

The cult of Sol invictus in its loose association with Mithras and other cults became the most important rival of Christianity in the fourth century. The cult had universal appeal among Rome's upper classes and became the target of strong attacks launched by early Christian apologists. The most important adversary of the cult of Sol was Arnobius, who wrote a polemic entitled *Adversus Nationes*, in which the same conclusion is repeatedly reached: "neque Sol deus sit."[24]

In opposing Sol invictus, the Christian church was taking on a formidable task. The Edict of Milan (A. D. 313) had legitimized the Christian faith, but the emperor and many of his courtiers still continued to worship Sol invictus and Mithras. Despite the fact that Constantine often favored the Christians, he still patronized the shrines of the sun and solar symbols appear on his edicts and coinage.[25] (Fig. 5).

Despite the writings of Arnobius and others, the Christian church was not in a position to seriously challenge the other cults. Many cults existed side by side and gradually the Christians assimilated rituals that had developed outside their influence. The rituals that the Christians tended to borrow however, usually involved themes of light. This occurred for many reasons, some of which are germane to our analysis. Mircea Eliade in *The Sacred and Profane* writes: "In some cultures the luminous epiphanies of solar gods became the sign of intelligence. In the end sun and intelligence were assimilated to such a degree that the solar and syncretistic theologies of the end of antiquity became rationalistic philosophies; the sun is proclaimed the intelligence of the world." [26]

The concept of a higher celestial intelligence, or rather an intelligence that existed outside of man's understanding, was a concept the Christians had struggled to define since the theology of Origen (A. D. 185-254). It was this early apologist who wrote: "He (Christ) did not die on behalf of men only, but on behalf of all rational beings . . . such as the stars" and taught that Christ died and "tasted death for the universe."[27] This teaching is Neoplatonic, but may only be giving expression to something modern scholars believe is basic to the study of all religion. The historian Jacquetta Hawks writes: "It is my intention here to show how far solar concepts and practices were continued in the churches and among people, partly by direct historical synthesis, and partly through man's innate psychological tendency to identify both morality and spiritual illumination with light, and hence irresistably with the source of light and life in the physical world."[28]

A catechumen who was studying Christianity for the first time must have perceived many similarities between Christ and Sol invictus. There are many Biblical references that identify Christ as light, and some are worth presenting here. In the New Testament, Christ is described in this way: "His face did shine as the sun, and His raiment was as white as light."[29] From the Book of Daniel, God is described as enthroned. "His throne was like a fiery flame . . . and His countenance was as the sun when it shines in its strength."[30]

These descriptions were meant symbolically, but many scholars pursuing the study of Roman religion believe that they may have been taken quite literally. This is certainly understandable considering the prior experience of many of the catechumens. As these new converts became part of the church in the first quarter of the fourth century, Christianity gradually assimilated some of the rituals brought into the church by former pagans.[31] Jacquetta Hawks writes: "More and more it (Christianity) had to lean towards the mystery religions with their initiations and sacramental means to personal salvation."[32] She then presents a list of many similarities in ritual and belief that may have been shared or directly borrowed. "The fraternal and democratic spirit of the first communities; the identification of the object of adoration with light and the sun; the legends of the shepherds and their gifts, of the flood and the ark; the representation in art of the fiery chariot; the drawing of water from the rock, the use of bell, book, and candle, holy water and communion; the doctrine of heaven and hell; the atoning sacrifice; the warfare between good and evil and the triumph of the former . . . etc."[33]

Many of the important annual ceremonies of the church came, in the fourth century, to coincide with solar and Mithraic celebrations. The Nativity came to be celebrated in December at the time of the winter solstice, and Easter was celebrated at the spring solstice. The strong influence of these pagan festivals can be found in the Christian literature of the age. An Exultant refers to Christ in this way: "Rejoice O earth, illuminated by this celestial radiancy."[34] St. Paulinas (A. D. 353-431) wrote at this time: "For it is after the solstice, when Christ is born in the flesh with the new sun transformed the season of cold winter, and vouchsafing to man a healing dawn, commanded the nights to decrease at His coming with the advancing day."[35] An antiphon sung at this time pleads: "O Day-spring, Brightness of the Light Eternal, and Sun of Justice, come and enlighten those who sit in the darkness and shadow of death."[36] In the fourth century, literature is replete with examples such as these.

The Christian church increased dramatically in size during the early fourth century, and as I have shown, adopted many pagan rituals and representations to fit the Christian service. Thus the symbolic portrayal of Christ as Apollo is in keeping with the religious situation of the day. After all, Christ is referred to as "the Sun of Righteousness" in Malachi and this representation of Christ may only have been an artist's attempt to create a figure described in the Bible. That solar imagery was used should not be considered unusual as Christian sculptors did not scruple to carve figures of the sun.[37] In fact, there are records that show that Christian sculptors were commissioned to work on solar images and accepted, but balked at images of Serapis and were martyred.[38] This occurred despite the writings of Arnobius who demanded "a severe and remorseless judgement on Christians who worshipped or swore by the sun."[39]

Another interesting example of the conflicting iconography of the period can be found in the Arch of Constantine. This triumphal arch was completed in A. D. 315 and was constructed in celebration of Constantine's victory at Milvian Bridge. According to legend, Constan-

tine's forces prevailed because they affixed the Christian Chi Rho to their shields. Whether this is true or not, Constantine seems to have favored the Christians after this famous battle. In spite of this, there is no symbolism associated with the part played by the Christian image in lettering on the relief given over to the battle. Instead, soldiers bear statues of Victory, Mithras, and Sol invictus. The relief can be seen in Figure 6.

The inscription on the arch is equally enigmatic. It reads:

> To the Emperor and Caesar Flavius Constantius the Great, the Pious, the Fortunate, Augustus—inasmuch as through the inspiration of Deity, and the greatness of his mind, he with his army, avenged the state, with righteous arms both on the Tyrant and on all the partisans of his faction—the Senate and the People of Rome dedicated the Arch adorned with Triumphs.[40]

The phrase "through inspiration of Deity" is most intriguing, but there is no further evidence to suggest a Christian meaning. To what extent Constantine accepted Christianity thus remains a mystery, although many historians have speculated concerning the depth of his faith. One interesting thesis points to the influence of two Neoplatonic philosophers on the emperor. Hermogenes and Sopatros seem to have influenced the tone of some of Constantine's edicts and their stature at the court is well documented. Accordingly, Christ may have been placed within the Neoplatonic hierarchy where God the Father was revered as the sun, and Christ was viewed as his agent on earth. An historian writes concerning the philosophic speculation of the period: "In an effort to join the two (the Christian God and Sol) more profound thinkers of the time interpreted the Sun-God as a being of changing manifestations. Physically he was the orb of light and fire in the sky, giver of life to the fields. More abstractly, he was personified in a figure whose acts and powers were revealed, like parables, in the details of his life story. And by philosophers he could be grasped, or almost grasped, as an ineffable Intelligence, infusing light and energy into the world . . . a single unifying deity."[41]

In A. D. 337, Constantine died, but the Christians had clearly made tremendous strides in the political sphere during his reign. In the remaining years of the fourth century, Christianity solidified its position and became the state religion of the empire. During this period a very basic Christian iconography was developed and solar images became increasingly symbolic.[42] By the end of the century, few would have confused solar and Christian worship, although there were periodic warnings from the church fathers concerning the possibilities of a revival.[43] This threat was without real substance as the existence of the cult of Sol invictus had been to a large extent dependent on the support of the emperor and the upper classes. As Rome entered the fifth century, Christianity had effectively replaced the worship of Sol in the higher levels of society. This, coupled with the fact that the worship of Sol invictus had never really penetrated the great mass of Roman peasantry, caused the cult to gradually disappear. In the fifth century, Christianity was able to firmly establish itself within the decaying Roman state and proved a relentless foe of the various cults still in existence in the empire. Despite this dominance, depictions of Sol and Mithras continued to appear, although the cults had been much reduced in importance. During this time, Rome suffered from invasion and internal collapse; and the Christian church was essentially the lone surviving major institution. The disintegration of the empire ended the influence of the state cults and the worship of Sol and Mithras disappeared into the disorder of the early middle ages.

In A. D. 323, Constantine apparently abandoned his patronage of Sol invictus. From this point on his coins are devoid of solar symbols and his support of the Christians increased. There are letters from this period that detail Constantine's financial gifts to the church, but perhaps more importantly, the letters speak of a genuine interest in church affairs. This interest may have been motivated in large part by political considerations, but the result was the same, increased prestige for the Christian faith.

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1 The basilica had been constructed on a burial site that had been used by both Christians and pagans.

2 Those art historians who hold that this mosaic is totally pagan are in the vast minority. Margherita Guarducci, the famous Italian epigrapher, has presented strong evidence to show that the tomb of the Julii is the one completely Christian tomb in the St. Peter's excavations. She points to the other mosaics in the tomb that depict such Biblical themes as the Good Shepherd, Baptism, Jonah, and the Eucharist. Guarducci believes that a ceiling design paying reverence to the cult of the sun would have been inconsistent with the rest of the interior scheme. Because these are the earliest known Christian mosaics, and because they were rendered at the same time, it appears as though her argument is valid. Also, Guarducci points out that a figure crossing the heavens in a chariot was a fairly popular Roman theme designed to show the apotheosis of the emperor. As we will see, solar-imperial and solar-Christian motifs were often integrated in the third and fourth centuries. For a more complete breakdown of this discussion see: Margherita Guarducci, *The Tomb of St. Peter*, (New York: Hawthorn Books, Inc., Publishers, 1960).

3 Jacquetta Hawkes, *Man and the Sun*, (London: The Cresset Press, 1962), p. 200.

4 John Ferguson, *The Religions of the Roman Empire*, (Ithaca, New York: Cornell University Press, 1970).

5 Here he means that farmers would worship for agricultural reasons while the army would be supportive because of the imperial association. These examples are just two of the many Ferguson presents.

6 Consult Ferguson.

7 *Ibid*, p. 46.

8 *Ibid*.

9 *Ibid*, p. 49.

10 *Ibid*.

11 Cyril Bailey, *Phases in the Religion of Ancient Rome*, (Berkeley, California: University of California Press, 1932), p. 193.

12 *Ibid*.

Fig. 1, Christ-Helios, from the Tomb of the Julii, beneath St. Peter's in Rome.

Fig. 2, Mithras approaching Sol. Virunum, Austria.

Fig. 3, Mithras crossing the sky in a chariot. Virunum, Austria.

Fig. 4, Apollo as Sol crossing the sky in a chariot. Rome. See front cover.

Fig. 5, Medallion of Constantine with Sol invictus portrayed behind the emperor.

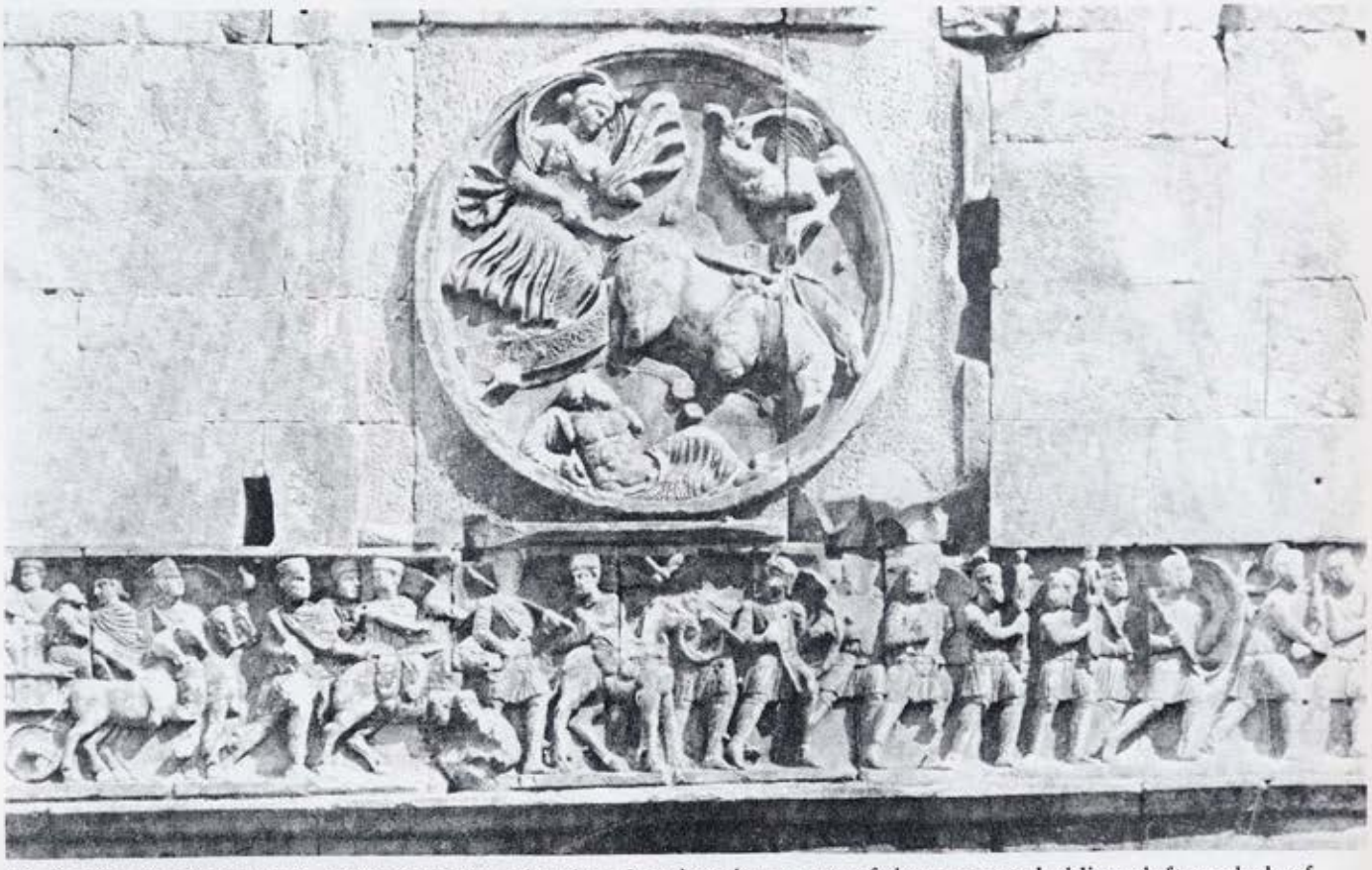

Fig. 6, Detail of the Arch of Constantine, showing the victorious army of the emperor holding aloft symbols of Sol and Mithras, Rome.

Ottonian or Romanesque: Two Ivory Carvings from Liège

James Murphy

It has become a commonplace to speak of the artistic production of Medieval Liège in such terms as "Mosan classicism" or "Hellenism," in deference to that city's pronounced imperial and Byzantine orientation. A master such as Renier of Huy, for example, illustrates this tradition most vividly. But as John Beckwith has noted, even Renier should be seen in a direct line of development from the *Registrum* Master and extending into the work of Nicholas of Verdun at the end of the twelfth century.[1] With few exceptions, Liège ivory carving may be seen as a series of distinct responses to classical themes, periodically restated across the span of two centuries.

It is the purpose of the present study to examine two such exceptions: the first is an ivory panel depicting the Marriage at Cana, now in the Cleveland Museum of Art (Fig. 1); the second plaque, in the Bargello in Florence, depicts the Women at the Sepulchre (Fig. 2).[2] That these works should have been attributed to Liège has never been challenged. The Cleveland ivory, for example, is known to have decorated the cover of a late Carolingian gospel book written by a well-known Liège scribe, Framegaudus.[3] As to the Bargello ivory, it was the first of a group of carvings which Adolph Goldschmidt associated with the Cleveland work and to which he assigned a "belgisch-rheinisch" provenance. Later commentators have more or less accepted the common localization to Liège for both works, without, however, examining the problems of chronology.

To begin with, numerous writers have used the Cleveland ivory to identify the peculiarly Ottonian *Kunstwollen* which supplanted the earlier Carolingian esthetic.[4] Since in this case the precise model exists and is, in addition, a fine example of Rheims-style ivory carving, the contrast is a vivid one (Fig. 3).[5] The division into upper and lower registers, the disposition of figures and architectural devices all point to this work, or a similar prototype, as the inspiration for the Cleveland piece. Hanns Swarzenski, moreover, has argued that the impression of a "copy" is in itself a hallmark of the Ottonian style. The characteristic "severely partitioned effect" and the "expressionistic concentration on linear pattern" replaces "the organic, impressionistic modeling, the illusionistic space, and the birds-eye perspective."[7]

Otto von Falke has also commented on the Ottonian stamp of the Cleveland ivory, with its distinctive proportion and measured harmony of movement, in strong contrast to the overloading of the Carolingian relief. As for the architectural motifs, "the slender round turrets were as unknown to Carolingian art as was the transformation of the shell-like movement of the strip of ground into well-shaped tendril leaves."[8] Finally, Peter Lasko has described the panel as a Lotharingian work of about 1000, and feels it exercised the single most decisive stylistic influence on the bronze doors of Hildesheim Cathedral.[9]

On the other hand the Bargello ivory has been perceived as conforming to the essential characteristics of the Romanesque style, that is, a style of roughly a century later. The ivory's resemblance to the Annunciation panel in Berlin and the Crucifixion plaque in the Victorian and Albert Museum, works clearly of the twelfth century, supports this contention.[10] Swarzenski himself assigned the Bargello work to the early twelfth century, noting in passing the similar treatment of drapery in the metalwork of Roger of Helmarshausen.[11] Falke has used the Florence and London plaques to conclude that the influence of the Liège school spread beyond the boundaries of the Meuse.[12] A recent survey of ivories, finally, has continued this direction of didactic analysis by describing the work as a very characteristic, very "Romanesque" example of figural exaggeration.[13]

These two "exceptions" to Mosan classicism have been viewed separately, therefore, as examples of the Ottonian and Romanesque phases of Liège carving—distant cousins in time though of identical birthplace. On the surface this is an acceptable view; but there are some clear and apparently overlooked visual clues, common to both works, which point to a much closer temporal relationship. It is possible, in fact, that these panels were carved in the same workshop.

At first glance the Bargello plaque, with its compression of elongated figures within the space, its sumptuous decorative effects and monumental proportions, seems at odds with the Cleveland piece. And yet a comparison of specific details yields surprisingly close parallels. The architecture of both ivories, for example, is alike in proportion and decorative technique: tall, slender turrets with sloped offset, pyramidal cupolas, narrow windows with surrounding sills, sawtooth crenellation and tile, shingle or masonry embellishments. The inner molding of the Bargello panel is composed of the same rope motif as that of the Cleveland work which forms the column shafts and the long, sinuous paths of water which the servants grasp with their hands. The ground line of both pieces is animated by deeply incised whorls, reflecting common Carolingian models. Drapery, while more richly developed in the Bargello ivory, contains the same V-shaped incisions between thighs, overlapping folds at the hemline and hard, geometrical outlines. Servants at the marriage feast and soldiers asleep at the tomb wear similar undergarments the sleeves of which are described by spirals of dense parallel lines.

The broad, sweeping gesture of the angel recalls the similar gesture of Christ in the lower zone of the Cleveland panel. The compression of two figures together oc-

curs in the lower right corner of the Cleveland work and in the left side of the Bargello work. Small morphological details correspond almost exactly, such as the overlapping folds of veils on the women's heads. Hands are large and rectangular with long, spatulate fingers; eyes have had the pupils drilled out, creating a staring effect (even, it would seem, in the case of the "sleeping" soldiers); and the full lower lip and pronounced cheek fold give the mouth a grim expression, almost a grimace. Finally, and perhaps most decisively, two subtle texturing techniques appear in both works: a striation pattern and a meandering interlace are combined on the Bargello tombstone and in various wine jars of the Cleveland work.

It is clear, first of all, that a single esthetic guides both ivory carvings, and that, secondly, precise morphological details correspond almost exactly throughout. A final comparison can be made on the basis of what we may call epigraphy: the existence of certain inscriptions of a fundamentally similar character on the garments of principal figures. Beginning with the topmost register of the Cleveland ivory, and concluding with the Bargello panel, the inscriptions may be listed as follows:

CLEVELAND IVORY: UPPER

the Virgin:  (left thigh)  (left elbow)

LOWER

first servant:  (right thigh)

second servant:  (right thigh)

Christ:  (right thigh)

BARGELLO IVORY:

first woman:  (right thigh)

second woman:  (left elbow)

Angel:  (below sleeve of left hand)

Because of the hard, geometric treatment of the drapery, the "inscriptions" are at times indistinguishable from the masses of folds and decorated hemlines. In the Florence plaque, moreover, the markings on the thigh of the first woman are partially hidden behind the chain of the censer. As in the Cleveland ivory, the inscriptions are generally located in the same area of the body (thigh or elbow), and are composed of the same basic elements. Such points argue for the case that the impressions were carved at the time of the panels' productions, not added later; what is more, they indicate a common source, perhaps a single workshop, as the place of production.

Less certain is the meaning, indeed the very identity, of these markings. While it is tempting to view them as a kind of "signature" of the artisan or workshop, it is clear that no two characters are exactly repeated, despite their internal consistency. Most frustrating is the fact that many of the inscriptions are tantalizingly close to such scripts as Runic and Greek, scripts which would have great bearing on the location of centers of production or patronage (that is, Scandinavian or Byzantine). Comparisons may also be made with early forms of arabic or Hindu-Arabic numbers, the so-called gobar numerals, which were known since the time of Gerbert of Aurillac, later Pope Sylvester II (999-1003).[14] It is known that Gerbert also practiced a type of shorthand alphabet, which appears in certain illuminated manuscripts of the Ottonian period.[15]

Since we have considered the prominent role played by models in the formation of the Ottonian style, and since both works reflect eclectic tendencies toward Carolingian and Byzantine prototypes,[16] it is possible that a model book, a book of approved compositional patterns containing abbreviated notations by a draughtsman would have accounted for the existence of similar notations in the ivory. In other words, the artisan (or workshop) reproduced his models all too well. At any rate, contemporary manuscript illumination offers a fruitful line of inquiry, and it is in this direction that we may seek the origin of the inscriptions and a clue to the dating.

Bernhard Bischoff has shown that a system of so-called "Greek" or "Chaldean" numerical symbols were used in the Middle Ages, gradually replacing Roman numerals as a simpler method of notation in manuscripts.[17] The notations first appear in the twelfth-century English "Ars notatoria," a scanty stenographic system, and may be found with minor variations in numerous manuscripts throughout the medieval period. A comparison of these late stenographic figures with the inscriptions on the Cleveland and Bargello ivories yields close parallels. In both cases we find angled lines with cross bars and parallel bars. Unfortunately, the English examples tell us little about the meaning of the symbols formed on the ivories, and less still about the probable date of execution.

The solution to this problem lies partly in the evolution of manuscript illumination in Liège itself. The lengthened, attenuated figures in the Cleveland and Bargello plaques represent a culminating phase of figural exaggeration which also occurs in illuminations of the second half of the eleventh century. Works such as the frontispiece to the Homilies of Gregory of Nazianzus,[18] or the "author" portrait page in the Commentary of Florus on the letters of Saint Paul[19] describe a gradual elongation of figures and greater elaboration of architectural motifs.

The Florus Commentary is particularly indicative of the style of the later eleventh century. Rich architectural effects, with arcades culminating in intersecting roofs of multiple textures, separated by towers set "on edge," and knotted curtains hung between arches, echo corresponding devices in the ivory carvings. Another manuscript, The Evangeliary of Judith of Flanders, is valuable because it can be securely dated to 1066-1071.[20] It shows a treatment of drapery, particularly women's veils, which is similar to corresponding motifs in the Cleveland and Bargello ivories.

Having noted the rich architectural effects on painted page and carved plaque, a word should be said about the actual structures which inspired them. The so-called tomb on the Bargello ivory represents a complex of twin flanking stair turrets, massive triple-staged spire, and gabled roof over a basilican nave rendered in perspective. What we are looking at is in fact the westwork of an early medieval church, of a type initiated in the Carolingian period and continuing long into the Romanesque. The towers and spires of the Bargello ivory are surprisingly close to the westwork of the abbey church at Centula (Saint-Riquier), which we know from a seventeenth century engraving.[21]

The structure found on the Bargello ivory, however, is clearly depicted as masonry, not wood, as at Centula. Historically the translation of wooden spires into stone occurs during the tenth and eleventh centuries, as for example in the Church of St. Cyriacus of Gernrode.[22] Within the borders of Belgium itself, and a direct descendant within the Centula strain, is the imposing church of St. Gertrude at Nivelles.[23] The building still retains its tall westwork, dating basically from the eleventh century; if one can imagine it with a triple-staged spire over the crossing, one would have a complex similar to the "tomb" structure depicted on the ivory.

While it is difficult to substantiate an exact dating based upon correspondences with manuscript illumination and similarities to architectural features, it is nonetheless possible to view these two ivories as close companions in a period of rapid stylistic change. The available data indicates the late eleventh century, very likely the third quarter, as the period of time this workshop flourished; perhaps a surer chronology must await the deciphering of the inscriptions. At any rate, both works reflect the crossing of the threshold into the Romanesque, one looking forward, the other backward.

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1 John Beckwith, *Early Medieval Art* (New York: Frederick A. Praeger, 1964), pp. 178-179.

2 The Cleveland Museum of Art, Gift of the John Huntington Art and Polytechnic Trust. Formerly in the Collection of the Duke of Cumberland. See Adolph Goldschmidt, *Die Elfenbeinskulpturen aus der Zeit der karolingischen und sächsischen Kaiser*, I (Berlin: B. Cassirer, 1914-23), No. 27; 17.8 x 14.3cm. Florence, Museo Nazionale (Carrand Collection, No. 36); Goldschmidt, II (1914), No. 162; 11.8 x 10.2cm.

3 Paris, Bibliothèque Nationale, MS Lat. 17969: a Liège work of perhaps the early tenth century. See J. Porcher, ed., *Bibliothèque Nationale. Les manuscrits à Peinture en France du VIIe au XIIe Siècle* (Paris: Bibliothèque Nationale, 1954), No. 50. The size and shape of the ivory plaque make it possible to prove its original use.

4 See especially Hanns Swarzenski, "The Role of Copies in the Formation of the Styles of the Eleventh Century," *Studies in Western Art. Acts of the Twentieth International Congress of the History of Art*, I (Princeton: Princeton Univ. Press, 1963), pp. 7-18; and Otto von Falke, *et al.*, *Der Welfenschatz* (Frankfurt/Main: Frankfurter Verlagsanstalt a. g., 1930), pp. 40-41; see also Peter Lasko, *Ars Sacra. 800-1200* (Harmondsworth, GB: Penguin Books, 1972), p. 120. Neither Marcel Lurent, Joseph Philippe, Jean Lejeune nor any of the principal authorities on Mosan ivories has discussed this work.

5 London, British Museum (Dalton *Catalogue*, 1909, pl. XXII, No. 44; Goldschmidt, I, No. 46), 13.8 x 8.3cm. The ivory, assigned by Goldschmidt to the Liuthard group, once adorned the cover of a Gospel book now in Darmstadt (Landesbibliothek, Ms. 746) which is signed by this same Liuthard.

6 Swarzenski, "The Role of Copies," pp. 15-16.

7 Swarzenski, *Monuments of Romanesque Art*, 2nd ed. (Chicago: The University of Chicago, 1967), p. 26.

8 Falke, p. 41.

9 Lasko, p. 120.

10 Berlin-Dahlem, Staatliche Museen, Preussischer Kulturbesitz (Goldschmidt, II, No. 160), 18.4 x 11.9cm. London, Victoria and Albert Museum (Goldschmidt, II, No. 161; Longhurst *Catalogue*, 1927, No. 151-1866), 18.5 x 11.5cm. Longhurst assigned the Crucifixion to the early twelfth century; Goldschmidt assigned to both works a date of *ca.* 1100.

11 Swarzenski, *Monuments*, p.29.

12 Falke, p. 41.

13 Danielle Gaborit-Chopin, *Elfenbeinkunst im Mittelalter* (Berlin: Gebr. Mann, 1978), p. 105.

14 See Alexandre Olleris, *Oeuvres de Gerbert* (Paris: C. DuMoulin, 1867), p. 361; Nikolai Bubnov, *Gerberti postea Silvestri II papae opera mathematica* (Berlin: R. Friedländer, 1888), p. 381. The gobar numerals were numbers written in the sand, or literally, "dust numbers."

15 Carl Nordenfalk, "An Early Medieval Shorthand Alphabet," *Speculum*, XIV (1939), pp. 443-447.

16 Hanns Swarzenski suggested that the Bargello ivory was inspired by a Byzantine gilded plaque from the Treasure of Saint-Denis in the Louvre (*Monuments*, p. 29, illus. No. 6). A much more likely model is the Victoria and Albert Museum ivory plaque depicting scenes from the Life of Christ (Longhurst *Catalogue*, No. 295-1867), one of a group of Italo-Byzantine ivories.

17 Bernard Bischoff, "Die sogenannten 'griechischen' und 'chaldäischen' Zahlzeichen des abendländischen Mittelalters," *Mittelalterliche Studien, Ausgewählte Aufsätze zur Schriftkunde und Literaturgeschichte*, I (Stuttgart, 1966), pp. 67-73.

18 Brussels, Bibliothèque royale, Ms. II. 2570, fol. 3r. See J. Prochno, *Das Schreiber und Dedikationsbild in der deutschen Buchmalerei*, I (Leipzig-Berlin: B. G. Teubner, 1929), 66f; C. Gaspar, F. Lyna, *Les principaux manuscrits à peintures de Bibliothèque royale de Belgique* (Paris: Société francaise de reproductions de manuscrits à peintures, 1937), No. 16, pp. 58-60.

19 Brussels, Bibliothèque royale, Ms. 9369-70; Gaspar, Lyna, No. 15, pp. 56-68.

20 Fulda, Hessisches Landesbibliothek, Hs. Aa 21; see Hanns Swarzenski, *The Berthold Missal. The Pierpont Morgan Library Ms. 710 and the Scriptorium of Weingarten Abbey* (New York: The Pierpont Morgan Library, 1943).

21 W. Effman, *Centula. Saint-Riquier. Eine Untersuchung zur Geschichte der kirchlichen Baukunst in der Karolingerzeit* (Münster: Aschendorff, 1912), figs. 1-2.

22 See E. Gall, *Karolingische und ottonische Kirchen* (Burg bei Magdeburg: A. Hopfer, 1930), 24f; H. Jantzen, *Ottonische Kunst* (Munich: Münchner Verlag, 1947), 61f; G. H. Forsythe, Jr., "St. Martin's at Angers and the Evolution of Early Medieval Church Towers," *Art Bulletin*, XXXII (1950), p. 317.

23 See A. Verbeek, "Ottonische und staufische Wandgliederung am Niederrhein," *Beiträge zur Kunst des Mittelalters* (Berlin: Gebr. Mann, 1950), 70f; A. Mottart, *La collégiale Ste-Gertrude de Nivelles* (Nivelles: Les Archers, 1954).

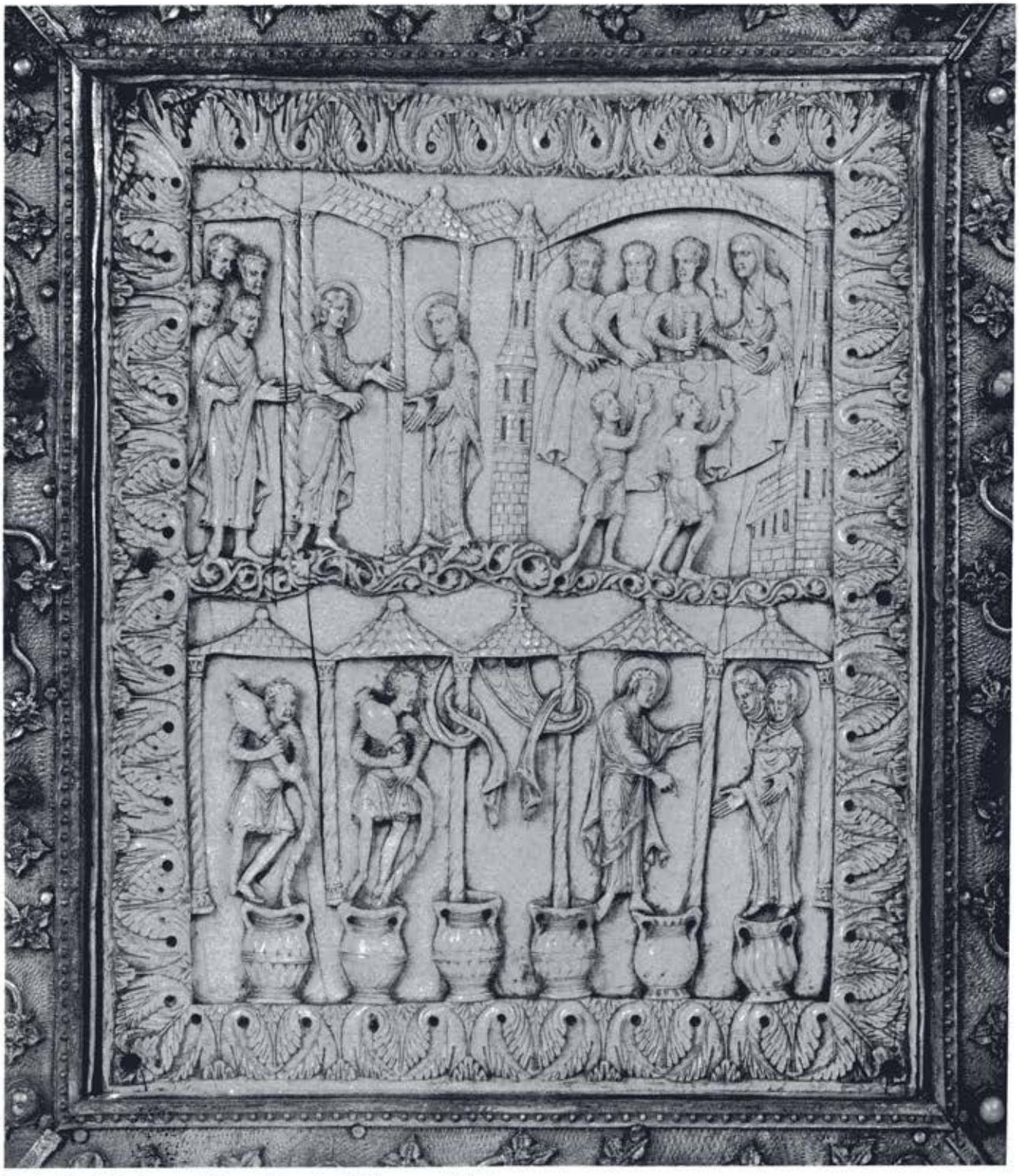

Fig. 1, *The Marriage at Cana*, Cleveland Museum of Art.

Fig. 2, *Women at the Sepulchre*, Bargello, Florence.

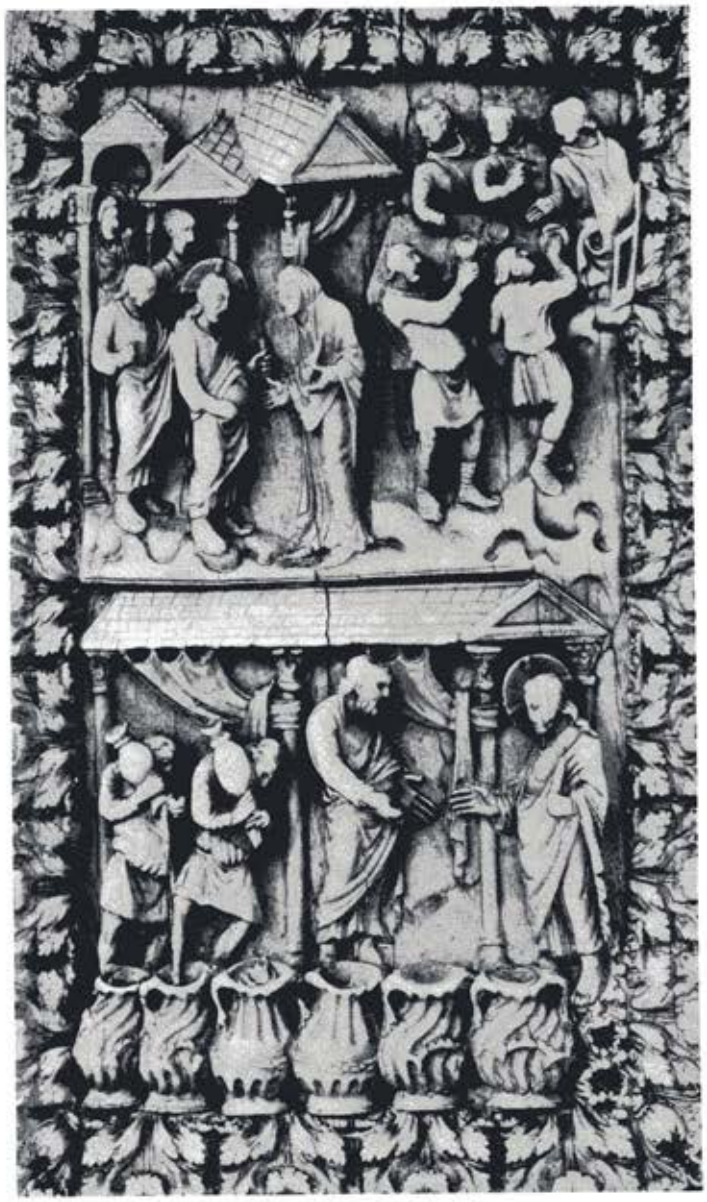

Fig. 3, *The Marriage at Cana*, British Museum.

Mechanisms of Visual Perception Related to Aspects of Gothic Cathedrals

Amy Lou Cohen

For most observers a Gothic cathedral is ineffably more than the sum of its appointments and its architecture. This discussion deals with physiological and subliminal mechanisms which may in part account for impressions sustained by observers. Recent scientific literature has attempted to trace psychological responses to specific perceptual stimuli. Assuming the vantage point of those theories and data can help the art historian to understand the introduction of achitectural elements for the purpose of affecting the viewer's emotions in a specific direction.

In their article "Aftereffects in Visual Perception" Favreau and Corballis explore visual phenomena in order to discover how the sense organs and the nervous system function in processing information.[1] Based on the hypothesis of J. J. Gibson we shall explore the negative aftereffects and negative afterimages in terms of deviations from an established norm.[2] When one is exposed to any given figure or image for a period of time, the figure or image becomes a norm. Hence new figures viewed after this adjustment are understood in relation to this 'norm.' Gibson gives an example of this phenomenon: a line tilted slightly from the vertical might induce the observer to recalibrate his conception of the vertical toward the line. A truly vertical line would then be seen as being tilted in the other direction.[3] The authors accept this reaction only as a special case since not all aftereffects involve obvious norms (such as the true vertical or horizontal). They therefore rely more heavily on concepts involving the neuro-physiology of the visual system.

Physiologically negative afterimages emerge in the retina and the neurons beyond the receptors, that is the bipolar and ganglion cells, and possibly in the lateral geniculate nucleus. After long stimulation, the cells in the retina and the neurons adapt and become less responsive. The opponent-process cells tire, and fatigue leads to the misinterpretation of images. Unlike afterimages, motion aftereffects depend on phenomena that probably take place in the visual cortex. According to Hubel and Wiesel[4] three types of neuron cells are found in the visual cortex. Simple cells respond to edges, slits or lines which must be precisely oriented in the visual field to cause the cells to respond maximally. The complex and finally the hypercomplex cells react more specifically. Their response may be contingent on a preferred stimulus in motion. N. Stuart Sutherland suggests that these neurons are also subject to fatigue and can produce motion and orientation aftereffects.[5] He asserts that perception is the result of an averaging of neuron activity. When we shift our attention from a stimulus that has created a bias of activity by tiring certain neurons, the new stimulus is analyzed by an unbalanced system. This results in distortion.

Some researchers have stipulated neurons that deal with several aspects of a visual stimulus. McCollough has demonstrated the function of line detectors as recipients of color and orientation, and has established their presence in the visual cortex of the cerebrum.[6] Hepler, Stromeyer and Mansfield have discovered color aftereffects contingent on the direction of motion. Favreau, Corballis and Victor F. Emerson have confirmed color-contingent motion effects.[7]

All these phenomena presume the existence of highly specific feature detectors, even if some scientists believe that neurons in the brain deal with more general visual components such as spatial frequency. Specific neurons in the cortex of animals, for instance, respond to stimuli only within a narrow range of spatial frequency. Others believe that independently functioning neurons become associated with the visual process. This association is learned, proven by the fact that figural and motion aftereffects transfer from one eye to the other, while contingent aftereffects, where one component is color, do not. Contingent aftereffects require input from both eyes since the neurons do not seem to transfer information across separate neural pathways, each of which can form different associations. More evidence for this theory is given by the persistence of many contingent aftereffects. The fact that they remain as long as a week cannot be explained through fatigue.[8]

Masland has hypothesized that the combination of fatigue and the formation of associations may explain the lingering of an aftereffect which has physically faded. Associations through information from more specific receptors would converge, interact, and then be stored through a higher level of processing. These associations—unlike the lower levels of visual perception—can become long-term adaptations.

Using a computer system that allowed him to analyze the stimuli presented to each eye, John Ross has recently presented intriguing explanations of depth-perception.[9] The two dimensional information provided by two disparate, though very similar, images is organized by means of a conceptual framework, using insignificant cues to create the third dimension without three dimensional stimuli. Learned spatial relations have turned into an automatic system of interpretation and the response is the "creation" of a three-dimensional image. The modular organization of architectural elements in Gothic cathedrals incorporates numerous spatial frequencies. Large expanses are structured by repeated elements such as arcades, triforum galleries, ribbed vaults (Fig. 1). As analyzed by Corballis and Favreau, our perception of spatial frequencies may be due to neurons responsive to specific repetitive impulses. The resulting fatigue of the neurons may produce the experience of a kinetic effect. When one

walks along the nave, the visual system adapts to a stable bias. Upon changing direction to enter a transept, one's attention is shifted to an alternate frequency, and the new space may be perceived as being wider or narrower depending on the bias created by the previous frequency. A rapid succession of such biases continually created and replacing each other may produce a feeling of motion. It can be hypothesized that the changing size of details such as the irregular juxtaposition of arches in the transept of Lincoln cathedral would not allow the visual system to adapt to one, predictable frequency, and consequently make it difficult to establish an actual image of space (Fig. 2). This taxes the expectation of regularity created through the perception of the nave to possibly create visual discomfort. Similarly the extreme vertical frequencies found in Amiens, Beauvais and Cologne may create a strong bias which would produce distortion when new stimuli are added (Fig. 3). This may account for the highly dramatic effect associated with these High Gothic structures.

The notion of fatigue produced by aftereffects can also be applied to stained glass. The windows often present extreme contrasts of light and color that the visual system must assimilate. Complementary colors or highly opposed bright and dark colors produce intensive stimulation of the visual cortex. Setting aside learned religious or aesthetic reactions, the rapid succession of visual stimuli demands a continual readjustment of neural firing patterns and thus puts a stress on the visual receptors of the retina. Afterimages produced by the windows with their high contrasts of color and the changing intensity of light versus the darkness of the architecture create an intense bombardment of stimuli. The afterimages move with the changing position of the eyes, resulting in neural fatigue and multiple strong afterimages. This may lead to an ethereal or even "psychedelic" response experienced by some observers.

In addition the phenomenon of subjective contours may play a major role in the perception of cathedral architecture. As explained by Gaetano Kanizsa the perception of contours which do not coincide with an actual object is a familiar occurence.[10] These distorted perceptions have certain attributes and can be created and explained in a number of ways. A contour that is not actually there but has a strong phenomenal presence, such as a circle, is referred to as an amodal contour. Modal contours also have no precise physical basis but they can be "seen." Subjective contours have two common characteristics: the area is brighter than the surroundings and the subjective contour seems like an opaque surface which is superimposed upon often similar elements. But symmetry is not a necessary attribute of a subjective contour which can also be generated by curved and irregular shapes. Subjective contours are low in resistance to interference. If a real line passes through such a contour, it will continue to exist, but is perceived as passing under the imposed shape. Subjective contours operate like real ones, but they belong to the realm of optical illusions. The contour can therefore be perceived as transparent. A contrast between light and adjacent darker areas, such as in a cathedral wall, would strongly enhance the perception of the bright areas.

A transept lit by a large rose window might therefore appear to be covered by a semi-circular vault and would therefore seem wider than the nave. Even without the contrast between light and dark, the powerful circular shape would tend to create a subjective circular contour of the adjacent zones.

Contour detector cells of the eye can also be activated by short lines in the visual display, and the lines are occasionally interpreted as one continuous line. Repeated elements in an elevation, even if they are a considerable distance from each other, can therefore be vertically or horizontally connected. Generally the brain tends to reorganize a multiplicity of surfaces and contrasts into a simpler and more stable visual grid, and to complete discontinous elements by connecting them within an artificially created surface on which contours are laid out in an orderly fashion. Because of the illusion of depth or, more correctly, layering allied with this phenomenon, Stanley Coren has suggested that the mechanism of binocular depth perception is also involved, and that the stratification of figures is a function of their completion.[11] This occurence is contingent on the probability and need for organization.

The vault of the chapel of St. Catherine in Strasbourg cathedral can be viewed in terms of the visual cortex's need for completion (Fig. 4). There is a relative weakness of rib contours to webbing surfaces. The creation of a straight plane is made extremely difficult by the curvature of the vault, and it is therefore almost impossible to see the basis of the linear design. The fact that it is based on interlocking circles is not easily understood by the viewer, because the circles are low in resistance to the interference of the many interlocking and incompleted lines.

Similar difficulties exist in the perception of buttressing systems (Fig. 5). The row of buttresses in Bourges is experienced as especially satisfying and elegant because the proximity of identical elements can easily be perceived as a steep plane. The absence of a transept enhances the illusion of the buttresses as a single unified envelope or a semitransparent plane curving around the chevet.

If the flyers are spaced more widely apart they can no longer be connected and become single, vulnerable "lines." Stalk-like buttresses appear around the apse of Notre Dame in Paris (Fig. 6). They are perceived as isolated entities rather than a continuation and are spaced apart too widely to satisfy the mind's ability for completion of the main body of the cathedral. The fluid function of the Bourges buttresses can be compared to the fluid function of a capital which connects the vertical supporting elements with a purely visual horizontal base for the system of arcades. In Amiens, on the other hand, the fliers are spaced more widely and are treated as sophisticated architectural decoration, and their complexity makes it difficult to perceive them as a single wraparound surface.

An image that tantalizes the mind's tendency toward simplification is the facade of Lincoln cathedral (Fig. 7). Many related elements seem to require completion, both in a horizontal and vertical direction. Ambiguous cues produce frustration. The towers are visually somewhat connected with the facade through a tenuous Norman vertical plane which corresponds to the outer edges of the towers. The connection is interrupted by a series of horizontals which are also vying for visual completion. Even the strength of usually stable subjective planes is taxed at the intersections of these horizontal and vertical thrusts. The large and deep central arch cutting through the

facade is flanked by four horizontal stories creating a powerfully repetitive thrust, which is almost hypnotically enhanced by seemingly innumerable blind arches. One of these arcades holds additional structurally illogical decorative elements which reinforces the fascination with horizontals. The towers rise, set slightly back above this powerful middle zone design, and can not visually be reconnected with the plain remains of the Norman base. Similar visual tricks characterize the well-known "crazy vaults of Lincoln," and "sliding" rows of arches behind trilobed arches in the boys' vestry. In the corner these arches meet, and rise above the apex of the other arches, thereby indicating some sort of collision. Other highly precise and calculated irregularities in the treatment of large blind and fenestrated arches in the transepts attest to the consummate interest in optical tricks practiced by the English builders who must have been highly trained in architectural graphics (Fig. 2).

Surface color, recently treated in Jacob Beck's "The Perception of Surface Color" can also, on occasion, be perceived as "film colors" (*see* n. 11). While surface color is perceived as an attribute of an object, film color is seen as a homogeneous envelope varying in brightness, saturation, hue and lightness. These differences emerge when one views contrasting luminance variations. [12] According to Beck, colors such as olive green, gray and brown cannot exist within the range of film colors and thus emerge independently. Different textures also give rise to various reactions. The reflection of light may be confounded with our perception of a surface color. Discrepancies between reflected light from the surface, and light from the object itself can also change surface appearances. Beck suggests that we comprehend a pattern of reflected light as a single object. First the pattern of light is discerned by the sensory process, and then visual cues are used to organize the pattern.

Color constancy is the ability to separate the color of a surface from the intensity of the illumination. H. von Helmholtz proposed that we can weigh two components of the visual spectrum simultaneously, and that our definition of the surface color is determined by our gauging in hue and intensity of surface illumination.[13] Ewald Hering stressed the concepts of adaptation and contrast.[14] Accordingly our sensation of surface color depends on the ratio of contrast between an object and its background, the ration remaining constant in various illuminations. More recently it has been demonstrated that visual cues such as shadows and perspective cues which reveal spatial positions can also affect color perception. When cues for spatial position and luminance are not consistent, spatial accuracy takes precedence over color perception, and the area with less light is perceived as a surface of darker color. Three types of cones in the retina mix light to an additive color mixture. Subtractive color mixture is achieved when paints (hues) are mixed. The opposing wavelength produced by the particles of paint absorb each other, the median wavelengths remain to reflect more strongly. Hering assumes that the principles of subtractive color mixture dominate. Transparency effects are therefore not produced by the color receptory, but are perceived by the less complex process of absorption. Impressions of transparency are favored by stimuli that suggest depth and are enhanced by the tendency to see complete and closed figures (*see* n. 11). Most importantly the grasp of incidental illumination and cues for apparent spatial position most strongly influence the extent of retention of color constancy.

In the cathedrals an almost hypnotic effect is achieved by the interaction of the sculpted surfaces with light and color, and the mechanism of negative afterimages becomes strongly involved. Sculptures and the walls were covered with colors which themselves were illuminated by stained glass. It thus becomes difficult to differentiate the attributes of the visual display that are due to the painted surfaces from those that are produced by incidental illumination. Cues for the intensity of illumination and the "stability" of colors therefore become unstable. Chartres or the Sainte Chapelle, for instance, undergo dramatic changes in illumination due to the varying position of the sun and the movement of clouds. Colors constantly shift and the maintenance of color constancy is difficult and complex. Sculpted, painted or stained glass figures may seem to move soundlessly, within an ethereal realm. The loss of stained glass and of the painted decoration in most medieval churches has obviously changed their interior effect fundamentally. Some medieval sculptors adjusted their work so that—when viewed from below—the figures remain in proportion; they apparently knew that cues for spatial relations automatically take preference over those for illumination.

The general intuitive capacity of perception was exploited by the architects developing national styles. The highly logical and cerebral structures of French Gothic would appeal to viewers trained in an atmosphere of anthropomorphic art, whereas the highly complex elements of three-dimensional graphics found in English Gothic vaults, arches, hanging keystones or the scissor arches of Wells would appeal to a public trained in complex linear expression. English Gothic therefore might seem to violate certain conceptions that exist at a very deep level of cognition in France, while French Gothic might seem boring and predictable to the English cognitive system.

The complexity of these questions and the fact that they can only be partially answered demonstrates the need for a fuller understanding of our responses to art, responses which are inexorably linked to the biological mechanisms of perception.

1 O. E. Favreau and M. C. Corballis, "Negative Aftereffects in Visual Perception," *Scientific American*, 235, No. 6 (December, 1976), 42-48. See also Edward G. Carterette and Morton B. Friedman, *Handbook of Perception*, vol. I, Academic Press, 1973.

2 A negative afterimage is a dark image that remains on the retina after one has ceased looking at an object. A negative aftereffect is experienced after the viewing of an object moving in one direction. When one shifts one's gaze, the new scene appears to move slowly in the opposite direction.

3 Favreau and Corballis, p. 42.

4 *Ibid.*, pp. 43-44.

5 N. Stuart Sutherland, *see* Favreau and Corballis, p. 44.

6 Celeste McCollough, *see* Favreau and Corballis, p. 44.

7 Hepler, Stromeyer and Mansfield and Corballis, Favreau and Emerson, *see* Favreau and Corballis, pp. 44-45.

8 Favreau and Corballis state that Richard F. Masland demonstrated that his "spiral effect" can persist as long as 24 hours. The spiral is rotated on a turntable at 33 1/3 revolutions per minute, and when stopped it appears to move in the opposite direction. For Favreau the aftereffect lasted for a week.

9 John Ross, "The Resources of Binocular Perception," *Scientific American*, 243, No. 3 (March, 1976), 80-86. Ross asserts that moving objects create instantaneous spatial disparity, or a phase difference with objects passing through common reference points, and thus in both cases a perception of depth.

10 Gaetano Kanizsa, "Subjective Contours," *Scientific American*, 243, No. 4 (April, 1976), 48-52/11. See Kanizsa, p. 52 (St. Coren).

11 Jacob Beck, "The Perception of Surface Color," *Scientific American*, 233, No. 2 (August, 1975), 62-75.

12 Webster's *Third New International Dictionary* defines *luminance* as "The luminous intensity of a surface in a given direction per unit of projected area . . . the effectiveness of a given light on the eye regardless of its origin (R. M. Evans)."

13 Herman von Helmholtz, *see* Beck, pp. 67-68.

14 Ewald Hering, *see* Beck, pp. 67-68.

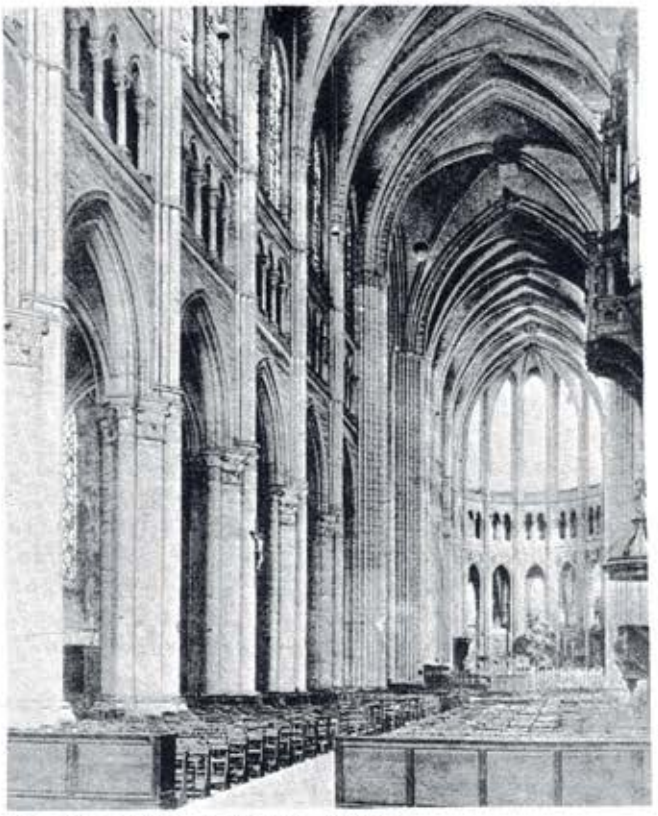

Fig. 1, Chartres, cathedral, interior.

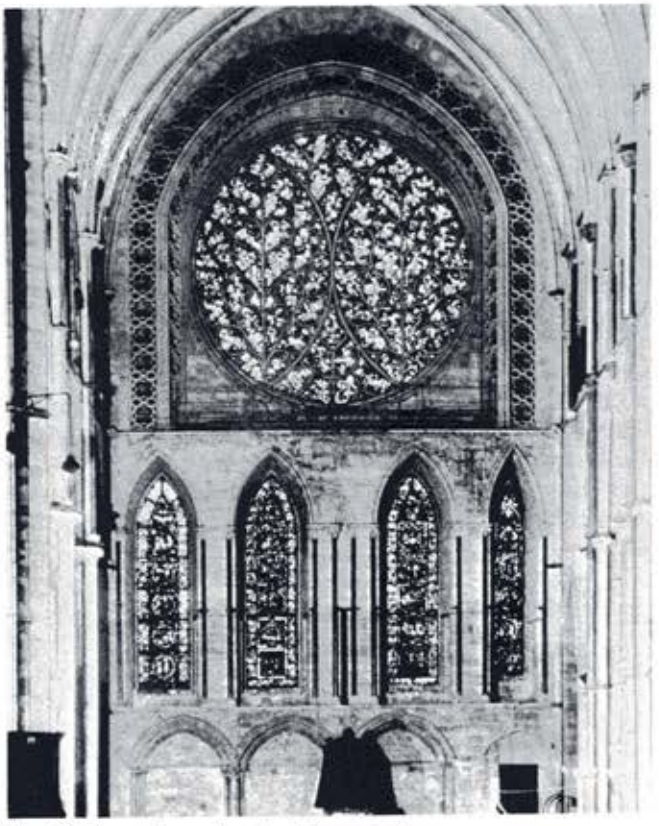

Fig. 2, Lincoln, cathedral, transept.

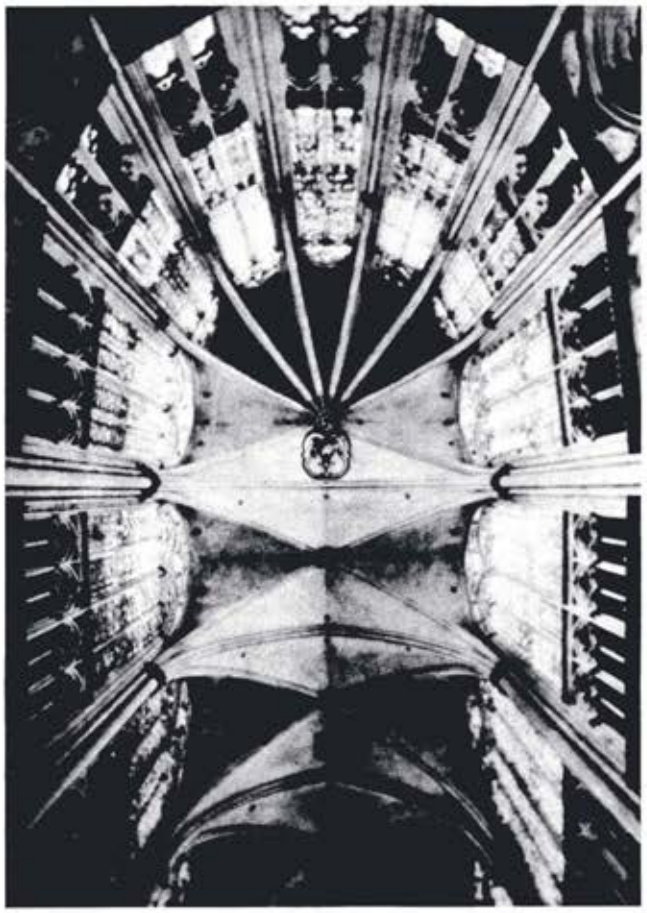

Fig. 3. Cologne, cathedral, choir.

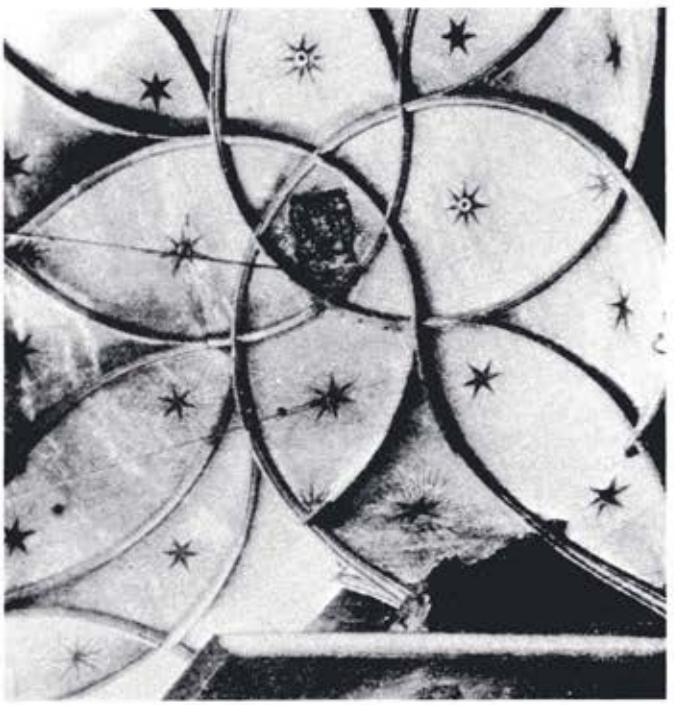

Fig. 4. Strasbourg, cathedral, St. Catherine's chapel, vault.

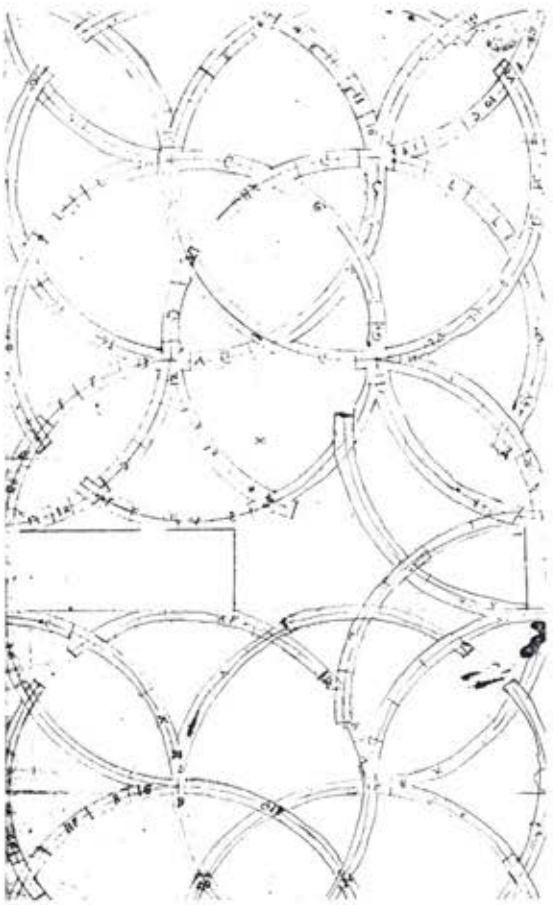

Fig. 5. Strasbourg, St. Catherine's chapel. Placement Plan.
(By permission of Oeuvre Notre Dame, Strasbourg.)

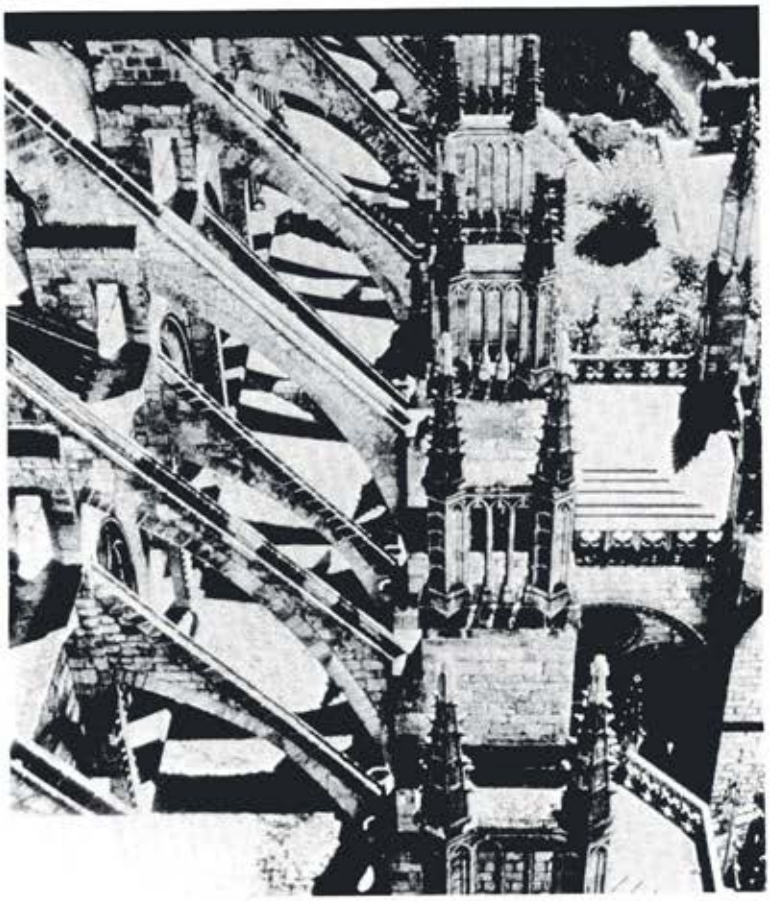

Fig. 6, Bourges, cathedral, buttresses, south.

Fig. 7, Paris, cathedral, apse.

Fig. 8, Lincoln, cathedral, facade.

Medieval Looms

Jeanine Clements Stage

Weaving during the Middle Ages became a widespread and profitable enterprise in most European towns. A wide range of occupations could be used to build a case for the importance of the textile arts and service industries during the Gothic era: the use of expensive dyes such as murex, the investment in gold and silver threads, and the value of silk and linen all support this proposition. However, even more elemental than these supportive occupations is the study of the variety of medieval looms and the technology on which the textile industry was based.

The inventories included here scarcely suggest the total extent of the textile industry, but they can serve to demonstrate the importance of textiles in medieval times and offer an estimate of the numbers of looms actually in existence. More than two thousand looms were reported at Provins by 1256. Flanders reflected the same prosperous condition: at Ghent there were two thousand and three hundred weavers making cloth; at Ypres in 1313, ninety-two thousand five hundred pieces of cloth were taken from the loom, and each piece measured from thirty to sixty yards. Productivity in twelfth-century Italy was accelerating. Sixty thousand weavers lived in Milan. Verona in 1300 reported thirty thousand pieces of cloth woven. Weavers in the Arno region wove one hundred thousand pieces of cloth worth over a million gold florins.

Inventories of tapestries further stress the monumental economic impact of the textile industries. The inventories of notables of the time suggest that they owned far more tapestries than could have been necessary. Philippe le Bon (1440) added a room in his Arras residence in order to guard his collection safely against fire. There he employed six guards and twelve valets to look after his tapestries, as well as a staff of repairers.

The following detailed examination of nine cloth looms found in Gothic art from 1250 to 1540 should give an intimate view of the development of floor looms. In addition five illustrations of the less complicated tapestry loom are considered. A glossary of terms and a labelled illustration (Fig. 1) are provided.

CLOTH LOOMS

I. From a manuscript in Trinity Collge, Cambridge, 1250.[1]

The floor model of a horizontal loom (Fig. 2)[2] shows the treadle-loom with all its essential parts. The front and back beam wind to hold long warps. Winding of the beam is achieved by means of a lever rod which exerts pressure against the warp beam. Sheds are formed by the raising and lowering of two harnesses which connect to the foot-powered treadles by cords and pulleys. The upper frame houses the cords and pulleys above the weaver's head. The nude weaver is seated at a convenient working height to the loom. His right hand holds a boat shuttle containing a bobbin or spool of thread. The lease-sticks remain in the warp to help maintain an even tension.

II. Weaver at Work (Fig. 3). Bas-relief carving on the Campanile of Florence Cathedral. 1340.[3]

The sturdy floor loom is dressed with a horizontal warp which is wound around the back beam suggesting an extended warp length. The winding and tension device is a lever inserted into holes drilled in the beam and operates on the same principle as Figure 2. The harnesses, hung by cords from an upper frame, can be clearly distinguished. The sheds are formed by the raising and lowering of the harnesses which are controlled by foot-powered treadles. There appear to be two harnesses. The weaver is female. A boat shuttle is held in her right hand which is raised in preparation for the next shot.

III. Nuremberg painting (Fig. 4). 1387.[4]

This floor loom, made of round unhewn wood, accommodates a horizontal warp. The beams are the winding-type but no tension or brake device is shown. The sheds are formed by the raising and lowering of harnesses operated by two or four foot-powered treadles. The pulley system is suspended from the ceiling above the loom. Two sets of cords appear to pass through the warp (a design feature which still occurs in modern floor looms) rather than being restricted to the outside as in Figures 2 and 3. The lease-sticks remain in the warp, a technique that keeps the warp threads in order as well as aiding in even tension. The weaver, dressed in heavy clothing, works barefoot. The weaving bench seems to be doweled into the loom frame. A boat shuttle containing a bobbin of thread is about to be thrown in the next pick. The large box of yarn on the floor indicates an abundance of work for the weaver.

IV. Fresco showing loom (Fig. 5). Constance, early 14th century.[5]

This somewhat simplified floor loom is dressed with an invisible horizontal warp. No indication of a winding beam is included. There is an overhead frame for harness cords and batten. The lady weaver is seated on a stool independent of the loom frame. Her left hand holds a boat shuttle with a spool of thread. A child sits on the floor spooling thread.

V. Family of Flemish weavers at work (Fig. 6). From the Book of Trades, Ypres, 14th century.[6]

A master and student are teamed as cloth weavers on this large production loom. Two sets of treadles are indi-

cated by the two sets of cords and pulleys suspended from the upper loom frame. Two harnesses are shown, one raised to form the shed. The weavers' hands are resting on the batten while the aged weaver prepares the boat shuttle for the next pick. Lease-sticks remain in the warp which is wound on the back beam. It is unclear how the back beam is supported but a ratchet wheel and pawl are shown for its braking and tension device. A child sits filling bobbins (not spinning!) from a reel or swift. An extra bobbin is conveniently hung on the upper loom frame between the weavers.

VI. Window of the Drapers (Fig. 7), Semur-en-Auxois, France, 1460-65.[7]

The window depicts four scenes of fulling, weaving, cutting and finishing cloth. A horizontal warp is wound on a large floor loom. The beam is controlled by a ratchet-wheel and pawl mounted at each end. The loom had an overhead frame that supports a harness system which is not shown but indicated by the use of a boat shuttle held in one of the two weavers' hands. The presence of two weavers indicates a weaving width probably over sixty inches. Each weaver operates two foot-powered treadles connected to the same harness to ensure an even shed.

VII. Treadle-loom with batten (Fig. 8). From Rodericus Zamorensis, "Spiegel des menschlichens Lebens." Augsburg, 1477.[8]

This large floor loom with horizontal warp has an unusual beaming system which accommodates a longer warp. The back beam is elevated on the rear loom frame while the front beam is lowered to a position just above the treadles. The back beam is fitted with a large gear, probably a ratchet wheel. Sheds are formed by foot-powered treadles connected to the harnesses by a system of pulleys and cords. The weft beater is suspended from the upper frame of the loom. The weaver, wearing only a shirt, holds a boat shuttle in his right hand.

VIII. Cloth loom, 17th century (Fig. 9). From "Piazza Universale" Frankfort on the Main, 1641.[9]

This late example of a horizontal floor loom demonstrates a perfection in loom construction. The fine woodwork includes mortice and tenon joinery. Although the devices for controlling the beams are not shown, other members of the treadle-loom are rendered in detail. Sheds are formed by two harnesses raised by a cord and pulley system connected to two treadles. The batten swings from the upper frame of the loom. The weaver is seated on a bench that appears to be supported by two legs on one end and the lower loom frame on the other. His right hand, holding a boat shuttle, is resting on the breast beam while his left hand pulls the batten towards him to beat the weft. The full basket of yarn on the floor indicates a successful business.

IX. Penelope at her Loom (Fig. 10). Flanders, early 16th century. Boston Museum of Fine Arts.[10]

Penelope is rendered as a courtly Flemish lady working at a small table-top loom. This horizontal warp loom is a scaled down version of the large floor looms and operates on the same principle. The long warp is wound around the beams braked by a ratchet wheel. Sheds are formed by harnesses lifted by pulleys. Treadles are replaced by a hand-operated lever which Penelope is moving with her left hand. A thin boat shuttle is held in her right hand. Penelope's right arm is extended in a motion typical of a weaver unwinding sufficient thread for the next shot of the shuttle.

These nine illustrations of floor looms may be considered as a contemporary statement on the vastness of the textile industry during the Middle Ages. Though it can be inferred that the floor loom was used in many areas, the degree of sophistication of the tool varied: for instance, the braking and winding devices for the warp beams reflect several differences such as a primitive lever device in Figure 2 which contrasts with the more complex ratchet-wheel and pawl system in Figures 7 and 8. Battens appear in three forms: hand-held beaters (Fig. 2), low-mounted battens (Figs. 4 and 6) and battens suspended from the upper frame of the loom (Fig. 8). Harnesses were suspended from upper frames (Figs. 3 and 6) or from the ceiling (Fig. 4). Pulleys (Fig. 9) and simpler rollers (Fig. 2) were used. The placement of the warping beams was adapted according to need and space (*cf.* Figs. 7 and 8). The looms used in large-scale cloth production (Figs. 3, 4, 6, 7, 8 and 11) employed foot-powered treadles to free both the weaver's hands while Figure 10 shows slower hand-operated "treadling" for small-scale production. Regardless of size, these looms indicate a concern for production of uniform quality cloth at a profitable rate.

Tapestry weaving differs from cloth weaving in function and production. In production the cloth weaver throws one thread across the entire width of the cloth but the tapestry weaver works in small areas of colors so that different threads are used to build up areas of the design. A skilled tapestry craftsman does not produce more than a few dozen square inches of the design per day, consequently it often required months to finish a tapestry, and sometimes as many as seven craftsmen worked simultaneously on different areas of the same piece.

Whereas cloth served a purely utilitarian function, tapestries were indeed one of the most versatile crafts of the Gothic area. They turned the bare walls of castles and noble houses into elegant and colorful interiors; other fabric furnishings—including upholstery and floor coverings—were often chosen to go with the wall hangings. For various festivities and processions and town holidays, tapestries were hung along roads or from windows of buildings. This temporary decoration added importance and an air of festivity to the streets to give necessary magnificence to the event. The utilitarian function of tapestry was to act as insulation to interior walls, blocking drafts and warding off the chill of damp stone houses. Thus, the tapestry weaver created indispensable decor for both joyous and somber days, a frame for public and private events.

TAPESTRY LOOMS

There are two basic differences in tapestry looms, size notwithstanding. One is simply a horizontal frame over which the warp is stretched. The other type of tapestry loom is a vertical frame which quite often includes a shed-making device such as string heddles tied to a bar. The weft is beat in place with a tapestry fork or comb.

I. Figure 11 illustrates a simple tapestry loom.[11] The loom is a large frame that stands on the floor and holds a

horizontal warp. There is no shed-making device, no batten. The weaver is using a tapestry bobbin to place the first pick. There is no cartoon placed under the warp to instruct the lady in her design.

II. Miniature of a Young Weaver (Fig. 12). 1450.[12] The tapestry is over half-completed in this courtly scene. It is an upright frame loom which is worked from the top down. No shed-making device or batten is indicated. The lady is working with a tapestry bobbin and comb to lay the thin threads of color into the warp.

III. A Young Lady at Her Tapestry Loom.[13] Figure 13 depicts another upright tapestry loom on which the warp is wound in a circle. The fabric can be pulled down around the lower beam to bring the unwoven warp from the back. The harness has rigid heddles; by pulling the harness out from the warp, sheds are formed. The weft is being beat down with a tapestry fork.

IV. Two Nuns at their Work, 1450-75.[14] The nun in this illustration (Fig. 14) is weaving on a larger but less complicated version of the frame loom in Figure 13. No shed forming devices are used; instead, she lifts each set of warp threads with the fingers of her left hand and weaves in the weft with her right. This panel, near completion, shows two scenes, one above the other. The nun, working from the top down, is building up single areas of the design rather than working straight across the warp one row at a time. The small tapestry loom (also seen in Figs. 11, 13, 15, 16) is suitable for work done on a small scale by one person, especially a nun in a convent or a courtly lady. Weaving on this scale is of a more personal nature and is not conducive to monumental workshop pieces.

V. Figures 15[15] and 16[16] illustrate very similar tapestry looms. Both are free standing vertical frame looms. The weft is woven from the bottom up. No shed-making device is used; the warps are lifted individually by hand and the weft colors are laid in. Areas of color are built up rather than across in rows, and both looms have the quality of fine woodwork with the tops and bases of the looms ornately carved.

VI. Figure 17 is "The Virgin Executing a Tapestry from a Panel of the History of the Virgin," Cathedral of Reims, 1510.[17] This courtly tapestry illustrates the Virgin using a singularly primitive horizontal tapestry loom which is worked from the side. The warp, evenly spaced by a rod near the end, stretches between two decorated columns. The surprising appearance of this loom indicates the concurrent use of an extremely simple tool at a time when less humble looms were common.

The study of looms in medieval art can be used to explore the relationships between the tool and the product. It has been illustrated that mechanized floor looms were used primarily in cloth production while the vertical loom was best suited for tapestry. Although exceptions exist, as shown in Figure 11 where a tapestry is being woven on a horizontal loom, there was a preference for form following function. A vertical arrangement facilitates easier viewing of the tapestry design in progress and since viewing is not an issue in production, the horizontal loom functions better for cloth weaving.

Tool evolution occurred mainly for two reasons: (1)to increase the quality of the product, and (2) to speed up the production rate. No major changes to dramatically increase production rate of cloth or tapestry were introduced in loom design from 1144 to 1640. Generally the quantity of cloth that came off each loom remained unchanged. What did occur was an increase in the sophistication of the tool which increased the quality and complexity of the product. There was a manipulation in the size of the loom which was determined by large- or small-scale production. The floor loom experienced more obvious modifications than the vertical loom. Placement of battens and reeds is determined by the type of cloth being woven—overhead battens are generally used for lighter cloths such as linen but heavier fibers such as wool are beat from below. Plain weaves need only one or two harnesses (Fig. 4) whereas complex repeating patterns required a multiple harness loom (such as draw boy looms). Tapestry looms use string heddles or have no harness system (Fig. 14); and the beaming arrangement is determined by available space, size and type of cloth being produced (Figs. 8 and 17).

These flexible factors in the tool represent a slow increase in production rate, rather than a revolutionizing change. Although the loom was known in earlier times and in other areas of the world the study of looms as they appear in medieval illustrations proves the broad range of ingenuity and adaptability of the craftsmen of the era.

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1 G. Schaefer, "The Hand Loom of the Middle Ages and the Following Centuries," *Ciba Review*, vol. 16, December, 1938, p. 554.

2 John Harvey, *Mediaeval Craftsmen* (New York: Drake Publishers, Inc., 1975), plate 29, identifies this as a vertical loom. I feel he is in error.

3 *Ciba Review*, p. 554.

4 *Ibid.*, p. 556.

5 *Ibid.*, p. 556.

6 *Ciba Review*, vol. 14, 1938, cover illustration.

7 Harvey, plate 111.

8 *Ciba Review*, December, 1938, p. 557.

9 *Ibid.*, p. 556.

10 Phyllis Ackerman, *Tapestry, the Mirror of Civilization* (New York: Oxford University Press, 1933), plate XVI.

11 Harvey, plate 29.

12 Betty Kurth, *Die deutsche Bildteppiche des Mittelalters*, 3 vols. (Vienna: n. p., 1926), vol. 1, ch. 1, n. pag.

13 *Ibid.*

14 *Ibid.*

15 *Ibid.*

16 *Ibid.*

17 Henry Havard, *La Tapisserie* (Paris: Librairie Delgrave, 1920), p. 79.

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Glossary

Back winding beam: beam which warp threads wind around.

Beater: same as batten, houses the reed.

Boat shuttle: a device used to carry the weft from one side of the warp to the other.

Breast beam: the beam over which the cloth passes before being wound on the cloth beam.

Draw loom: a hand loom for figured textiles.

Front winding beam: beam which cloth winds around.

Harness: a frame with heddles hung in it.

Heddle: vertical wire or string with a loop in the center through which each warp end passes; housed in the harness.

Lease-sticks: rods used to keep warp ends in order while putting warp on loom.

Loom: cloth-weaving instrument used to facilitate weaving of cloth.

Pick: one or more weft threads carried by a single passage through the shed.

Ratchet-wheel: gear used to brake a beam.

Reed: used to keep the warp ends evenly spaced, and to beat down the weft; housed in the batten.

Sheds: the separation of the warp-ends to permit the passage of the pick.

Shot: *see* Pick.

Treadle: the foot pedal of a floor loom used to raise and lower the harness frame.

Warp: the lengthwise yarns of a fabric.

Weft: the crosswise yarns of the fabric.

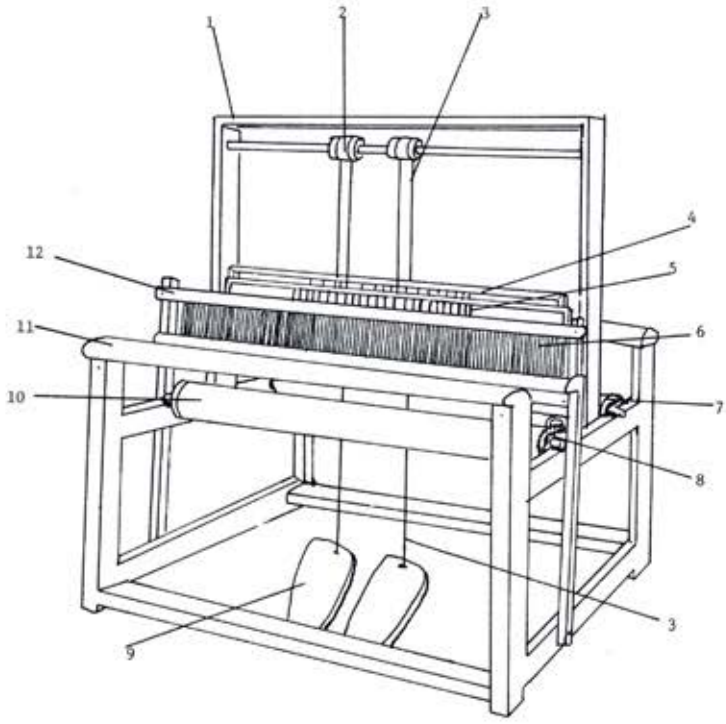

Fig. 1. Parts of a floor loom: (1) upper frame; (2) roller; (3) cord; (4) harness; (5) heddles; (6) reed; (7) back winding beam; (8) rachet wheel; (9) treadle; (10) front winding wheel; (11) breast beam; (12) batten.

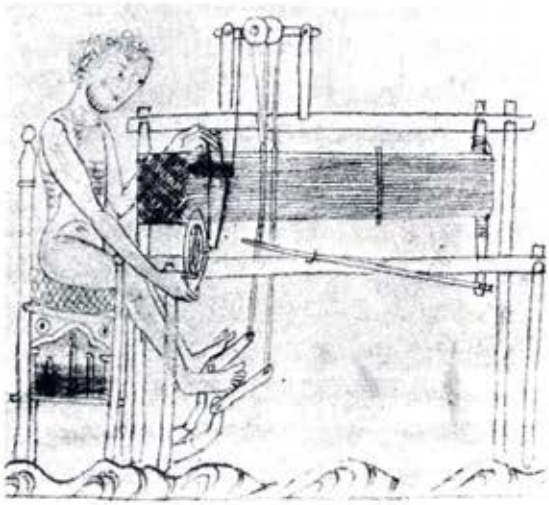

Fig. 2, From a manuscript in Trinity College, Cambridge, 1250. *Ciba Review* (1938), p. 554.

Fig. 3, Weaver at work. Bas relief on the Campanile of Florence Cathedral, 1340.

Fig. 4, Nuremberg painting, 1387. *Ciba Review* (1938), p. 556.

Fig. 5, Fresco showing loom. Constance, early 14th century.

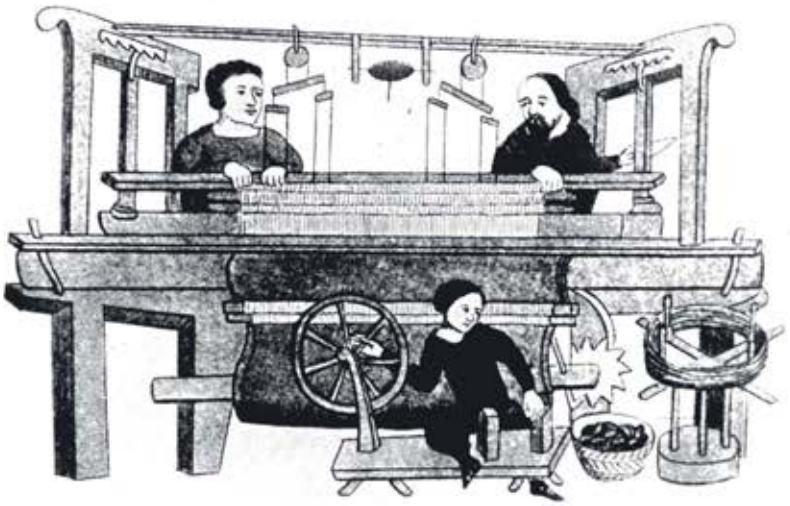

Fig. 6, Family of Flemish weavers at work. From the Book of Trades, Ypres, 14th century.

Fig. 8, Treadle-loom with batten. From Rodericus Zamorensis, "Spiegel des menschlichen Lebens." Augsberg, 1477.

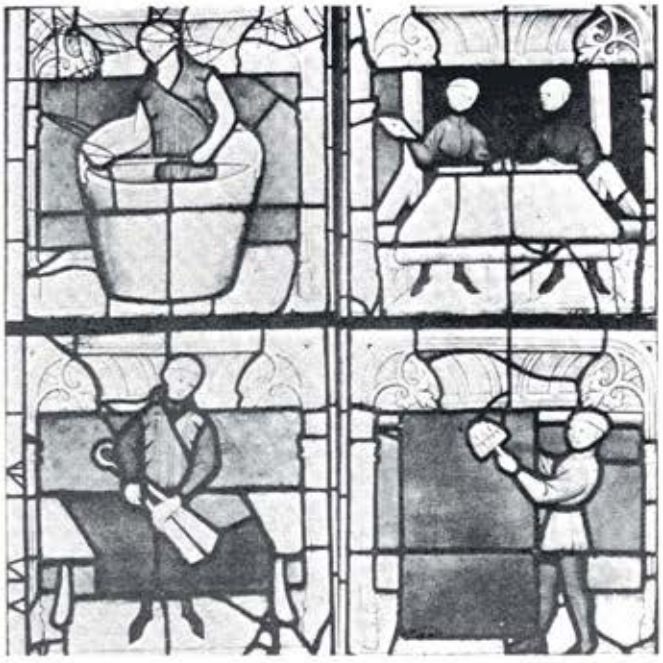

Fig. 7, Window of the Drapers, Semur-en-Auxois, France, 1460-1465.

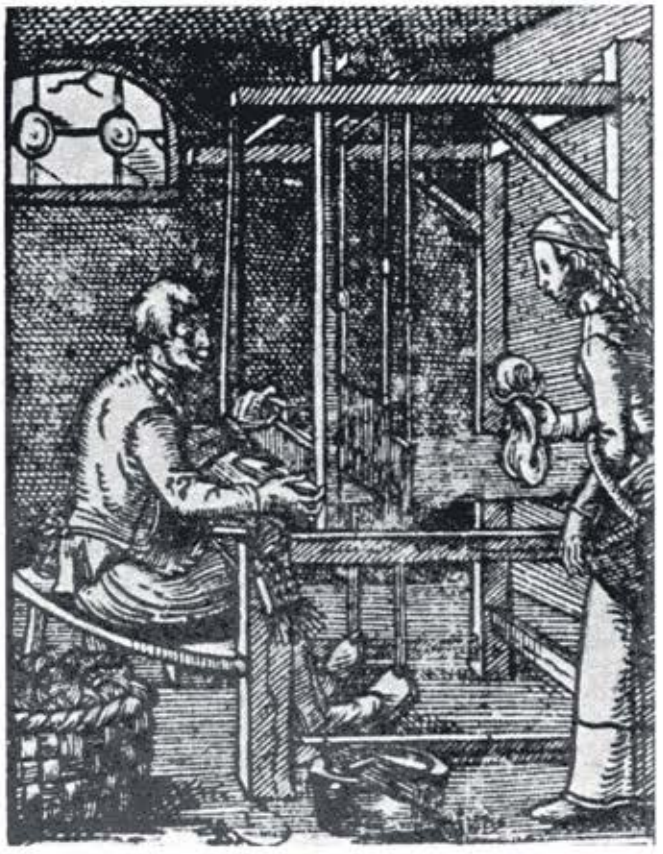

Fig. 9, Cloth loom, 16th century. From "Piazza Universale," Frankfort on the Main, 1641.

Fig. 10, Penelope at her Loom. Flanders, early 16th century. Boston Museum of Fine Arts.

Fig. 12, Miniature of a young handweaver, 1450. Kurth, v. I, ch. 1.

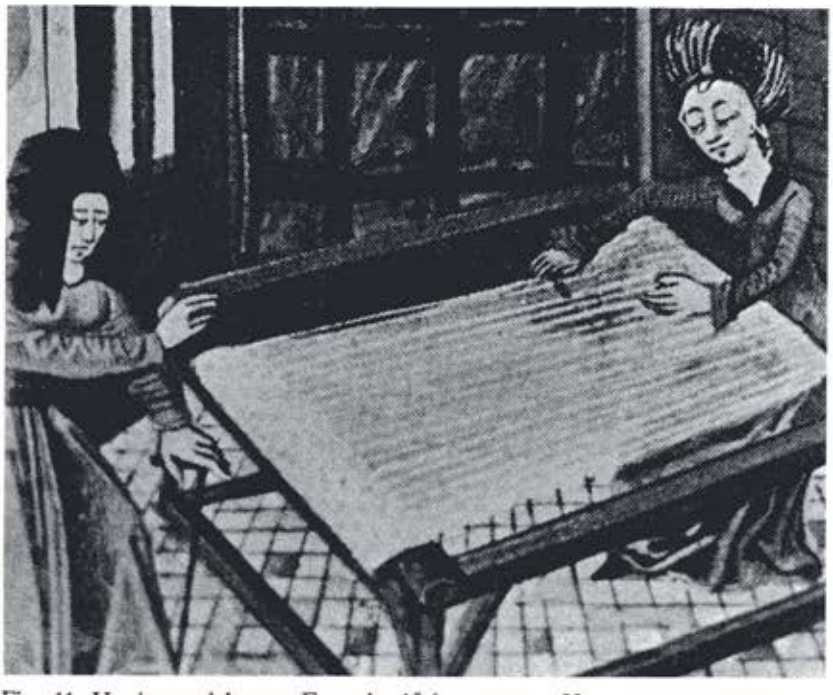

Fig. 11, Horizontal loom. French, 15th century. Harvey, pl. 29.

Fig. 13, Young lady at her tapestry loom. Stained glass at Straussengel, Vienna, Figdor Collection.

Fig. 14, Two nuns at their tapestry loom. Berlin, Artmarket, 1450-1475.

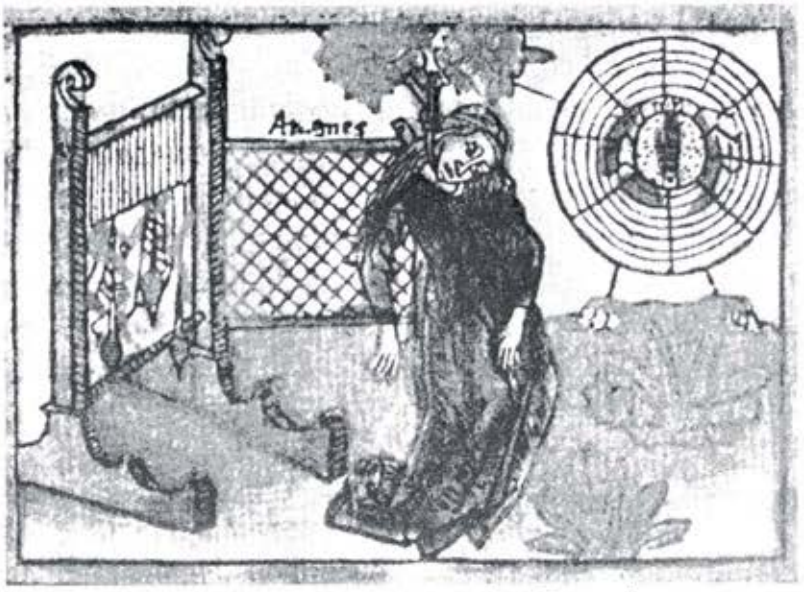

Fig. 15, The Death of Arachne. Woodcut from Bocaccio. Ulm, Johannes Zainer, 1473.

Fig. 16, Two Dominican nuns at their tapestry loom. From the Passion Tapestry, Bamberg.

Fig. 17, The Virgin Executing a Tapestry. Line drawing from a panel of the Life of the Virgin, Cathedral of Reims, 1510.

Francesco Furini's "Hylas and the Nymphs"

Patricia Bradshaw

The relationship between antique art and Baroque painting is a complex maze of ancient myth and *seicento* allegory. The highly sophisticated tastes of 17th century antiquarians were seldom satisfied with a mere copy of an ancient sculpture or a straightforward presentation of a mythological scene. Much of what appears ambiguous to today's viewer once held many layers of meaning. Though the allegorical intent of major mythological figures such as Hercules and Apollo is still understood, the significance of many of the minor mythological heroes to seventeenth century patrons has been lost. The object of this present study, therefore, is to offer a few suggestions for the sources of Francesco Furini's *Hylas and the Nymphs* and possible reasons for the sudden popularity of the myth in Florence during the 1630s.

According to Baldinucci, Furini's *Hylas* (Fig. 1) was created in Florence in the early decades of the seventeenth century as a private commission for Agnolo Galli:

> Assai quadri dunque ebbe egli a fare per diversi gentiluomini, fra quali troppo bello e troppo vero riusci un quadro da sala per Agnol Galli, ove egli rappresentò il giovanetto Ila e'l bagno delle Ninfe, tutte, quanto il naturale, in varie attitudini . . .[1]

The painting has since been sold many times.[2] Today the work is on permanent display in the Palatine Gallery of the Palazzo Pitti.[3] Measuring 7 ft. 6½ in. by 8 ft. 6¾ in., it is one of Furini's more ambitious early works and is generally dated between 1630 and 1633.[4]

A smaller replica of the Pitti *Hylas* which was executed either by Furini or by one of his students, may be seen in the Milltown Collection in the National Gallery in Dublin, Ireland.[5] In addition, there are two preparatory drawings by Furini for *Hylas*. One is a small red chalk sketch auctioned by Christie's in 1969[6] and the other is a larger, more finished study (Fig. 2) which is housed in the Gabinetto Disegni e Stampe in the Uffizi.[7]

Hylas and the Nymphs is typical of Furini's early period during which he displayed a marked proclivity for mythological or literary subjects which allowed him to exhibit his not inconsiderable gift for depicting flesh. *Hylas* gave the painter an opportunity to indulge in a hedonistic and overtly erotic rendition which undoubtedly says a good deal about the private tastes of Florentine aristocracy in the early *seicento*. Furini's painting portrays six water nymphs surrounding a turbaned androgynous youth. Long sinuous arms of two sprites entwine the youth to drag him down into the tempestuous green waters. As Hylas attempts to drive off the passionate embrace of one nymph, he turns his face with vexation and knitted brows towards a second nymph who rises fully out of the waters to fling her arms about his neck. Her auburn hair which falls down her back is adorned by strands of pearls and streaming ribbons. Stiff folds of drapery, dropped in her rush to capture the boy, encase her thighs.

To the right of this central group are four more naiads, two of whom swim through tinted swells to join the struggle for possession of the youth and who are engaged in a bizarre *pas de deux*. With uncharacteristic humor Furini depicts one nymph shoving the head of her competitor under the breaking wave. In the background the remaining two undines watch the abduction scene with nonchalance but at any moment may be aroused to join the others in the seduction of Hylas.

The figure of Hylas is clothed in an exotic costume of red velvet relieved at the sleeve by a slash of white undergarment. The enormous white plume which rises out of his cap is a repetition of the one in Furini's *Acis and Galatea* and is used again in his *Youth in a Plumed Hat* and it has been suggested that the same model was used for all three paintings.[8] Hylas' outfit is completed by a huge black cape which swirls behind him, almost indistinguishable against the dark sky which looms ominously in the distance. An engraving after the painting by Benedetto Enredi (Fig.3)[9] defines the dark shape to the left of Hylas as a rock formation, something difficult to see in the original work due, perhaps, to the layers of varnish which discolor the surface.

All the figures are placed close to the picture plane with little attempt to define pictorial depth. Drapery has been kept to a minimum – the small wisps of drapery are almost cellophane in their transparency, heightening the sense of eroticism. The soft creamy flesh of the nymphs dissolves seductively into the velvety shades of ultramarine *sfumato*, an effect for which Furini was famous.[10] Hylas' ornate brass pitcher, abandoned during the amorous struggle, may be seen in the lower foreground. A stormy nocturnal sky illuminated by cool lunar rays completes the eerie melodrama of the scenario[11] and acts as a theatrical backdrop to the aquatic theft.

The story of Hylas is tragically brief. Set within the larger story of Jason, our episode begins not long after the Argonauts set sail in their quest for the Golden Fleece. The adventure had scarcely begun when the Argo was forced to land temporarily on the Bythnian coast to allow Hercules to replace a broken oar. Upon making camp, Hercules sent his squire, Hylas, in search of water. The boy soon found a sacred spring inhabited by nymphs. As he knelt to draw water in his brass pitcher the nymphs caught sight of his lovely countenance and were seized by a sudden passion for the youth. They dragged him into the waters and Hylas was never seen again. Hercules, overcome by grief at the loss of his loved one, continued to

search for the boy long after the Argo sailed on without him.[12]

Antique literary sources for the myth are numerous[13] but two Greek poems (Apollonius Rhodius' *Argonautica* and Theocritus' *Idyll* XIII "Hylas") are the most complete accounts of the legend. The *Argonautica* version[14] carefully describes the plot and differentiates the single nymph who captures Hylas from the blithe spirits who dance in the waters and who are described as being of varied habitat, *i.e.*, naiads (fresh water nymphs), nereids (salt water nymphs), oreads (nymphs of mountains and grottoes) and hermadryads (wood nymphs associated with springs). This water nymph:

> was just rising from the fair-flowing spring; and the boy she perceived close at hand with the rosy flush of his beauty and sweet grace. For the full moon beaming from the sky smote him. And Cypris made her heart faint, and in her confusion she could scarcely gather her spirit back to her. But as soon as he dipped the pitcher in the stream, leaning to one side, and the brimming water rang loud as it poured against the sounding bronze, straightway she laid her left arm above upon his neck yearning to kiss his tender mouth; and with her right hand she drew down his elbow, and plunged him into the midst of the eddy.[15]

The short pastorale *Idyll* XIII by Theocritus[16] differs basically by raising the abducting ante to three specifically named naiads:

> And bright-haired Hylas took a brass pitcher
> and went in search for their supper,
> for Heracles himself and steadfast Telemon,
> who were his comrades in arms and messmates.
> He soon discovered
> a spring in a low-lying spot, thick with rushes,
> and lustrous kingcups, pallid maidenhair,
> swelling celery, and coarse marsh grasses.
> In the deep of the pool, three nymphs threaded
> dance—
> the unsleeping nymphs, dread of the countryside—
> Eunice and Malis, and Nycheia with spring in her
> glances.
> Intent on filling his thirsty pitcher, he lowered it
> close to the surface, and they laid hands on him,
> all
> by Eros fancy-struck for the Argive boy.
> Headlong he fell, under the black water,
> as a flaming star falls headlong under the sea.
> (And some sailor, seeing it, says to his mates,
> 'lighten the tackle, boys; the wind sits fair')
> The nymphs were trying to soothe the weeping
> boy
> with gentle words, holding him on their laps.[17]

A Roman version of the story is less clear in its interpretation and meaning.[18] The short poem by Propertius is dedicated to the Roman citizen, Gallus, a name which had appeared in one of Propertius' earlier poems.[19] The body of the poem departs from the traditional text of Theocritus and Apollonius only slightly but the introduction to the tale is particularly interesting in which he warns Gallus, "Fortune oft proves adverse to the heedless lover."[20]

> Thou has a love most like to Hylas, child of Theiodamas, one not less fair nor of humbler birth. Beware then, whether thou wanderest by the holy streams of Umbrian forests, or Anio's waters lave thy feet, or walk'st thou on the marge of the Giant's strand, or wheresoe'r a river's wandering waters welcome thee, beware and from thy love ward off the hands of nymphs that burn to steal (the Ausonian Dryads love as warmly as their sisters loved), lest it be thy fate ever to visit cruel mountains and icy crags and lakes, that thou hast tried to thy cost. Such woes the ill-starred wanderer Hercules suffered in a far land and bewailed by the shores of the relentless Ascanius.[21]

Both poets and painters discovered the myth's pictorial possibilities as evidenced by the large number of ancient illustrations on the subject.[22] A particularly colorful mosaic from the Basilica of Junius Bassus in Rome (Fig. 4)[23] depicts the Theocritan version with three nymphs. Other ancient illustrations of the myth appear on wall frescoes, sarcophagi and coins. Invariably the illustrations include a struggling youth, a water vessel and one or more agressive nymphs in an aquatic setting. Occasionally Hercules is also included in the background.

During the Renaissance the theme was revived in Florence in the poetry of Lorenzo de' Medici.[24] It also found its way into a number of cassone paintings which illustrated portions of the legend of the Golden Fleece. The choice of the Argonaut adventure would have been a pleasing one to a successful wool merchant with its allusions to the more heroic purveyor of woolen goods, Jason.[25]

A painting by Piero di Cosimo traditionally known as *Hylas Abducted by the Nymphs* (Fig. 5) and commissioned in Florence by the wool merchant Pugliese was re-titled in the 1930s as *The Fall of Vulcan on Lemnos*.[26] Panofsky's greatest objections to the "Hylas" identification were the lack of bronze vase, lack of a water supply and the elaborate costuming of the young ladies since water nymphs could not be expected to be clothed. While his arguments for the painting to be identified as *Vulcan on Lemnos* are convincing, it must be pointed out that an earlier cassone painting by Biagio de Antonio (1465) had already created a precedent for well-dressed nymphs on dry land abducting Hylas with no vase in sight (Fig. 6).[27] Perhaps Piero meant his painting to represent the *Argonautica* version with only one nymph taking posession of the youth, placing one arm above his neck and one hand on his elbow. Since Apollonius does not specify that the nymphs are all naiads and are, in fact, of varied habitat, they need not be nude or even dressed the same. In any case, Peiro's painting may have already achieved the *Hylas* title by the early seventeenth century or served as a model to Furini as an untitled example of six nymphs and a young boy.

Nymphs and nymph lore seemed to fascinate the Florentines and an endless variety of paintings, poems, plays, fountains and water festivals were commissioned in the city and many of the creations were peopled with these fascinating creatures. Another possible Florentine "Hylas" is the sixteenth century marble plaque which decorated a fountain (Fig. 7).[28] Water originally gushed from the overturned vessel and from the mouths of the two sea creatures. Although the dolphins probably do rule out the

scene as taking place in a fresh water spring, the aggressively amorous action of the nymph who kisses the passive youth on her lap recalls Theocritus' closing line in which "the nymphs were trying to soothe the weeping boy with gentle words, holding him on their laps."[29]

The Florentines were not the only ones to illustrate the Hylas myth.[30] The German engraver Joachim von Sandrart[31] and his pupil Renier van Persyn[32] both illustrated the subject while in Rome during the early 1630s. Whereabouts of these engravings are presently unknown but it is likely that they were done after the famous Roman mosaic (Fig. 4) which was still in place in the church of Sant'Andrea in Catabarbara.[33]

Furini may have seen these engravings after van Persyn by Sandrart or he may have viewed the original work of marble inlay himself while working in Rome with the fellow Florentine, Giovanni de San Giovanni.[34] Either way, Furini's painting is clearly based on the ancient work. Though the Roman piece shows but three naiads, only two are actively attacking the boy. Furini's painting likewise shows two nymphs with arms about a youth while multiplying the third nonchalant nymph of the Roman work into four equally insouciant naiads. In both cases Hylas is balanced on one knee on a rocky shore with his other leg cast into the water while turning his head and alarmed gaze to the nymph on the left. The nymph directly to the right of Hylas is in both cases seated on a rock formation. The backgrounds are equally undifferentiated with exception of a rocky hill that rises to the left, more easily viewed in the engraving after Furini by Enredi (Fig. 3). Furini has obviously revised the composition and details. The red cape of the Roman mosaic has been changed to a black one and the red color lavished on Hylas' velvet costume. But there can be little doubt that Furini has borrowed heavily from the older illustration.

Why Agnolo Galli commissioned the painting is a bit more difficult to ascertain. This wealthy young banker patronized many Florentine Baroque painters besides Furini and his tastes usually tended towards "cheerful" narrative paintings and landscapes.[35] His choice of this rather morbid subject needs further investigation. Galli lived in a society which actively pursued scholarly and literary accomplishment. Perhaps Galli was inspired by Marino's poem *Adonis* which was currently circulating about Italy and creating quite a furor.[36] The reference to Hylas in the poem is in the fifth canto and at least forty lines are given to the tale. Marino's smoky eroticism had much in common with Francesco Furini's specialization in sensuous female nudes and the styles of the two contemporaries, one poet and the other painter, were noted for their similarity during the seventeenth century even as they are today. On the other hand, Galli might have recognized the family name in Propertius' poem[37] which warned Galle against the loss of his lover and commissioned the work as a visual pun that sophisticated associates would recognize. However, the size of the work would seem to demand a more serious reason for the incentive to commission such a huge painting.

In later years Agnolo Galli was to commission several works from Lorenzo Lippi. Some of these paintings contained portraits of members of his family portrayed as biblical characters.[38] This tendency to have himself, wife, children, servants and friends painted into narrative scenes no doubt began early in his career as a patron. But if Hylas is a portrait of someone other than Furini's favorite male model there is no remaining documentation to indicate who it might have been. The large painting may have been created in fond memory of a beloved young cousin, friend or trusted page who died in the terrible plague which struck Florence from 1631 through 1633.[39] Galli would, thereby, have cast himself in the role of Gallus or, more likely, as the heroic grieving Hercules.

Furini's *Hylas* gained instant notoriety and the artist could not resist using it as a calling card and signature on his *Childbirth of Rachel* by painting the tiny Hylas scene on a bronze vase in the lower foreground (Fig. 8).[40] The story became immensely popular in certain circles of society. The homo-erotic possibilities of the myth were wasted on the family-oriented Galli but this was not the case with other members of Florentine aristocracy, particularly those in the Medici court. Baldassare Franceschini, called il Volterrano, was to fully exploit the allegorical connotations of the Hylas story and the presumed relationship between Hercules and Hylas. He painted at least four of these allegorical works[41] one of which is known to have been done after the likeness of Marchese Altoviti, *paggio di valigia* to Francesco Parrocchiani who commissioned the work.[42] The painting shown here (Fig. 9) shows Volterrano's typical presentation of a young page-boy dressed up as Hylas in half length and holding a bronze or gold pitcher. On occasion the vase is decorated in a *repousée* illustration of the rape of Hylas.[43]

This type of allegorical portraiture of pretty young boys in the guise of Ganymede and Hylas found ready acceptance in the hot-house society of Florence after Ferdinand II gained his majority in 1627.[44] If casual relationships between minor nobility and their pages were not publicly flouted, they were at least privately winked at since even Ferdinand II was a known pederast.[45]

Francesco Furini's *Hylas and the Nymphs* was a high point in Florentine Baroque painting and sparked the imagination of many. This work instigated the creation of a new iconographic presentation of the Hylas myth as allegorical portraiture by the contemporary painter, il Volterrano. The theme enjoyed popularity for a brief period in Florence during the 1630s and early '40s and then did not re-emerge until the late nineteenth century in England and America when poets and painters rediscovered the disquieting, poignant qualities of the tale.

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1 Filippo Baldinucci, *Notizie dei Professori del Disegno da Cimabue a Qua*, vol. IV, (Florence: Batelli, 1846), p. 631.

2 Giuseppe Cantelli, *Disegni di Francesco Furini*, (Florence: Unione Fiorentina, 1969), p. 19.

3 Anna Maria Francini Ciaranfi, *Le Gallerie Palatine*, (Novara: Instituto Geografico de Agostini, 1957), p. 113.

4 Baldinucci was never certain in the chronology of Furini's paintings and the problem of dating persists. For more information on the career

of Furini see: L. Buerckel, "Francesco Furini," *Jarbuch d. Kunst Samm. d. all. Kaiser. Wien* 27 pt. 1(1908): 55-90. G. Corti, "Contributi all vita e alle opere di Francesco Furini," *Antichità Viva* 10 n. 2 (1971): 14-23. A. Stanghellini, *Francesco Furini, pittore*, (Siena: Biblioteca di Vita d'Arte vol. XII, 1914). E. Toesca, *Francesco Furini*, (Rome: Tumminelli, 1950).

5 Michael Wynne, "The Milltowns as Patrons," *Apollo* 99 (February 1974): 108-109. See also: The National Gallery of Ireland Catalogue no. 1658.

6 *Apollo* 90 (November 1969): xxi. Advertisement for a sale at Christie's on February 12, 1969.

7 Giuseppe Cantelli, *Disegni de Francesco Furini*, (Florence: Leo S. Olschki Editore, 1972), p. 252.

8 Toesca, (see note 4), p. 9. See also: J. Nissman and H. Hibbard, *Florentine Baroque Art from American Collections*, (New York: Metropolitan Museum, 1969), p. 43.

9 Buerckel, (see note 4), p. 56. No later than 1633.

10 According to Baldinucci (Vol. IV, p. 642) Furini stayed in debt because of extravagant expenditures on highly paid models and costly "azzuro oltramarino" to create his characteristic blue mists.

11 Ellis Waterhouse, *Italian Baroque Painting*, (London: Phaidon, 1962) has suggested the lighting effect is the result of a flash of lightning.

12 Hercules cries of "Ila, Ila, Ila" were the origin of a modern Greek expression meaning to attempt something in vain.

13 For complete listings of literary and pictorial examples of the Hylas myth in the antique world consult Roscher, *Ausführliches Lexicon der Griech. und Rom. Mythologie*, (Leipzig: Tuebner, 1880-1890), pp. 2794-5 and Pauly-Wissowa, *Real Encyclopädie*, (Stuttgart, 1914).

14 George W. Mooney, editor, *The Argonautica of Apollonius Rhodius*, (Dublin: Longmans, 1912).

15 Apollonius Rhodius, *The Argonautica* Book I, (English trans. by Loeb Classics), pp. 87-91.

16 Anna Rist, *The Poems of Theocritus*, (Chapel Hill: University of North Carolina Press, 1978), pp. 120-122.

17 *Ibid*.

18 L. Richardson, *Propertius: Elegies I-IV*, (University of Oklahoma Press, 1977). Liber Primus, XX on pp. 52-53.

19 The name of Gallus appears in earlier poems in the first book by Propertius (1.10) but it is not evidently the same person. The sex of Gallus' lover is not mentioned and perhaps only the name was similar to that of Hylas. Richardson (cited above, p. 207) suggests that "if we are meant to understand it, it must mean that Gallus is to keep his love from the watering spots of Italy . . . We may also ask whether Gallus has not been deliberately parading a boy of great beauty before the world of fashion and is now being taken to task for this by the poet."

20 *The Elegies of Propertius, Book I*, English translation by H. F. Butler, (New York: Putnam, 1929), p. 53.

21 *Ibid*.

22 *Enciclopedia dell'arte antica, classica e orientale* XII, (Rome: 1961), pp. 103-104.

23 *Ibid*, colorplate p. 102.

24 Lorenzo de' Medici, *Poesie: Sonetti e Canzoni*. New edition. Foreword by Carducci (Florence: G. Barbera, 1859), p. 127.

25 Langton Douglas, *Piero di Cosimo*, (Chicago: University of Chicago Press, 1946) has suggested that the Hylas theme is connected with the wool trade in Florence.

26 Erwin Panofsky, *Studies in Iconology*, (New York: Icon Editions, 1939, 1962), pp. 34-39.

27 In the 1940s a series of letters to the editor of *Art Bulletin* were written by Douglas (cited above) and Panofsky arguing the identification of the subject of Piero's painting. Curiously, neither cited the *Argonautica* nor the cassone painting published by Paul Schubring, "Cassone Pictures in America," *Art in America* 11 (1923): 231-243; *Cassoni*, Textband (Leipzig: Hiersmann, 1915), p. 286, Tafelband, (1923), Tafel LXXI. Also see: John Pope-Hennessy and Keith Christiansen, "Cassone Panels," *Metropolitan Museum of Art Bulletin* 38 n. 1 (Summer 1980): 29, figs. 21-24.

28 Decorazione di Fontane, Sec XVI Florence, Bargello Inv. 281.

29 Rist, p. 122.

30 Andor Pigler, *Barockthemen*. Eine Auswahl von Verzeichnissen zur Iconographie des 17. und 18. (Budapest: Akádemiai Kaidó, 1956) p. 126 (1974 edition), p. 135.

31 *Ibid*. See also Thieme-Becker.

32 Charles Le Blanc, *Manuel de l'amateur d'estampes*, (Paris: P. Jannet, 1854. Reprint Amsterdam: G. W. Hussink, 1970) Vol. II, p. 174 "Persyn: no. 4. Hylas accueilli par les Néréides: J. Sandrart."

33 Ernest Nash, *Pictorial Dictionary of Ancient Rome*, 2d edition, Vol I, (New York: Praeger, 1961), p. 190. The Junius Bassus basilica was built in mid-fourth century and then converted to the Christian Church of Sant'Andrea in Catabarbara in mid-fifth century. The ancient marble decorations remained intact and drawings from the fifteenth and sixteenth centuries show them still in place. The Hylas decorations were moved in the seventeenth century to a private collection in Rome.

34 Baldinucci, p. 630.

35 Sheila Rinehart, "Cassiano dal Pozzo," *Italian Studies*, Manchester, England (1961): 35-59. Correspondence between Agnolo Galli and Cassiano dal Pozzo, the famous Roman art dealer.

36 James Mirollo, *The Poet of the Marvelous: Giambattista Marino*, (New York: Columbia University Press, 1963). See also: Giovan Battista Marino, *Adonis*, verses 72-107, reprinted in *Opere Scelte*, Vol. I, (Torino: Tipografia Temporelli, 1954), pp. 401-402.

37 Richardson, p. 52.

38 Rinehart, p. 48.

39 Eric Cochrane, *Florence in the Forgotten Centuries, 1527-1690*, (Chicago: University of Chicago Press, 1973) Book Three, Florence in the 1630s, pp. 165-231.

40 Evelina Borea, *La Quadreria di Don Lorenzo de' Medici*, (Firenze: 1977), pp. 44-45. Commissioned by Lorenzo de' Medici for the Villa della Petraia in 1633. A copy of the work exists (including the Hylas detail on the bronze basin) by Leonardo Ferroni, a student of Furini.

41 Gerhard Ewald, "Unknown works by Baldassare Franceschini, called il Volterrano (1611-1689)," *Burlington* (1963): 272-283. On page 283 Ewald lists Volterrano's paintings according to Baldinucci: "Vincenzio Vettori, cavaliere gerosolimitano (Bald. V. p. 179) ha un belissimo ritratto di medesimo, fatto dal Volterrano, alla presenza del mentovato cardinale Gian Carlo (de' Medici), in tempo che esso Vettori era suo paggio di valigia" and "Colori alla presenza di questo principe (Mattias de' Medici) un bel ritratto d'Orazio Piccolomini senese, suo paggio di valigia" (Bald. V., p. 176) "Jacopo del Turco ebbe un Ila con vaso, che poi fu del marchese Carlo Gerini" (Bald. V., p. 177) and "Per Cosimo Citerni dipinse a olio in un ovato un Ila con vaso" (Bald. V., 161).

42 Baldinucci, V., p. 161.

43 This is the case in the painting illustrated in yet another work reproduced by Charles McCorquodale, *Painting in Florence* 1600-1700, (Cambridge: Fitzwilliam Museum, London: Royal Academy, 1979) p. 72.

Fig. 2, Francesco Furini, *Study*, Florence: Gabinetto Disegni e Stampe.

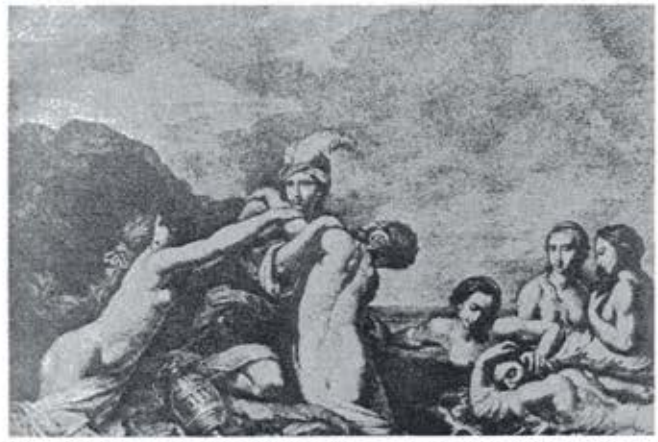

Fig. 3, Benedetto Enredi, *Hylas and the Nymphs*, engraving.

Fig. 4, *Rape of Hylas by the Nymphs*, Roman ca. 350, Florence: Palazzo Vecchio.

Fig. 5, Piero di Cosimo, *Hylas Abducted by the Nymphs* or *The Fall of Vulcan on the Island of Lemnos*, Hartford, Connecticut: Wadsworth Atheneum.

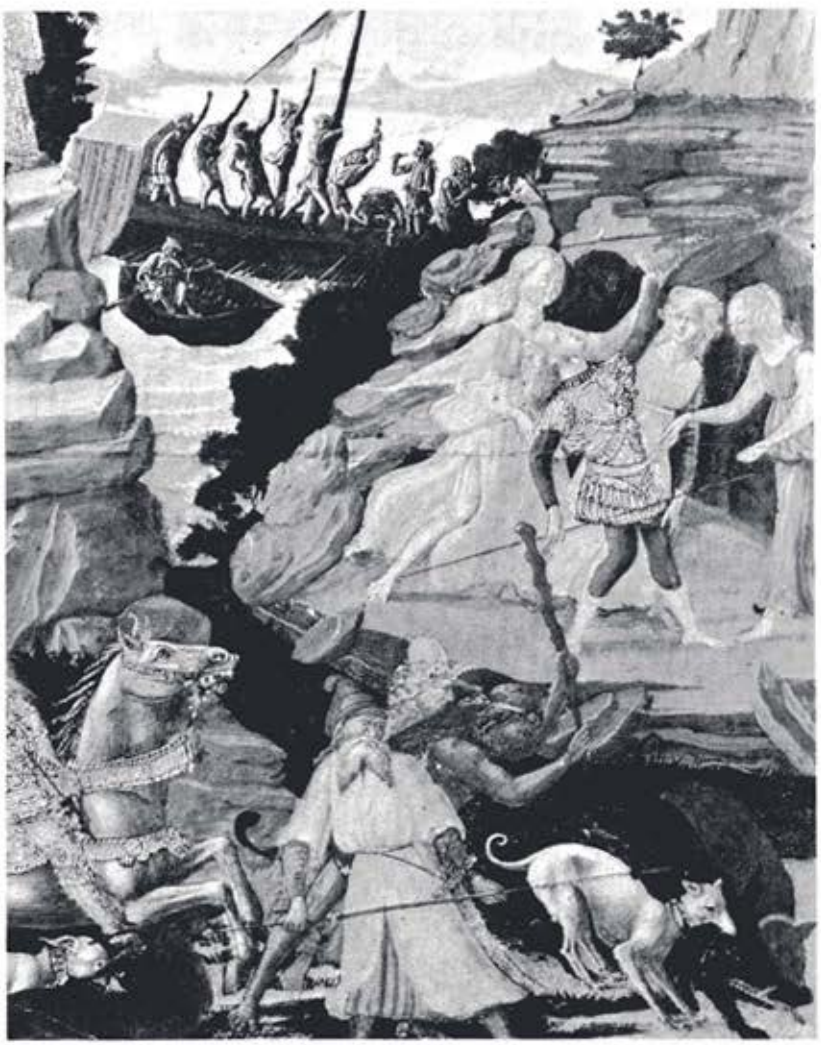

Fig. 6, Biagio di Antonio, *Jason and the Argonauts* (detail), New York: Metropolitan Museum of Art.

Fig. 7. Marble fountain decoration, Florence: Bargello.

Fig. 8. Francesco Furini, *The Childbirth of Rachel* (detail), Munich: Castle of Schleissheim.

Fig. 9. Il Volterrano, *Hylas*, Florence: Gallerie Statali.

The Palazzo Magnani in Bologna, Aspects of the Sculpture

Betty Rogers Rubenstein, Ph.D.

Although the series of Carracci frescoes (*ca.* 1588-1591) on the *Life of Romulus* in the Palazzo Magnani (begun 1577), Bologna, Italy, has been famous for three centuries, the sculpture in the *cortile* of the Palazzo and on the *piano nobile* has been almost entirely ignored and until now its iconographic significance has not been explored.[1] In this essay we will consider only the stucco busts which comprise one section of the sculptural program and establish the meaning these images may have had for the viewer in late sixteenth-century Bologna.[2]

The entire sculptural program in the Palazzo Magnani consists of three parts: a niche group in the *cortile*; a series of ten busts which culminates in the bust of Lorenzo Magnani mounted over the entrance to the *salone d'onore*; and an elaborate *camino* configuration which together with the fresco of *The Lupercalia* forms the main accent of the *salone*.[3] The niche group consists of an over life-sized (*ca.* 3m) Hercules and twin boys. The boys are placed one directly behind the other so that from a frontal view the second boy is almost completely hidden (Figs. 1 and 2).[4] The series of busts begins on either side of this niche group which is flanked by two doorways. The lintel of each doorway carries a life-sized bust *al'antica* (Fig. 3). Each bust in turn is flanked by urns decorated with relief figures of Hercules leading a man and a woman (Fig. 4). The configuration of bust with flanking urns is repeated seven times on the ground level and three times on the *piano nobile* (Fig. 5). However, the Hercules reliefs occur only on the urns in the *cortile*. These reliefs, placed in visual juxtaposition to the niche figure of Hercules, suggest an iconographic connection between Hercules and the portrait busts.

The stucco busts are dressed as Romans, either in civilian or military garb (Fig. 6).[5] Strict frontality is avoided and the forms are worked out through the upper arm and chest. With the exception of one bust, the facial features are idealized and are very obviously not intended as portraits of contemporary men. Only minor differences distinguish one bust from another. However, the Magnani bust is set into a scalloped niche surrounded by fruit and flanked, not by urns, but by black-marble orbs of power (Fig. 7).

In two cases, the stuccoes appear to have been placed in pairs: one pair on either side of the niche, the other on either side of the main entrance to the *cortile* (Fig. 5).[6] In both pairs, the heads turn inward toward each other, and one bust of the pair is dressed in military armor, the other in a civilian cloak. The figures over the entrance are laureated and bearded whereas those flanking the niche are clean-shaven and do not wear the laurel wreath.

It is clear that the placement and the detail of these sculptures was not accidental, but carefully thought out. Already, August Grisebach has noted the idealizing influence of the Roman style on the memorial busts of the sixteenth century in Rome.[7] Grisebach observed that stylistic conventions such as hair treatment and beard were not used haphazardly.[8] He also pointed out the distinction between the realism of the sixteenth-century Venetian bust and the more idealized "stoic" character of the Roman examples,[9] and refers to the continuity in the use of the *imago clipeata* from the time of its use on Roman sarcophagi through its use on medieval ivories, on Renaissance painted medallions, on the bronze doors by Ghiberti, and then finally to its appearance as a life-sized memorial on sixteenth-century Roman tombs.[10] Grisebach refers to the Roman tomb busts as "Wachter des Hauses" (guardians of the house) and suggests that they have an apotropaic quality, a suggestion which has relevance for a discussion of the Magnani sculpture.[11] The Magnani Palazzo busts were quite possibly designed to represent a line of prominent Romans from Republican and Imperial times intended to serve as guardians and as models for the members of the Magnani family. Archeological excavations, important at the time, could easily have provided stylistic guidelines for the stucco sculptor.[12]

Almost four decades after Grisebach's study, Irving Lavin examined the meaning of Renaissance busts.[13] Lavin suggested that the use of busts in the Renaissance might have stemmed from a reading of Pliny's comments on the use of ancestor portraits.[14] As Pliny stated, such portraits were governed by the *ius imaginum*, the law of images.[15] The law required that the placing of ancestor portraits in the *atrium* of a Roman house be restricted to patrician families whose forebears had served in public office. Thus, family portraits in the home became a statement of status and class. Lavin's suggestion that this statement might have been revived in the Renaissance seems to support the author's observations of the Magnani busts.

The Palazzo Magnani was built at a time when Bolognese merchants who had acquired new wealth were moving out of the cramped medieval center of town. Their new *palazzi* were spacious, sporting decorated courtyards and interior gardens.[16] But mere wealth is not status. Claiming an ancestry which went back to the days of Roman glory would help to establish family prestige, and connect the family with its proper class.

Series of busts of Roman rulers were common elements of decoration in the *palazzi* of the powerful sixteenth-century families. One such series was commissioned for the windows of the Palazzo Bevilaqua in Verona in April 1537 at the same time Titian's paintings of the Twelve Caesars were completed by Giulio Romano.[17] In mid-century, busts of the caesars were included in a commission Palladio gave to Alessandro Vittoria in 1555; the

commission was for the creation of eight stucco busts of illustrious men for the Palazzo Thiene in Vicenza.[18] Another series of Twelve Caesars was painted by Felice Rizzo *(detto* Brusasorzi, 1539/40-1605) for the Sagramoso di San Fermo in Verona.[19] In October 1575, twelve *busti* of Roman emperors arrived from Venice for the Palazzo Salviati in Florence.[20] They were installed in the *Cortile degli Imperatori*, named for the busts.

In addition to the use of these sculptures in series, wealthy patrons combined the use of busts with fresco decorations in their large reception rooms. This combination appeared in the throne room of the Palazzo dei Conservatori (Rome: Campidoglio, 1544, frescoes attributed to Daniel da Volterra) and the *salone* of the Palazzo Sacchetti (Rome: 1553-1554, frescoes by Salviati).[21] Cardinal Ricci, the patron-owner of the Palazzo Sacchetti had achieved wealth far beyond that of his family and, according to Catherine Dumont, the decoration of his *salone* expressed the claim to prestige both in the selection of the artist and choice of subject matter of the wall frescoes. Ricci placed in his *salone* the busts of two Roman emperors and one bust of Bathsheba. Thus his ancestor claim appears to have reached back beyond Rome to biblical times to include the family of Solomon in his lineage.[23]

But the most important family to use ancient Roman busts to underscore their assertions of high status was the Farnese family. Both in the Palazzo Farnese in Rome and in the Villa Caprarola near Viterbo, images of Roman rulers were integral to the decorative scheme. In the Farnese *palazzo* in Rome, the walls of the Room of Hercules on the *piano nobile* (the largest room of its time in a private *palazzo*) are decorated with niches containing busts of Roman personalities.[23] At Caprarola, the grand rotunda of the *piano nobile* is ringed with niches which once contained twelve imperial Roman busts.[24] It should be noted here that in both the Farnese residences, the busts of ancient Romans were placed so as to be associated with the hero Hercules. In the Farnese *palazzo* in Rome the busts are located in the Room of Hercules, presumably so named for the two famous statues of Hercules excavated nearby and then placed in the *cortile* of the *palazzo*.[25] At Caprarola, the largest and most prominent room was also named the Room of Hercules, a room which was directly connected to the great rotunda encircled by the Roman busts. In this Room of Hercules, the wall frescoes detailed the deeds of Hercules which, as legend had it, had been enacted on the very land surrounding the villa—land which was the property of the Farnese family and the primary source of their wealth.[26] The frescoes tell the stories of how Hercules brought water and fertility to the Farnese field and how a temple of Hercules was built in gratitude to the hero.[27]

Every aspect of the Villa Caprarola was designed to impress all who came within its sphere; visitors were enjoined to recognize the power of the Farnese family and its distinguished lineage.[28] The domination of the family over the town was symbolized by the way the villa towered over the landscape. Vignola (d. 1573) had built the message of power and control into the very grandeur of the stairways, the scope of the rotunda, and the plan of the interior spaces. The iconography of the decoration paralleled that of the architecture. If one were to paraphrase the message intended by the structure and the images we have mentioned at Caprarola, the message would read something like this:

> The history of the Farnese dynasty and its claim to eminence began with the deeds of Hercules who is the most eloquent example of *virtù*. A family line extends from Hercules to the Roman caesars to the Farnese. Thus images of Hercules and the Roman rulers function as the ancestor portraits for the Farnese and become the guardians of the house and role models for the present exercise of power.

Such a hypothetical statement might summarize the *concetto* which apparently motivated the Farnese and the humanists who worked for them to make the choices they did in planning the iconography of the Villa Caprarola. Despite the high church offices held by the Farnese family, pagan history was integrated into their personal life story. There was no attempt in the frescoes to Christianize this early epoch. The images from the past were simply seen in their pre-Christian chronology.[29]

Similarly, Roman historians of the first century integrated tales of the life of Hercules with the early history of Rome, the story of Romulus and the development of imperial power.[30] Coins from Imperial Rome illustrate the connection between Hercules and Romulus (Fig. 8).[31] In addition, the continuous ancestral lineage from Hercules to the Roman rulers has been carefully described by A.R. Anderson who documents the fact that Scipio Africanus, Pompey, Julius Caesar, Anthony and Augustus all claimed to have descended from Hercules.[32]

Thus it appears that Lorenzo Magnani was not inventing an iconography, but following a well-established pattern when he chose the image of Hercules flanked by stucco busts of Roman rulers.[33] He was identifying himself with an heroic lineage. In doing so, he located himself in history as having the right to distinguished ancestors and the privilege of displaying them. He also located himself in his contemporary world as belonging to the same class as the Farnese and other powerful dukes who also claimed Hercules as a part of their lineage. A common ancestor legitimized the sense of class bond among the powerful, reinforcing their right to rule. A dramatic example of this attitude can be read in the sculpture (1560) on the facade of the Palazzo Ducale in Modena where the marble sculptures of Prospero Spani stand—Hercules to the left side of the entrance and Marcus Emilius Lepidus on the right (Fig. 9). The Greek hero is paired in this example with a member of the patrician Roman family of Aemilian *gens*. This pair of sculptures represents yet another set of ancestral guardians and models which use Hercules and a powerful Roman.[34]

The sixteenth-century use of sculpture to establish the legitimacy of an ancestral line is not unique. African tribes often had similar customs. In many cases, "Masks and figures were the embodiment of spirits that could . . . establish a link with generations before and after, and uphold and reinforce social obligations and values."[35] The existence of these sculptural habits indicates a common human need for connection with the past and role models for the present.[36] The sixteenth-century sculptures mentioned in this paper suggest that there was a need for a model of a secular ruler. For this purpose the Romans were chosen. We can thus separate out a "Neo-Romanism" as

distinct from the more generalized Neo-Classicism of the time.

Evidence of Neo-Romanism can be found built into the architecture of Bologna. Directly across the street from the Palazzo Magnani stands the Renaissance *loggia* of San Giacomo Maggiore. Over the arches of this *loggia*, a continuous *terra cotta* frieze carries the laureated head of a Roman caesar in profile, set into a scallop shell. A similar profile, also laureated, appears over the window above the *cortile* of the Palazzo Malvezzi-Campeggi (Fig. 10). This *palazzo* is directly across the street from San Giacomo Maggiore and contiguous to the Palazzo Magnani on the right side. Here the profile of the caesar is labeled *Iulius*. A statue of Hercules stands in this *cortile*, the neighbor of the Palazzo Magnani with its Hercules group. The *palazzo* contiguous to the Palazzo Magnani on the left side has a further example of Neo-Romanism: a sculpture of a helmeted woman with a spear stands in a niche on a pedestal which carries the inscription:

> SERVATE DEAM, SERVABITIS URBEM
> As you protect (guard) the goddess
> So will you protect (guard) the city[37]

What makes the Neo-Romanism of this neighborhood even more interesting is the knowledge that Cardinal Gabriele Paleotti (1522-1597) owned a *palazzo* on the same street as the Magnani and lived there until he left for Rome in 1586.[38] He was the archbishop of Bologna and it is doubtful that Lorenzo Magnani would have planned a decorative program which would have offended his powerful neighbor. Indeed, one has only to turn to Paleotti's famous *Discorso alle imagini sacre e profane* to see that he himself made frequent reference to the precedents set by Roman rulers in their governing capacities.[39] Paleotti urged painters and sculptors to make use of historical events in their art. He cautioned, however, against the use of images of those Roman emperors who had shed Christian blood.[40] He encouraged images from pagan history, those which could serve, *"per esempio a'descendenti e sprone de' figliuoli all'imitazione delle virtù."*[41] Far from conflicting with the images in the Palazzo Magnani, Paleotti's statement reinforces their use, again with no attempt to Christianize the pagan past, but only to extract relevant material from it.

Writing on the use of portraiture, Paleotti does warn against the portrayal of living persons, not out of a fear of pagan imagery, but because of the danger of promoting unwarranted vanity or because of the possibility that the living person might yet commit an act unworthy of emulation.[42] Neither Paleotti, the reforming churchman nor Paleotti the humanist would have had a conflict with the Neo-Roman message in the Palazzo Magnani.

It may well be that Paleotti's strictures against portraits of the living determined the appearance of the bust of Lorenzo Magnani. A close inspection of this bust, with its surrounds of fruit and its scallop-shell niche, reveals that it may have been purposely designed to avoid resemblance to the living Lorenzo Magnani. In fact the head of this bust appears to resemble the head of Hercules on the *cortile* statue. Furthermore, the hairstyle and cut of the beard do not follow the fashionable design of the time.[43] The combination of the Roman military armor on the Magnani bust with a head bearing a resemblance to Hercules certainly echoes the theme of the decoration of the courtyard with its Roman busts and its sculpture of Hercules. The desire to identify the Magnani with the achievements of Hercules and the Romans seems plain. This theme, initiated in the *cortile* is repeated in the Magnani bust and further developed in the *salone d'onore*: there the viewer will see incorporated into the *camino* both Greek and Roman elements. The *camino* fresco of *The Lupercalia*, the ancient Roman festival of fertility, serves to remind the viewer of the beginnings of an heroic history.[44] Over the *camino*, the Magnani crest and the antique crown completes the introduction to the story of Romulus much as a frontispiece of a book sets the stage for its contents.[45] The *camino* iconography parallels indoors the sculpture displayed in the *cortile*.

The ten busts set over the portals of the doorways in the Palazzo Magnani are therefore part of an iconographic scheme conceived to link them both to the Hercules sculpture in the *cortile*, to the bust of Lorenzo Magnani, and to the Carracci frescoes. They are part of a decorative scheme which cannot be ignored as they form a unity, a *concetto* which would have been easily understandable to the viewers of sixteenth-century Bologna and other Italian cities during that same period.[46] The suggestions of Grisebach that the busts serve as guardians, and of Lavin that Renaissance busts represent ancestors and status symbols are applicable to the Magnani stuccoes described. Studies of the literature published during the mid-sixteenth century tend to confirm this interpretation.[47]

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1 The Palazzo Magnani (sometimes designated as the Palazzo Salem) is today the headquarters of the Credito Romagnolo, number 20 via Zamboni. In the years 1963-65, the building and the frescoes were restored by Carlo Volpe and Jürgen Winkelmann. See Carlo Volpe, *Il fregio dei Carracci e i dipinti di Palazzo Magnani in Bologna* (Bologna: Bodoniana, 1972, reissued 1978).

For the major sources and scholarly studies which refer to the Carracci frieze on the *Life of Romulus* see: Giovanni Pietro Bellori, *The Lives of Annibale and Agostino Carracci*, 1672 edition trans. by Catherine Engass (University Park, Pa., and London: The Pennsylvania State University Press, 1968), pp. 10-13.

Carlo Cesare Malvasia, *Felsina pittrice, vite de' pittori bolognesi* (1678; Bologna: Zanotti, 1841; Photographic reprint Bologna: Forni Editore, 1967), I, pp. 287-290.

———*Le pitture di Bologna*, ed. Andrea Emiliani (1686; Bologna: Alfa, 1969), p. 93.

Hans Tietze, "Annibale Carracci's Galerie im Palazzo Farnese und seine römische Werkstätte," *Jahrbuch der kunsthistorischen Sammlungen des allerhochsten Kaiserhauses*, XXVI (1906-07), 59-60.

Aldo Foratti, *I Carracci nella teoria e nella practica* (Citta di Castello, 1913), pp. 70-74.

F. Malaguzzi-Valeri, "La giovinezza di Lodovico Carracci," *Cronache d'arte*, (1924), 32.

Heinrich Bodmer, "Gli affreschi dei Carracci nel Palazzo Magnani ora Salem a Bologna," *Il commune di Bologna*, XX, 12 (1933), 3-19.

———*Lodovico Carracci* (Burg. b. Magd.: n.p., 1939), pp. 27-30.

Francisco Arcangeli, "Sugli inizi dei Carracci," *Paragone*, VII, No. 79, July 1956, pp. 29, 45.

Gian Carlo Cavalli, "Annibale Carracci," *Encyclopedia of World Art*, III (New York: McGraw Hill and Co., 1960), 134-137.

John R. Martin, *The Farnese Gallery* (Princeton: Princeton University Press, 1965), p. 74.

Anna Ottani, *Gli affreschi dei Carracci in Palazzo Fava* (Bologna: Casa Editrice Patron, 1966).

Jonathan M. Brown, "A Lodovico Carracci Drawing for the Palazzo Magnani," *Burlington Magazine*, CIX, Jul.-Dec. 1967, pp. 710-713.

Donald Posner, *Annibale Carracci. A Study of the Reform of Painting Around 1590* (London: Phaidon, 1971), I, pp. 24, 46, 58, 59, 61, and II, pp. 23-25.

Carlo Volpe, *Il fregio*, 1972 and 1978.

A.W.A. Boschloo, *Annibale Carracci in Bologna. Visible Reality in Art after the Council of Trent*, trans. R.R. Symonds ('s-Gravenhage: Staatsdrukkerij, 1974), I, pp. 25-28; II, pp. 191-196.

Charles Dempsey, rev. of *Annibale Carracci in Bologna*, A.W.A. Boschloo, *Art Bulletin*, LVIII, No. 1 (1976), 129-131.

2 Betty Rogers Rubenstein, "The Palazzo Magnani: An Iconographic Study of the Decorative Program," Diss. Florida State University 1979.

For examples of palazzo decoration which include the combined use of fresco and sculpture previous to the decoration of the Palazzo Magnani see: Loren W. Partridge, "The Sala d'Ercole in the Villa Farnese at Caprarola," *Art Bulletin*, 53 (1971), 480-82.

Gérard Labrot, *Le Palais Farnese de Caprarola* (Paris: Editions Klincksiek, 1970).

Catherine Dumont, *Francesco Salviati au Palais de Rome et la décoration murale italienne, 1520-1560*. (Rome: Institut Suisse de Rome, Bibliotheca helvetica romana XII, 1973).

For the importance of stucco busts in late sixteenth century palazzo decoration see: Rubenstein, "Diss. Palazzo Magnani," 56 ff. For basic references see: Giorgio Vasari, *Le vite de' piu eccellenti pittori, scultori, ed architetti* (*Opere*, ed. G. Milanesi, Florence, 1978) III, p. 373. Catalogue, Verona; *Cinquant'anni di pittura veronese, 1580-1630*, ed. Licisco Magagnato (Verona: Neri Pozza, 1974), 62ff; Irving Lavin, "On the Sources and Meaning of the Renaissance Portrait Bust," *Art Quarterly*, 33, No. 3 (1970), 217.

3 Eugenio Riccòmini, *Ordine e vaghezza, la scultura in Emilia nell'età barocca* (Bologna: Zanichelli, 1972),65-67. In this first major work devoted to the study of Bolognese sculpture, Riccòmini's catalogue lists four entries for the sculpture in the Palazzo Magnani. Cat. No.32 lists the bust of Lorenzo Magnani. Cat. No. 34 lists the *busti al'antica*. Sculpture in the Palazzo Magnani is mentioned without any details in Giampiero Cuppini, *I palazzo senatorii a Bologna* (Bologna: Zanichelli, 1974), p. 305.

4 *Ibid.*, Cat. No. 33; Plate 153, 154.

5 Diana de Marly, "The Establishment of Roman Dress in Seventeenth Century Portraiture," *Burlington Magazine*, 117, July-December, 1975, pp. 443-444.

6 It should be noted that the public no longer enters the Palazzo Magnani through the main portal, but through an entrance to the right. This fact, combined with the glass doors leading to the *cortile* and a well-head not in the original plan, obscures the prominence of the sculpture in the *cortile*. For the original plan see: Cuppini, *I palazzi*, p. 104.

7 August Grisebach, *Römische Porträtbüsten der Gegenreformation*, (Leipzig: Heinrich Keller, 1936).

8 *Ibid.*, p. 14.

9 *Ibid.*, p. 15.

10 *Ibid.*, pp. 11, 12.

11 *Ibid.*, p. 34.

12 Paul Gustav Hübner, *Le Statue di Roma* (Leipzig: Klinkhardt and Biermann, 1912), pp. 29-32, 607. Hübner depends on the reports of Ulisse Aldrovandi, the Bolognese humanist whose descriptions of Roman antiquities made in the year 1550 are considered among the most detailed and accurate. See also Rubenstein, "Diss." 82, and note 68.

13 Lavin, "Sources and Meaning," p. 217.

14 *Ibid.*; Lavin refers to Pliny, *Natural History*. The pertinent verses from Pliny describe the use and placement of busts to represent the illustrious departed ancestors. See: Pliny, *Natural History* ed. H. Rackham (Cambridge, Mass.: Harvard University Press, 1952) Chapter I, pp. 3-4; Chapter II, pp. 6-8.

15 Eduard Courbaud, "Imago," *Dictionnaire des antiquités grecques et romaines* (Paris: Hachette, 1881-1919), pp. 3, 413.

16 Cuppini, *I palazzi*, pp. 14-22.

17 *Cinquant'anni di pittura veronese*, 62 ff.

18 *Ibid.*, p. 63.

19 *Ibid.*, p. 62. Franca Zava is credited with the discovery of this series in 1967.

20 "Rubenstein Diss.", Appendix D-1, 272. This information is contained in a letter of Sept. 15, 1978 from the Banca Toscana in Florence. The busts in the *cortile* niches of the bank today are not the originals which are last recorded in 1698.

21 Dumont, *Francesco Salviati*, p. 205, and note 2.

22 *Ibid.*, pp. 205, 206 and Fig. 110.

23 Georgina Masson, *Italian Villas and Palaces* (New York: Harry Abrams, n.d.), p. 213, and Plate 141.

24 Partridge, "Sala d'Ercole," pp. 480-486.

25 James S. Ackerman, *The Architecture of Michelangelo* (Baltimore, Md.: Penquin Books, 1971), Plate 78 and 80.

26 Labrot, p. 67. See also Partridge, "Sala d'Ercole," pp. 469-479.

27 Labrot, p. 67. See also "Rubenstein Diss.," pp. 61-66.

28 *Ibid.*, p. 67.

29 *Ibid.*, pp. 9-18.

30 *Dionysius of Halicarnassus, The Roman Antiquities*, trans. Earnest Cary, version by Edward Spelman (Cambridge: Harvard University Press, 1937) Book I, pp. 41-72. Livy, *The Early History of Rome*, trans. Aubrey de Sélincourt (Baltimore, Md.: Penquin Books, 1971) 40-41. Plutarch, *The Lives of the Noble Grecians and Romans*, trans. John Dryden and revised by Arthur Clough (New York: The Modern Library, 1925). See also "Rubenstein Diss.," pp. 47-52.

31 C.H.V. Sutherland, *Roman Coins* (New York: Putnam's Sons, 1974) No. 534.

32 Andrew Runni Anderson, "Heracles and His Successors," *Harvard Studies in Classical Philology*, 39 (1928), 39-40.

33 Two basic articles which gave a parallel study of the identification by a sixteenth century ruler with heroic characters such as Hercules and the Roman Emperors are: Kurt W. Forster, "Metaphors of Rule," *Mitteilungen des Kunsthistorischen Institutes in Florenz*, XV, 1 (1971), 63-104. Leopold D. Ettlinger, "Hercules Florentinus," *Mitteilungen des Kunsthistorischen Institutes in Florenz*, XVI, 2 (1972), 119-139.

Fig. 2, Detail of *Hercules and Two Boys*.

Fig. 4, Urn with relief of Hercules leading a man and a woman, stucco. Palazzo Magnani, *Cortile*.

Fig. 3, Gabriele Fiorini (attr.), *Bust al'antica*, stucco, 1583-1593. Palazzo Magnani, Bologna, *Cortile*.

Fig. 7, Gabriele Fiorini (attr.), *Bust of Lorenzo Magnani*, stucco, 1583-1593. Palazzo Magnani, Bologna, *Piano Nobile*.

Fig. 6, Gabriele Fiorini (attr.), *Bust al'antica*, stucco, 1583-1593. Palazzo Magnani, Bologna, *Cortile*.

Fig. 5, Entrance to *Cortile*; typical configuration of busts and urns. Palazzo Magnani, Bologna.

Fig. 8, *Coin of Commodus* 180-192. Obv.: head of Commodus with lion. Rev.: Hercules plowing with two oxen. (Henry Cohen, *Déscription Historique des Monnaies Frappés sous L'Empire Romaine*. Graz: Sanstalt, 1965.)

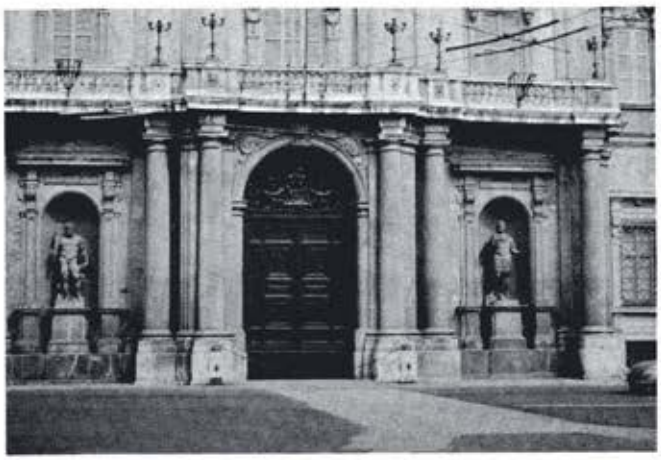

Fig. 9, Entrance to Palazzo Ducale, Modena. Prospero Spani, 1560. *Hercules* (l.) and *Lepidus* (r.), marble.

Fig. 10, Andrea and Giacomo da Formigine (attr.), *Profile of Julius Caesar*, 1522-1548, Palazzo Malvezzi-Campeggi, Bologna, *Atrium*.

"Freedom" and "Liberty"

Monika E. Cooley

The Franciscan church of Santa Croce in Florence contains the tomb of the poet Giovanni Battista Niccolini which is crowned by a monumental figure closely resembling Bartholdi's "Statue of Liberty" in New York Harbor (Fig. 1). Both are neoclassical works. Academic perfection in the New York *Liberty* is even manifested in superb construction plans which were designed by Eiffel, and resulted in outstanding workmanship. A similar clarity, precision, and faithful adherence to ancient Greek and Roman features, as well as intricate undercutting and organization of the garment, characterize Fedi's approach in the Florentine sculpture (Figs. 2, 3).

The "Statue of Liberty" was dedicated in New York in 1886, to commemorate the birth of the United States and the continuing friendship between the people of the French and American democracies. The commemorative tombsculpture for the tragic poet and historian Giovanni Battista Niccolini was erected at Santa Croce in 1883.

Niccolini was born in 1772 and died in 1861. In his early career he translated Sophocles and Euripides. He studied lyric poetry, wrote in imitation of Greek literary tradition and produced works in history, grammar and literary criticism. Four of his books are sculpted in marble beneath the figure's left arm: "Arnoldo da Brescia, Storia Della Casa Di Suevia, Canzoniere Nazionale, Giovanni Da Provida." *Freedom* stands on a bare square marble block which is 2.69m high. She leans against a funerary stele on the left side which reaches to her waist (1.60m). The three visible corners of the stele bear tragic masks; the front shows the profile of Niccolini in a tondo. With her left hand she grasps a laurel wreath encircling one horn of a lyre which consists of cow-like horns and a goat-like beard. To the tip of her uplifted right hand she measures 5.69m in total. The right hand holds part of a broken chain as does an earlier model for the New York *Liberty* of Bartholdi. Her index finger is pointing and the fingers are curled into the palm. It is not a clenched fist: she holds and directs. The attitude is analogous to the manner in which New York's *Liberty* holds, and directs her torch heavenward. Both gestures indicate idealistic beckoning. The other part of the broken chain is under her contrappostally placed foot. Her garments are intricately draped and are reminiscent of those seen in the "Pallas" of Velletri. Her facial features are bland and stylized in imitation of Pallas Athena statues. *Liberty's* hair is cut in thick elongated waves under the oval eight-spiked crown of Helios. The crown resembles that of the Colossus of Rhodes envisioned and illustrated by Baroque Germany's J.B. Fischer von Erlach in "Historische Architektur," 1721. Von Erlach's figure has a crown with seven rays radiating to the seven planets; Bartholdi used this work for his New York *Liberty*.

Pio Fedi was born at Viterbo on 31 May 1816 and died in Florence on 1 June 1892. He was apprenticed to a goldsmith at the Ponte Vecchio and then became a pupil of a copper engraver. He continued to study graphics at the Kaiserlichen Akademie in Vienna until, after two years, he returned to Italy to study sculpture under P. Tenerami at he Academy of Florence, 1842-1846. Works exhibited in Florence brought Fedi little acclaim.

In 1846 Leopold commissioned him to execute two realistic busts for niches in the Uffizi courtyard; one was to represent Pisano, the other psychologist Andrea Cesalpino. In 1849 Fedi's work "Pio de Tolomeie Nello della Pietra," fashioned after Dante's "Purgatorio," was completed for the park of the Poggio Imperiale.

During this period a number of national and international commissions were completed. In 1852 he sculpted a guardian-angel group for the tomb of the daughter of the Count Luwoff in St. Petersburg. In 1856 he completed the colossal group "Marchese Pietra Torrigniani col suo Figlio," for the Marchese. The sculpted figures were clothed in classical Roman robes. Between 1859 and 1860 he produced the allegorical colossal group "La Civiltà Toscana," for the Principe di Carignano of Turin. "Poetry," his best (although uninspiring) allegorical work, can be seen at the Museo Civico in Verona. Various other works are housed at his studio in Via Seraglie at the Church of Santa Chiara. One of the finer pieces is "Le Furie de Adamante."

Pio Fedi's fame as the last Italian classicist rests on his production of "The Sacrificial Abduction of Hecuba, Daughter of Polyxena and of Achilles, Son of Pyrrus," displayed at the Loggia della Signoria. It is based on Lorenzo Bartolini's Milan sculpture of Pyrrus Astyanax which was itself transferred from a painting by David's pupil Pietro Benvenuti. The same year one of his sculptures was placed on Piazza San Marco in Florence, and in the same decade his bust of Agronome P. Cuppari was erected at the Camposante in Pisa.

In 1870 Fedi submitted the first series of drawings proposing the tombsculpture for G. B. Niccolini. The proposed measurements seen by that Santa Croce committee were smaller than those of the completed work; the second drawing was of similar scale and showed realistic details of facial features which were not realized in the execution.[1]

A document, dated 28 November 1877, contains the measurements for the tombsculpture. The document is a report by the Commission for Conservation of Monuments in Art and of Antiquity and is signed by its presi-

dent. The projected and final measurements follow:

	Misure scritte nello schizzo	Misure dedotte dal disegno
Altezza della statua dal posare della pianta o zuccolo alla sommita testa	2.50m	3.12m
ed alla sommita della mano elevato in atto		3.3m
Altezza totale del monumento da terra alla sommita della testa	4.18m	5.46m
ed alla sommita della mano		5.69m
Largessa massima in fronte	2.5m	3.00m
ed allo scalino di base		3.58m
Profondita o sporgenza massima de rettifilio del muro	0.88m	1.76m
e dallo scalino		2.06m

The church file also includes many letters (1870 to 1882) to and from various committees, to the sculptor, to the architect: La Deputazione per l'opera di Santa Croce, (January, 1870); Municipo di Firenze Gabinetto Particulare dal Sindaco, (October, 1876); Regno d'Italia Ministero della Istruzione Publica Firenze, (January, 1870); Architetto conservatore del tempio di Santa Croce (April, 1880, Fedi letter to Giovanni Pini regarding the geometric base). A letter dated 29 October 1879 to Prof. Fedi by the Opera di Santa Croce seems to be the final contract. In 1882 Fedi was to work under the direction of De Fabris the 'Architetto del Opera affine di andare d'accordo delle misure e sul rimanente da farsi.' The *Gazetta del Popolo* of 30 September 1861 describes the cenotaph Fedi had prepared to give to the temple of Santa Croce: "L'urna sulla quale sono scolpite le sembianze del sommo cittadino, sta in mezzo a due grandiose figure . . . ." A small booklet, the epigraph of G. B. Niccolini contains the following information: "Poeta prosare,—decora dell academia delle arti del disegno in Firenze."—(Dove professore Bibliotecario Segretario dal 1807 al 1859 Erede del pensiere Civile Dell' Allighieri e de Machiavelli, N 1772-M 1861).

In 1855 Frédéric Auguste Bartholdi exhibited a *Liberty*-like statue, which appeared among other works at the Paris exposition and generated his first Salon success. During this period Pio Fedi traveled extensively and completed various national and international commissions. Most likely he visited Paris and the exposition; there he might have seen Bartholdi's model which provided him with the inspiration for his similar tombsculpture of Niccolini 15 years later. Similarly romantic neoclassical works could be found in academic workshops all over Europe, beginning with Canova in the late 18th century.

Bartholdi was born August 2, 1834 in Colmar, Alsace. His apprenticeship was in architecture. He learned to paint in Paris under Ari Scheffer and he studied with Etex though Soiteux was his master in sculpture. Directly after the exposition in Paris, Bartholdi traveled to Egypt and Greece with the artists Léon Gérôme, Bally and Berchère; his notes and photographs of great monuments were remarkably good. On this journey he conceived the idea for the Suez lighthouse project. A drawing dated 1867-1869 shows a Colossus on a pedestal with uplifted arm, light streaming in rays from its head, illuminating the entrance to the Suez Canal; this project was never realized. On the return trip to Paris he sought out various sculptures of particular interest to him. Among them was the San Carlo Borromeo Colossus in copper by G. B. Crespi (1610-1696) which has stood over Lago Maggiore since 1697. His interests in colossal dimensions, the architectural effects of monumental sculpture and the expression of their symbolical significance for the needs of the masses grew. He also studied Greek and Roman sculpture. In his "Statue of Liberty" he may have referred to the massive message of strength in the "Urania" and "Juno" of the Farnese collection. Most likely he was familiar with the 18th century "Hercules" in Kassel, J. Flaxman's "Brittania" of 1799, Schwannthaler's "Bavaria," 1837-48, Canova's "Religion," 1814, and other colossal works.

Among Bartholdi's major sculptures are the standing figure of General Rapp in Colmar, 1855, and a fountain group "La Lyre Barbere, Souvenir du Nil," in Bordeaux, 1857. He, too, completed many tombsculptures. In 1870-71 Bartholdi took part in the German-French War and acted as Aide-de-Camp to Garibaldi. Following this he produced the equestrian statue "Vercingetorix" in Clermont Ferrand. In 1873 he authored a sculpture of Lafayette landing in America at New York. The most noteworthy work after *Liberty* is the "Lion of Belfort," 22m long and 11m high, which was completed in 1884 and perhaps inspired by the lion monument by Canova in Lucerne which is a memorial for the Swiss guards who fell defending Louis XVI and Marie Antoinette. His bronze statue of Diderôt was displayed in Langres. He made the tomb for Paul Bertolini in Auxerre in 1888 and his Gambetta monument was erected in Ville d'Array. Many more works were completed, statues and busts for important personages in France and surrounding countries.

Much political thought preceded the execution of plans for the "Statue of Liberty." After the death of de Toqueville in 1859, Edouard René Lefeburé de Laboulaye emerged as the leading French authority on American constitutional history. When Laboulaye had his bust done by Bartholdi their friendship began. An official discussion took place in 1865 regarding a "Statue of Liberty" as 'Leitmotiv' for the commemoration of the alliance of France with the American colonies during the American Revolution. (Claes Oldenburg's proposition of replacing the "Statue of Liberty" with a colossal fan suggests that this friendship might be blown whence it came.)

In 1880 the Franco-American union had raised $250,000 for the construction of *Liberty* and Bartholdi was able to continue his enthusiastic pursuit. By August 11, 1885, a few days after the "Isere" had delivered *Liberty* in New York, the missing $100,000 owed by America for the pedestal had been raised. Joseph Pulitzer was the major figure willing to raise this sum; in his publication *The World*, he requested support from all Americans. The name of each donor and each contribution were published, no matter how small.

Bartholdi had recommended the twelve acre Bedloe's Island site. His book, *The Statue of Liberty Enlightening the World*, was published in New York in 1885. In 1886 the

incredible 151 foot 1 inch statue, with pedestal of 305 feet, was dedicated. The superbly accomplished wrought-iron skeleton was designed by Gustave Eiffel; the covering was made of more than 300 copper sheets 3/32 inches thick.

Both Fedi's and Bartholdi's sculptures are monuments making a symbolic statement. They are sophisticated works of sculptural craftsmanship and do not serve purely to display a specific aesthetic or the artistic idea and force of the artists.

By the year 1870 when Pio Fedi submitted his first drawings for the Niccolini monument in the style of a *Liberty* figure, Bartholdi's name had been established in the European art world; his *Liberty* project had been discussed five years earlier. Pio Fedi traveled to undertake many commissions; his interests were mostly directed toward mythological, lyrical and idealistic themes and it seems almost certain that he must have visited the international exposition in Paris. Bartholdi's model was of course exhibited there and it seems probable that the great publicity and popularity of *Liberty* symbols throughout Europe could easily have convinced a secondary sculptor to establish the vogue in Florence.

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1 In the archives of the church one can follow the various exploratory proposals and the correspondences from data filed under the heading: 1883 #11 Opera di Santa Croce Inaugurazione del Monumento all'Illustre Giovanni Battista Niccolini seguita il 20 Settembre 1883.

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Fig. 1, *Statue of Liberty*, New York Harbor; photo courtesy of the National Park Service.

Fig. 2, *Freedom*, Pio Fedi, tombsculpture at the Church of Santa Croce, Florence.

Fig. 3, *Freedom*.