FROM THE EDITOR

IT WAS WITH PLEASURE and trepidation that I accepted Charles Stegeman's summons to assume the editorship of AVISTA FORUM. Pleasure is the obvious fruit of working with co-editors Carl Barnes, Jr., Pamela Long, Carol Neuman de Vegvar, and George Ovitt and of involvement with a unique and pioneering enterprise which encompasses manuscript codicology and mining and in which Villard de Honnecourt and Erwin Panofsky can find a voice. My trepidation, just as obviously, was triggered by the prospect of filling the imposing shoes left by Pamela Long, who has been instrumental in making the FORUM a publication that has elicited kudos from art and architectural historians, engineers, historians, psychologists, and scholars of medieval English literature. If there is any solace, it is the hope that our ten collective feet, including Pam's, will be large enough for the task of continuing what has been so ably begun.

OF QUARKS AND CHISELS

During the past month, the paths of pedagogy have directed my reading to Stephen Hawking's A Brief History of Time. From my perspective as an architectural historian, it occurred to me that explorations in medieval science and technology and their impact upon our understanding of art and culture bear an uncanny resemblance to recent developments in physics and cosmology. In the last thirty years, as scientists have made great strides in quantum mechanics, a universe filled with quarks, neutrinos, and virtual particles has been discovered. At the same time, physicists such as Hawking or Alan Guth at MIT have begun to suggest theories that integrate heretofore irreconcilable quantum effects with general relativity and to lay the groundwork for a general unified theory of the universe.

In a similar vein, within the same period, historians have discovered the quarks of medieval architecture in

continued on page 3
MESSAGE FROM THE PRESIDENT
by Charles Stegeman

AVISTA is proud to present an exhibition on Villard de Honnecourt during the 24th International Congress on Medieval Studies at Kalamazoo. This collection of panels, produced and assembled by our French counterpart, l’Association Villard de Honnecourt, reproduces several pages of Villard’s famed “Notebook” in an interesting, didactic manner. The exhibition will be displayed in Fetzer Hall on the second floor where participants in the Congress will have ample opportunity to view it in conjunction with two AVISTA sponsored sessions: Villard de Honnecourt: The Artist and his Drawings (see p. 4).

I have been aware of the planning of this show, honoring Villard, since its inception. I have seen in Honnecourt the first panels produced on a trial basis and the finished show exhibited in the monastery at Senanque. We are fortunate indeed that their exhibition schedule allowed us the time for the transportation and display of this worthy collection honoring our inspirational figurehead, Villard de Honnecourt. We are very grateful to the Ian Woodner Family Collection, Inc. and its curator, Ms. Jennifer Jones, and to Oakland University for their generosity in underwriting transportation costs to and from Honnecourt, France. We are also indebted to Otto Gründler, who has made this exhibition a reality.

It gives me a personal satisfaction to see the first joint project between the two Associations Villard de Honnecourt. If I had not visited Honnecourt by chance, because the Abbey of Vaucelles was closed to visitors that day, and if it had not been for further fate that Jean Gimpel and many officers of the newly formed French Association Villard de Honnecourt had chosen that same date to unveil a monument to Villard in Honnecourt, AVISTA would not exist today.

AVISTA FORUM is produced by
The Laser Touch, Inc., based in Conshohocken, PA.
the stones of the buildings and virtual particles in the marks of the chisel, the lines of plans, and the character of tools. However, detailed observations sometimes appear to be at odds with large-scale effects. Judged by its space, structure, pier forms, or decorative vocabulary, Cologne Cathedral, for example, seems a progressive kin of such contemporary edifices as Beauvais or Amiens, but Master Gerhard’s antiquated stonecutting techniques betray the local Rhenish personality of his workshop. If economic pressures dictated the serial production of individual elements and architects turned their inventive energies toward the rationalization of stone courses, what then of the church’s identity as an image of the Celestial City?

Let me signal just one study, Michel Bouttier’s La reconstruction de l’abbatiale de Saint-Denis au XIIIe siècle, Bulletin Monumental, 145 (1987), 357–386, as a bold representative of the attempt to synthesize the quanta of technology with the broad horizons of philosophy. His careful study of Parisian windows between 1230 and 1260 suggest that Erwin Panofsky’s general application of scholastic principles to Gothic architecture may find unintended confirmation in the details of tracery, much as Einstein’s work on relativity is fundamental to quantum mechanics. Technology does not contradict aesthetics, philosophy, or theology, rather they are part of the same universe that we seek to understand and explain. The goal of an architect’s activity was not simply the production of the constituent pieces nor even their assemblage into a work of art. It also aimed at a perceptible manifestation of the truth which, to the Middle Ages, was nothing less than a manifestation of the divine.

Call For Papers

AVISTA Sessions at Kalamazoo, 3–6 May 1990

Transportation as Depicted in Medieval Art and Literature

25th International Congress on Medieval Studies
The Medieval Institute,
Western Michigan University,
Kalamazoo, Michigan

Barbara M. Kreutz, Chair

Possible sub-topics:
1) The credibility of artistic depictions
2) Transport-logistics in military and naval campaigns: the interpretation of chronicle evidence
3) Frequent flyers: miraculous journeys or the translatio of holy relics
4) Travel on the pilgrimage routes
5) Delivering the goods: merchants & merchandise

Talks are limited to 20 minutes. Send one-page abstracts, indicating your audio-visual needs, by September 15, 1989, to Dr. Barbara M. Kreutz, 238 North Ithan Avenue, Villanova, PA 19085 (USA). Tel. (215) 527-2564.
Notes and Queries

This section is designed to encourage the exchange of information and ideas among readers of AVISTA FORUM. Each query is assigned a number keyed to an issue of the FORUM. The notes printed here are replies to specific queries and are numbered accordingly. Of course, many queries could be answered by more than one respondent; therefore, we welcome responses to queries in any issue, as well as on-going correspondence regarding issues raised in these pages. Please forward your notes and queries to George Ovitt, Dept. of Humanities, Drexel University, Philadelphia, PA 19104.

QUERIES

Q-1 (3.2): Professor David F. Noble of Drexel University writes with questions on two matters: first of all, he would like to have information regarding the date of, and the reasons for, the displacement of women by men as practitioners of medicine in the Middle Ages; second, Professor Noble would also be interested in any medieval accounts of attempts within medical practice to artificially gestate a human embryo. Professor Noble is writing a book on the history of women's presence in, and exclusion from, science and technology.

Q-2 (3.2): Thomas W. Lyman, Art History Department, Emory University, writes regarding the term medie cintrie discussed at the Codex Calixtinus Conference, School of Fine Arts, The University of Pittsburgh, 5 November 1988.

Book Five of the Codex Calixtinus, a collection of texts related to the cult of St. James in Compostela, is generally referred to as the Pilgrim’s Guide. The dimensions of the cathedral discussed in Chapter IX refer to the media cintrie as defining the height of the side aisles, then again to the medie cintrie with reference to what the stonemasons call compound piers (duplices pilares), and, finally, to columnae cintrie with reference to twin columns located between the main piers at the tribune level. In a footnote to her French translation, Jeanne Vieillard acknowledged several explanations none of which has proved completely satisfactory: Elie Lambert thought that the term cintrie, identical to modern Catalan for centering, probably refers not to the centering itself but to supplementary supports; Bonnault d’Houet cited the only
other instance of its use in 1462 with reference to the last bay of Rodez Cathedral where it clearly denotes an arch, a meaning that does not suit the two subsequent uses of the term. There is still no consensus about how the term media can be read into all three architectural contexts.

Serafin Moralejo, in his paper entitled The Codex Calixtinus As An Art-Historical Source, commented in passing on how the term might apply quite accurately to the twin columns in the gallery arcade which effectively serve as part of the centering for the main arches. In my own commentary on his paper (the full text of which I cannot quote because it was stolen with the briefcase of Anne Shaver Crandell, one of the authors of a forthcoming English translation of the Guide, in a New York subway), I recalled an instance where the intermediary twin columns were inserted long after the main arch, a practice John James told me is not uncommon.

Here, I suggest another interpretation that would countenance all three uses in the Codex. In a recent study of Saint-Sernin in Toulouse (Gazette des Beaux-Arts, 1981), I showed that the total height of the main vessel was exactly twice the height of the level of the tribune bases. The bases of not just the twin columns but also the compound piers in the upper and lower storeys thus mark those two parts of the elevations. That centering for the main vault may also have been established at the tribune floor is, in itself, worth speculating about.

However, because the tribune level at Santiago is higher than the middle of the elevation, this explanation would not seem to apply, except perhaps to the actual centering of the side aisle vaults which are very close to the midpoint of the elevation. Because my response to Serafin had to do with the extent to which the program at Santiago was a reaction to that in Toulouse—a kind of perfecting of what was perceived as an unworthy rival—my explanation of the use of media cindria in all three cases is premised on the assumption that the term the author of the Guide probably overheard builders at Santiago using was also carried over from the terminology applied more correctly to the basis for centering each half of the elevation at Saint-Sernin.

Any comments from architects or architectural historians about any of these interpretations would be much appreciated.

NOTES

Note to Q-1 (3.1): From Ervin Bonkalo of Sudbury, Ont. comes the information: On heraldry in general, and painting of shields from the 12th century on in particular, see Nyulaszine Straub Eva, Ot evszazd cimerei (Budapest, 1987). Available from Pannonia Books, 472 Bloor W., Toronto M5T 2T8 for $96. Bookstore will photocopy bibliography for $10. Professor Bonkalo adds that most major museums will have a metalworks expert connected with their Restoration and Preservation Department, and this individual will perhaps be a good source for information on heraldry and shields.

Note to Q-2 (3.1): From Marjorie Boyer of New York: Professor Barbara M. Kreutz writes to suggest that “Medieval Biblical depictions...often reflected Biblical scenes as presented in medieval mystery plays and/or the processions which formed part of them.” The editor has suggested that the Corpus Christi plays are so late that they are unlikely to have had an influence on depicting kings riding in farm wagons. [A slight modification of the editor’s point, but no matter. Ed.] This view appears to be correct. In lieu of giving a long list of miniatures of inappropriate royal vehicles to support this conclusion, let me merely note here an illustration of the seventh century Pentateuch of Tours showing Pharaoh drowning in the Red Sea. Pharaoh and two other men are riding seated in a perpendicular-sided, square wagon resting on the axles. The vehicle has no relationship to what we know the pharaohs were driving in the second millennium B.C. or to the triumphal cars of the Roman emperors. There is nothing regal whatsoever about the seventh-century vehicle, whether one takes the views of Roman artists or of later, medieval ones. At this time for a king to ride in a vehicle seems to have been outside his experience. (Reference is to B.N., N.A. lat. 2334, fol 40r.)

BOOK REVIEW

Spanish Technical Writing: An early exemplar by Francisco Lobato
by Pamela O. Long
Washington, D.C.

José Antonio García-Diego and Nicolás García Tapia, eds. Vida y Técnica en el Renacimiento: Manuscrito de
Francisco Lobato, vecino de Medina del Campo (Valladolid: Universidad, Secretariado de Publicaciones, D.L., 1987)
Secr. de Publ. de la Univ. de Valladolid, Avda. de Ramon y Cajal, 7. 47005 Valladolid, España.

This important publication makes available for the first time a book that was unknown ten years ago. A manuscript which includes 26 technical drawings, it was discovered stuck to the back of maps belonging to a 1508 Roman edition of Ptolemy's Geography. The author is one Francisco Lobato, the owner of several mills in the area of Medina del Campo. The town marked the beginning of the trade route to Antwerp and was an important commercial center noted for its fairs. Although the dates of Lobato's birth and death are unknown, he refers to events between 1547 and 1585. Most of the manuscript was written in 1577.

The pages were found in a seemingly random order and have been rearranged and paginated by the editors. The contents include a plan to write a history of Medina del Campo which was either never written or has been lost. The author also discusses events in his life such as his trip to Andalucia where he became involved in a war being fought against the Moriscos. He refers to events in his town and includes poetry that he wrote for fiestas and other occasions.

The technical pages include discussions and drawings of a perpetual motion machine; canaling and damming of waters for fountains, navigation, and mills; water mills, tread mills, and perhaps most interesting, a series of wind mills. Lobato does not appear to have been an expert in the technologies that he discusses. His drawings contain some errors and some innovations. He also refers to secret mechanisms in some of the mills. He was an enthusiast for his town and for technical things, who, like many technical authors of the sixteenth century, included writing about machines among the forms of cultured expression along with history and poetry. He refers to the "town fathers" of Medina del Campo and probably saw his writing as a way of achieving status and material advantages.

The editors have provided brief comments on the various drawings. Their edition will be an important source for detailed future research. Anyone interested in early modern technology or technical literature will find this early Spanish example fascinating and instructive for both comparative and local studies.

Francisco Lobato: Perpetual motion machine in which overshot water wheels power Archimedes screw to lift water from lower basin (fig. of folio 8).

Francisco Lobato: A windmill built by a German, Gaspá Rotrilo in 1556 near Almagro—the "most costly" to be seen in Spain (fig. of folio 21).
REVIEWS OF ARTICLES

The purpose of this section is to encourage comment and create active dialogue on essays and articles. Hundreds of scholarly journals review books. Few, if any, review articles. These reviews will bring significant shorter studies from various disciplines to the attention of AVISTA FORUM readers. The editors urge readers to contribute reviews of articles published in periodic literature and in collective works. Readers, including authors of reviewed works, are encouraged to comment on the reviews. Readers are also urged to bring relevant articles to the attention of the editors.

SCIENCE, MATHEMATICS, TECHNOLOGY, AND METALLURGY

Science and Architectural Space
by Pamela O. Long
Washington, D.C.


In the past twenty years what might be called the social history of science has become a predominant concern among historians of science. More recently efforts have been made to show how the social context of science actually shaped the specific development of scientific knowledge. In this regard, some historians have begun to consider the space in which science was done—e.g., the space of the early “laboratory”—as a crucial aspect of the social context of science. The two studies reviewed here are important contributions to this new direction.

Hannaway’s study involves a comparison of two spaces designed for experimental scientific work. The first is Tycho Brahe’s great castle-observatory in Uraniborg which included a chemical laboratory in the basement. The second is “Chemical House,” discussed by Andreas Libavius in the 1606 edition of his textbook on chemistry. Hannaway’s intent is to show how two contrasting architectural plans for housing similar types of activities illuminates “the intellectual and ideological roots of a new mode of scientific life” that arose at the turn of the sixteenth century. He elaborates that the differences in the plans reflect opposing views of the nature and goals of experimental activities.

Libavius was an anti-Paracelsian who opposed the secrecy of the alchemical traditions by discussing the chemical arts openly and in detail. The design of his Chemical House, a town house where the chemist both lives and works in his laboratory, is in marked contrast to Brahe’s luxurious island castle. Libavius was a Saxon physician and pedagogue, a product of Lutheran scholastic humanism whose life was spent in municipal service as a physician, school inspector, and finally rector of a gymnasium. Brahe was a member of the Danish nobility. His observatory, Uraniborg, was built on an island that had been granted to him by the King of Denmark (Frederick II) in 1576.

Despite the elusiveness of Brahe’s chemistry, the great astronomer was explicit in insisting that his chemical discussions would be limited to noblemen and princes, providing they keep them secret. Hannaway associates secrecy with aristocratic aloofness and contrasts these attitudes to Libavius’ view of chemistry as a liberal art based on access to shared information. Libavius’ chemist was a civic humanist who lived and worked in town and whose chemistry was directed toward social utility and the needs of the vita activa. On the other hand, Brahe was a nobleman working in isolation whose chemistry served as a help to understanding the harmony of the cosmos and to enhancing the contemplative ideal.

It has been possible here to summarize only the main themes of Hannaway’s study. Its significance derives in part from his attention to architectural space as part of the context of science. In addition, his discussion of the influence of the social origins of the participants as relevant to the goals of science is an important one.

My two comments will in no way detract from the significance of the study. The first is that although Hannaway rightly emphasizes the importance of civic humanism on the attitudes of Libavius, he neglects to mention at all the obvious influence of sixteenth century mining and metallurgy authors who repeatedly advocated openness in opposition to the secrecy of the alchemists. Libavius was a direct heir to this tradition of technical writing which was itself influenced by humanism.

Second, I think great caution should be exercised in making generalizations about the relationships of social class to occult versus open, utilitarian traditions. Hannaway discusses two individuals in great detail.
We are not in a position to generalize from his conclusions, particularly considering that many of the German princes supported alchemy and also encouraged practical assaying for utilitarian if not civic ends. The Emperor Rudolf II who was petitioned by Tycho Brahe is well known for his interest in the occult. Yet he is the same Rudolf who knighted Lazarus Ercker, an assayer and mine administrator who consistently opposed alchemy because of its impracticality and obscurity.

Steven Shapin's *The House of Experiment in Seventeenth-Century England* reinforces, I think, this cautionary note. Shapin, like Hannaway, is concerned with the place of experiment. His study is devoted to the experiments of Boyle, Hooke, and the members of the early Royal Society. His aim is to show "how the siting of knowledge-making practices contributed toward a practical solution of epistemological problems," and he explores how the "place of experiment" influenced "assent to experimental knowledge claims."

Shapin emphasizes the differences between private and public space. He also stresses that empiricism (at least as it was practiced in seventeenth-century England) precluded solitary observation and necessitated acts of witnessing. In a brilliant and detailed discussion, he shows that most experimental work was actually done in the private residences of gentlemen and that in fact, although a variety of technicians and servants might be around and assisting, the only legitimate witnesses could be individuals of a certain social status whose judgment would not be influenced by consideration of gain—namely other gentlemen.

Shapin also distinguishes between the experimental work done in private residences and that done publicly before the Royal Society. The first were exploratory. They might or might not work, and they might prove or disprove an hypothesis or theory. The latter were performed in public only after they had been perfected in private. They were demonstrations before worthy witnesses that were expected to work and to demonstrate a theory.

Shapin's study shows that we should not impose modern notions of experiment on past activities. The article also has important implications concerning the role of artisans in the development of experimental science. His portrait of "laboratory" technicians present and doing the actual work of making equipment and carrying out experiments, but non-persons in terms of witnessing the validity of results, is one that deserves further scrutiny and comparative consideration with, for instance, Italian parallels.

The two articles are seminal in their attention to place and architectural space, to the actual activities that are taking place in a particular space at a particular time, and to the way in which both factors shape knowledge production. These studies open up possibilities for future work which were not previously obvious. They have significant implications as well for a direction of work in other disciplines and for other time periods.

*Technical and Mathematical Culture in Sixteenth-Century Italy*

by Pamela O. Long

Washington, D.C.


*In the First of These Articles*, Settle focuses on the problem of relating sixteenth-century technical culture to the innovations of seventeenth-century science (particularly those developed by Galileo). He notes that there has been much work on the influence of technical traditions on the origins of modern science, beginning with Leonardo Olschki's *Geschichte der Neusprachlichen Wissenschaftlichen Literatur* (1919–1927). Yet historians of science for the most part remain unconvinced of the fundamental importance of such an influence. Settle observes that historians of science since the war have tended to separate the history of ideas from the history of practice. Further, although museums of science and technology are full of scientific instruments that were used in the sixteenth century, these tend to remain isolated artifacts which scholars have failed to integrate into historical scientific and technical cultures.

To further understanding of the deeper connections between technologies and science, Settle urges that we take seriously the notion that there were numerous technical traditions in the early modern period. Some of them led toward the experimental sciences while
others did not. He suggests the construction of a "natural system of classification—a typology of the technical professional." For instance, he delineates various types of engineers and points to the sixteenth-century specialization into military and civil architecture and engineering. Another group, artists, were increasingly skilled in perspective and anatomy. A third group which he calls "logistical administrators" were in charge of maneuvering "cash accounts and material goods on a large scale and over long distances." Most of these groups had in common the mastery of a practical skill and most worked outside of the traditional guilds. Yet those who were able to elevate themselves to designers, directors, managers or summarizers, to impose some reasoning on practice, were most important for the development of a new science.

The article is intended not as a summary of proven conclusions, but as an orientation to research. The significance of that orientation is that it insists upon joining the history of ideas and the history of practice. Settle wants to show how kinds of practice (including technical skills but also social practices by which a culture defines a technical professional) might influence thinking about the natural world within a particular setting. His methodology involves a rejection of traditional history of science wherein a series of canonical texts are studied in relative isolation from the culture that produced them.

The second study, *Egnazio Danti and Mathematical Education in late 16th Century Florence*, also treats the culture from which Galileo emerged, in this case mathematical culture in Florence. Settle begins with a discussion of two lectures that the young Galileo delivered to the Accademia Fiorentina on the topography and location of the inferno in the Divine Comedy. The lectures involved long and sometimes complex calculations that would "at least bore and more probably annoy a modern listener." The fascinating question raised by Settle is, if a Florentine audience could follow and be pleased by such a lecture, what does that suggest about the nature of culture at that time? Where could a Florentine audience have derived a mathematical education sufficient to appreciate Galileo's lecture?

Settle provides a partial answer to this question with a detailed discussion of the education and other activities including teaching and writing of Egnazio Danti, a mathematical practitioner, geographer, instrument maker, astronomer, translator and commentator of mathematical texts, and teacher who was active in Florence from 1563 to 1575. Settle makes clear that Danti's main support for his mathematical activities came from the court of the Grand Duke Cosimo I.

Egnazio Danti is an example of one kind of technical professional discussed in the first article. As is clear from detailed description of Danti's education and work, the categories of activities in which he was involved were far different than they would be today for either a mathematician or a practitioner of any sort. Settle's reconstruction of Danti's education and Florentine career should serve as a model for work on Danti's friends, students, and fellow practitioners. The context of Galileo's own work would become ever more apparent from such further research on the mathematical practitioners of late sixteenth-century Florence.

**Two Recent Studies on Medieval Metallurgy**

by John Muendel
Lakeland College


For their July-August issue of 1987 the editors of *Annales: économies, sociétés, civilisations* have provided two provocative studies on medieval metallurgy in France and Lombard Italy. Philippe Braunstein deals particularly with the sources relating to the iron manufacture of the region of Othe in southern Champagne. He suggests that from as early as the last quarter of the thirteenth century the production of iron in the forests of Othe was completed without the benefit of waterpower. Even the stable *fabrice de minis*, *de massis*, and *de patellis*, whose names betray their activity, apparently ran without water-driven bellows or trip-hammers. The large forges where frying pans, nails, and other accessories were fabricated were either scattered throughout the wooded highlands of Othe or located at a central depot where a variety of artisans finished their individual tasks under the auspices of seigneurial institutions. These forges were fragile, wooden edifices that could be transferred from one area to another, far from the hydraulic mills.
This backwardness appears to have been the result of two factors. First, there was the lack of any distinction between the seigneurial economy and the political management of the region. In 1372 when two new large forges were constructed by the countess of Flanders, Artois, and Burgundy through her rights over the fief of Villemaur, all activities regarding the new structures were under the control of her Collector ("receveur") stationed at the city of Troyes. The surviving leases specify that all deliveries had to be made at the Collector's town house in Troyes at least three times during the year if the contracts were annual and on the first of August if they extended beyond that time. It was the Collector who took the finished products to the fairs of Champagne and Brie where they were sold to wholesalers. The local merchants became involved in transactions only when the stock was being totally liquidated.

A second reason for the apparently underdeveloped technology of Othe comes as a result of the lack of any external provisioning. When the local ores were depleted, those who leased the mines or their revenues on behalf of the Collector simply disappeared until a new vein was uncovered. Expectations of profit were determined only by the presumed abundance of the ore. This set up an economic cycle of discovery, intense exploitation, and, finally, the progressive exhaustion of the ore. Indeed, such a cycle encouraged traditional techniques and inhibited technological change.

Despite these drawbacks, the technology and society of Othe were subject to noted contrasts. Since, on the one hand, the lords of Othe resorted to corvees to extract ore from the mines, there existed the humblest form of seigneurial dependence. On the other hand, the freest of enterprise prevailed among the craftsmen. The technical competence of the charcoal burner, who worked his own farm, allowed him to be a leaseholder, an appraiser of iron as well as a blacksmith. Nor is this society of the wooded highlands divorced from urban affairs. Close ties existed between the region of Othe and the neighboring towns, towns that dealt directly with the fairs of Champagne. Since several leaseholders are expressly designated as iron merchants, Professor Braunstein is tempted to see them as merchant-entrepreneurs well-known in other regions where the industry was developed. However, the brief biographical information extracted from the surviving accounts is not enough for him to raise these individuals to the level of the urban society that they border.

Instead, they remain representatives of the Collector's office and work on behalf of the local markets and fairs. They are more closely related to the carriers of ore and charcoal than to the sophisticated merchants of the city.

The nearly total exportation of iron outside of Othe poses two further problems: the level of needs and the technological expertise of the population. In general, the skill of the rural artisan appears to serve modest ends. Since soldiers of Brittany in the service of the king dismantled the windmill at Maraye in 1368, parts ("fers") for the structure had to be replaced. The transport to the castle of Juilly of 50,000 lath nails produced by Jehan Lemoigne at Maraye betrays a routine technological activity despite his sizeable output. Nonetheless, since castles in southern Champagne were being restored, there was a greater demand for the piecework of blacksmith and farrier. The nailmakers of Maraye, Chaource, and Lantages sold tens of thousands of nails for the necessary work of restructuring châteaux. When demand exceeded supply, the only recourse for the village artisan was the city. One of the intermediaries of the Collector was a foreign merchant named Lambert of Brussels, who sold at one time not only 100,000 nails for the work at Juilly, but also the lead that was needed to lay tiles for paving as well as steel for an undetermined endeavor. Ironically, when specialized demands were in order, it was neither the local artisan nor the urban merchant who filled them. Requests were made instead to those employed at the castles, the principal depots of the countryside. These centers attracted the best techniques and thereby stimulated innovation. Etienne Jacquet, a glassmaker by profession, received at the châteaux de Sézy the pressing invitation to proceed to Juilly in order to reassemble twenty crossbows. So important were Jacquet's insight and initiative that the Collector himself travelled to fetch his services since he was unable to find, so the sources state, as "bon ouvrier ni si profitable comme l'edit Jacquet."

In his contribution to this forty-second volume of Annales: économies, sociétés, civilisations, François Menant focuses on the mining and metallurgical activities in the provinces of Brescia and Bergamo from the post-Carolingian period through the thirteenth century. Since iron mines as well as those of silver were located in the same zones, he deals with the manufacturing processes of both ores. The mines themselves are found in an area of some sixty kilometers stretching west to east from Lake Como to Lake
Garda and at heights between 600 and 1500 meters. The published sources describing the mines lack consistency, but nonetheless those for the Val di Scalve and Ardesio go back to the eleventh and twelfth centuries respectively and thereby provide him considerable depth.

In the principal veins extraction was accomplished by means of galleries, the openings, such as those at Ardesio and in the Valbrembana, beginning at the base of the mountain and thereafter raising in tiers to undetermined heights. The mining season was divided into two periods, one starting at the feast of St. Martin on 11 November and continuing to the fifth Sunday of Lent, the other beginning at that time and lasting until the appearance of the feast once again. It would seem that the heaviest work occurred in November and December and once more in March and April so as to accommodate the agricultural activities of the miners. After mining, the silver ore was first sorted, then submitted to firings in a furnace (furnum, furnellum argenti) before being sent to special installations where crucibles (foxiniae) were set up for refining the ore. The workshops were privately owned rather than possessed in consortia by the members of the mountain communities or by the inhabitants of either Bergamo or Brescia. At Ardesio, however, mining societies, made up of prominent villagers or episcopal tenants who were responsible for the expenditures of the silver mines, were notable by the beginning of the thirteenth century. The members had escaped the control of their lords as well as the manual labor of the mines to form independent associations that directed all of the operations of extraction. They contained from six to twenty members, all of whom possessed shares that could be bought, sold, and divided.

In describing the manufacture of iron ore, Professor Menant shows that the provinces of Bergamo and Brescia were equally productive since as early as 900. Between that time and 1047 several villages of miners, particularly those within the domain of S. Giulia di Brescia in the Valcamonica, were producing several tons of iron annually. During the first half of the thirteenth century, these provinces experienced a "boom" in the production of iron and steel products. Unfortunately, when Professor Menant describes the means by which these products were made, he demonstrates a lack of clarity in recounting the transition from the direct to the indirect process. For him this transfer occurs as a result of a division of operations between the furnace and the forge, the first producing ferrum crudum, the second, ferrum coctum or steel. Accompanying this separation of functions was the application of hydraulic power to bellows for the first time so that higher temperatures could be obtained to produce the steel itself. The documents that Professor Menant uses, however, show that the ferrum coctum is produced "in verzells" or in bars, thus indicating this type as cast iron rather than steel (see note 7, p. 789). It is true that at a later date Brescian steel could be obtained by putting bars of wrought iron into molten cast iron or by the controlled refining of the latter. But much more information would be necessary to establish such techniques for the early thirteenth century. It is more likely that after the furnaces, which obviously used waterpower to convert the low-grade ore of Lombardy, produced cast iron bars, they were then transferred to forges for their manufacture into a variety of items, some of which could have been steel (see Domenico Sella, Crisis and Continuity: The Economy of Spanish Lombardy in the Seventeenth Century (Cambridge, Mass., 1979), pp. 38–39 and 111–113 and Theodore A. Wertime, The Pyrotechnologic Background, in The Coming of the Age of Iron, ed. Theodore A. Wertime and James D. Muhly (New Haven, 1980), pp. 1–24).

This interpretive deficiency may mar Professor Menant's study, but it should by no means condemn it. The other information he has gathered from the published sources provide striking evidence for the pronounced involvement of tenth-century collectives in the production of iron. His analysis of the associations of Ardesio demonstrates the growth of such consortia into sophisticated agencies comparable to societies formed for shipping ventures or for the efficient operation of industrial mills. The outstanding study of Philippe Braunstein warns us to be careful of jumping too quickly to conclusions before fully weighing and analyzing archival evidence regarding technological development. His analysis helps to temper those judgments that see the Middle Ages as a period of industrial revolution. Paths were certainly open for technological innovation, even within conservative social and political frameworks. We must be prepared to catch those moments and properly fit them into the kaleidoscopic patterns that the medieval period presents us.
The Portfolio of Villard
by Robert G. Calkins
Cornell University


The very nature of the so-called “Sketchbook” of Villard de Honnecourt (Paris, Bibliothèque Nationale, MS Fr. 19093) has been the subject of controversy as long as it has been known to scholars. It has been considered to be a Bauhüttenbuch (a shop manual for a building lodge—Hahnloser), a Lehrbuch (an instructional manual for medieval masons—Frankl), an “album” or “sketchbook” (implying the sketches were made on a pre-bound booklet of blank vellum leaves), and now a “portfolio” or a post-factum assemblage of various sketches on vellum leaves of differing quality and dimensions. This last view, suggested by Professors Barnes and Shelby in the present article, is supported by the most rigorous and detailed codicological examination of the manuscript that has been published. This will probably be the definitive statement of how the manuscript was put together, what its original order and structure was, and how much is actually missing. All future studies will have to take into account this precisely recorded evidence.

The authors show that the sequence of the surviving 33 leaves is essentially as Villard de Honnecourt arranged them, rather than being completely rearranged as suggested by Hahnloser. Moreover, they demonstrate that only thirteen leaves can be proved to be missing, with a possibility of two others for a total of fifteen, as opposed to a total of sixty-four leaves.
postulated by Hahnloser. The evidence for these contentions is carefully presented, from the nature of the binding, to the proof that the drawings were executed upon unbound sheets of folded vellum that were later bound into the portfolio as bifolios by Villard de Honnecourt himself. The authors suggest that the present wrap-around binding "is sufficiently large to have been the original container of Villard's leaves of drawings," but it should perhaps have been noted more explicitly (rather than implied at the end of the article) that these leaves of sketches would have had to be folded to fit into this container and that therefore they were folded by the time they were placed in it: unfolded and turned lengthwise, they would have been both too long and too wide. Nevertheless, the authors demonstrate convincingly by an analysis of the text and by a careful presentation of the pagination schemes that the quires (of irregular length) are in their original order, and that the leaves within them, in so far as can be determined, seem to be essentially in the order that Villard de Honnecourt left them. It is this process which also convincingly yields the number of missing folios and their probable location. These assertions are backed up by a detailed Appendix showing the various pagination campaigns of the manuscript, and by clear and detailed diagrams of each gathering.

These exemplary procedures applied to the material composition of this problematic manuscript ought to be emulated by any scholar dealing with manuscripts that present similar difficult problems. It may well be that the circumstances of other manuscripts require the examination of different evidence. Nevertheless, similar analysis of the "sketchbook" or "modelbook" is particularly important, for it is necessary to discover whether the author intended from the beginning that his drawings be part of a compendium of designs, whether he had a growing awareness of the artistic value of such an accumulation of drawings only towards the end of his career—as Barnes and Shelby have shown may have been the case of the Villard de Honnecourt portfolio—or whether some later individual appreciated the artistic integrity of such a bundle—perhaps even by different hands — and gathered them together in a meaningful manner for some specific purpose. Such analysis gives us crucial clues concerning the growing artistic self-awareness during the period of the Middle Ages, as well as an insight into "lodge" or workshop practices. As a primary point of departure, however, is the critical material analysis of the manuscript itself, which Barnes and Shelby have demonstrated is essential for any further understanding of the intended function of the compendium of drawings.

**Stereotomic Drawings in the Villard Manuscript**

by Michael T. Davis

Mount Holyoke College


In *De la stéréotomie médiévale: la coupe des pierres chez Villard de Honnecourt*, Claude Lalbat, Gilbert Marguerite, and Jean Martin, Compagnons Tailleurs de pierres, study two problems in the so-called sketchbook of Villard de Honnecourt (Paris, Bibliothèque Nationale, Fr. 19093). The first concerns the sketch on folio 20' (mislabeled 20°) of the "vousoir beslogge" or oblique barrel vault; the second, from folio 20° (again mis-captioned as 20'), the setting out of "one clef del tiirc" and "one clef del quint point," that is, the keystones of third- and fifth-point arches. The authors complement their own considerable expertise in stone cutting techniques by drawing upon later technical treatises, such as that by Mathurin Jousse, *Le secret d'architecture, découvrant fidèlement les traits*
The oblique barrel vault was drawn empirically and based on descriptive geometry. Additional information culled from a remarkably similar plate in Jousse that illustrates this type of passage reveals that the vault’s internal surfaces were generated by hyperboloids and that the joints of the irregular voussoirs lie perpendicular to the face of the wall. From this the authors conclude that the notebook sketch embodies a non-theoretical constructed space which expresses the material, stone, the man and the simple tools at his disposal while, at the same time, producing a highly stable form. Their demonstration provides specific confirmation of Lon Shelby’s seminal article on *The Geometrical Knowledge of Medieval Masons*, *Speculum* 47 (1972), 395–421 which postulated that Villard and his peers employed a “constructive” not a “theoretical” geometry.

Decoding the representations of arch keystones leads to a series of revelations on the relation of drawing and cutting. On folio 20’, the “satellite” sketches of the semi-circle and the “Archimedean spiral” clearly and simply summarize the construction of the third- and fifth-point arches. As in the oblique barrel vault, Lalbat, Marguerite, and Martin follow Roland Bechmann in suggesting that these illustrations provided terse visual cues that guided the architect in thought and practice. The graphic means were tailored to workshop practices, namely pre-fabrication, for they show the essential steps of centering and vault erection without entailing a mapping out of each entire arch. Voussoirs could be mass-produced; only the five keystones at the apex of each arch of the vaults needed to be tailor-made, a procedure executed directly on the stone and “justified” by the use of a *biveaucercle*. The schemata of folio 20’ which provide a solution valid for all pointed arches made of identical curves, demonstrate the habit of “reason by recurrence.” Not only was the organization of the workshop and the division of labor dependent on the development of such techniques, but the illustrations reveal the medieval mason’s capacity to employ sophisticated tools of thought.

The implications of and lode of ideas in this important study will doubtless echo through subsequent work on stone-cutting and drawing as integral parts of the construction process. My own investigation of the large-scale terrace plans of Clermont Cathedral corroborates the authors’ view that drawing became, in the 13th century, perhaps the key medium of communication between the worksite and quarry, the architect and his assistants. However, the assertion that tracing or drawing and cutting were equivalent terms for a mason should be tempered. Although the “voussoir sans molle,” (how to cut a voussoir without a pattern, sketch of the manuscript implies that the production of small-scale components of determined form could be effected directly on the stone, other drawings, such as those at Clermont, were valuable precisely because they afforded the architect an opportunity for visual contemplation and evaluation prior to the definitive installation of an element. At Troyes, during the late Gothic campaigns, small sketches, elaborate plans, and full-scale graphic models appear before the laying of chisel on stone. It should be recognized that these “mnemonic” images are but one genus of a complex species.

Although it is secondary to the discussion of the drawings and the practices which they reflect, this essay perpetuates a simplistic distortion of the nature of the manuscript itself. It is called “un carnet de notes, un memento personnel” of presumably a practicing architect. Carl Barnes, whose critical *Villard de Honnecourt. The Artist and His Drawings* (Boston, 1982) is inexplicably absent from the footnotes, and others have made a strong case against Villard as a professional architect and his manuscript as a lodge book. Moreover, it has long been recognized that the folios under discussion were sketched by another man, Hand or Master 2. To assert in the face of such contrary evidence that the drawings of folios 20 and 21 are the work of someone named Villard de Honnecourt and that they reveal not only his artisanal expertise, but also his personal intellectual powers recalls ironically the biographical forgeries practiced in the Middle Ages such as that which fashioned St. Denis from the 3rd-century French missionary and martyr, the 1st-century Athenian convert of St. Paul, and the 6th-century Syrian theologian. These pages underscore the difference between Villard’s potpourri of cavalier architectural renderings, human figures, animals, and machinery and the pragmatic workshop “secrets” contributed by Master 2. ✶
ABSTRACTS

of the AVISTA Sessions at Kalamazoo: Villard de Honne
court: The Artist and his Drawings

Two AVISTA-sponsored sessions will be held at the 24th
International Congress on Medieval Studies in Kala-
mazoo, Michigan. They will take place on Saturday, 6
May, 1989 in Room 1040 of the Fetzer Center. Carl F.
Barnes, Jr., Oakland University, will serve as presider
and Michael Davis, Mount Holyoke College, will be
the respondent. The schedule of papers is as follows:

1:30 p.m. (Session 265)
Interprétation des figures de ‘li ars de iometrie’ du
manuscrit de Villard de Honnecourt
Roland Bechmann, Architect and Historian
Paris, France

For thousands of years constellations have been
given mnemonic names which their dispositions
suggested to viewers on earth—for example, Orion’s
shield, the arrow, the cart, the dog, the dipper, the
scorpion, and so on—to help these viewers recognize
and locate the constellations in the heavens. During
the Middle Ages, for the same mnemonic purpose,
comparable names were given to geometric figures,
for example, the donkey’s bridge, the devil’s face, the
quiver, the goose’s foot, the peacock’s tail.

On folios 18v and 19r of the Portfolio of Villard de Honne
court are found a series of sketches representing
people, animals, and faces which has been, until now,
believed to provide shorthand methods of reproducing
such subjects, due to the use of the word “portraiture”
(representation) in the inscription accompanying them.
However, despite the claim that these figures are
“based on the art of geometry,” few of the diagrams
superimposed on the figures could help a draftsman or
sculptor reproduce them.

Taking selected examples, this paper will demon-
strate that some of these drawings are linked symboli-
cally or esoterically to medieval traditions still alive
among the “Compagnons du Tour de France,” heirs to
the builders of the Middle Ages and still bound by rules
of guild secrecy. Other drawings appear to refer to
constructions or geometric figures which would have
been useful to builders in the 13th century.

Plastic and Scientific Anatomy in the Portfolio of
Villard de Honnecourt
Mark H. Infusino
School of Medicine, U.C.L.A.

This paper developed from research preparatory to
establishing an Index of Medieval Medical Images (IMMI),
a sort of secular Index of Christian Art, within the context of the National Library of Medicine.

Two folios in the Portfolio of Villard de Honnecourt
are currently recognized as related to medicine: fol.
33v contains a recipe for a painkiller to treat someone
who is injured; and fol. 27 shows the beheading of SS.
Cosmas and Damian, the patron saints of physicians,
surgeons, pharmacists and others who treat the sick.

Other leaves in the Villard portfolio attest to a
practical concern for the form and function of the
human body. The nude figures on folios 11v and 22
obviously emulate the plastic anatomy of classical
sculpture. In folios 18 and 19 Villard attempts to
analyze the depiction of the human body in terms of
squares, circles, and especially, triangles. Here we
find clues to help fill in key phases in an intriguing
process represented by some of the most enigmatic of
surviving medieval medical illustrations. Attempts to
illustrate gross anatomy developed from the 12th-
century “Five-Picture Series” to the life-size charts
used in his anatomical lectures by Henri de Mondeville
at the beginning of the 14th century. Stages in this
evolution to a more realistic portrayal of the human
body can be seen in the Basel and late Wellcome
versions, and we get our clearest idea of what
Mondeville’s charts were like from miniatures in Paris,
Bibl. nat., MS Fr. 2030 and Cambridge, Trinity Coll.,
MS 1148.

Villard’s sketches offer a unique step in the progres-
sion to the anatomical charts made for Mondeville
about a century later.

Villard de Honnecourt and Medieval Bronzes
George Szabo
Place des Antiquaires, New York City
Abstract to appear in next issue.

3:30 p.m. (Session 299)
Villard de Honnecourt’s Use of Templates in his
Drawings
Rebecca Price-Wilkin
University of Michigan, Ann Arbor
IN HIS DRAWINGS, Villard de Honnecourt employed a consistent "system" of representation. When a surface is flat or parallel to the viewer’s eyes (fol. 9v), it is presented in a symmetrical pattern; but when a surface is curved or recessive (fol. 10r), Villard employed distortion and reduction in size and number to suggest recession from the picture plane.

There is another, hitherto unnoticed, consistency in Villard’s drawings. Many drawings of different subjects reveal identical measurements in circular and in linear elements, for example, the diameter of the inner edge of the Reims rose (fol. 31v) is identical to the inner outline of the arches in the Chartres rose (fol. 15v) and the interior wall of the radiating chapels of Cambrai (fol. 14v). These circular forms have exact linear counterparts in the crossing of the Cistercian church (fol. 14v) and in the outer ambulatory of the "disputation church" devised by Villard and Pierre de Corbie (fol. 15r).

These repetitions suggest that Villard used a measuring device—perhaps one or more templates with diminishing ratios (1, 1/2, 1/4, 1/8, etc.) indicated (as in the rule held by Hugues Libergier on his tombstone)—in making his drawings. In drawing the Chartres and Lausanne roses (fol. 15v and 16r), Villard’s system of quadrature or rotation of squares probably was done using his template along predetermined axes (six in the Chartres rose, two in the Lausanne rose). This procedure creates a variant of rotation of squares based not on what Villard observed, but on his template. This may explain the great difference between his design and the actual appearance of the Lausanne rose.

Understanding Villard’s “system of design” in this way provides a new glimpse into the little-known methodology of 13th-century architectural draftsmanship.

Undressing Villard: Costumes in the Drawings of Villard de Honnecourt as a Means of Understanding his Iconography
Thomas J. Primeau
University of Michigan, Ann Arbor

Villard’s contemporary costumes clearly place their wearers in different social classes (servants, soldiers, nobility), and his royal figures consistently reflect contemporary Capetian dress, especially in the treatment of the crowns. However, Villard’s royal figures may not at all refer to contemporary personages. The king on fol. 11v has not been identified; that on fol. 12v probably is a Magus; that on fol. 13r has not been convincingly identified; and that on fol. 25v may well be Pontius Pilate rather than a king.

This presentation concentrates on the iconography of fols. 11v and 13r and proposes that the latter represents Joseph and his brothers before the Pharaoh in Egypt and that the former is a complex reference to the baptism of Clovis.

Recent and Forthcoming Papers

This column will list papers read or to be read at professional meetings (whether or not meant for publication), papers complete but not yet published, and papers recently published. Its purpose is to inform readers of work being done in a variety of disciplines. The News Editor has selected papers of interest to AVISTA members and welcomes additions.

The Metropolitan Seminar in the History of Technology met on 14 October 1988 at the Graduate Center, CUNY. Robert Mark (Princeton Univ.) spoke on Justinian’s Hagia Sophia: Myth vs. Technology.

The Metropolitan New York Section, History of Science Society held its second meeting of 1988–1989 on 28 October 1988 at the Graduate Center, CUNY. Fred Pumell spoke on Hermes Trismegistus and the Accademia dei Lincei, a discussion of the influence of the hermetic tradition on the circle of scientists around Galileo.

The Boston Colloquium for the Philosophy of Science, sponsored by the Center for the Philosophy and History of Science, Boston Univ., included the following in their 1988–1989 Annual Program: L. Sumida Joy (Univ. of Notre Dame): The Question of Genre in Seventeenth-Century Natural Philosophy (8 November 1988); V. Sos (Inst. of Philosophy, Hungarian
The First Joint Archaeological Congress, cosponsored by the American Philological Association, the American Schools of Oriental Research, the Archaeological Institute of America and the Society for Historical Archaeology, met in Baltimore, MD, January 5–9. Papers of potential interest to AVISTA members included: D. Whitcomb (Univ. of Chicago): Early Islamic Cities: Evidence from the Aqaba and Istakhr Excavations; A. Van de Moortel (Inst. for Nautical Archeology): Analysis of a Cog-Like Hull; R. Grenier (Parks Canada): The 16th Century Basques in the Terra Nova; T.E. Gregory (Ohio State Univ.): The ‘Other’ Dark Age: Archaeology and Early Byzantium; P.N. Kardulias (Youngstown State Univ.): The Byzantine Fortress at Isthmia, Greece and Continuity from Late Antiquity to the Medieval Period in the Aegean; D. Whitehouse (Corning Museum of Glass): The Western Mediterranean, A.D. 350–370; C.O. Cederlund (Stockholm Univ.): The Raising and Investigation of a Cog from the 13th Century A.D.; T.H. McGovern, G.F. Bigelow and T. Amorosi (Hunter Coll.): Paleoenvironmental Excavations in the Medieval North Atlantic: recent advances; M. Salzman (Boston Univ.): The Role of Aristocratic Women in the Christianization of the West after Constantine: the Epigraphic Evidence; C. Herbman (Boston Univ.): Wall Painting from the Episcopal Baptistry at Stobi, Yugoslavia; M.B. Garrison (Univ. of Michigan), J.H. Humphrey and S. Stevens: A Late Roman/Early Byzantine Cemetery at Carthage; C.K. Kosso (Southern Eubosa Exploration Project): Roman and Byzantine Sites on the Paximadhi Peninsula; V. Abrahamsen (Harvard Univ.): Pagan Funerary Practices in Northern Greece During the Early Christian Era; M. Lloyd (Univ. of Chicago): The Provisioning of Medieval Ships in the Mediterranean, A.D. 300–1500; D.H. Keith (Texas A&M Univ.): The Mysterious Caravel; D.C. Lakey (Texas A&M Univ.): The Historical Archaeology of Ships of Discovery; J.J. Simmons III (Univ. of South Carolina): The Historical Geography of Ships of Discovery; T.J. Oertling (Texas A&M Univ.): Reconstructing the Ships of Discovery; M.D. Myers: The Future of Ships of Discovery Research.


Artistic Integration in Early Gothic Churches: Architecture, Sculpture, Stained Glass and History, an international colloquium dealing with “wholistic” and integrative studies of the ensemble of all the arts in early Gothic churches, will meet at York Univ., Toronto, on 7–9 April 1989. Speakers will include: B. Brenk (Univ. of Basel): The Ste-Chapelle as a Capetian Political Program; P. Draper (Univ. of London): Architecture, Sculpture, Stained Glass and Liturgy at Wells; E. Fernie (Univ. of Edinburgh): Suger’s
‘Completion’ of St. Denis; A. Klukas (Smith Coll.): *Durham Cathedral in the Gothic Era: Liturgy, Design, Ornament*; P. and B. Kurmann (Univ. of Geneva/CVMA): *Concerted Planning of Architecture, Glass, and Sculpture at Chartres*; V. Ragun (Holy Cross): ‘Wholistic’ Approach to Architecture and Glazing at Poitiers Cathedral; R. Schneider (York Univ.): *A Cathedral for Pastoral Reform: Integrative Artistic Design in 13th-Century Bourges*; M. Thurlby (York Univ.): *Roger of Pont l’Eveque’s Planning of York Minster*. Research and Methodology papers will be given by K. Brush (Univ. of Western Ontario), M. Caviness (Tufts Univ.), W. Clark (Queens Coll.-CUNY), B. Abou El-Haj (SUNY-Binghamton), B. McGinn (Univ. of Chicago), R. Reynolds (Pontifical Inst.), B. Bedos Rezak (SUNY-Stony Brook), W. Sauerländer (Kunsthistorisches Institut, Munich), and M. Sheehan (Pontifical Inst.).


Materials Issues in Art and Archaeology, published by the Materials Research Society (MRS), contains the proceedings of a symposium sponsored by MRS in Reno, NV, in April, 1988. MRS is a non-profit scientific association founded in 1973 to promote interdisciplinary goal-oriented basic research on materials of technological importance. MRS sponsors two annual meetings and publishes the Journal of Materials Research, more than 130 symposia proceedings, a monthly bulletin and other volumes on current developments. Contact MRS Headquarters, 9800 McKnight Rd., Suite 327, Pittsburgh, PA 15237; (412) 367-3003.

Glossarium Artis, edited by Rudolf Huber and Renate Rieth, is a series of nine volumes published under the auspices of the Comité International d’Histoire de l’Art. Each volume contains approximately 3000 German vocabulary terms with English, French, Latin, and Greek equivalents. Supporting illustrations are labelled in all three modern languages. Subject headings include: castles and fortified palaces before the introduction of firearms, liturgical objects, staircases, parchment and liturgical books, arches and arcades. For further information, write to: K.G. Saur Verlag, Postfach 711009, 8000 Munich 71, W. Germany.


Friends of the Road to Santiago, a newsletter sponsored by Creighton University and the Program for Cultural Cooperation between Spain’s Ministry of Culture and United States Universities, will be published twice a year. It will provide rapid dissemination of information about any aspect of the pilgrimage to Santiago da Compostela and will include synopses of articles, conference news, bibliographical information
and announcements, as well as the 'Pilgrim's Bulletin Board,' information and queries on current travel along the pilgrimage route. For further information, contact: M. Dunn-Wood, 517 So. Happy Hollow Blvd., Omaha, NE 68106.

The Hermon Dunlap Smith Center for the History of Cartography (The Newberry Library) announces the publication of The Sanuto Globe Gores, a full-sized facsimile of apparently the sole surviving copy of one of the largest printed globe gores sets of the sixteenth century. The facsimile, which consists of 24 boxed 9" by 24" gores reproduced in an edition of 150 copies, is accompanied by a 24-page monograph by David Woodward. Write: Smith Center, The Newberry Library, 60 W. Walton St., Chicago, IL 60610.*

News from Members and Affiliated Associations

AVISTA members, please send items for this column to the News Editor.

The Index of Medieval Medical Images in North America (IMMI), a new scholarly enterprise of the University of California, Los Angeles, funded by a Library Resource Project Grant of the National Library of Medicine, was launched in September, 1988. Its immediate aim is to describe and index the contents of all medieval manuscript images with medical components presently held in North American collections. Its goal is to provide a new tool for those who seek to study the graphic legacy of the medieval medical mind, by producing a comprehensive database of medieval medical iconography. Two products will eventuate from this project: index entries in the form of ASCII text files on computer disk, adapted to a free-form text-retrieval program; and a printed catalogue indexed by iconographic content and categories of manuscript information. The four main organizers of the IMMI project, Ynez Violé O'Neill, Mark Infusino, Sara Shatford Layne, and E. Jain Fletcher, (all UCLA), will be involved in a special session, Speculum mundi, Cataloguing and Using Medieval Images, at the annual meeting of MAP (Medieval Association of the Pacific) at UCLA, March 31-April 1. For information on the MAP Annual Meeting, call the UCLA Center for Medieval and Renaissance Studies; (213) 825-1880 or 825-1970. Mark Infusino will speak on Brain Function, Brain Trauma and its Surgical Treatment in the Middle Ages: Twelfth-Century Insights, at the Annual Meeting of the American Association for the History of Medicine, in Birmingham, AL in late April.

The Rockefeller Foundation offers several fellowships for research in the humanities of potential interest to AVISTA members, at the following residency sites:

The Francis C. Wood Institute for the History of Medicine (College of Physicians of Philadelphia) seeks proposals from scholars in history, literature, philosophy, sociology and the classics. Fellowships are for one academic year, for use at the Wood Institute and the Mutter Museum of Pathological Anatomy. Contact: C.B. Cohen, Administrative Assistant, Francis C. Wood Institute, 19 S. 22nd St., Philadelphia, PA 19103; (215) 563-3737.

The History of Science in Western Civilization Program (Univ. of Oklahoma): candidates are particularly encouraged to focus on projects integrating historical knowledge about the scientific enterprise and its results into general studies of modern culture and civilization. Contact: K.L. Taylor, History of Science Dept., 622 PhSc, Univ. of Oklahoma, Norman, OK 73019; (405) 325-2213.

The Center for the Study of Islamic Societies and Civilizations (Washington Univ.): the center is sponsoring a three-year project, beginning in 1988-89, on themes within anthropology, history, and literature intended to facilitate intensive study of and innovation in the methodologies now employed in Islamic studies. The 1989-90 theme is the premodern Ottoman empire. Fellows participate in the on-going activities of the Islamic studies faculty and take part in a small invitational conference. Contact: C. Fleischer, Center for the Study of Islamic Societies and Civilizations, Washington Univ., St. Louis, MO 63130; (314) 889-5166.

The Center for Cultural Studies (Rice Univ.): the center fosters interdisciplinary and cross-cultural discussions and research focused on cultural critique through comparative juxtaposition of historic traditions, cultural perspectives and alternative accounts of
reality encountered in philosophy, literature, the arts and social theorizing. Two fellowships are offered annually in Asian and African Studies. Contact: M.M.J. Fischer, Director, Center for Cultural Studies, Dept. of Anthropology, or T. Haskell, Acting Director, Dept. of History, Rice Univ., Houston, TX 77251; (713) 527-4947.

Villard in Strasbourg! In one of its rare appearances outside the Bibliothèque Nationale in Paris, the Portfolio of Villard de Honnecourt will be exhibited as part of the exhibition: *Les Bâtisseurs des Cathédrales* in Strasbourg this Fall, which will open to accompany the XXVIIth International Congress on the History of Art. Carl F. Barnes, Jr., former AVISTA Vice-President, is preparing an essay, *Le problème de Villard de Honnecourt*, for the catalogue of the exhibition, which will include articles from scholars from around the world.

The Osler Library of the History of Medicine at McGill University sponsors a fellowship designed to assist researchers who need to travel to and establish temporary residence in Montreal to use the resources of the Library. The Scholar’s Fellowship is directed to historians and physicians engaged in specific research projects; applicants should send a c.v. and a description of their project, specifying the relevance of the Library’s holdings to their research. The fellowship carries a stipend of $1200 (Canadian) and may be held for one month during calendar year 1989. Contact Dr. Faith Wallis, Osler Library, McGill Univ., 3655 Drummond St., Montreal, Quebec, Canada H3G 1Y6.

An annotated bibliography on women and technology is being prepared by Gay Bindocci and Kathleen Ochs for submission to Garland Publishing in June, 1989. The bibliography will identify secondary works completed in the past ten years which document the involvement of women with technology. In addition to more traditional technologies listed in the Technology and Culture Current Bibliography, such as materials and processes, mechanical engineering and food technology, the bibliography will include household technology, health medicine and birthing, and gender. If you know of materials that might escape the survey because they are published in unusual places or forthcoming works that should be included, contact either G. Bindocci, West Virginia Univ., P.O. Box 6070, Morgantown, WV 26506; (304) 293–5695; or K. Ochs, Humanities and Social Sciences Dept., Colorado School of Mines, Golden, CO 80401; (302) 273–3750.

*Ludi Medii Aevi: The Society for the Study of Medieval Sports* has been formed for those scholars whose interests focus on the sports and pastimes of the medieval world, both east and west. A newsletter of the same name will be published (in English) twice a year. In the first year a membership list will also be published. Annual subscriptions are $6.00. For more information, or to subscribe, write to: J.M. Carter, Editor, *Ludi Medii Aevi*, Wampusongs Publishing, 349 West Kings Highway, Eden, NC 27288.

ACTIVITIES ... PAST, PRESENT, FUTURE

This column reports activities relevant to the interdisciplinary interests of AVISTA members. The list is selective, rather than comprehensive, and will not replace reports of activities published by professional societies of the various disciplines represented by AVISTA members. Neither will it always constitute due notice of an activity, because of AVISTA FORUM’s semiannual publication schedule. On the other hand, scholars may be informed of activities that their own professional groups do not report. The purpose of this column is to facilitate the exchange of information and ideas across the boundaries of various disciplines. Please send reports of activities to the News Editor. Items are not necessarily listed in chronological order. All dates are 1989 unless otherwise specified.

May 30–June 1, 1988: Conference on the History of Experimental Physics was held at Xiangtan Univ., Hunan Province, China. Sponsored by both the Chinese Society of History of Science and Technology and the Chinese Physical Society and organized by Kuo I-Ling of the Dept. of Physics, Tsinghua Univ., the conference included papers on topics from physics in ancient China to the discovery of nuclear fission, and was the first conference on the subject in over forty years. Lawrence Badash and Allan Franklin were invited speakers. A second conference is planned for 1989.
At least three international meetings were held in 1988 to mark the 700th anniversary of the birth of Levi ben Gerson (Gersonides), a Provençal Jewish astronomer and mathematician. These were: *Gersonide et la science de son temps*, Peyresq, France, June 27-29, organized by B.R. Goldstein and sponsored by the Fondation Nicholas Claude Fabri de Peiresc; *Gersonide en son temps; Science et philosophie médiévales*, Paris, October 24-26, organized by members of the Centre National de la Recherche Scientifique and the faculty of the University of Paris/Sorbonne; and *Séance publique à l’Institut de France à l’occasion de la clôture de l’année Gersonide*, Paris, December 15. For information, contact: B.R. Goldstein, History and Philosophy of Science, Univ. of Pittsburgh, Pittsburgh, PA 15260; (412) 624-5989.

January-June: *The Bar-Hillel Colloquium for the History, Philosophy, and Sociology of Science* will meet monthly in Jerusalem and Tel-Aviv. For information, write to: E. Ullmann-Margalit and S. Laron, P.O.B. 4070, Jerusalem.

January 10-April 9: *Decadent Decades: The Medieval Clothes Horse*; an exhibit presented in the Western Manuscripts Gallery of the Walters Art Gallery, Baltimore, MD, explores the evolution in men’s and women’s dress from the revolution in men’s wear in ca. 1340 to the early decades of the 16th century.

February 15-May 7: *Hebrew Manuscripts and Books from the Valmadonna Trust*, exhibited at the Pierpont Morgan Library, New York City, includes fifty books and manuscripts from the 11th through the 16th centuries, including the Prague Haggadah of 1526. This is the first public exhibition outside London of works from the Valmadonna Trust.

March 5-9: *Medieval Festivals and Celebrations*, sponsored by the Mediävistenverband of West Germany, will meet at the Univ. of Paderborn. Speakers will include art historians, anthropologists, historians, musicologists, and specialists in medieval literature. For more information, write to: J. Jarnut, Univ. GHS Paderborn, 4790 Paderborn, West Germany.

March 10-11: *The Artist’s Workshop*, sponsored by the National Gallery of Art Center for Advanced Study in the Visual Arts and the Department of History of Art, Johns Hopkins Univ., met at the National Gallery of Art. See: RECENT AND FORTHCOMING PAPERS in this issue.

March 16-18: *Pierre Duhem: Historian and Philosopher of Science* will be sponsored by Virginia Polytechnic Institute. For further information, write to: R. Ariew and P. Barker, Center for the Study of Science in Society, Price House, VPI, Blacksburg, VA 24061.

March 18-September 17: *An Introduction to Oriental Carpets: The Arthur D. Jenkins Collection*, an exhibit, will be held at the Textile Museum, 2320 S Street N.W., Washington, D.C. 20008. A course, *An Introduction to Oriental Carpets: Expression beyond Warp and Weft*, will be offered at the museum in conjunction with the exhibit, from April 26 to May 31.


March 31-April 1: *Epidemics and their Social Impact*; a symposium, will be held at the Univ. of Wisconsin-Madison. For information, write to: L. Freiling, Institute for Research in the Humanities, Old Observatory, 1401 Old Observatory Dr., Univ. of Wisconsin-Madison, Madison, WI 53706.

April 2-4: *ad Litteram: Authoritative Texts and their Medieval Readers*, will be held at the Medieval Institute of the Univ. of Notre Dame. Most of the fourteen papers will treat figures or issues of the 12th and 13th centuries. Speakers will include: L.-J. Bataillon, S. Brown, M. Colish, G.R. Evans, M. Gibson, R. Macken, A.J. Minnis, M. and R. Rouse, S. Wenzel, and A. Zimmermann. For more information, contact: M. Jordan, Medieval Institute, 715 Hesburgh Library, Univ. of Notre Dame, Notre Dame, IN 46556; (219) 239-6603.

April 7-8: *Humanities, Science, and Technology*, a conference, will be held at Ferris State University. For information, write to: C. Newburger and G. Nagel, Coordinating Program Committee, Dept. of Humanities, Ferris State Univ., Big Rapids, MI 49307.

April 7-9: *Artistic Integration in Early Gothic Churches: Architecture, Sculpture, Stained Glass*
and History, an international Colloquium dealing with “wholistic” and integrated studies of the ensemble of all the arts in early Gothic Churches, will meet at York Univ., Toronto. For further information, write: R. Schneider, Dept. of History, York Univ., 4700 Keele Street, North York, Ont., Canada M3J 1P3. See: RECENT AND FORTHCOMING PAPERS in this issue.

April 8: Story and Image in Medieval Art, an afternoon symposium, will be sponsored by the Robert Branner Forum for Medieval Art at Columbia University. Papers will be presented by P. Binsky, R. Brilliant, R. Hanning, H. Kessler, M. Kupfer, M. Shepard, B. Stock. For further information, write to: The Robert Branner Forum for Medieval Art, 826 Schermerhorn Hall, Columbia Univ., New York, NY 10027.

April 13–15: The Medieval Academy of America will hold its 64th Annual Meeting at the Univ. of Wisconsin-Madison. For further information, contact: Medieval Academy of America, 1430 Massachusetts Ave., Cambridge, MA 02138; (617) 491-1622. See also RECENT AND FORTHCOMING PAPERS in this issue.

April 16–20: The Materials Research Society spring meeting will focus on Materials Issues in Art and Archaeology, by addressing the following topics: 1) Ancient Technology: Processing Evidence from Workshops and Industrial Debris; 2) Analysis of Properties to Interpret Function; 3) Materials Degradation; and 4) Characterization through Compositional and Structural Analysis. For further information, contact: P. Vandiver, Museum Support Center, Conservation Analytic Laboratory, Smithsonian Institute, Washington, D.C. 20560; (301) 238-3700.

April 17–19: A conference on the History of Alchemy will meet at the Univ. of Groningen, the Netherlands. Invited speakers will include: M. Crossland (Canterbury), A.G. Debus (Chicago), K. Figala (Munich), R. Halleux (Liège), N. Sivin (Philadelphia), H.A.M. Snelders (Utrecht), and B. Vickers (Zürich). For further information, write to: Z.R.W.M. von Martels B.A., Schaepmanlaan 15, 9722 NP Groningen, The Netherlands.

April 26–29: Music and Science in the Age of Galileo, an international symposium, will be held at the Univ. of Calgary. For information, write to: V. Coelho, Dept. of Music, Univ. of Calgary, Calgary, Alberta T2N 1N4, Canada.

April 28–30: Ritual and Recreation in Renaissance Confraternities, will be sponsored by the Toronto Renaissance and Reformation Colloquium. For further information, write to: W. Bowen or K. Eisenbichler, The Toronto Renaissance and Reformation Colloquium, Pratt Library, Room 304, Victoria Coll., Univ. of Toronto, Toronto, Ont. M5S 1K7, Canada.

May 5–7: Byzantine Family and Household will be the subject of the annual Byzantine symposium at Dumbarton Oaks. For information, write to: Dumbarton Oaks, 1703 32nd St. NW, Washington, D.C. 20007.

May 7–9: Athens and Rome—Florence and Venice: City States in Classical Antiquity and Medieval Italy will meet at Brown Univ. Sessions will include: Consciousness and Representation; Citizens and the Political Classes; Politics and Conflicts; Urban and Architectural Forms; Symbols and Rituals; and Territory, External Relations, and Empire. For information, write to: A. Molho, Dept of History, Brown Univ., Providence, RI 02912.

June 7–10: Water and the City, an international conference on the past, present and future of urban water management, will be held in Chicago. For further information, contact: Conference Manager, Public Works Historical Society, 1313 E. 60th St., Chicago, IL 60637; (312) 667-2200.

June 12–16: A European Symposium on Science, Technology, and European Cultural Heritage, organized by the Commission of the European Communities, will be held in Bologna, Italy, in conjunction with Bologna University’s IXth Centenary Celebrations. For further information, write to: Dr. A. Sors, Commission of the European Communities, (XII/E), 200 rue de la Loi, 1049 Brussels, Belgium.

June–July: NEH Summer Seminars for College Teachers: Paleography and Codicology: Manuscript Books in the Middle Ages and Renaissance (Beinecke Library, Yale Univ.); Christendom in the High Middle Ages (Univ. of Notre Dame); Gothic in the Ile-de-France (Reid Hall, Paris; Columbia Univ.); The Intellectual World of Christopher Columbus (U.C.L.A.);
August 1–5: *An International Conference on Civil Engineering and Heritage*, sponsored by the American Society of Civil Engineers (ASCE), will meet at the University of Maryland. For further information, write to: ASCE, 345 E. 47th St., New York, NY 10017, or L. Berold, Dept. of Civil Engineering, Univ. of Maryland, College Park, MD 20742.

August 7–13: *The International Society of Anglo-Saxonists* will hold its annual meeting in Durham, England. In addition to a full programme of speakers, the conference will offer two excursions to Anglo-Saxon sites including Holy Isle (Lindisfarne) and an exhibition of recent discoveries in Anglo-Saxon archaeology. For further information, write to: R. Cramp, 46 Saddler St., Durham DH1 3NU, England, or M.P. Richards, 2046 Haley Center, Auburn Univ., Auburn, AL 36849.

August 23–26: *The International Society for the Study of Human Ideas on Ultimate Reality and Meaning* will hold its fifth biennial meeting at the Medical Science Building of the Univ. of Toronto. Particular topics dealing with how different individuals, peoples, systems etc. have contributed to a deeper understanding of ultimate reality and meaning in human existence, will be discussed at Research Sessions; general topics on the role of art, politics, economics, science, philosophy, and religion in the search for meaning will be discussed in General Symposia. For further information, write to: URAM, Regis Coll., 15 St. Mary St., Toronto, Ont. M4Y 2R5, Canada. Proceedings will be published in forthcoming issues of *Ultimate Reality and Meaning* (Univ. of Toronto Press).

September 15–17: *The International Committee for the History of Medieval and Renaissance Science* is sponsoring a session on medieval and Byzantine natural philosophy at the Fourteenth International Conference on Patristic, Medieval and Renaissance Studies at Villanova University. For further information, write to: The International Committee for the History of Medieval and Byzantine Science, P.O.B. 124, Cardinal Station, Washington, D.C. 20064.


October 12–15: *The Society for the History of Technology (SHOT)* will meet at the Hyatt Regency Hotel in Sacramento, CA. The SHOT Program Committee seeks proposals for papers in all areas of history of technology, and especially welcomes contributions accenting gender, the Third World, the West as region, cross-disciplinary perspectives on technology, and pre-twentieth century topics. Alternative format presentations, such as posters and audio-visual presentations are welcome. The deadline for proposals is April 1. Paper proposals should include a 150-word abstract and a one-page c.v.; alternative format proposals should clearly describe the format (including length and dimensions) and equipment. Proposers of sessions should provide the theme of the session, an abstract of each paper, and a c.v. for each participant including chair and commentator. Those who presented papers at the previous year’s SHOT meeting are ineligible to present papers, although they may organize and chair sessions. Send four copies of each proposal to T.J. Misa, Dept. of Humanities, Illinois Institute of Technology, Chicago, IL 60616; (312) 567-3465; BITNET at HUMMISA2IITVAX.

October 19–20: *Interface 1989*, the thirteenth annual conference sponsored by Southern College of Technology and the Humanities and Technology Association, will meet in Marietta, Georgia. Call for abstracts by May 1. Write to: C.J. Weeks or H. Smith, Humanities and Social Sciences Dept., Southern Coll. of Technology, Marietta, GA 30060.

October 20–22: *The Cult of the Saints in the Middle Ages and Early Renaissance: Formation and Transformation* will be presented by the Center for Medieval and Renaissance Studies at the State University of New York at Binghamton. Twenty-minute papers are welcomed from any field of medieval culture, with emphasis on: the formation and development of the cult of saints; official cults and popular piety; liturgical, literary, and artistic elaboration of cults; the his-
torical geography of pilgrimage; changes in typology (from martyrs to hermits to confessors; from hagiographic to Christo-centric cults); and opposition to saints. Completed papers will be given priority over abstracts. Send submissions by May 19 to: S. Sticca, Conference Coordinator, CEMERS, SUNY-Binghamton, Binghamton, NY 13901.

October 26–29: **Fiftieth Annual Byzantine Studies Conference** will meet at the Univ. of Massachusetts, in Amherst, MA. For further information, contact: G. Dennis, Program Committee Chair, History Dept., Catholic Univ., Washington, D.C. 20064; (202) 635-5484.

October 27–28: **The Legible Body: An Interdisciplinary Symposium on Corporality and Culture in Medieval Spain** will be held at Emory Univ. The symposium will provide scholars from diverse disciplines the opportunity to discuss the representation, regulation, and perception of the human body in the medieval Iberian Peninsula, in virtually all aspects of medieval life and thought, including law, architecture, literature, political theory, medicine, theology and technology. The symposium is organized by Michael Solomon and Thomas W. Lyman. Send one-page abstracts by September 1 to M. Solomon, Spanish Dept., Emory Univ., Atlanta, GA 30322.

November 9–12: **Built Form and Culture Research: Intercultural Processes**, the third international interdisciplinary conference, will be sponsored by Arizona State Univ. For information, contact: D.G. Saile, School of Architecture, Arizona State Univ., Tempe, AZ 85287; (602) 965-2507.

December 10–13: **Congress on Medieval Manuscript Illumination in the Northern Netherlands** will be held at the University of Utrecht, in conjunction with a major exhibit of Dutch illuminated manuscripts at the Rijksmuseum ‘Het Catharijneconvent’ in Utrecht. Themes to be addressed will include Dutch manuscript illumination in relation to artistic developments in neighboring regions; stylistic and iconographic aspects; the social, cultural, and historical background; relations to other arts and crafts; and the impact of codicological research on the study of Dutch illumination. For further information, write to: Dr. K. van der Horst, Univ. Library, Dept. of Manuscripts, Postbus 16007, 3500 DA Utrecht, The Netherlands.

March 1990: **Ludovico Guicciardini (1521-1589): The Description of Countries and Societies during the Renaissance** will be held at the Université Libre de Bruxelles. For information, write to: Pierre Jodogne, Institut Interuniversitaire Renaissance et Humanisme, Boulevard de la Plaine 2, CP 240, B-1050 Brussels, Belgium.

June 1990: **Majestas: Rulership-Souveraineté-Herrschaft** will hold its second international interdisciplinary conference in Paris. The title of the second conference is **Rulership: From Above and From Below**, and will include such topics as questions of theory and method, the law and perceptions of rulership, and the folklore of rulership. For information, write to: Janet Nelson, King’s Coll., London WC2, England.

August 8–11, 1990: **European Renaissance, National Traditions**, sponsored by the Univ. of Glasgow and the Arizona Center for Medieval and Renaissance Studies, will be held at the Univ. of Glasgow. A major theme will be the transformations of the Renaissance in time and across national frontiers (north and south of the Alps and from the Iberian Peninsula to the countries of Central Europe) and across disciplines (e.g. art, intellectual and social history, language, literature, music, religious studies, science). For further information, contact: J.R. Brink, Arizona Center for Medieval and Renaissance Studies, Arizona State Univ., Tempe, AZ 85287; (602) 965-5900; or R.J. Lyall, Dept of Scottish Literature, Univ. of Glasgow, Glasgow G12 8QQ, Scotland; (014) 339-8855, ext. 4534.

August 13–17, 1990: **Glasgow International Emblem Conference**, in celebration of Glasgow’s role as European City of Culture in 1990, will be held at Glasgow Univ. Library and in the Hunterian Art Gallery. The conference will concern itself with all aspects of emblem studies: theory, art history, literature, philosophy, bibliography, theology and any other relevant discipline. For further information, write to: A. Rawles-Adams, Glasgow International Emblem Conference 1990, Dept. of French, Univ. of Glasgow, Glasgow G12 8QQ, Scotland.
Bibliography of the AVISTA Library

The AVISTA Library contains books, articles, and unpublished materials contributed by AVISTA members and others. Housed in Magill Library, Haverford College, Haverford, Pennsylvania, all published items and some unpublished material may be obtained through interlibrary loan. Remaining unpublished material may be consulted in Magill library. For a complete listing of the collection, consult the previous issues of AVISTA FORUM. Members are encouraged to make use of the collection and to contribute their published works. Direct material to the attention of Charles Stegeman, 2 College Circle, Haverford, PA 19041 (USA).

PERIODICALS

AVISTA FORUM: 3.1 (Fall 1988)


ARTICLES AND ESSAYS


REVIEWS


Notice

ANNUAL MEETING OF AVISTA

Friday, May 5th, 1989

Noon – 1:15 pm

Room 1040, Fetzer Hall

Western Michigan University

Kalamzoo, MI

Coffee will be served.
The deadline for the Fall 1989 issue is October 1, 1989.
Please send your contributions to the appropriate editors, or to the Editor-in-Chief.

Editor-in-Chief
Michael T. Davis, 233 Mosier Street, South Hadley, MA 01075

Article Reviews
(Art & Architecture) Carl F. Barnes, Jr., Center for the Arts, 231 Varner Hall, Oakland University, Rochester, MI 48063

Notes & Queries
George Ovitt, Department of Humanities, Drexel University, Philadelphia, PA 19104

News, Papers, Activities
Carol L. Neuman de Vegvar, Fine Arts Department, Ohio Wesleyan University, Delaware, OH 43015

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