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Making Expert Knowledge through the Image

Connections between Antiquarian and Early Modern Scientific Illustration

*By Stephanie Moser**

ABSTRACT

This essay examines drawings of antiquities in the context of the history of early modern scientific illustration. The role of illustrations in the establishment of archaeology as a discipline is assessed, and the emergence of a graphic style for representing artifacts is shown to be closely connected to the development of scientific illustration in the seventeenth and early eighteenth centuries. The essay argues that the production of conventionalized drawings of antiquities during this period represents a fundamental shift in the approach to ancient material culture, signifying the recognition of objects as evidence. As has been demonstrated in other scientific fields, the creation of a visual system for recording objects was central to the acceptance of artifacts as “data” that could be organized into groups, classified as types, and analyzed to gain knowledge of the past.

HISTORIANS OF ARCHAEOLOGY have long recognized the need to scrutinize traditions of visual representation employed in the discipline, yet little is known about the beginnings of archaeological illustration and its connections with early modern

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science.¹ Similarly, although art historians have documented how early antiquaries created distinctive illustrative styles for representing ancient artworks, thus establishing the foundations of art history in the seventeenth and eighteenth centuries, the role of illustrations in creating a basis for archaeological inquiry has not been investigated.² Early traditions of antiquarian illustration were closely related to the development of scientific illustration, where the graphic delineation of natural history specimens and ancient artifacts followed remarkably similar paths. Originally produced by sixteenth- and seventeenth-century antiquaries to document their collections, artifact illustrations were promptly enlisted as a means of defining the primary characteristics of ancient objects. By highlighting the key attributes of artifacts, illustrators went beyond mere recording, transforming drawings of antiquities into interpretative statements. Commensurate with this development was the conventionalization of artifact illustrations, which represented a critical step in the treatment of antiquities as “source material” and constituted a significant development in the birth of archaeology. More specifically, the creation of a visual system for representing artifacts was fundamental to the introduction of classificatory procedures in archaeology, enabling recognition of object types. The result of this was that antiquaries moved from using artifacts to “illustrate” themes articulated in classical texts to asking new questions about antiquities. Together with the organization of museum collections, where objects were labeled and categorized, the publication of images in which artifacts were visually defined, ordered, and placed together in groups signified the emergence of a science of material culture.

The use of illustration as a tool for investigating the past can be correlated with the development of scientific illustration in the early modern period, when specimens were increasingly drawn according to an emerging set of pictorial conventions. Like naturalists, antiquaries enlisted artists to record objects in collections and copy drawings of objects from manuscripts. Such images became central in communication among the growing community of antiquaries, who sought to understand the range of antiquities appearing in collections across Europe. Like the early illustrations of natural history, which historians of science have shown to be of profound importance in the understanding of the natural world, images of artifacts became fundamental to gaining knowledge of antiquity.³ Accordingly, my analysis will explore the origins of archaeological imagery in the context of studying classics and the natural world. It also addresses recent arguments concerning the epistemic significance of scientific images, particularly issues of selectivity and realism in scientific illustration. According to the philosopher Dominic Lopes, illustrations carry meaning because they represent an expert interpretation of objects, an interpretation that involves depicting the features of objects in an informative and useful way.⁴ In

¹ Key works on the history of archaeological illustration include Stuart Piggott, *Antiquity Depicted: Aspects of Archaeological Illustration* (New York: Thames & Hudson, 1978); and Stephanie Moser, *Ancestral Images: The Iconography of Human Origins* (Ithaca, N.Y.: Cornell Univ. Press, 1998).

² Jane Fejfer, Tobias Fischer-Hansen, and Annette Rathje, eds., *The Rediscovery of Antiquity: The Role of the Artist* (Copenhagen: Univ. Copenhagen, Museum Tusculanum Press, 2003), demonstrates that artists played a major role in the humanist discovery of antiquity in the fifteenth century. On the history of antiquarian illustration see Sam Smiles, *The Image of Antiquity: Ancient Britain and the Romantic Imagination* (New Haven, Conn.: Yale Univ. Press, 1994).

³ On illustration and the study of natural history in the Renaissance see Sachiko Kusukawa, *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: Univ. Chicago Press, 2012).

⁴ Dominic Lopes, *Understanding Pictures* (Oxford: Oxford Univ. Press, 1996); Lopes, *Sight and Sensibility: Evaluating Pictures* (Oxford: Oxford Univ. Press, 2005); and Lopes, “Drawing in a Social Science: Lithic Illustration,” *Perspectives on Science*, 2009, 17:5–25, esp. p. 19.

documenting the ways in which “expert interpretations” were created for artifacts via the creation of pictorial conventions, I aim to provide a deeper understanding of the epistemological significance of archaeological illustration.

In their historical account of scientific imagery, Christoph Lüthy and Alexis Smets argue that when new types of images are introduced in science they become “embedded in a shared scientific paradigm,” which in turn becomes an “integral part of the scientific practice, and the awareness of its specific philosophical premises will disappear.” They also assert that there is an “unquestioned use of visualising tools in the sciences,” where certain types of images “figure as the unquestioned visual backbone of ‘normal science.’”⁵ These ideas are explored in relation to artifact illustrations, which were converted from simple sketches of “curiosities” into invaluable tools for archaeological reasoning in the seventeenth and eighteenth centuries. Specifically, I examine the introduction of conventions for representing antiquities in four major works: Cassiano dal Pozzo’s “Paper Museum” of the mid 1600s, Filippo Bonanni’s catalogue *Musaeum Kircherianum* of 1709, Bernard de Montfaucon’s *L’Antiquité expliquée et représentée en figures* of 1719–1724, and the Comte de Caylus’s *Recueil d’antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises* of 1752–1757. Each constitutes a major illustrative milestone in the history of archaeology, pioneering trends that were adopted and developed in successive antiquarian publications. Akin to the “scientific atlases” singled out as exemplars in Lorraine Daston and Peter Galison’s history of scientific imaging, the examples discussed below introduced distinctive types of images that served to define the aims and aspirations of archaeology.⁶

A more general aim of this account is to contribute an archaeological perspective to current research in the history of earth and life sciences on the agency and constituent role of images in seventeenth- and eighteenth-century debate.⁷ A history of imaging practices in antiquarian research is shown to indicate a significant change in the way scholars engaged with ancient artifacts, revealing how objects began to be “seen” in a far more purposeful way. I challenge the assumption that the development of scientific modes of illustration in archaeology occurred in the nineteenth century, when systematic excavation techniques were introduced, and I endorse the art historian Sam Smiles’s assertion that we must be wary of progressivist accounts characterizing antiquarian illustration as a series of “hesitant and faltering first steps” of archaeological illustration.⁸ Indeed, once created as a distinct type of image, the artifact drawing was promptly accepted as an authoritative “document” in service to the project of defining ancient objects. As indispensable research instruments, illustrations of artifacts were critical in launching a new “science of antiquities.”

Finally, I focus in this account on the illustration of objects commonly referred to as “small finds,” because it is in the depiction of such objects that the link between

⁵ Christoph Lüthy and Alexis Smets, “Words, Lines, Diagrams, Images: Towards a History of Scientific Imagery,” *Early Science and Medicine*, 2009, 14:398–439, on pp. 438, 439.

⁶ Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone, 2010).

⁷ See, e.g., Marius Bruhn, “Life Lines: An Art History of Biographical Research around 1800,” *Studies in History and Philosophy of Biological and Biomedical Sciences*, 2011, 42:368–380. Bruhn explores the contribution of illustration to the conceptualization of key biological concepts in the latter part of the eighteenth century, when new types of images were introduced to convey processes and concepts. Described as “meta-pictures,” these types of images were not simply intended to “represent given ideas but rather served to substantiate and formulate them” (p. 373).

⁸ Sam Smiles, “Imaging British History: Patriotism, Professional Arts Practice, and the Quest for Precision,” in *Re-Presenting the Past: Archaeology through Text and Image*, ed. Sheila Bonde and Stephen Houston (Oxford: Oxbow, 2013), pp. 9–20, on p. 9.

antiquarian and early scientific illustration is most apparent. A broad category of material, small finds typically include utilitarian items made from pottery, metal, and glass, such as vessels, utensils, lamps, buckles, brooches, and pins.⁹ Although small, coins were not included in this category as they were seen to be a more prestigious class of artifact, valued alongside inscriptions as a source of historical information. Also widely described as “artifacts,” small finds are differentiated from those antiquities perceived as “artworks” because they do not possess the aesthetic properties characteristic of the latter. Regarded as the less glamorous residues of the past, small finds are characterized by their utilitarian or plain quality and lack of embellishment.¹⁰ Initially they were not thought to be significant for understanding the cultural attainments of the ancients; by the mid to late seventeenth century, however, antiquaries began increasingly to acknowledge the value of such material in addressing little-known aspects of the past.

VISUAL ABSTRACTION IN EARLY MODERN SCIENTIFIC ILLUSTRATION

Illustration has long been recognized as a decisive factor in the emergence of early modern science.¹¹ More recently, however, images have been treated as an integrated part of the “material culture” and networks of early scientific scholarship, assuming an even more powerful role in scientific epistemology. Sven Dupré and Christoph Lüthy, for instance, include images alongside objects such as artifacts, ethnographic items, and natural history specimens in the material culture of early modern science, describing them as “silent messengers” that required human actors to extrapolate their meaning and transform them into scholarly discourse.¹² The establishment of a distinctive mode of representation known as “scientific illustration” is associated with developments in humanist scholarship in the early modern period, when scholars became more methodical in their attempts to

⁹ In the early modern period prehistoric items such as stone tools and bone artifacts were sometimes included in this category. Stone tools were of particular interest because they were thought to be “thunderstones” formed in clouds that fell to earth with lightning. See Matthew R. Goodrum, “The Meaning of ‘Ceraunia’: Archaeology, Natural History, and the Interpretation of Prehistoric Stone Artifacts in the Eighteenth Century,” *British Journal for the History of Science*, 2002, 35:255–269. On the presence of artifacts in Renaissance and early modern collections see Stephanie Moser, *Wondrous Curiosities: Ancient Egypt at the British Museum* (Chicago: Univ. Chicago Press, 2006), pp. 1–32.

¹⁰ The historian of art Francis Haskell distinguishes between the art and artifacts of the ancient world; see Francis Haskell, *History and Its Images* (New Haven, Conn.: Yale Univ. Press, 1993), p. 132. Some small finds, such as ceramic lamps and vessels, were characterized by their decorated surfaces, but on the whole they were not elaborately adorned.

¹¹ See Allan Ellenius, ed., *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the Twentieth Century* (Uppsala: Almqvist & Wiksell, 1985); Michael Lynch and Steve Woolgar, eds., *Representation in Scientific Practice* (Cambridge, Mass.: MIT Press, 1990); Brian Ford, *History of Scientific Illustration* (Oxford: Oxford Univ. Press, 1993); Kenneth B. Roberts and J. D. W. Tomlinson, *The Fabric of the Body: European Traditions of Anatomical Illustration* (Oxford: Clarendon, 1992); Renato Mazzolini, *Non-verbal Communication in Science Prior to 1900* (Florence: Olschki, 1993); Brian Baigrie, *Picturing Knowledge* (Toronto: Univ. Toronto Press, 2006); Caroline A. Jones and Peter Galison, eds., *Picturing Science, Producing Art* (New York: Routledge, 1998); Wolfgang Lefèvre, Jürgen Renn, and Urs Schoepflin, eds., *The Power of Images in Early Modern Science* (Basel: Birkhäuser, 2003); Jean A. Givens, Karen M. Reeds, and Alain Touwaide, eds., *Visualising Medieval Medicine and Natural History, 1200–1550* (Aldershot: Ashgate, 2006); Karin Nickelsen, *Draughtsmen, Botanists, and Nature: The Construction of Eighteenth-Century Botanical Illustrations* (Dordrecht: Springer, 2006); Gill Saunders, *Picturing Plants: An Analytical History of Botanical Illustration*, 2nd ed. (Chicago: KWS, 2009); Robert Zwijnenberg and Renée van de Vall, eds., *The Body Within: Art, Medicine, and Visualization* (Leiden: Brill, 2009); and Kusakawa, *Picturing the Book of Nature* (cit. n. 3).

¹² Contributors to Sven Dupré and Christoph Lüthy, eds., *Silent Messengers: The Circulation of Material Objects of Knowledge in the Early Modern Low Countries* (Berlin: LIT, 2011), demonstrate how objects and images entered the domain of knowledge claims, functioning as carriers of knowledge.

record and classify specimens. When pictorial conventions were published in engravings, fields such as medicine, botany, and zoology were seen to have asserted their identity as distinct subjects with shared research goals.¹³ Thus, beyond facilitating the definition and classification of specimens, illustrations embodied the aspirations of the disciplinary communities that created them, revealing the interpretative priorities scholars were formulating in relation to the phenomena they studied. Illustrations accordingly underwent an important transformation, where a highly naturalistic or physically realistic mode of representation was replaced with a more selective and abstract one. Instead of making every effort to capture the exact appearance of a specimen as it appeared to the eye at a given moment in time, illustrators began to highlight particular features of specimens/objects above others so that their scientifically meaningful traits were made more apparent. This departure from the Renaissance tradition of representing the natural world in a meticulously detailed and naturalistic style signified an attempt to structure knowledge in important new ways.¹⁴

The adoption of more abstract systems of visual representation saw the creation of what Brian Ogilvie has described as a new kind of “scientific realism.”¹⁵ While Renaissance artists, such as Leonardo da Vinci, had laid the foundations for modern scientific illustration with highly detailed and technically precise portrayals of plants, animals, and the human body, conventions introduced in the new mode of “scientific realism” were designed with a more specific purpose in mind: to enable systematic comparison of sets of objects. Illustrations simplified or “stripped down” specimens to their core characteristics, omitting details and idiosyncrasies not thought to be useful in their classification. This development revealed how images were becoming integral to research and that new philosophical premises were adopted for the practice of visual representation. Primary among these was the notion that accurate recording did not necessarily involve capturing all that was visible to the naked eye; rather, it demanded “selective looking,” or an interpretation of a specimen’s primary characteristics. The conflict between producing a physically realistic depiction of an object that was comprehensive in its attention to *all* details and one that singled out key features at the expense of others was resolved by supporting the concept of “scientific realism” as accurate portrayal. An image was now deemed “accurate” because it communicated the essence of a specimen as a general type, and accurate scientific illustration depended on what was considered worthy of observation.¹⁶

¹³ On illustration as a key instrument in discipline formation for botany and anatomy see Nickelsen, *Draughtsmen, Botanists, and Nature* (cit. n. 11); Saunders, *Picturing Plants* (cit. n. 11); Therese O'Malley and A. R. W. Meyers, *The Art of Natural History: Illustrated Treatises and Botanical Paintings, 1400–1850* (New Haven, Conn.: Yale Univ. Press, 2008); Kusakawa, *Picturing the Book of Nature* (cit. n. 3); Martin Kemp, *Visualizations: The “Nature” Book of Art and Science* (Berkeley: Univ. California Press, 2000); Roberts and Tomlinson, *Fabric of the Body* (cit. n. 11); and Zwijnenberg and Van de Vall, eds., *Body Within* (cit. n. 11).

¹⁴ This new mode of representation did not entirely replace the Renaissance trend toward naturalism. See, e.g., Pamela H. Smith and Paula Findlen, eds., *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe* (New York: Routledge, 2002); Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: Univ. Chicago Press, 2006); and Smith and Benjamin Schmidt, eds., *Making Knowledge in Early Modern Europe: Practices, Objects, and Texts, 1400–1800* (Chicago: Univ. Chicago Press, 2007).

¹⁵ Brian W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago: Univ. Chicago Press, 2006), p. 201.

¹⁶ See Warren D. Allmon, “The Evolution of Accuracy in Natural History Illustration: Reversal of Printed Illustrations of Snails and Crabs in Pre-Linnaean Works Suggests Indifference to Morphological Detail,” *Archives of Natural History*, 2007, 34:174–191. In discussing the introduction of standards of scientific accuracy in natural history illustration in the mid-eighteenth century, Allmon notes that the omission of “conspicuous features” in drawings reveals the extent to which “drawn from life” was not necessarily life-like at all (p. 187).

Early naturalists can be credited with introducing pictorial conventions in scientific illustrations in the sixteenth century. At this time botanical illustrations exhibited the key changes referred to above, whereby highly naturalistic drawings of plants were conventionalized to enable more systematic study of botanical subjects. Naturalists moved away from the detailed representation of individual plants to the idealized portrayal of generic “types,” which involved depicting the roots, leaves, flowers, and fruit of a plant all in a single image. Although physically inaccurate, this pictorial method of representing a plant was considered to be scientifically accurate. The German physician Leonhart Fuchs (1501–1566) was a pioneer in the creation of such imagery. In addition to using strong, clear outlines to define the essential “form” of different varieties of plants, he dispensed with perspective, essentially “flattening” specimens on the page. With this didactic approach to illustration Fuchs went beyond description to signification. As Sachiko Kusukawa argues, by creating such conventions Fuchs established a “pictorial program with a very precise and explicit stipulation of the function of pictures.” Building on these visual strategies, the naturalist and humanist scholars of the seventeenth century enlisted the services of illustrators to help define specimens/objects with images that were instantly “readable” or easy to interpret. Their work was central to the development of scientific visualization, anticipating Brian Ford’s assertion that scientific illustration “can conceal a truth behind a welter of high-flown symbols.”¹⁷

The efforts devoted to creating standardized modes of visual representation in early modern science represent a broader shift from the Renaissance desire to capture the bountiful variety and array of scientific and cultural phenomena to the sixteenth- and seventeenth-century interest in delineating methods for scientific observation. More specifically, the conventionalization of illustrations can be understood in terms of Daston and Galison’s framework for charting the establishment of objective methods for studying the natural world, where the production of images for scientific atlases is seen to signify the formation of disciplines in the eighteenth and early nineteenth centuries. Asserting that scientific images are the product of a “distinct code of epistemic virtue,” Daston and Galison trace the emergence of three successive traditions of visual representation: “truth-to-nature,” “mechanical objectivity,” and “trained judgment.”¹⁸ It is the first of these that is expanded upon below, since artifact images focused on capturing the characteristic, essential, universal, and typical.

INTRODUCING CONVENTIONS IN ANTIQUARIAN ILLUSTRATION

In the seventeenth century scholars began to consider seriously the potential of antiquities for studying the classical world, adopting illustrations to enable a fuller appreciation of artifacts and to aid in their research endeavors.¹⁹ Although the wealth of antiquities in

¹⁷ Sachiko Kusukawa, “Leonhart Fuchs on the Importance of Pictures,” *Journal of the History of Ideas*, 1997, 58:403–427, on p. 422; and Ford, *History of Scientific Illustration* (cit. n. 11), p. 2.

¹⁸ Daston and Galison, *Objectivity* (cit. n. 6), p. 18. Daston and Galison justify their focus on atlas images on the basis that “atlas images underpin other forms of scientific visualization: they define the working objects of disciplines and at the same time cultivate what might be called the *disciplinary eye*” (p. 48).

¹⁹ On antiquarian studies in the Renaissance see Roberto Weiss, *The Renaissance Discovery of Classical Antiquity*, 2nd ed. (Oxford: Blackwell, 1988); Philip Jacks, *The Antiquarian and the Myth of Antiquity: The Origins of Rome in Renaissance Thought* (Cambridge: Cambridge Univ. Press, 1993); and Alain Schnapp, *The Discovery of the Past: The Origins of Archaeology* (London: British Museum Press, 1996). Peter N. Miller provides a useful survey of antiquarian study in the fifteenth century; see Peter N. Miller, “Major Trends in European Antiquarianism, Petrarch to Peiresc,” in *The Oxford History of Historical Writing, 1400–1800*, Vol.

Rome had inspired a thriving tradition of scholarship on the classical world in the sixteenth century, the reconstruction of the past primarily focused on classical texts. If material culture was considered at all, the emphasis was on inscriptions, coins, architecture, and sculpture, which were used (and rarely illustrated) to “back up” the historical themes addressed in antiquarian accounts.²⁰ This changed in the first half of the seventeenth century, when antiquarians became increasingly involved in the production of illustrations of antiquities—a development that reflected both that more objects were being found as a result of building works and that more efforts were being made to make sense of such discoveries. The development of antiquarian illustration at this time corresponds to the designation of methods for the study of antiquity, representing a fundamental shift in focus from literary sources to visual ones.²¹ A new generation of antiquarian scholars began to use images as a way of distinguishing themselves from those antiquaries still assigning primacy to texts and inscriptions.

When antiquaries of the seventeenth century initially included images of antiquities in their publications, they typically “partnered” them with text on established topics of interest such as religion and gods, ceremonial practices, funerary rites, and ancient costume and dress. By the mid-seventeenth century, however, antiquaries were employing artists to draw objects in order that knowledge about these remains could be gained. Together with the formation of more comprehensive collections of small finds, this led to the rise of a “research movement” on ancient material culture, where antiquaries explored the potential of artifacts to tell different or new stories about antiquity. Consequently, objects that had been perceived as the detritus of antiquity came to be recognized as independent sources of knowledge about the past. In the early stages of illustrating artifacts clear typological schemes were far from evident, but it was not long before the image became a key instrument for classifying archaeological remains. Just as the tradition of natural history illustration was evolving, a methodology was also being developed for drawing artifacts.

Since traditions of humanistic study were closely aligned with the development of scientific research in the Renaissance, the development of a distinctive tradition for the visual representation of artifacts was closely related to the traditions for illustrating natural history. In encyclopedic collections formed in Europe during the Renaissance small finds were often displayed alongside items of natural history.²² Here, and in the catalogues of such collections, smaller antiquities were treated as curiosities, much like the other items of natural history that were thought to be rare and unusual. This soon changed, however, as the field of antiquarian study grew and ancient artifacts were recognized as a means for

3, ed. José Rabasa, Masayuki Sato, Edoardo Tortarolo, and Daniel Woolf (Oxford: Oxford Univ. Press, 2012), pp. 244–260.

²⁰ Specialists on sixteenth-century humanism such as Jan Papy have shown that important exceptions existed, notably Justus Lipsius (1547–1606), who utilized illustrations to serve a pedagogical as opposed to ornamental function; see Jan Papy, “An Antiquarian Scholar between Text and Image? Justus Lipsius, Humanist Education, and the Visualization of Ancient Rome,” *Sixteenth Century Journal*, 2004, 35:97–131, esp. p. 117.

²¹ As Stuart Piggott noted, “illustration was important to the scientists to an increasing degree as they turned from ancient literary authority to a first-hand empirical study of phenomena”: Piggott, *Antiquity Depicted* (cit. n. 1), p. 22.

²² On the convergence of humanist and scientific traditions of study see Gianna Pomata and Nancy G. Siraisi, eds., *Historia: Empiricism and Erudition in Early Modern Europe* (Cambridge, Mass.: MIT Press, 1995). Sachiko Kusakawa, “The Role of Images in the Development of Renaissance Natural History,” *Arch. Nat. Hist.*, 2011, 38:189–213, on p. 190, has also observed that the scholars of natural history were trained in classics and that their methods of study provided an important foundation for the study of natural history. On the presence of antiquities in major encyclopedic collections of the Renaissance see Moser, *Wondrous Curiosities* (cit. n. 9), pp. 1–32.

understanding the classical world. Early signs of this development are apparent in the assembling of “Paper Museums” by leading collectors of the time.²³ Paper Museums included original drawings of objects and specimens plus images copied from existing catalogues and published material, forming a large visual archive that could be used for study. That the formation of such compilations encouraged the creation of more standardized ways of depicting scientific and cultural materials can be observed in the important Paper Museum of the antiquary Cassiano dal Pozzo (1588–1657).²⁴ Residing in Rome from 1612, Dal Pozzo was an avid collector of antiquities and scientific specimens, but his efforts soon became focused on amassing a vast archive of drawings of antiquities and items of natural history. His collection of over 7,000 images is an invaluable source for investigating how early antiquaries and natural scientists sought to standardize the depiction of objects for the purpose of advancing study.²⁵ As such, it is a key example for investigating the foundations of archaeological illustration, showing how artifacts came to be valued as vital “agents” in antiquarian study. As the art historian Francesco Solinas has argued, the very roots of modern archaeology can be traced to the Paper Museum of Dal Pozzo.²⁶

Dal Pozzo specialists have long highlighted his role in formalizing approaches to knowledge. The art historian Cornelius Vermeule, for instance, claimed that Dal Pozzo established a new system for what had hitherto been a pursuit rather than a science—“the visual documentation of the classical past.” More recently, cultural historians such as Maria Zytaruk have credited Dal Pozzo with transforming the Renaissance “cabinet of curiosities” model of inquiry into a more formal instrument for making knowledge.²⁷ That Dal Pozzo’s efforts in collating a major “picture library” represent an important step in the creation of a science of antiquity can be seen in the way he promoted the establishment of a classificatory system for ordering antiquities.²⁸ More than 4,200 images in the Dal Pozzo archive feature antiquities, including architectural remains, sculptures, inscriptions, mosaics, pottery, glass items, and metal objects. These were grouped according to the

²³ See Debora J. Meijers, “The Paper Museum as a Genre: The Corpus of Drawings in St. Petersburg within a European Perspective,” in *The Paper Museum of the Academy of Sciences in St. Petersburg, c. 1725–1760*, ed. Renée E. Kistemaker (Amsterdam: Royal Netherlands Academy of Arts and Sciences, 2005), pp. 19–24; Francis Haskell, “Introduction,” in British Museum, *The Paper Museum of Cassiano dal Pozzo* (Rome: Olivetti, 1993), pp. 1–10; and Élisabeth Décultot, *Musées de papier: Recueils d’antiquités et recherches antiquaires 1650–1780* (Paris: Musée du Louvre Editions/Gourcuff/Gradenigo, 2010).

²⁴ On Dal Pozzo’s work as an antiquary see Ingo Herklotz, *Cassiano dal Pozzo und die Archäologie des 17. Jahrhunderts* (Munich: Hirmer, 1999). The Cassiano dal Pozzo Project at the Warburg Institute, London, is publishing catalogues on the Dal Pozzo collection in two series: the first covers antiquities and architecture and the second natural history. The ten volumes in the former deal with mosaics and wall painting; early Christian and medieval antiquities; sarcophagi and other reliefs; statues and busts; the *Antichità Diverse* album; classical manuscript illustrations; ancient inscriptions; vases, lamps, and other objects; ancient Roman topography and architecture; and Renaissance and later architecture and ornament.

²⁵ Much of the natural history component of Dal Pozzo’s Paper Museum was acquired from the Accademia dei Lincei, a scientific academy established in 1603; see David Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago: Univ. Chicago Press, 2002).

²⁶ Francesco Solinas, “Other Sources of Drawings in the Paper Museum,” in British Museum, *Paper Museum of Cassiano dal Pozzo* (cit. n. 23), pp. 225–242, esp. p. 226.

²⁷ Cornelius Vermeule, “Aspects of Scientific Archaeology in the Seventeenth Century,” *Proceedings of the American Philosophical Society*, 1958, 102:193–214, on p. 213; and Maria Zytaruk, “Cabinets of Curiosities and the Organization of Knowledge,” *University of Toronto Quarterly*, 2011, 80(1):1–23.

²⁸ As the art historian Elizabeth Cropper notes, Dal Pozzo produced the “most important example of a classificatory model, or taxonomical system, in seventeenth century Italy”: Elizabeth Cropper, “Introduction,” in *Documentary Culture: Florence and Rome from Grand-Duke Ferdinand I to Pope Alexander VII*, ed. Cropper, Giovanna Perini, and Francesco Solinas (Bologna: Nuova Alfa, 1992), pp. 7–21, on p. 8.

primary subjects of interest in antiquarian study referred to above, such as gods and religion, funerary rituals, and aspects of cultural life. While Dal Pozzo was not the first to produce such illustrations, his contribution to the visualization of antiquity lies in the fact that he substantially expanded on sixteenth-century image collections and sought to devise a system for organizing the drawings.²⁹ Indeed, Dal Pozzo acknowledged his debt to the efforts of pioneering antiquaries like Pirro Ligorio (ca. 1514–1583), but he distinguished himself from such individuals by his much more explicit visual focus.³⁰ This focus involved large-scale commissioning of illustrations of objects held in collections and featured in manuscripts, as well as the purchase of original drawings. Vermeule notes that Dal Pozzo sent artists “tramping through the ruins and gardens, through the palaces and cloisters of seventeenth-century Rome in search of sculptures to draw.”³¹ One of the main outcomes was that Dal Pozzo promoted the development of a “house style” or standardized mode for depicting artifacts.

In terms of contemporary parallels for Dal Pozzo’s work, illustrations of small finds were produced for a limited number of antiquarian publications in the mid-seventeenth century, an important example being the engravings of ancient lamps featured in Fortunio Liceti’s (1577–1657) *De lucernis antiquorum reconditis* of 1653.³² While Dal Pozzo was thus not a pioneer of artifact illustration as such, prior to his work on the Paper Museum drawings of antiquities were not produced in large quantities. Furthermore, in seeking to ensure that his image archive functioned as a methodological instrument, Dal Pozzo promoted the introduction of a more uniform style for representing objects, moving beyond the remit of recording to producing images that shared a similar visual language. As the art historian Ingo Herklotz has emphasized, Dal Pozzo was not simply concerned with visually recording antiquities in order to capture their aesthetic qualities; rather, he sought to demonstrate how such objects were key *documents* on antiquity.³³ To this end, Dal Pozzo aimed to include examples of the full spectrum of antiquities in his “museum,” no matter how ordinary.

²⁹ Drawings of antiquities had been produced for earlier compendiums, notably the *Codex Ursinianus* manuscript collated in the 1560s by the humanist scholar and antiquary Fulvio Orsini (1529–1600), which included copies of drawings of antiquities produced by the pioneering antiquary Pirro Ligorio (ca. 1514–1583). Bequeathed by Fulvio to the Vatican library, the *Codex Ursinianus* (Biblioteca Apostolica Vaticana, Vaticanus latini 3439) contained copies of Ligorio’s drawings of antiquities found in Rome, in which small objects such as lamps, vases, weights, measures, and musical instruments were included. See Beatrice Palma Venetucci, “Pirro Ligorio and the Rediscovery of Antiquity,” in *Rediscovery of Antiquity*, ed. Fejfer *et al.* (cit. n. 2), pp. 63–88; and David R. Coffin, *Pirro Ligorio: The Renaissance Artist, Architect, and Antiquarian* (University Park: Pennsylvania State Univ. Press, 2004).

³⁰ “This Museum, which I would call of Paper, is divided into many volumes, in which I have thought to imitate the labors of the famous antiquarian, painter and architect Pirro Ligorio, who gathered as much information as he could on the ancient world divided into subjects”: Cassiano dal Pozzo to Rienhold Dehn, 15 Nov. 1654, Biblioteca dell’Accademia Nazionale dei Lincei e Corsiniana, Carteggio dal Pozzo, MS XII (10), fol. 75v. The art historian Susan Russell has discussed the role of Dal Pozzo in collecting, copying, and disseminating Pirro Ligorio’s drawings, including sketches of ancient Roman dress, images of gods, weights, measures, vases, and coins; see Susan Russell, “Pirro Ligorio, Cassiano Dal Pozzo, and the Republic of Letters,” *Papers of the British School at Rome*, 2007, 75:239–274.

³¹ Vermeule, “Aspects of Scientific Archaeology in the Seventeenth Century” (cit. n. 27), p. 194.

³² Fortunio Liceti, *De lucernis antiquorum reconditis libb. sex* (Vtini: Nicolai Schiratti, 1653). Drawings of coins were also included in early numismatic works, designed to aid in the chronological and regional sorting of this class of material. Notable examples are Abraham Gorlaeus’s *Antverpiani dactyliotheca seu annulorum sigillarium quorum apud proscos tam Graecos quam Romanos usus* (Leiden, 1601) and *Thesaurus numismatum Romanorum* (Amsterdam, 1608).

³³ Ingo Herklotz, “Das Museo Cartaceo des Cassiano Dal Pozzo und seine Stellung in der antiquarischen Wissenschaft des 17. Jahrhunderts,” in *Documentary Culture*, ed. Cropper *et al.* (cit. n. 28), pp. 81–107.

Of particular relevance to my analysis is the substantial representation of less prestigious and common items in Dal Pozzo's museum, particularly domestic wares and undecorated objects of a domestic nature. As the art historian Francis Haskell observed, an important characteristic of the Dal Pozzo archive was its "unusual attention to the usual."³⁴ Up to that point, publications including drawings of antiquities had favored monumental, sculptural, painted, inscribed, and ornamental works. While this emphasis was critical for the development of art history as a discipline, illustrations of the more mundane and functional objects had a similarly pivotal role in the development of archaeology. It is in this context that Dal Pozzo's visual archive represents a key event in the articulation of a scientific mode for studying ancient material, where we can trace the transition from a physically realistic mode of representation to a conventionalized one.

The main concentration of small finds illustrations in the Dal Pozzo archive is in a bound album entitled *Antichità Diverse*; it includes a range of Roman artifacts, among them small statuettes and reliefs, jewelry, pottery vessels, metal utensils, weights and measures, vases, lamps, and tripods.³⁵ These illustrations are organized according to the key topics of antiquarian investigation—namely, religious practices, public administration and entertainments, and everyday customs. Themes addressed in the last group included ancient clothing, eating and drinking vessels, weights and measures, musical instruments, and oil lamps. About 150 of the nearly 500 illustrations in *Antichità Diverse* were drawn directly from objects held in collections, and 285 were copied from other visual archives, primarily the *Codex Ursinianus*.³⁶ *Antichità Diverse* included a much larger quantity of small finds than these compilations, reflecting how antiquaries were increasingly becoming interested in such items. The attention to small finds in Dal Pozzo's Paper Museum may also reflect the fact that he had accumulated a vast collection of natural history illustrations, where there was a more pronounced interest in recording the full variety of specimen types, no matter how common they were.³⁷

In *Antichità Diverse* we can see how efforts were made to create basic principles for the illustration of small finds, especially ceramic and glass vessels, wooden implements, and metal utensils. Figure 1 provides an indication of this practice, with four glass flasks or bottles featured together as a group. Instead of presenting these artifacts as single specimens on a page, the illustrator has arranged them together, suggesting a connection between the objects on view. While drawings of single objects primarily functioned as a visual record, illustrations of similar objects in a "set" on a page represented a level of interpretation of the material. This drawing, for example, instantly encourages the viewer to compare the bottles and to look for similarities and differences in their shape and form. Like natural history illustrations of the same period, the clustering of the same type of item in one image represented the introduction of a significant convention, whereby a classificatory statement was made in visual terms. In the *Antichità Diverse* inventory the vessels

³⁴ Haskell, "Introduction" (cit. n. 23), p. 9. The archaeologist Don Bailey also notes that while the Dal Pozzo illustrations maintained the practice of drawing sculptures, reliefs, sarcophagi, and inscriptions, the inclusion of small finds was "by no means negligible": Don Bailey, "Small Objects in the dal Pozzo-Albani Drawings: First Gatherings," in *Cassiano dal Pozzo's Paper Museum*, ed. Ian D. Jenkins (Olivetti: Milan, 1992), pp. 3–20, on p. 3.

³⁵ *Antichità Diverse* is now held in the Royal Library at Windsor Castle. A catalogue of the album has been prepared by Elena Vaiani, ed., *The Antichità Diverse Album: The Paper Museum of Cassiano Dal Pozzo*, Ser. A, Vol. 5 (London: Royal Collection Publications, in press).

³⁶ See note 29, above.

³⁷ On the natural history component of Dal Pozzo's Paper Museum see Freedberg, *Eye of the Lynx* (cit. n. 25), Ch. 1; and David Freedberg, "Cassiano and the Art of Natural History," *Quaderni Puteani*, 1993, 4:141–222.

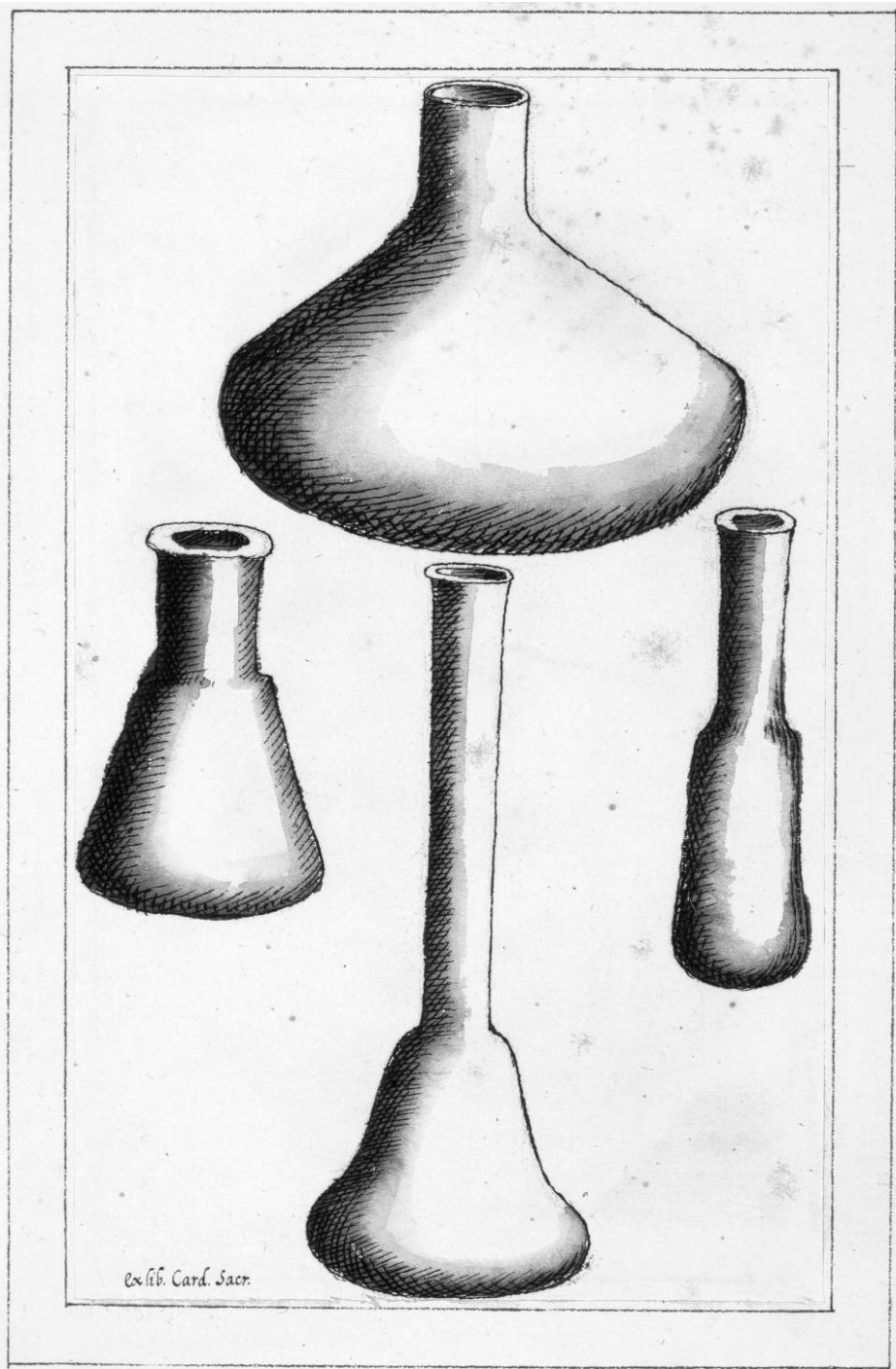


Figure 1. Four glass vessels. Dal Pozzo Paper Museum, Antichità Diverse Album, RL 10205r. Royal Collection Trust © Her Majesty Queen Elizabeth II 2013.

in Figure 1 are described as *lagrimatori*, thought to be used for the collection of tears shed at funerals. There is no exact evidence as to what these bottles held; today, however, archaeologists refer to such vessels as “unguentaria,” suggesting their use as containers for unguents such as oils, perfumes, and ointments. This illustration, drawn in ink, over which a light brown wash was added, uses clear outlines to convey the primary characteristics of the bottles, including their necks, openings, and bases. Rough cross-hatching has been employed to provide a sense of the depth or volume of the bottles. Attributed to the artist referred to as the “*Antichità Diverse Hand*,” this drawing is distinguished by strong outlines and cross-hatching.³⁸ Indicative of the “scientific realism” featured in scientific illustrations of the time was the deliberate distortion identifiable in the rendering of the bottle openings, which have been slightly cut away so as to convey the profile and character of the lip. Other features of the image also serve to delineate the “content” of the picture, such as the use of a double-lined ruled border around the page, which lends a sense of formality to the image and suggests that it was destined for publication. Also noteworthy are the plain white background, which makes the outline of the vessels more apparent, and the designation of the light source from the right, a convention that was transferred to the left in subsequent illustrations.

Another plate from *Antichità Diverse* featuring vases, flasks, and jugs and also attributed to the *Antichità Diverse Hand* introduces a convention used to present larger groups of objects (see Figure 2). Here the vessels are laid out in three rows, giving an even more systematic appearance to the image. With this arrangement viewers could compare the objects more effectively and observe, at a single glance, variations in the same class of object. The introduction of this convention suggested that antiquaries were seeking to structure visual information in a clear manner, encouraging scholars to view objects as part of a set. An additional convention was the inclusion of figure numbers for the objects, indicating a direct reference to a catalogue or textual description. This was significant because Dal Pozzo had departed from the practice of combining image and text, a characteristic of the Ligorio drawings he had copied for this figure. As Francesco Solinas points out, Dal Pozzo’s procedure for copying the Ligorio drawings involved separating the image from the accompanying text, using simple monograms to indicate provenance.³⁹ This separation indicates the primacy Dal Pozzo assigned to illustration, where a drawing was seen to function as an autonomous document, distinct from and independent of text. A further difference between this image and Figure 1 is the addition of shadows at the base of the vessels and the extension of cross-hatching to both sides of the vessels. The introduction of these conventions suggests a concern to convey the volume of the objects.

Further attempts to systematize information visually can be seen in other drawings from *Antichità Diverse*. Figure 3 is one of a set of twelve such drawings designed to define the different types of vases used in the ancient world. These drawings, copied from originals in the *Codex Ursinianus*, exhibit several differences from those produced by the *Antichità Diverse Hand*. The “*Codex Ursinianus Hand*” adopted a more selective approach in representing the objects, where a number of attributes present in the original drawings were omitted in the copies. Specifically, the inscriptions on the vases that were recorded in the *Codex Ursinianus* images are not present in the Figure 3 version. This “translation” of the drawings suggests that the copies made by the *Codex Ursinianus Hand* are not as accurate as the originals, yet they represented a different kind of accuracy—a form of

³⁸ Vaiani, ed., *Antichità Diverse Album* (cit. n. 35).

³⁹ Solinas, “Other Sources of Drawings in the Paper Museum” (cit. n. 26), p. 229.

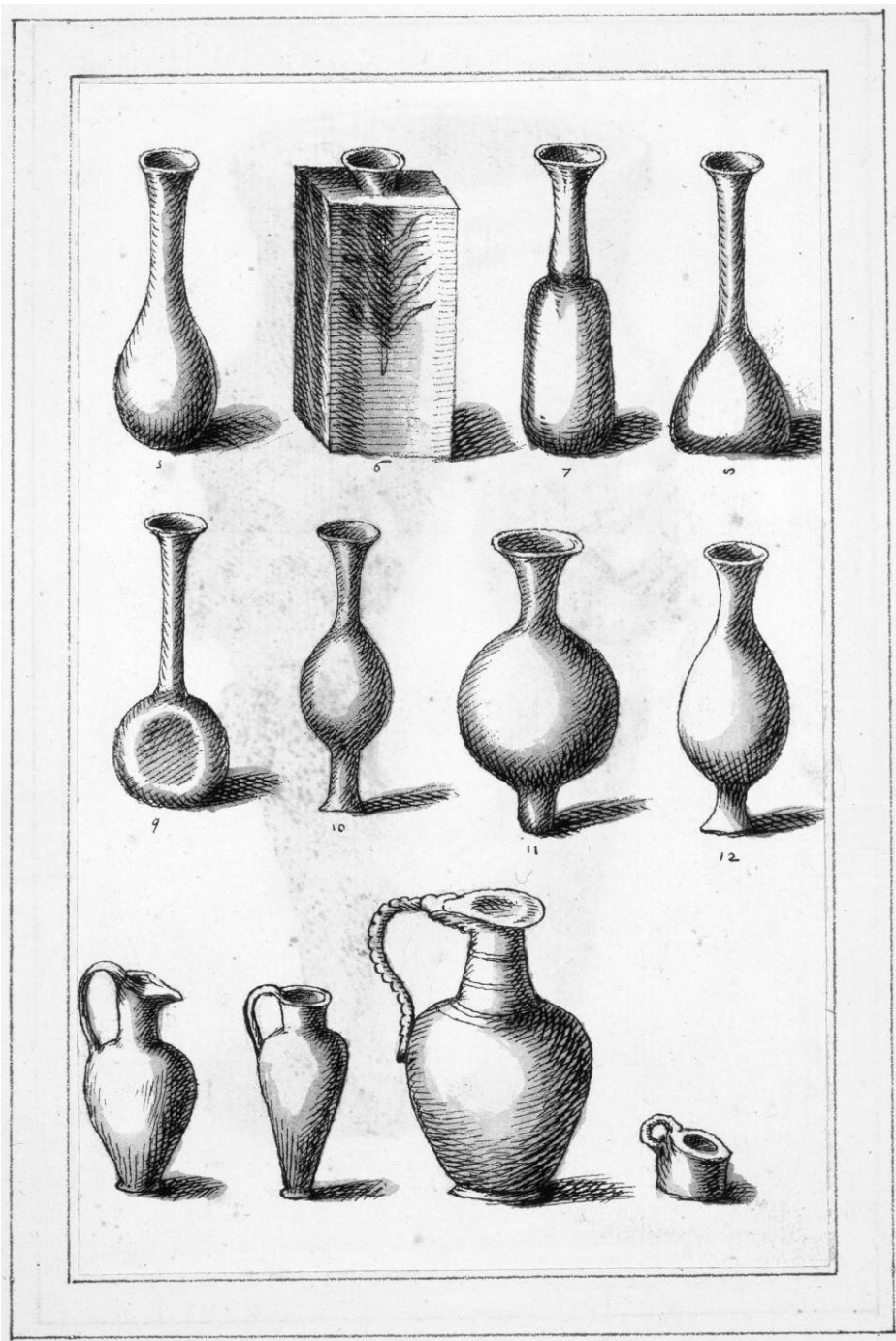


Figure 2. Collection of bottles. Dal Pozzo Paper Museum, Antichità Diverse Album, RL 10269r. Royal Collection Trust © Her Majesty Queen Elizabeth II 2013.

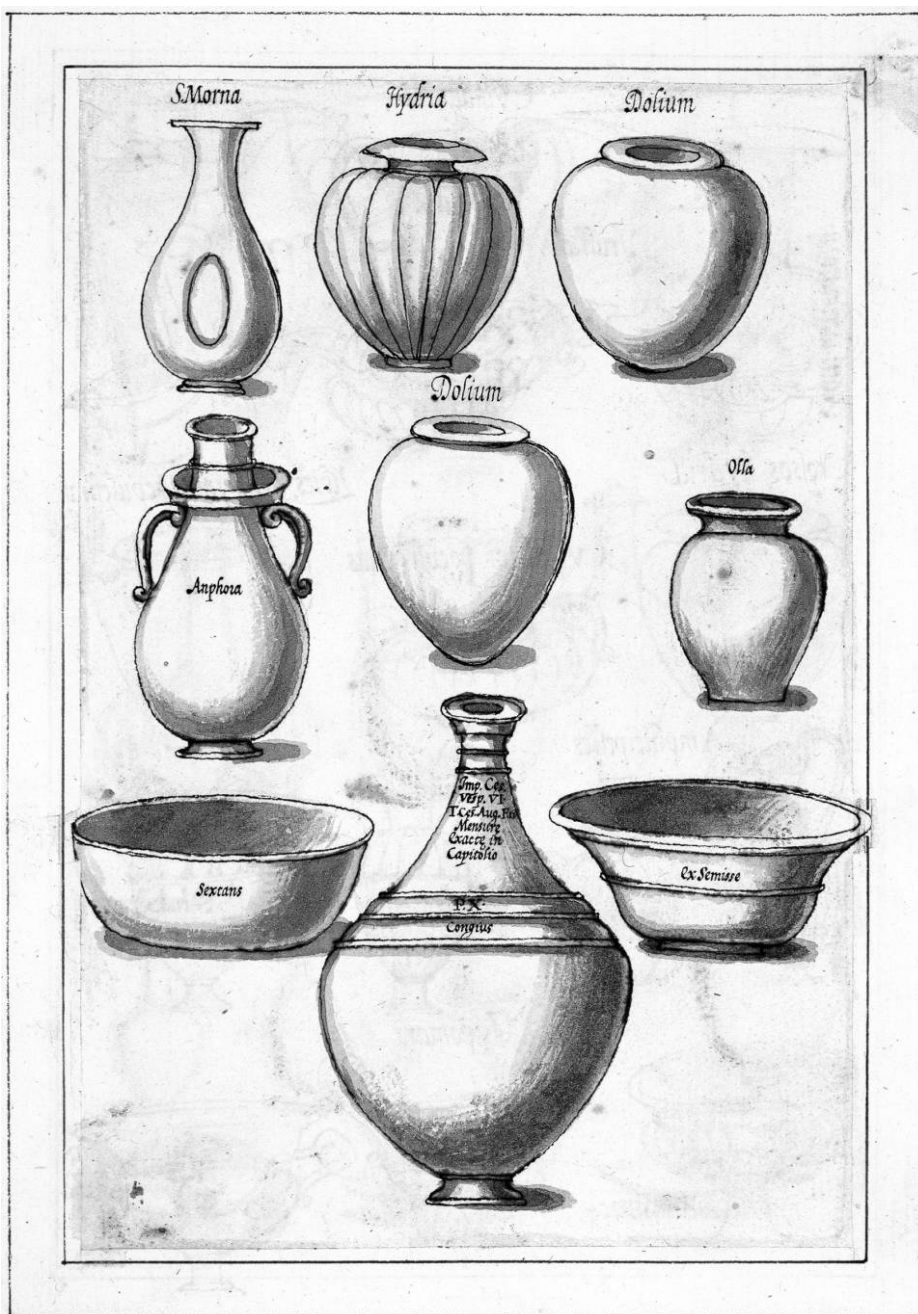


Figure 3. Series of vase types. Dal Pozzo Paper Museum, Antichità Diverse Album, RL 10294v. Royal Collection Trust © Her Majesty Queen Elizabeth II 2013.

“scientific realism”—in that they selected particular features above others to make a statement regarding vase shapes. The fact that the *Antichità Diverse* versions were not literal copies suggests that antiquaries such as Dal Pozzo were less concerned with the exact physical appearance of individual objects than with establishing a basic typology of vase shapes.⁴⁰ Rather than simply recording the objects, Dal Pozzo wanted to delineate specific terms for the different types of vases, using illustrations to facilitate this enterprise. As Elena Vaiani has observed, the selection of vases in the *Antichità Diverse*’s set of twelve plates was altered from the *Codex Ursinianus* because of an interest in presenting the objects in an orderly arrangement. While describing this as a “graphic success,” Vaiani argues that the *Antichità Diverse* drawings were poor in archaeological terms. Although the individual drawings could be described as inaccurate, the *Antichità Diverse* vase illustrations demonstrate how images were recruited to extrapolate information considered important in such objects. This aspect of the drawings can also be understood in terms of Daston and Galison’s distinction between “ideal” and “characteristic” scientific images, whereby the former render an imagined composite and the latter locate the typical in an individual specimen.⁴¹ Although the vases were drawn as individual specimens, each was designed to stand for a general class of object.

The concern in *Antichità Diverse* for putting ancient artifacts into organized visual systems is also evident in illustrations of other classes of objects. In Figure 4, implements associated with eating and drinking are laid out in orderly rows, with similar types of objects placed alongside each other. The individual drawings use firmly defined outlines to highlight diagnostic features of the objects, adopting a schematic or “plain” style rather than a naturalistic one. No one object stands out from the others, and the image appears designed to provide a representative sample of this kind of material, as opposed to showcasing the aesthetic qualities of each item. Together these attributes have the effect of making the collection seem more “scientific” in appearance. Similarly, in Figure 5 a set of fibulae or Roman brooches and buckles has been neatly organized on the page so as to give an idea of the different range of types in this class of material. The selection of objects, their grouping, and their representation in an iconographically reduced manner transformed these artifacts from rudimentary items of a somewhat random nature into “specimens” with scientific potential. Most important, however, the illustrations were initially produced because the objects were thought to be of some interest, yet once created they elevated the status of these items from curiosities to a “resource” for investigating the past. Evidence of the changing attitude to illustration can also be found in the authority images increasingly assumed in exchanges concerning antiquarian topics. An important example is the correspondence between Dal Pozzo and the notable French antiquarian Nicolas Claude Fabri de Peiresc (1580–1637) on artifacts such as ancient tripods, in which detailed drawings of objects were exchanged.⁴²

Considering Dal Pozzo’s investment in the collation of visual data for the purpose of studying antiquity, it seems somewhat surprising that he did not offer any explicit statements on the nature and intended function of the illustrations he amassed. Indeed,

⁴⁰ Amanda Claridge and Ian Jenkins have commented on the way in which the copying process was in itself selective; see Amanda Claridge and Ian Jenkins, “Cassiano and the Tradition of Drawing from the Antique,” in British Museum, *Paper Museum of Cassiano dal Pozzo* (cit. n. 23), pp. 13–26, esp. p. 18.

⁴¹ Vaiani, ed., *Antichità Diverse Album* (cit. n. 35); and Daston and Galison, *Objectivity* (cit. n. 6), p. 70.

⁴² British Museum, *Paper Museum of Cassiano dal Pozzo* (cit. n. 23), p. 233. Dal Pozzo and Peiresc shared an interest in natural history and antiquities, exchanging drawings on both subjects; see Freedberg, *Eye of the Lynx* (cit. n. 25), p. 56.

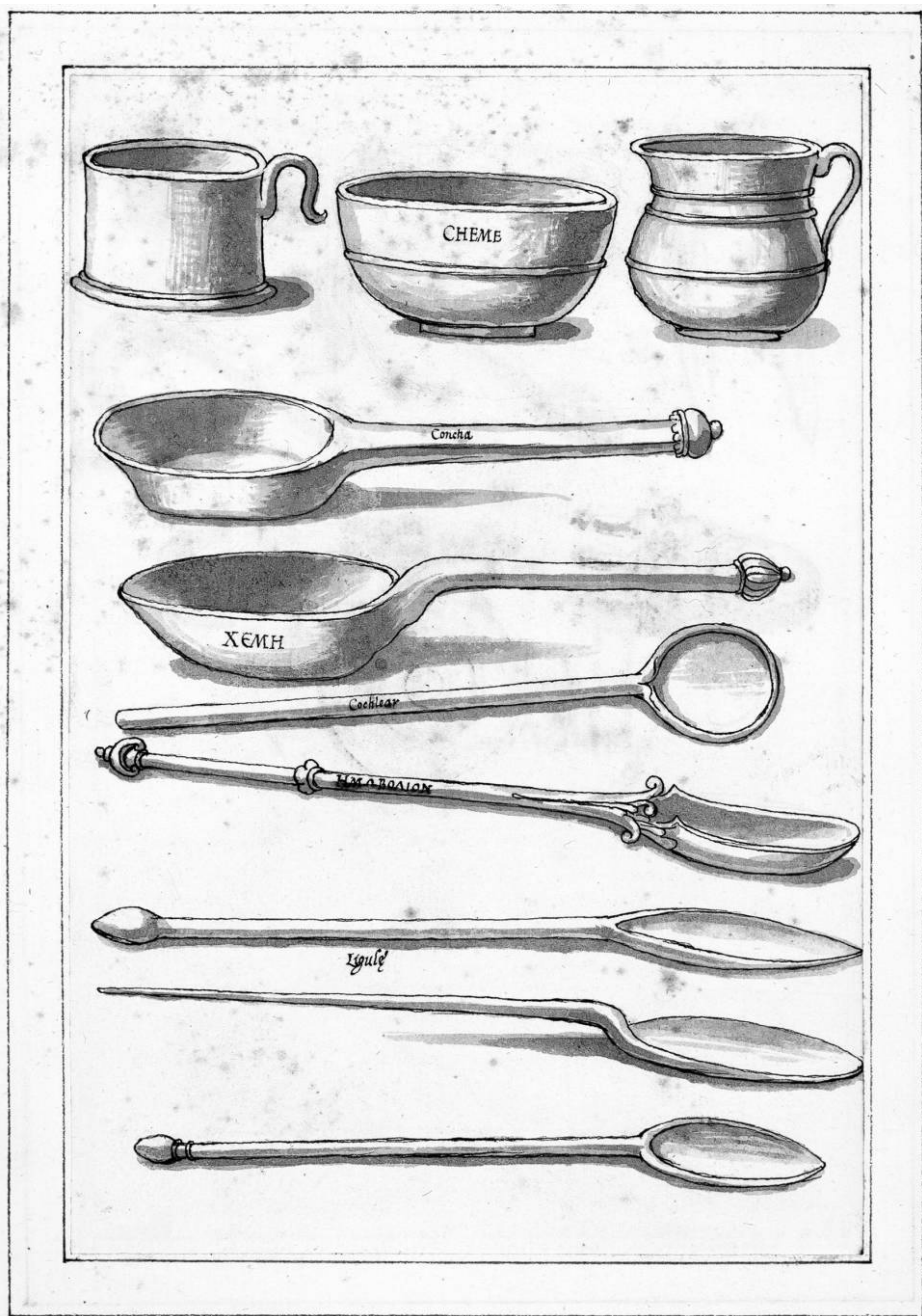


Figure 4. Metal utensils. Dal Pozzo Paper Museum, Antichità Diverse Album, RL 10231r. Royal Collection Trust © Her Majesty Queen Elizabeth II 2013.

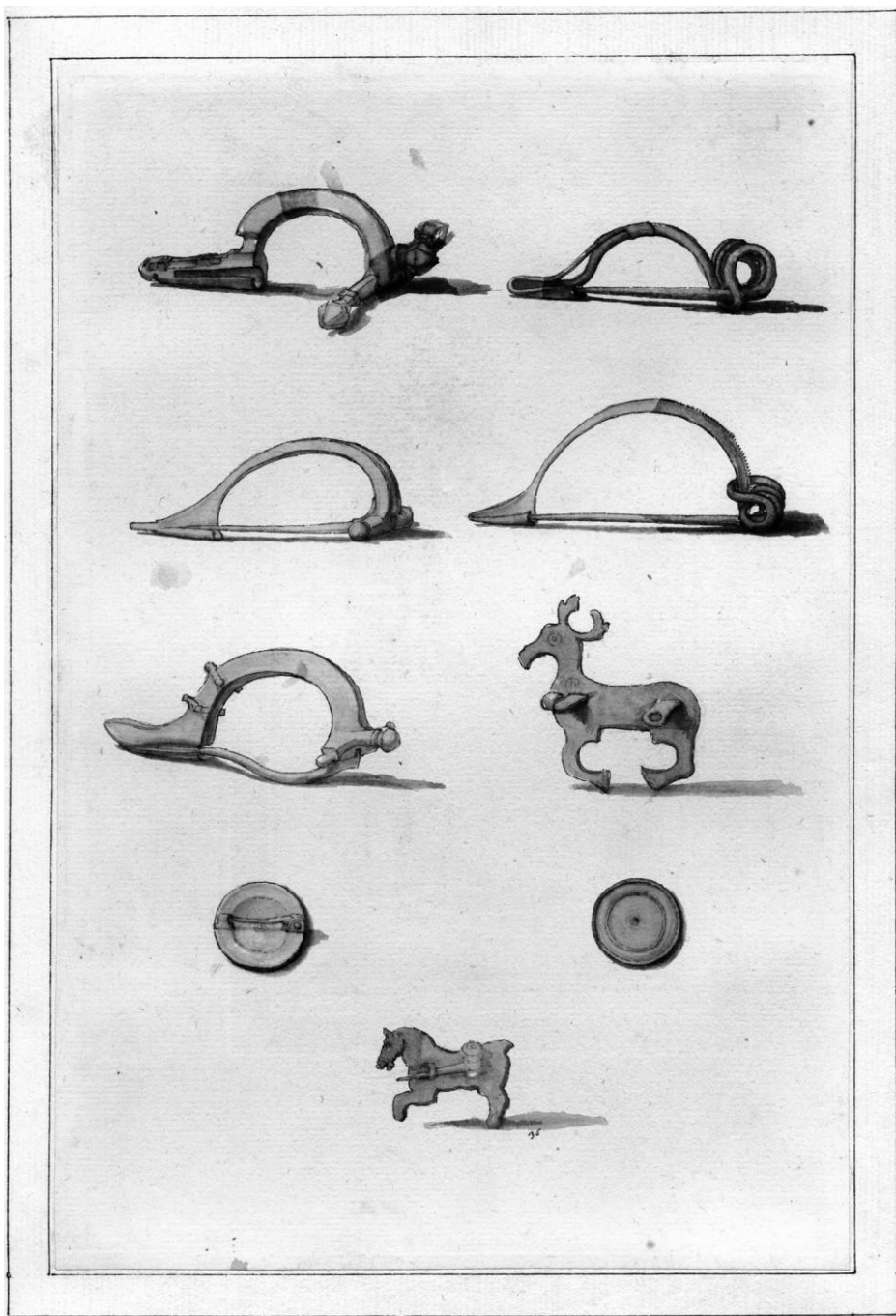


Figure 5. Fibulae. Dal Pozzo Paper Museum. The British Museum, Greek and Roman Antiquities, no. 2005,0927.88. © Trustees of the British Museum.

despite the growing interest in drawing antiquities in antiquarian circles at the time, there was a paucity of debate over the appropriate ways of representing such objects. In the previous century natural historians had outlined the role of drawings in advancing the new science of botany in clear terms, yet there appear to be no parallels for antiquarian illustration in the seventeenth century.⁴³ Despite this, it is apparent that illustrations were central to the “working methods” of Dal Pozzo, and David Freedberg’s assertion that he made a “profound commitment to the use of images in the study of nature” can also be applied to the representation of antiquities. Having noted Dal Pozzo’s lack of comments on the function of artifact illustration, we can glean some insight into the value he assigned images from a letter written to Reinhold Dehn in 1654, in which he referred to his aims in forming his “Cartaceo”: “While I do not own antiquities of any moment, I have not spared any expense in gathering what information I can about them, having employed talented young draftsmen over the space of many years—and still continuing to do so today—to copy all that is good which I have observed among marbles, and metals, which are capable of giving us significant information on the antique.”⁴⁴

Dal Pozzo’s reference to employing “talented young draftsmen” testifies to the importance he placed on producing detailed drawings of antiquities for his Paper Museum, suggesting that he valued drawing as a “science” as well as an art. Some of the artists employed by Dal Pozzo are identified by Francesco Solinas, who states that their training included reading classical texts, examining the antiquities to be drawn, carrying out technical studies of optics and visual perspective, and undertaking a stylistic apprenticeship based on the copying of examples. This training not only prioritized the attainment of high visual standards but also led to the creation of a distinctive style for representing antiquities.⁴⁵ Dal Pozzo initiated this tradition by developing the documentary mode of drawing in which the artist copied ancient works for the purpose of understanding their function and the principles underlying ancient art. This strategy related to his adoption of the rules of graphic representation employed by the Roman Accademia dei Lincei in their drawing of specimens of natural history.⁴⁶ Thus, while the documentary style of visual recording was established in the sixteenth century to provide illustrative “support” for antiquarian publications, Dal Pozzo transformed it into an essential component of antiquarian research. Furthermore, his reference to the “brief” he assigned his draftsmen to “copy all that is good, which I have observed” gives a sense of what he was hoping to achieve with his visual archive, in that he was trying to elicit a sense of what the primary and important features of antiquities were. Although he does not say so in so many words, Dal Pozzo was referring to the selective process that saw “scientific realism” adopted for artifact illustration. As a result of his efforts, images of antiquities were moving toward

⁴³ In his *De historia stirpium* of 1542, Fuchs asserted, “We were especially careful that they [the drawings] should be absolutely correct, and we have devoted the greatest diligence that every plant should be depicted with its own roots, stalks, leaves, flowers, seeds, and fruits. Over and over again, we have purposely and deliberately avoided the obliteration of the natural form of the plants lest they be obscured by shading and other artifices that painters sometimes employ to win artistic glory. And we have not allowed the craftsmen so to indulge their whims as to cause the drawing not to correspond accurately to the truth.” Cited in Ogilvie, *Science of Describing* (cit. n. 15), p. 195.

⁴⁴ Freedberg, *Eye of the Lynx* (cit. n. 25), p. 59; and Dal Pozzo to Dehn, 15 Nov. 1654 (cit. n. 30).

⁴⁵ Solinas, “Other Sources of Drawings in the Paper Museum” (cit. n. 26), p. 227. Nicholas Turner identifies the graphic style of five artists working for Dal Pozzo from around 1620, noting that there is a “stylistic consistency” to their drawings; see Nicholas Turner, “Some of the Copyists after the Antique Employed by Cassiano,” in British Museum, *Paper Museum of Cassiano dal Pozzo* (cit. n. 23), pp. 27–37.

⁴⁶ Solinas notes that Dal Pozzo endorsed the new criteria for accurate scientific observation established by the Accademia dei Lincei; see Solinas, “Other Sources of Drawings in the Paper Museum,” p. 228.

what Daston and Galison describe as a “certain collective way of knowing.”⁴⁷ For Dal Pozzo, the images were a starting point rather than an end point, providing the antiquarian community with the necessary “equipment” for identifying patterns in classes of objects.

ILLUSTRATION AND EARLY ARTIFACT TYPOLOGIES

The evolution of artifact drawings was pushed further as catalogues of major encyclopedic collections in Europe were published and the groups into which ancient objects were placed were refined.⁴⁸ In these collections, smaller antiquities were broadly classified as *artificialia* and items of natural history were classified as *naturalia*; yet, as was symptomatic of research on natural history at the time, antiquaries were increasingly engaging in taxonomic endeavors and defining groups of objects on the basis of shared characteristics. Beyond encouraging the creation of distinct categories of objects within the wider subject-based classes, the significance of the publication of museum catalogues was that it encouraged a much wider sharing of knowledge among scholars. As Kusakawa has shown for natural history, this kind of publishing was a major catalyst for the scholarly investigation of the world, including the study of antiquity.⁴⁹ More specifically, in published museum catalogues links between artifacts and natural history specimens were made via the image.⁵⁰ It is in this context that we see the tension arise between the concern to represent all the details of an object as realistically as possible and the desire to offer a scientifically informed interpretation of the object through visual abstraction. An important example of this type of publication is the catalogue of the museum formed by the Jesuit scholar Athanasius Kircher (1601–1680) in Rome in the mid-seventeenth century—the Collegio Romano.⁵¹ In 1679 the curator of this collection, the naturalist Filippo Bonanni (1658–1723), began working on the production of a catalogue with the aim of illustrating the collection and reorganizing its contents.⁵² Published in 1709, the 522-page catalogue included over 100 plates, the majority of which featured artifacts.

Musaeum Kircherianum represented a pioneering attempt to organize archaeological

⁴⁷ Daston and Galison, *Objectivity* (cit. n. 6), p. 53.

⁴⁸ On the appearance of museum catalogues in the late sixteenth century see Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: Univ. California Press, 1994), pp. 36–38.

⁴⁹ Kusakawa, “Role of Images in the Development of Renaissance Natural History” (cit. n. 22). Allmon also emphasizes the role of publishing in promoting the introduction of standards for natural history illustration; see Allmon, “Evolution of Accuracy in Natural History Illustration” (cit. n. 16).

⁵⁰ This was particularly the case with fossils, since these were recognized as individually unique objects yet were placed into taxonomic groupings in order to make observations about the characteristics distinguishing them from other classes of material.

⁵¹ Filippo Bonanni, *Musaeum Kircherianum, sive Musaeum a P. A. Kircherio in Collegio Romano Societatis Jesu* (Rome, 1709). Kircher’s collection included archaeological and ethnographic material, scientific instruments, and an important malacological collection. It has been described by the historian of geology Bruno Accordi as the “most famous museum in the world of the time”: Bruno Accordi, “Contributions to the History of Geological Science: Illustrators of the Kircher Museum Naturalist Collections,” *Geologica Roma*, 1876, 15:113–126, on p. 113. Kircher left his collection to the College of the Jesuits upon his death in 1680, after which it continued to be expanded. On Kircher’s museum see Adalgisa Lugli, “Inquiry as Collection: The Athanasius Kircher Museum in Rome,” *Anthropology and Aesthetics*, 1986, 12:109–124; and Mark A. Waddell, “A Theater of the Unseen: Athanasius Kircher’s Museum in Rome,” in *World-Building and the Early Modern Imagination*, ed. Allison B. Kavey (Basingstoke: Palgrave Macmillan, 2010), pp. 67–90. Other important illustrated catalogues of the seventeenth century, such as *Musaeum Francisci Calceolari Iunioris Veronensis* of 1622, did not have as many plates of antiquities as did *Musaeum Kircherianum*. On the displays of antiquities in the Collegio Romano see Moser, *Wondrous Curiosities* (cit. n. 9), pp. 28–29.

⁵² Also a Jesuit scholar, Bonanni was Kircher’s successor and a recognized expert on shells.

materials visually according to a classificatory model in which artifact types were grouped together. Here antiquities were divided into five classes, including “Idola, Instrumenta, ad Sacrificia Ethnicorum spectantia” (images and implements relating to sacrificial practices); “Tabellae Votivas, Anathemata” (votive and curse tablets); “Sepulchra, Inscriptiones Sepulchrales” (tombs and tomb inscriptions); “Lucernas Sepulchrales” (tomb lamps); and “Fragmenta eruditae Antiquitatis” (fragments of the learned/skilled in antiquity). While the first class is reminiscent of the subject-based categorization of material evident in Dal Pozzo’s archive, the remaining classes are dedicated to object types. This shift in focus is reinforced by the fact that of the 60-some plates in the work devoted to presenting artifacts, the vast majority contain groups of objects rather than single specimens.⁵³ In Bonanni’s catalogue the emphasis had shifted to treating objects as representative of specific artifact types, as opposed to seeing them as illustrations of a particular subject or theme. This focus on the grouping of objects and the more formal style in the arrangement of the artifact plates is also likely to have derived from the preparation of the plates for publication.

The images in *Musaeum Kircherianum* built on and extended the nascent conventions introduced in Dal Pozzo’s Paper Museum. They were produced, as were the drawings of natural history specimens in the same catalogue, with the aim of extrapolating meaning from objects. Figure 6 presents a set of pottery vessels included in Class 3 of the catalogue (“Sepulchra, Inscriptiones Sepulchrales”), which Bonanni informs us were earthen pots found in tombs containing ashes and remains of the poor.⁵⁴ Particular attention is paid to the outline of the vessels and to their necks, handles, bases, and rims. Concern for standardizing the way such vessels were represented is also suggested by the fact that they are all drawn from the same angle and are neatly arranged in rows, instantly informing the viewer that this is a didactic image designed to impart typological information.⁵⁵ Each object is rendered clearly, with firm lines, cross-hatching, and shading to convey a sense of form and highlight key attributes. The parallel lines drawn across the background may have been designed to “illuminate” each individual object, yet this convention was not used for many of the plates featuring natural history specimens, which have a plain white background.⁵⁶ Also notable is that the shadows used in the Dal Pozzo images are gone. Whether this was simply a matter of personal preference or an intentional decision to omit shadows because they were not considered useful in defining the prevailing characteristics of a specimen is difficult to establish. What is clear, however, is that in this plate, and in the others that feature small finds, the objects were designed to be seen as part of a set. While this kind of ordering was apparent in some of the Dal Pozzo images (such as the vases series), it was more widely applied to other classes of material in *Musaeum Kircherianum*.

⁵³ There are 66 plates featuring antiquities, a few of which include ethnographic items such as shoes and garments. Of those dedicated solely to antiquities, the majority feature small figurines, statues, and funerary sculpture; about 15 feature items such as vessels, pots, metal utensils, fibulae, weights, and keys; 11 are devoted to lamps.

⁵⁴ Bonanni, *Musaeum Kircherianum* (cit. n. 51), p. 95. Of the 12 plates in this section, 3 are devoted to pottery vessels and the rest feature funerary monuments and urns.

⁵⁵ Other similar plates feature pots arranged in rows, yet the convention of positioning the base of the objects on the same plane is not firmly established or consistent; see, e.g., *ibid.*, Tab. XXV, p. 125, and Tab. XXXVII, p. 127.

⁵⁶ Accordi, “Contributions to the History of Geological Science” (cit. n. 51), p. 122, notes that Bonanni reused the *Musaeum Kircherianum* illustrations in other works, often changing their format and reproducing them on a striped background instead of a plain white one.

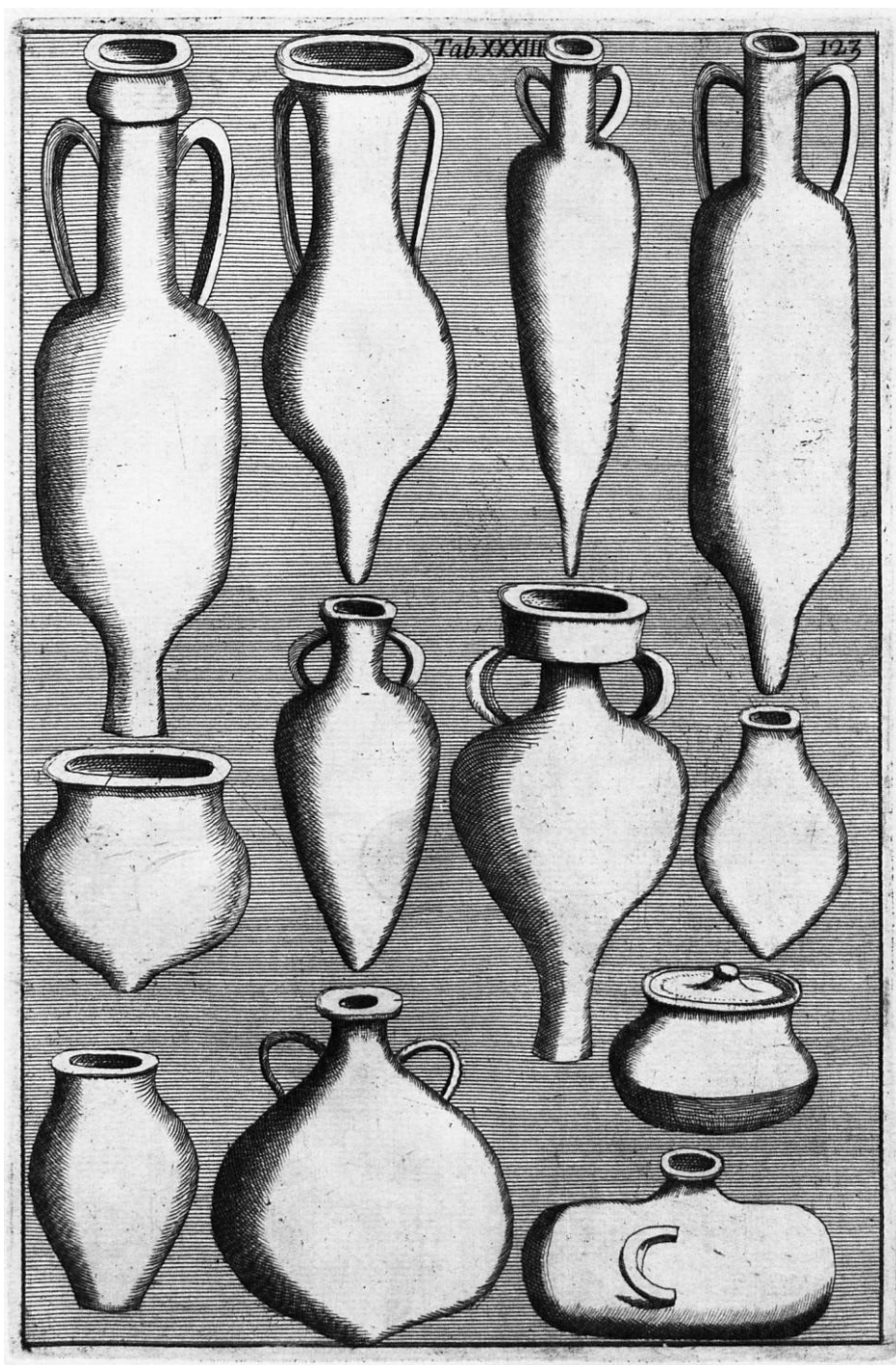


Figure 6. Earthenware vessels. Filippo Bonanni, *Musaeum Kircherianum, sive Musaeum a P. A. Kircheri in Collegio Romano Societatis Jesu* (Rome, 1709), Tab. XXXIII, p. 123. © The British Library Board 39.g.14.

In Figure 7 Bonanni presents a collection of bracelets, pins, needles, and tweezers, said to have been dug up from the drains for ancient baths. Grouped into Class 5 (“Fragmenta eruditae Antiquitatis”), the bracelets are neatly laid out so as to indicate size and method of closure and the metal utensils are presented “top-to-tail” so as to reveal the variety of tips and ends in pins and needles.⁵⁷ Similarly, in Figure 8, where an assortment of brooches and buckles are presented, the primary features of each specimen have been highlighted with firm outlines, which serve as an aid to comparison. As with Figure 7, the cross-hatching is subtle, allowing the viewer to observe the presence of minor decorative details on the objects. Although the three larger brooches on the left are laid out in a similar manner, the others appear to have been slotted in at various angles to make economical use of the page. This inconsistency in the layout of the objects suggests that engravers and printers were still experimenting with the format of the artifact plate to determine the most appropriate way of presenting objects in groups. Also significant is that Bonanni devotes a whole page to describing fibulae alone, noting the different materials they were made of and describing the variety of shapes and decorations in this class of object.⁵⁸ That these ubiquitous items were given so much attention indicates how attitudes toward the less prepossessing “arts” of antiquity were changing.

The drawings in *Musaeum Kircherianum* were original sketches of objects in the Collegio Romano collection. As with many of the Dal Pozzo illustrations, they exhibited a degree of visual translation, revealing that Bonanni’s drawings were “edited” in order to define the class of material presented. His adoption of a scientific form of realism was an issue raised by scholars of the time who criticized the accuracy of his illustrations. The British naturalist Martin Lister (1638–1711), for instance, described Bonanni’s figures as “all false, except a few he had drawn by me and others.” While Lister’s remark refers specifically to the natural history illustrations, especially those featuring mollusks, it can also be extended to the images of antiquities. As Bruno Accordi states, the illustrations are “at times approximate, often imaginatively enriched.”⁵⁹ Despite the loss of archaeological integrity resulting from the process of selective recording, the illustrations in Bonanni’s catalogue reflected how new types of meanings were being generated about antiquities. Again, the “specific philosophical premise” behind the production of such illustrations was that highly specific physical accuracy could be sacrificed in order to establish deeper, underlying meanings about objects. Although we do not know if this was Bonanni’s explicit agenda, it nevertheless seems that his approach was to omit certain details in favor of others.

Testimony to the creation of new typologically oriented subcategories within a general subject-based system of ordering, the images in *Musaeum Kircherianum* indicated how scholars were studying antiquities in line with natural history methods, where the emphasis lay on identifying types and showing the variation within those types. This can be most clearly seen in Bonanni’s Class 4, which is almost solely devoted to illustrating and describing ancient lamps. It is also evident in the way the

⁵⁷ Bonanni, *Musaeum Kircherianum* (cit. n. 51), p. 161. There are 15 plates assigned to illustrating objects from Class 5, in which weights, pots, keys, coins, a sistrum, and ancient styles of footwear were featured.

⁵⁸ *Ibid.*, pp. 168–169.

⁵⁹ A recognized authority on shells, Lister included over 500 plates in his *Historiae Conchyliorum* of 1685–1692, which was renowned for its illustrations. His condemnation of Bonanni’s illustrations is cited in Accordi, “Contribution to the History of Geological Science” (cit. n. 51), p. 122; see also p. 121 (“at times approximate”). There is significant variation in the quality of illustrations in *Musaeum Kircherianum*, reflecting the fact that different illustrators were responsible for producing them.

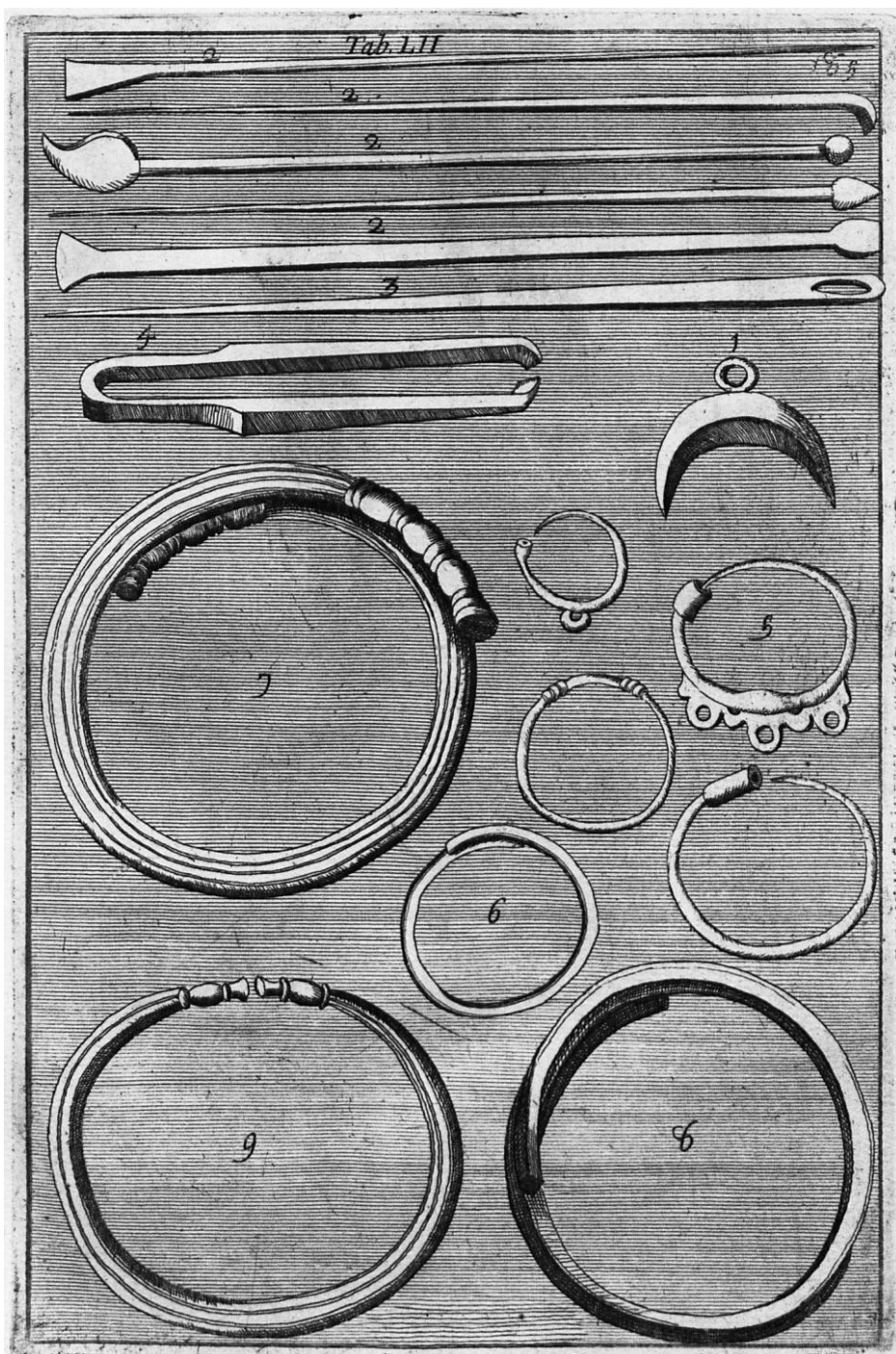


Figure 7. Bracelets, pins, needle, and tweezers. Filippo Bonanni, *Musaeum Kircherianum, sive Musaeum a P. A. Kirchero in Collegio Romano Societatis Jesu (Rome, 1709)*, Tab. LII, p. 185. © The British Library Board 39.g.14.

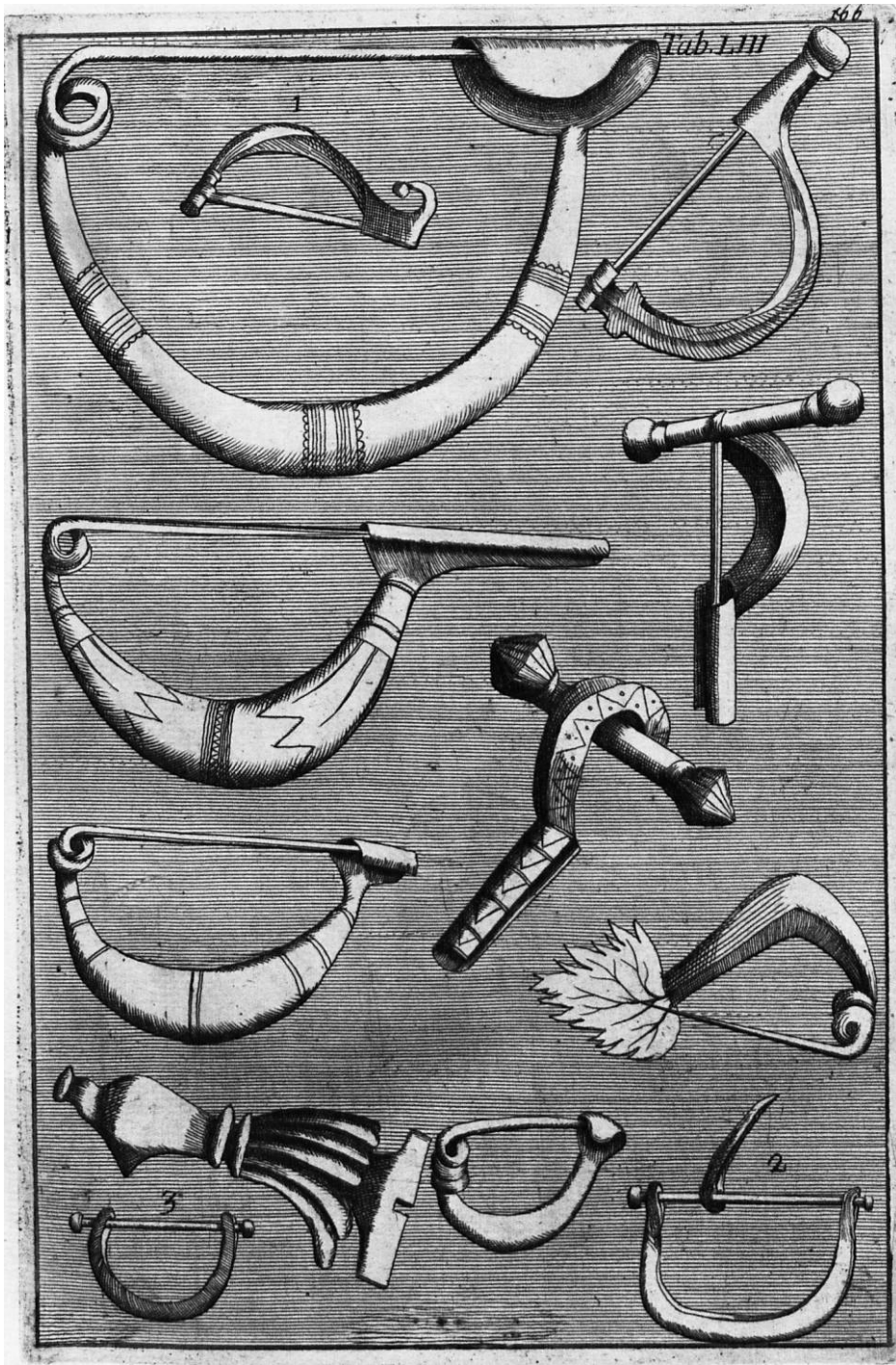


Figure 8. Buckles. Filippo Bonanni, *Musaeum Kircherianum, sive Musaeum a P. A. Kircherio in Collegio Romano Societatis Jesu* (Rome, 1709), Tab. LIII, p. 186. © The British Library Board 39.g.14.

objects included in Class 5 (“Fragmenta eruditae Antiquitatis”) are grouped together on account of being similar types of objects as opposed to relating to a general cultural practice. Some object types, however, were included in a range of classes, as can be seen with the inclusion of pots in Classes 1, 3, 4, and 5.⁶⁰ Despite their not being treated as a discrete class of object, the representation of the pots is nevertheless consistent in all the classes. Furthermore, the fact that antiquities were presented alongside objects of natural history in a catalogue that was devoted to ordering and classifying a major encyclopedic collection was in itself significant. This coexistence demonstrates that antiquities were no longer perceived solely as objects of art history or as visual confirmation of historical events. Rather, they were now treated as items that could be studied in the same manner as specimens of natural history. Conventionalization of illustrations was a key strategy for realizing this goal, and, although he was not an antiquary, Bonanni contributed to the creation of pictorial rules that would enable patterns and connections between ancient objects to be more explicitly “seen.” Although it was not until the nineteenth century that universal artifact typologies were constructed for archaeology, it was in early museum catalogues such as *Musaeum Kircherianum* that the construction of object types was first presented as an explicit strategy for ordering artifacts.

Finally, like many other scholars of the time, Bonanni did not reflect publicly on the purpose of the illustrations he used in his work, nor did he explain how he intended readers to use them as an aid to research. It appears that Bonanni, like many others, assumed that the plates “spoke for themselves” and did not require justification as a distinctive mode of presenting knowledge. Indeed, the fact that he did not disclose to the reader/viewer his strategy in designing the plates reflects how his work, like so many scientific and antiquarian works of the seventeenth century, quickly adopted and capitalized on the power of the image. Furthermore, as *Musaeum Kircherianum* was a catalogue of a collection, it was perhaps felt that the emphasis on illustrations needed no explanation. Regardless of the lack of discussion of the illustrations, the plates in *Musaeum Kircherianum* were clearly didactic in nature, and it is highly likely that Bonanni intended the illustrations to “tell” the viewer what was worth observing in an object/specimen. That his illustrations had an impact on the course of antiquarian study in the eighteenth century can be seen in their extensive reproduction in subsequent key works on ancient material culture, most notably the landmark *L’Antiquité expliquée et représentée en figures* of 1719–1724, to which I now turn.

PUBLISHING ILLUSTRATIVE REFERENCE WORKS

Illustrations of artifacts in museum catalogues refined some of the basic standards for the representation of archaeological objects; however, it was in the major antiquarian reference works of the first half of the eighteenth century that these rudimentary conventions were developed into clearer pictorial rules. The first publication to undertake major initiatives in this direction was the monumental fifteen-volume *L’Antiquité expliquée et représentée en figures* of 1719–1724, published by the leading French antiquarian Bernard de Montfaucon (1655–1741).⁶¹ Funded by public

⁶⁰ Of the 14 plates devoted to Class 4, 11 feature groups of lamps, 2 represent figurines, and 1 depicts a pot series.

⁶¹ Bernard de Montfaucon, *L’Antiquité expliquée et représentée en figures*, 15 vols. (Paris: Chez Florentin

subscription, *L'Antiquité* was distinguished by the primacy assigned to illustrations, with a staggering 1,120 folio plates featuring engravings of antiquities.⁶² These plates were not only characterized by their stylistic consistency but exhibited refinement in their illustrative methods. Influenced by Dal Pozzo's vast image archive, Montfaucon sought to reproduce as many examples of the various classes of antiquities as possible. His concern for precise recording and provenance is indicated by his noting the source of objects on the plates and by the detailed description of each object in the accompanying text. With its comprehensive series of dedicated artifact plates, *L'Antiquité* heralded the formation of a discipline centered on the study of all types of ancient objects, no matter how small or insignificant they might seem. A veritable artifact in itself, *L'Antiquité* signified that Montfaucon believed illustrations to be an absolute necessity for the study of the past.

Beyond the sheer abundance of pictures in *L'Antiquité*, the breadth of material described demonstrated the possibilities of a discipline in which artifacts could be used to address questions about cultural change over time. With its original drawings of objects held in collections (including Montfaucon's own) and copied illustrations from museum catalogues and manuscript sources, *L'Antiquité* was a highly ambitious compilation. The bringing together of so many illustrations from such a wide range of sources provided an indispensable resource for scholars, as indicated by the rapid appearance of a second revised edition in 1722 and the prompt translation of the work into English (*Antiquity Explained and Represented in Sculptures*). Furthermore, this compendium was more accessible than previous antiquarian works, and most antiquaries throughout Europe would have consulted it as the key reference work and authoritative source on antiquity.⁶³ Although the ideas presented in *L'Antiquité* were a continuation of the antiquarian concerns of the seventeenth century, there was a level of detail on small finds not present in previous publications. Indeed, the lengthy discussions and illustrations of these minutiae of antiquity would greatly affect the appreciation of such artifacts, transforming the status of items such as hairpins into significant evidence about cultural practices in ancient times.

Before addressing the role of *L'Antiquité* in placing the image at the center of antiquarian discourse, it is important to outline the context in which Montfaucon produced this great work.⁶⁴ From 1698 to 1700 Montfaucon traveled in Italy, carrying out a survey of major libraries, collections, and ancient monuments, listing the key manuscripts held in important institutions, copying ancient inscriptions, and describ-

Delaune *et al.*, 1719–1724). The first edition of 1719 sold out in two months, and a second revised edition was issued in 1722. The five *Supplement* volumes were published in 1724; hence the publication date 1719–1724. Montfaucon was an authority on ancient Greek texts, with expertise in antiquities. From ca. 1693 he formed an important collection of drawings of antiquities that was the basis of his great reference work. On the significance of his work for antiquarian studies see Elena Vaiani, “*L'Antiquité expliquée* di Bernard de Montfaucon: Metodi e strumenti dell'antiquaria settecentesca,” in *Dell'antiquaria e dei suoi metodi*, ed. Vaiani (Pisa: Scuola Normale Superiore, 2001), pp. 155–176.

⁶² On the production of *L'Antiquité* see Celia Hurley, “The Vagaries of Artbook Publishing: Bernard de Montfaucon (1660–1741) and His Subscription Enterprises,” *Georges Bloch Jahrbuch des Kunsthistorischen Instituts der Universität Zürich*, 2000, 7:84–95.

⁶³ Bernard de Montfaucon, *Antiquity Explained and Represented in Sculptures*, was translated by the British clergyman David Humphreys and published in five volumes with a supplement (London: J. Tonson and J. Watts, 1721–1725). Haskell, *History and Its Images* (cit. n. 10), p. 132, describes *L'Antiquité* as representing “antiquarianism at its most accessible.”

⁶⁴ Montfaucon's travel diaries provide important insights into his motivation and aspirations in producing *L'Antiquité*; see Bernard de Montfaucon, *The Travels of the Learned Father Montfaucon from Paris thro' Italy, 1698, 1699, 1700*, trans. E. Curl (London, 1712).

ing major monuments. He refers to having “prescribed to myself a certain Method of making my Observations” that centered on direct observation—the objects that interested him “being for the most part such as have not been taken notice of, or not exactly describ’d by others”—and “borrowing” from unpublished works, namely those of the sculptor Flaminio Vacca (1538–1605).⁶⁵ At this stage Montfaucon did not reflect on the role of visual recording in his methodology; however, collecting illustrations was clearly an integral part of his “field trip” in Italy. When an object was thought to be of particular interest he had an illustration of it made; this was the case with an Egyptian statuette found at the Villa Borghese, of which Montfaucon reported, “We here give the draught of it exactly taken by *Monsieur du Verger*, a *French Man* well skill’d in Antiquities and Architecture.”⁶⁶ This comment reveals something of Montfaucon’s attitude to illustration, in that it emphasizes accuracy in recording and makes a point of informing readers of the expertise of the individual responsible for creating the image. That Montfaucon qualified the image in this way reveals how illustrations were increasingly valued as part of the research process. Furthermore, when referring to the scholars who had written about ancient Rome, Montfaucon singled out *Roma vetus ad recens* (1665), by Alexander Donatus, on account of its having illustrations.⁶⁷

The concern to provide a representative sample of antiquities is reinforced in the preface to *L’Antiquité*, where Montfaucon informs readers that “every part” of antiquity is represented with “all the accuracy I was capable of.” Moreover, he declares that *L’Antiquité* contains “all such images ranged in their proper classes,” suggesting that his effort in classifying objects was a priority. Asserting his expertise in carrying out this task, Montfaucon explains how he formed a collection of drawings and “antique pieces,” read a “vast number of books” on antiquity, and spent three years in Italy visiting the ancient monuments and cabinets. He then turns to the value of images, stating that they had the potential to explain something beyond what words could achieve:

I have taken into this work all the images which I thought useful to illustrate antiquity; and omitted only those which were very like them I inserted. . . . The figures joined to the explanation will be very useful. Instruction will be conveyed with ease to the reader, and he will find the agreeable mix’d with the profitable, according to *Horace’s* advice. He will find in these images, mute histories, which authors do not mention.⁶⁸

This statement indicates that a process of selection had taken place, whereby representative specimens for each type of object were chosen for publication and the many examples of similar objects were excluded. Montfaucon’s reference to the provision of explanations for the images in the text reveals his concern to present knowledge that was useful and reliable, indicating an intention that the work would function as a key reference on antiquity. The notion that images offered “mute histories” is particularly apposite, revealing how Montfaucon believed in the power of

⁶⁵ *Ibid.*, p. 111. Flaminio Vacca produced a detailed account of the antiquities unearthed in Rome in *Memorie di varie antichità trovate in diversi luoghi della Città di Roma* (1594).

⁶⁶ The artifact is described as “a strange figure, with a Cat’s Head and a Woman’s Body”: Montfaucon, *Travels of the Learned Father Montfaucon*, trans. Crull, p. 257.

⁶⁷ Montfaucon states that Donatus “took special Care to deliver whatsoever could be found in Poets and other Ancients conducing to the Description of the City, and besides he illustrated all his work with Cuts”: *ibid.*, p. 328.

⁶⁸ Montfaucon, *Antiquity Explained and Represented in Sculptures*, trans. Humphreys (cit. n. 63), Vol. 1, p. 1.

illustrations to communicate ideas about antiquity that were not apparent in written sources.

Further reflections on the value of antiquities in the reconstruction of the past are offered in Montfaucon's preface to the *Supplement to L'Antiquité*, where antiquities are said to present "to us as in a Picture, a great Part of what Authors describe and write about; and perfects our Ideas concerning things which we had no Image of, but what we made to ourselves from a meer [*sic*] Narration frequently misunderstood; an Image, often false, and always imperfect." Most telling is the following sentence, where he announces, "But this is not all we learn from Antiquities; they teach us an infinite Number of Things which Writers never mention. This Class hath been always too much neglected; it is almost a new Learning." These two distinct benefits of studying the material residues of antiquity are considered so important that Montfaucon felt the need to explain them more fully:

How much easier will anyone understand the ancient History, when he sees with his Eyes the Forms of all their Gods; their Temples, and Rites of sacrifice: When he views the sure Habits of most of the known ancient Nations; the Method and Order of their Eating and Entertaining; the Form of their Vases, Weights, Measures, and publick Buildings; the Ceremonies of their Marriages; their Baths; the Instruments of their Musick; their Arts of War; the Funerals: When all these things, I say, are not read of, but seen with the Eye, as copied from original Monuments of those ages. Another Advantage of no less Consequence, which we gain from Monuments, is, they teach us a great many things which Authors take no Notice of.⁶⁹

Of paramount importance here is the role assigned to images in this new object-based approach to studying the past, where objects are "seen with the Eye, as copied from original monuments." Montfaucon expands on this capacity of the image: "A Verbal Description, however exact and particular it may be, can never give us such a clear Idea of some things, as the Image and Picture of those things themselves, drawn from life. . . . No Narrative, however plain and full, can teach us what one Glance of the Eye will; Images copied from Monuments produce the same Effect almost, as being upon the very Spot."⁷⁰

The illustrations in *L'Antiquité* are in the first instance structured according to key themes such as gods and religion, funerary practices, domestic customs, and civic life. While the majority of plates feature sculptures, architectural fragments, and inscriptions, a significant number present smaller objects of an "everyday" nature such as lamps, brooches, bracelets, pots, and utensils. These primarily appear in Volume 3, which covers the "habits" of the ancient Greeks and Romans. Similar items also appear in Volume 2, which deals with cults and religious practice in ancient Greece, Rome, Egypt, Syria, and Persia, and in Volume 5, which concerns funerary practice. In all the plates of small finds featured in these volumes, it is possible to see the attempt to arrange objects into typologically meaningful groups, where similarities and differences between artifacts can be identified through diagnostic attributes. Figure 9, where a selection of brooches or clasps is featured, presents one of many such plates. Although the scales are mixed and the alignment of the objects is not spatially consistent, similarities in form and charac-

⁶⁹ *Ibid.*, pp. 2, 3.

⁷⁰ *Ibid.*, p. 7. It is telling that Montfaucon acknowledges the role of the engraver D. Vincent Thuillier in the preparation of the work.

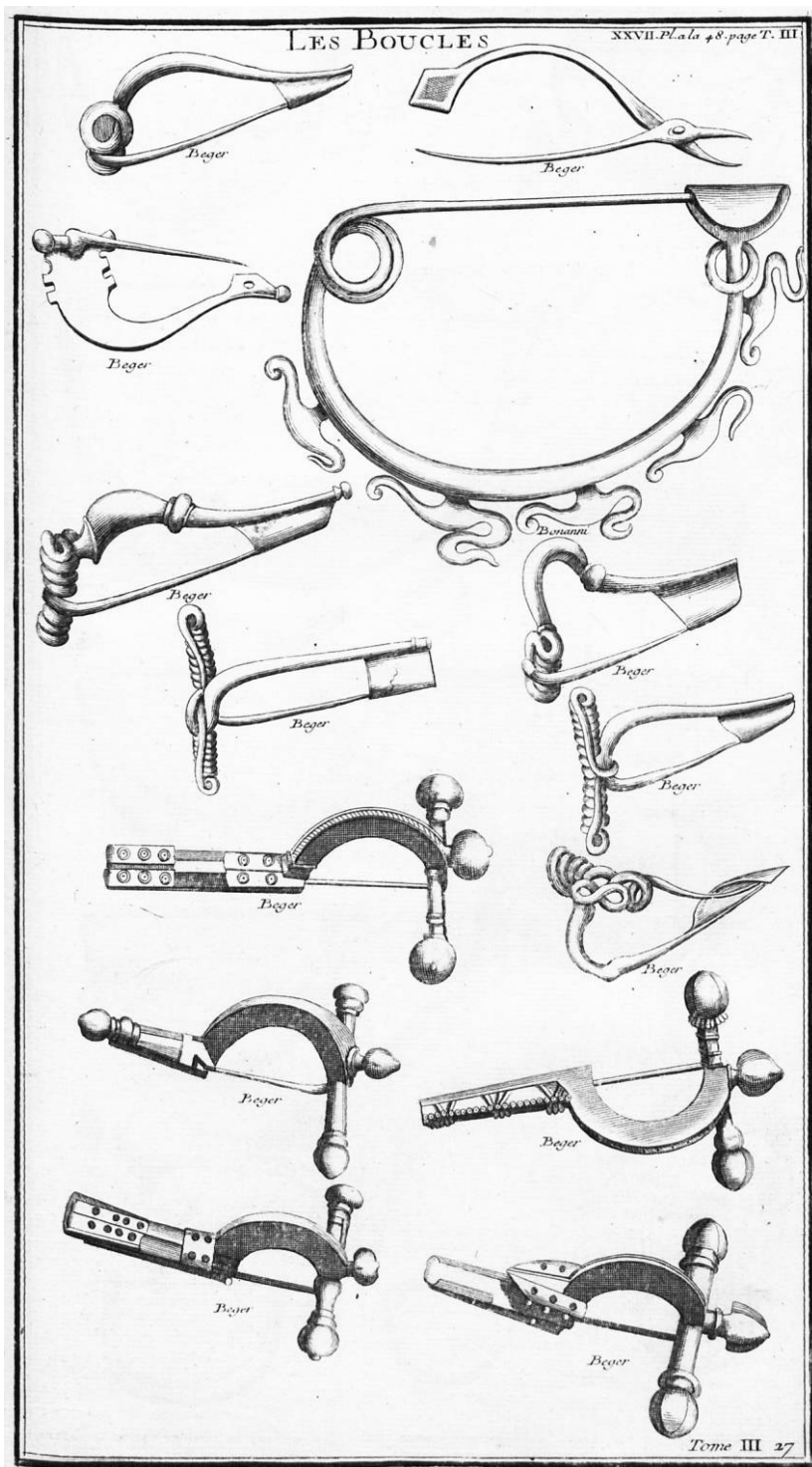


Figure 9. "Les boucles." Bernard de Montfaucon, *L'Antiquité expliquée et représentée en figures*, 15 vols., 2nd rev. ed. (Paris: Chez Florentin Delaune et al., 1722), Vol. 3, Pl. XXVII. © The British Library Board 740.i.20.

teristics are deliberately highlighted. The accompanying text provides detailed comments on the examples depicted in the plate, reinforcing the idea that “minor” objects are deserving of serious consideration. Readers are presented with more than two pages of discussion on fibulae alone, with the “anatomy” of such objects fully described and the provenance of the examples recorded on the plate. Significantly, when Montfaucon attempts to explain how the mechanism of the fibula worked—“from one of the extremities of the bow there issues a kind of needle with a sharp point, that winds and twists itself sometimes into many folds”—he directs his reader to the illustration, noting that his verbal description “is better apprehended by observing the figure.”⁷¹ This deferral to the image represents a significant development in antiquarian scholarship because it suggests that artifact illustrations had become a critical component of the process of observation.

Montfaucon’s plate featuring bracelets (see Figure 10) is also noteworthy in the way that it differs from Bonanni’s plate showing the same class of objects (and from which Montfaucon directly copied four examples; see Figure 7). Rather than combining the bracelets with other metal objects and thus presenting them as part of a general class of material, as Bonanni had done, Montfaucon’s image is entirely focused on bracelets, suggesting that these should be treated as a discrete set of items. Although the layout of the bracelets is not symmetrically balanced, the simplicity and uncluttered nature of the image is striking. Similarly, in Figure 11, which presents a collection of earthenware vessels, the objects are characterized by their clearly delineated form and shape. The eye is drawn to the outlines and diagnostic traits of the vessels, such as the handles, lips, and bases. The sheer plainness of the objects encouraged antiquaries to shift their attention from the figurative and ornamental aspects of the artifacts to their essential “morphological” features. It was thus in the drawing of the most basic types of objects that key illustrative conventions were developed.

Other notable traits of Montfaucon’s plates include the use of clear black outlines on a white background, the “framing” of the plate with a double-lined border, the addition of titles on each page specifying the class of material portrayed, and the designation of each object’s provenance. Although varied in their level of precision, the overall quality of the engravings was a significant characteristic of the plates. Together these elements made the images appear more formal and standardized than previous artifact illustrations, ensuring that the “artifact plate” now existed as an entity in its own right. While the introduction of these conventions was no doubt prompted by the desire to produce a coherent and handsome publication, it was also part of a wider agenda to advance the study of antiquities. Indeed, with *L’Antiquité* conventionalized illustration became a mainstay of antiquarian research. Furthermore, although many of the illustrations in *L’Antiquité* were copied from sources such as Bonanni’s catalogue, Montfaucon’s creation of a visual system for presenting artifacts served to promote new interpretations of the material. Designed to illustrate all aspects of life in the ancient world, his plates encouraged appreciation of the ordinary and simple, showing that even “trinkets” had a role in telling the story of antiquity.

SECURING THE VISUAL CONVENTIONS

Some thirty years after the appearance of *L’Antiquité*, the French antiquarian Anne-Claude-Philippe, comte de Caylus (1692–1765), published another landmark work on

⁷¹ *Ibid.*, Vol. 3, p. 30.

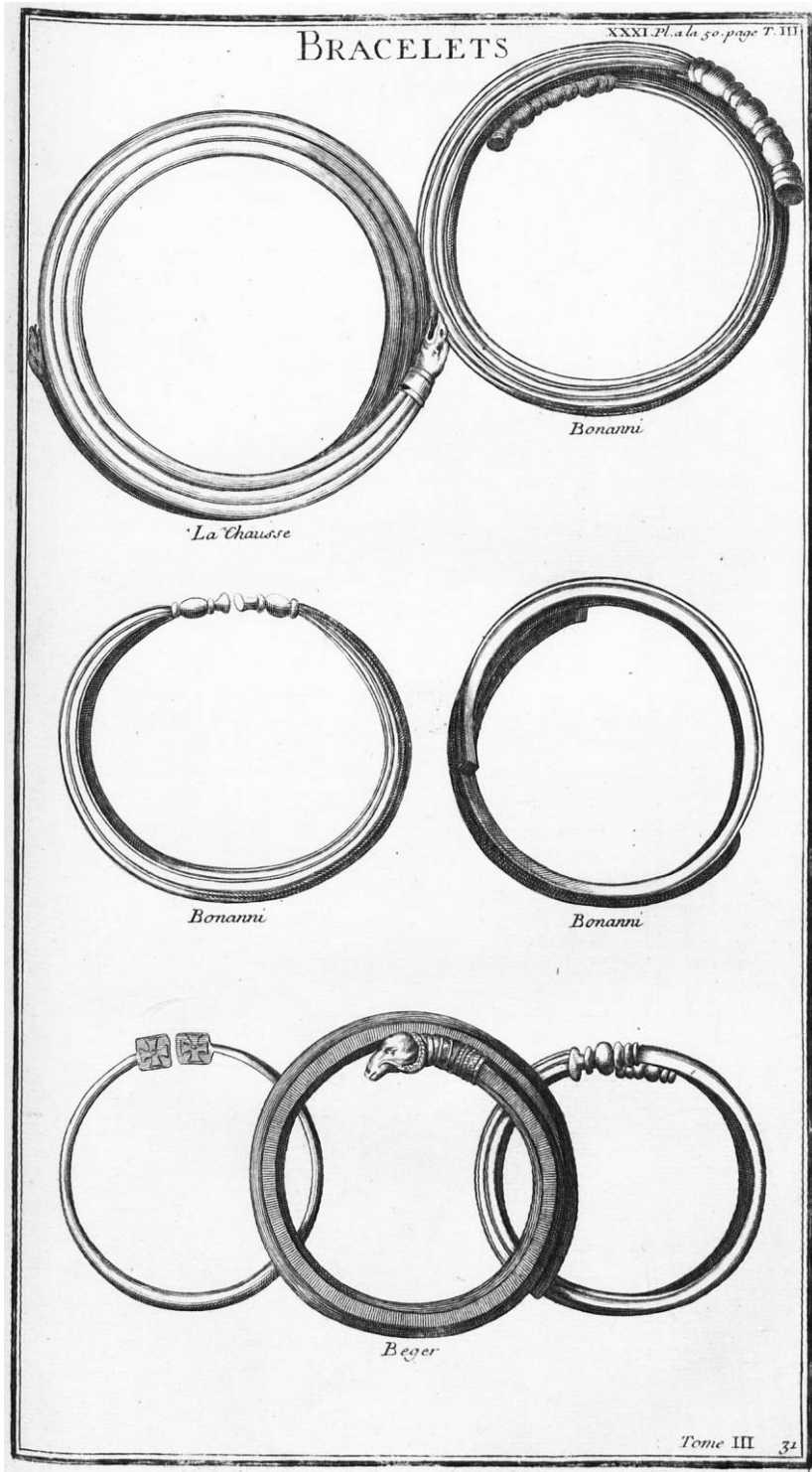


Figure 10. "Bracelets." Bernard de Montfaucon, *L'Antiquité expliquée et représentée en figures*, 15 vols., 2nd rev. ed. (Paris: Chez Florentin Delaune et al., 1722), Vol. 3, Pl. XXXI. © The British Library Board 740.i.20.

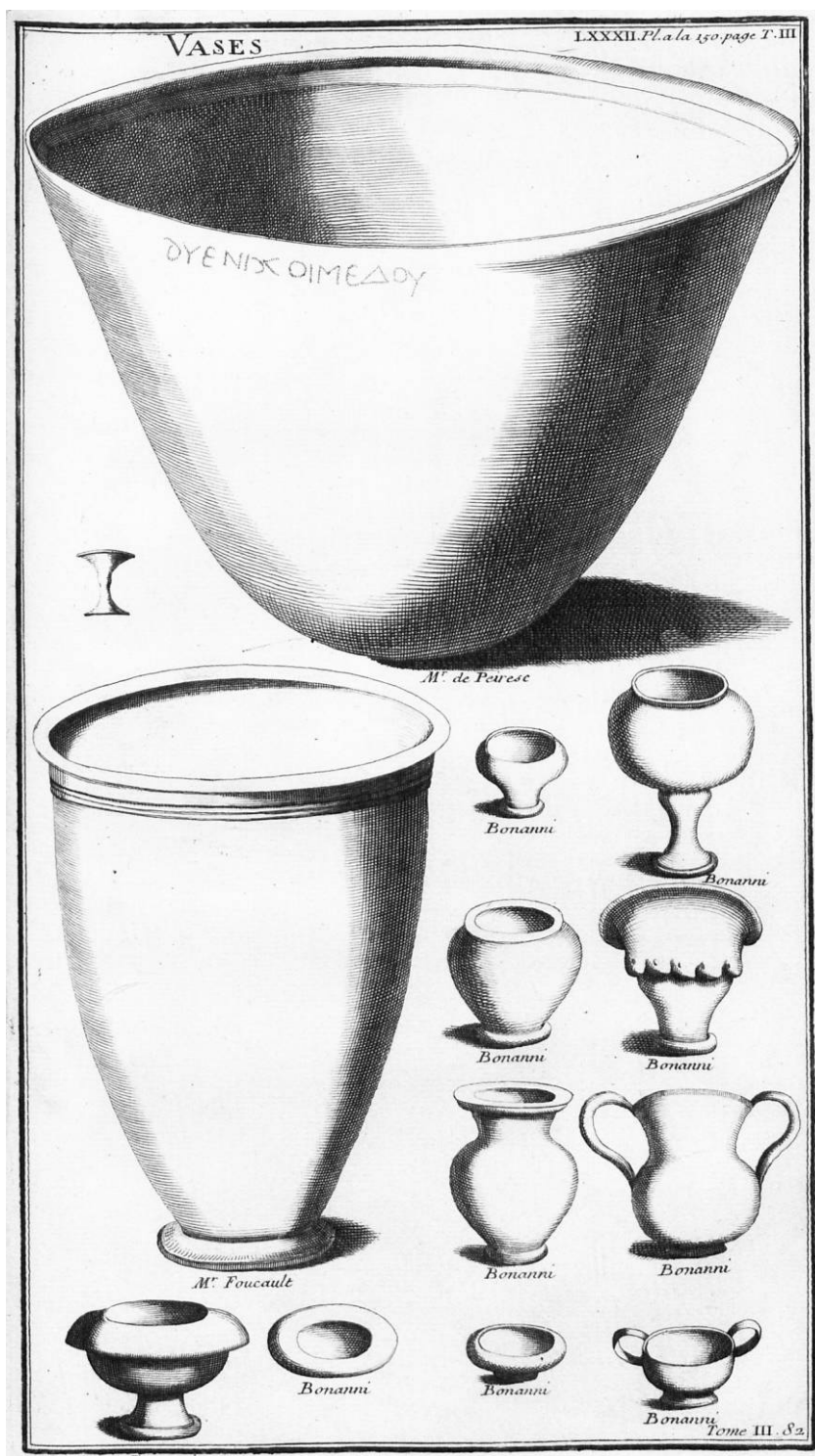


Figure 11. "Vases." Bernard de Montfaucon, *L'Antiquité expliquée et représentée en figures*, 15 vols., 2nd rev. ed. (Paris: Chez Florentin Delaune et al., 1722), Vol. 3, Pl. LXXXII. © The British Library Board 740.i.20.

antiquities that had a major impact on the development of archaeology.⁷² Comprising seven volumes, *Recueil d'Antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises* (1752–1757) had hundreds of detailed and meticulously engraved artifact plates and, like Montfaucon's *L'Antiquité*, was widely distributed throughout scholarly circles in Europe. Caylus differentiated himself from previous antiquarians by defining artifacts as the *scientific* route to the past. For Caylus, artifacts provided insights on antiquity not offered in classical texts, both raising and answering new questions about ancient cultural practices. In this view, artifacts “bring the progress of the arts before our eyes”; previous antiquaries, he noted, “hardly ever saw them in this way; they regarded them only as a supplement to the proofs of history.” Caylus's investigation of the evolution of the arts through the introduction of systematic comparative methods for analyzing antiquities has resulted in his celebration as a central figure in the birth of archaeology.⁷³ In his quest to establish a scientific approach to the study of artifacts, he invested heavily in the production of illustrations and the development of their didactic potential.

Caylus's comprehensive visual record of antiquity presented small finds, and notably broken or damaged artifacts, in far greater abundance than did *L'Antiquité*. For Caylus, fragments were as useful as complete or “fine” specimens in reconstructing the past: “I care not at all for showy things, but for the bits and pieces of agate, stone, bronze, pottery, glass, which may serve in whatever way to discover some practice or the hand of the maker.”⁷⁴ The other significant difference between *Recueil* and *L'Antiquité* was that Caylus included only original objects that were in his possession or that he had directly observed.⁷⁵ Like Montfaucon, Caylus traveled to Italy (and also to Greece, Germany, England, and the eastern Mediterranean) to view collections of antiquities, acquiring numerous items for his own collection and producing illustrations of many others. Such

⁷² Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757). Caylus was a major collector, artist, accomplished engraver, and writer who was elected to the Académie des Inscriptions et Belles-Lettres in 1742. Established in 1663, this academy was devoted to the study of ancient culture through texts, monuments, and language. On Caylus's promotion of the study of antiquities in the academy see Marc Fumaroli, “Le comte de Caylus et l'Académie des Inscriptions,” *Comptes-Rendus des Séances de l'Académie des Inscriptions et Belles-Lettres*, 1995, 139(1):225–250. The historian of archaeology Alain Schnapp credits *Recueil* with announcing a “new era in archaeology, one which was more attentive to objects, more sure of its descriptions and its definition of types, more interested in technology and the reconstruction of processes”: Schnapp, *Discovery of the Past* (cit. n. 19), p. 241. On Caylus's contribution to the study of antiquities in France, particularly his recognition of the potential of Gallic antiquities for reconstructing national history, see Bonnie Effros, “Writing History from Manuscript and Artifact: Building an Object-Based Narrative of the Early Middle Ages in Eighteenth- and Nineteenth-Century France,” in *Medieval Manuscripts, Their Makers and Users*, ed. Henry Ansgar Kell (Turnhout: Brepols, 2011), pp. 133–150.

⁷³ Caylus, *Recueil*, “Preface,” pp. i–ii. Regarding Caylus's place in the birth of archaeology see Jacques Guillerme, “Caylus technologue: Note sur les commencements problématiques d'une discipline,” *Revue de l'Art*, 1983, 60:47–50; Ronald T. Ridley, “A Pioneer Art-Historian and Archaeologist of the Eighteenth Century: The Comte de Caylus and His *Recueil*,” *Storia dell'Arte*, 1992, 76:362–375; and Julie Boch, “L'archéologie comme projet esthétique: Le *Recueil d'Antiquités* du Comte de Caylus,” in *Le Comte de Caylus*, ed. Nicholas Cronk and Kris Peeters (New York: Rodopi, 2004), pp. 79–94. Boch emphasizes the originality of Caylus's methods and the way in which they focused on the material form of antiquities.

⁷⁴ Caylus is quoted in Charles Nisard, *Correspondance inédite du comte de Caylus avec le P. Paciaudi, théatin (1757–1765): Suivie de celles de l'abbé Barthélemy et de P. Mariette avec le même* (Paris, 1877), Vol. 1, p. 4. As Ridley observes, this focus on everyday objects “makes him a unique figure, and a forerunner of archaeological interests a century later”: Ridley, “Pioneer Art-Historian and Archaeologist of the Eighteenth Century,” p. 364.

⁷⁵ Caylus acquired antiquities from correspondents all over Europe, emphasizing that he wrote only about artifacts that were in his possession or which he had seen; see Nisard, *Correspondance inédite du comte de Caylus avec le P. Paciaudi, théatin (1757–1765)*, Vol. 1, p. 21.

experiences contributed to his view that detailed studies of artifacts or illustrations of them were necessary to appreciate their scientific potential. For him, an antiquary should go beyond merely looking at such objects with “the eyes”; he should devise plans for research that would facilitate the extraction of real “wisdom” from antiquities.⁷⁶ Caylus’s work on artifact illustration endorsed this agenda of articulating *how* to learn from objects.

Building on Montfaucon’s attempts to present artifacts according to a meaningful structure, Caylus introduced a number of important new conventions for the illustration of antiquities, all of which enhanced the capacity of the artifact image to delimit and transmit information. As an accomplished engraver with an interest in artistic techniques, Caylus oversaw the production of the images for *Recueil*, employing “up-and-coming young artists” to do the illustrations.⁷⁷ The conventions he introduced included cutaway views of objects to give an alternative perspective on the overall shape, interior, and thickness of “walls” (see Figures 12–14); section profiles to indicate the thickness and outline of pottery vessels (see Figure 13, specifically I, II, III, and VI); top-down or “aerial” views of objects to illustrate their interior (see Figures 13–15); reconstructed sections to suggest what objects would look like if complete (see Figure 14); multiple views of the same object (see Figure 14); and the use of a scale to indicate the precise size of objects (see Figure 14). Although not a convention as such, the illustration of pottery sherds or fragments was also an important innovation, as it showed how collections of such “scraps” could be useful if viewed as part of an assemblage (see Figure 16). All these visual devices reflected Caylus’s concern with the technology of production, and this was an approach that came to distinguish archaeology as a distinct discipline.

While presenting multiple views of an artifact (typically front, back, and side) was not a new convention, having been adopted for the presentation of sculptures and figurines in Montfaucon’s illustrations, it is significant that in *Recueil* much more basic objects, such as pottery, were subject to the same treatment. Section profiles, as seen in Figure 13, are particularly important because they drew attention to the depth and shape of vessel walls, constituting a specifically archaeological way of communicating form. Reconstructed sections, as seen in Figure 14, were also archaeologically meaningful, suggesting that part of the remit of the antiquary was to infer what missing sections of objects looked like. About such restorations, Caylus commented that illustrations should be used to recreate the lost parts and remove “deformities.”⁷⁸ In addition to the suite of conventions referred to above, efforts were also made to regulate page format in *Recueil*, in that Caylus reduced the objects to more consistent sizes, so that some did not overshadow others on the same page. All these innovations supported the project of comparative analysis, enabling assessments of similarities and differences to be more systematic. Above all, they generated a deeper understanding of ancient objects in that they highlighted the distinctive physical qualities of individual specimens and showed how these compared across the same class of material.

Caylus believed that all artifacts were potentially scientifically significant and that they should be scrutinized from every angle. Consequently, the illustrative conventions he introduced promoted recognition of the features of objects that were not aesthetic in nature. Caylus had an “archaeological eye,” in that he valued the inner structure and form

⁷⁶ Caylus, *Recueil* (cit. n. 72), Vol. 5, p. v.

⁷⁷ Nisard, *Correspondance inédite du comte de Caylus avec le P. Paciaudi, théatin (1757–1765)* (cit. n. 74), Vol. 1, p. 178.

⁷⁸ *Ibid.*, p. 37.

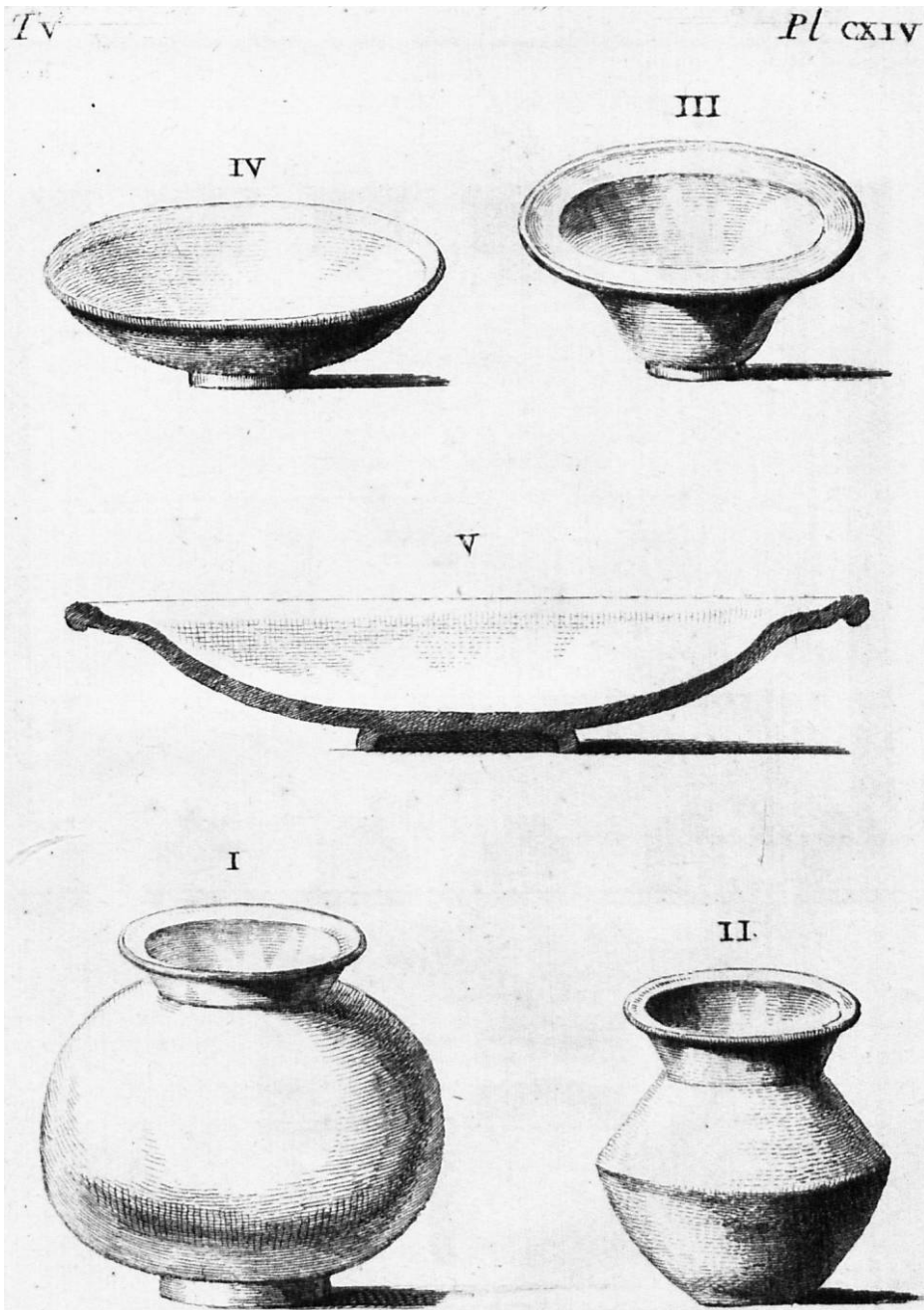


Figure 12. Vessels with cutaway view. Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757), Vol. 5, Pl. CXIV. © The British Library Board 673.g.3.

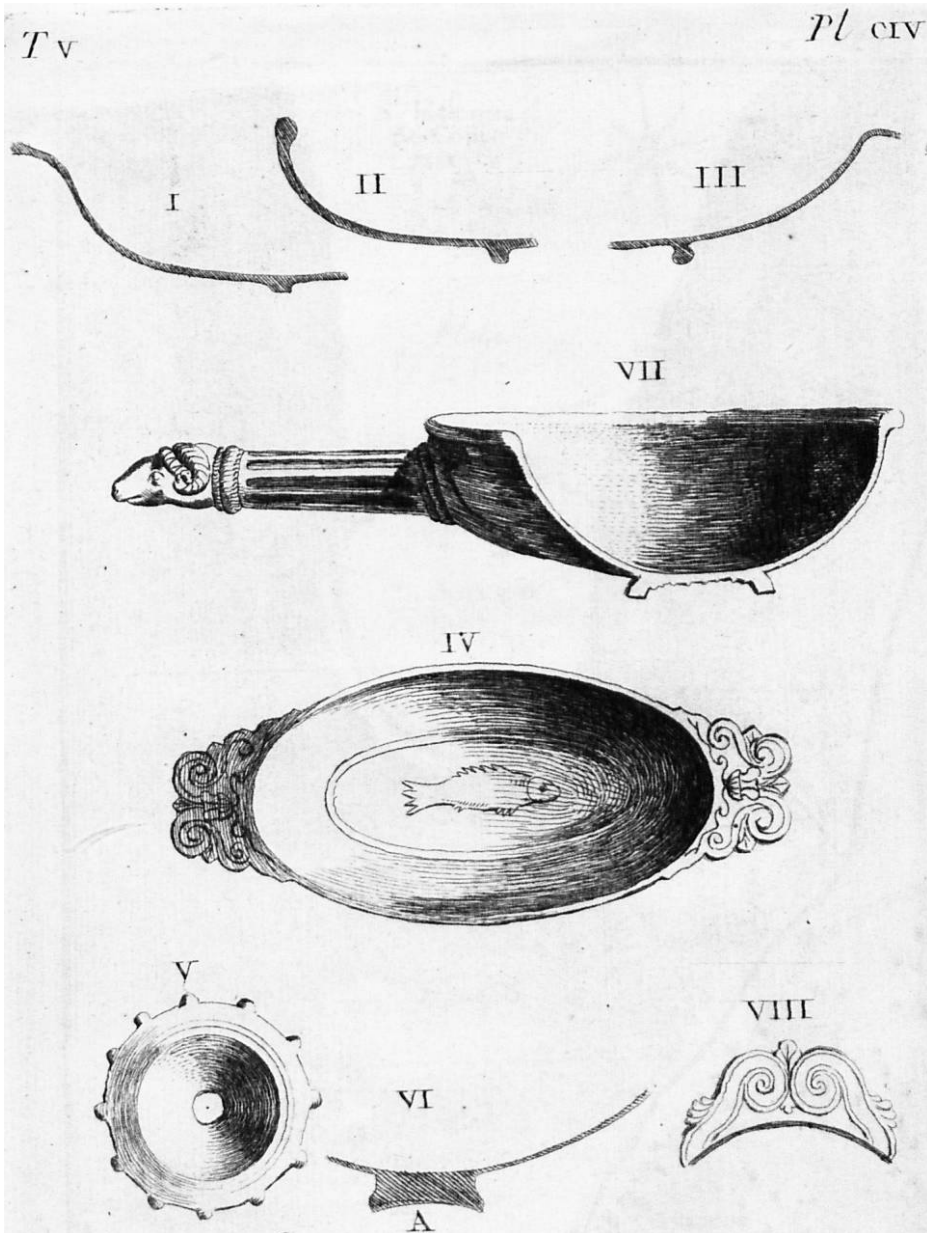


Figure 13. Vessels with section profile. Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757), Vol. 5, Pl. CIV. © The British Library Board 673.g.3.

of objects and not just their exterior aesthetic traits. Through the medium of the image, he informed his readers that it was not just the outward appearance of objects that contained important information; their “internal organs” were worth examining as well. The result of emphasizing little-considered attributes of artifacts was that *Recueil* brought about a much wider appreciation of the role of material culture in antiquarian inquiry. That

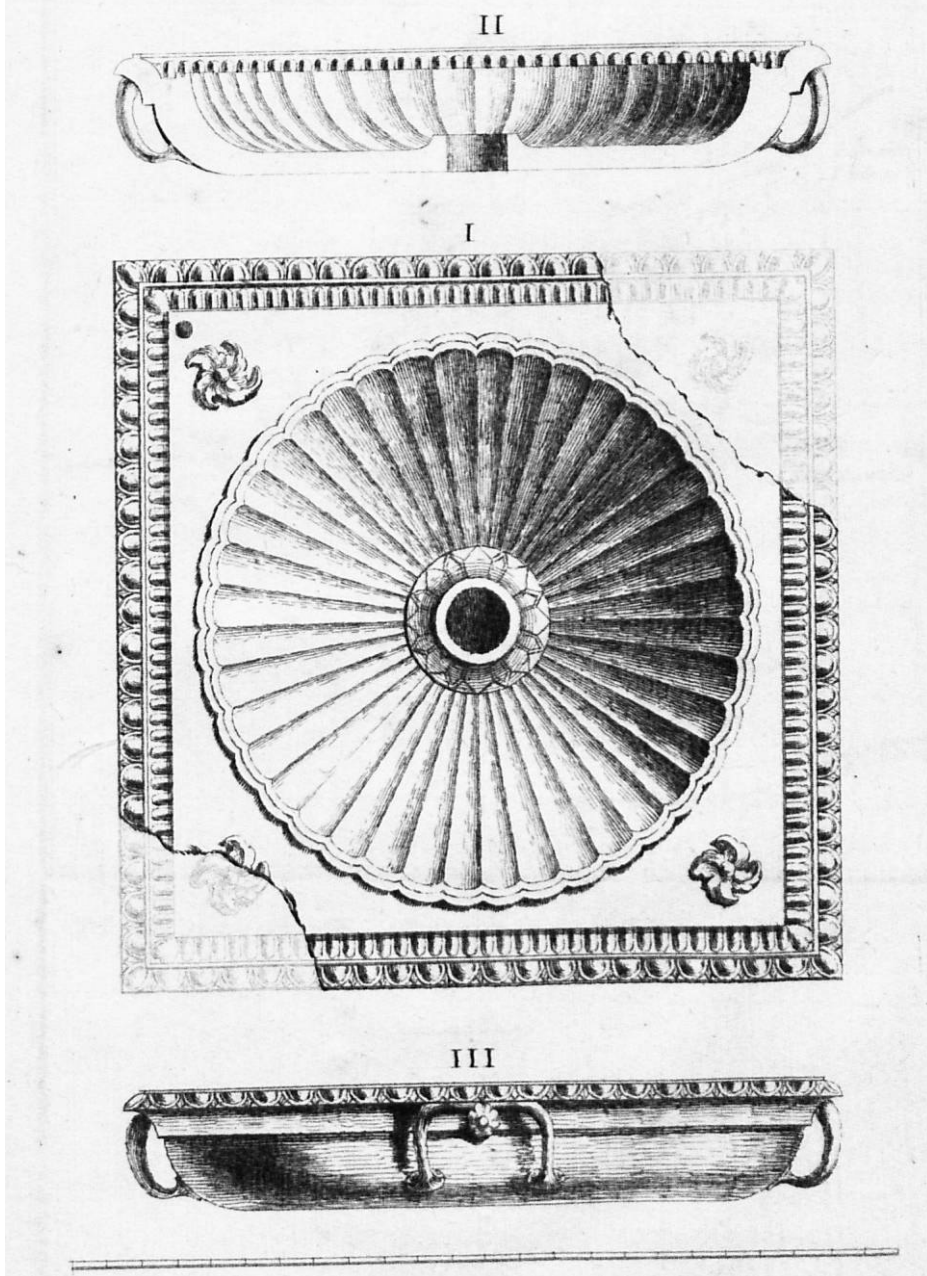


Figure 14. Vessel with reconstructed sections. Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757), Vol. 5, Pl. CVI. © The British Library Board 673.g.3.

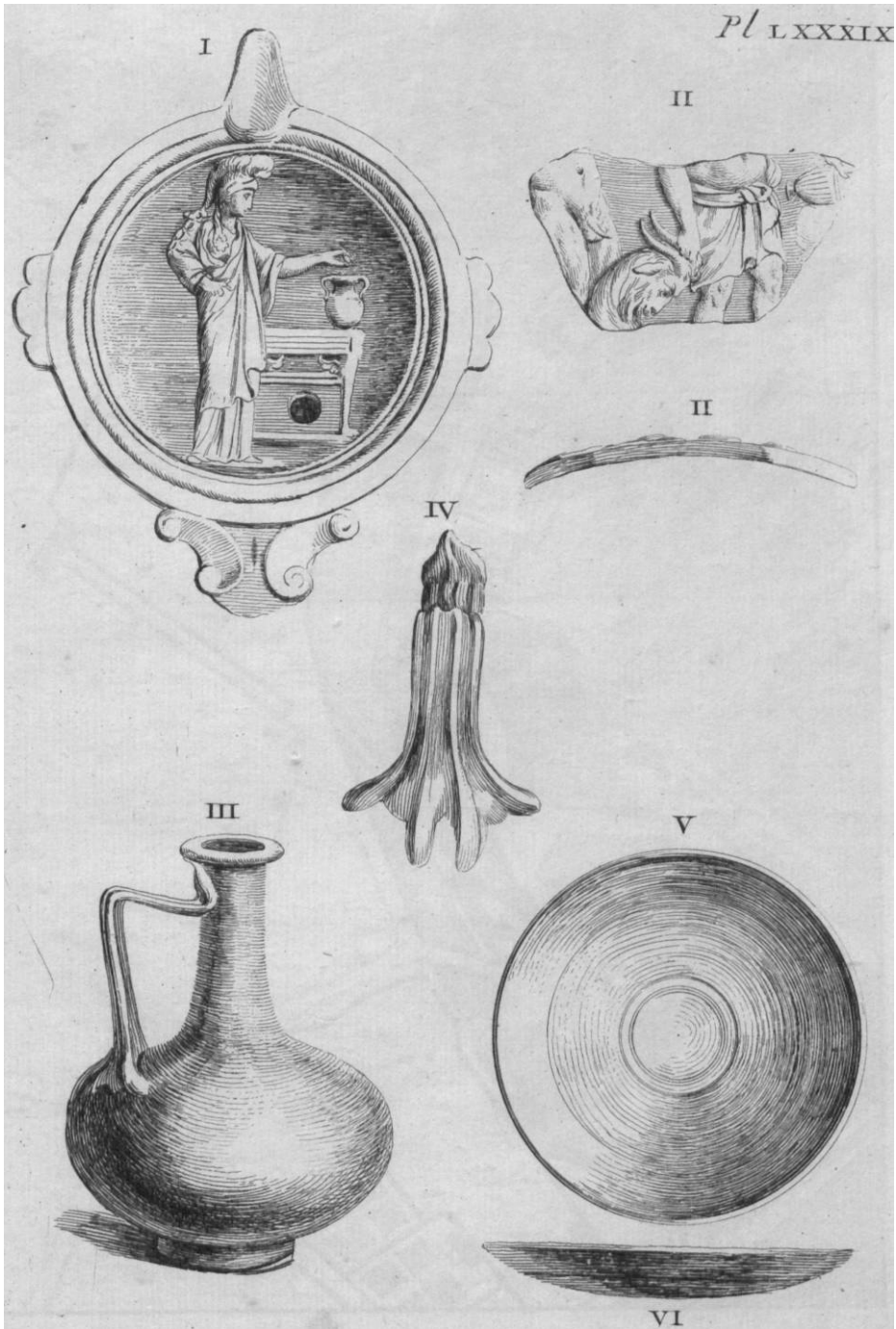


Figure 15. Vessels, lamp, and fragments with alternative views. Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757), Vol. 3, Pl. LXXXIX. © The British Library Board 673.g.3.

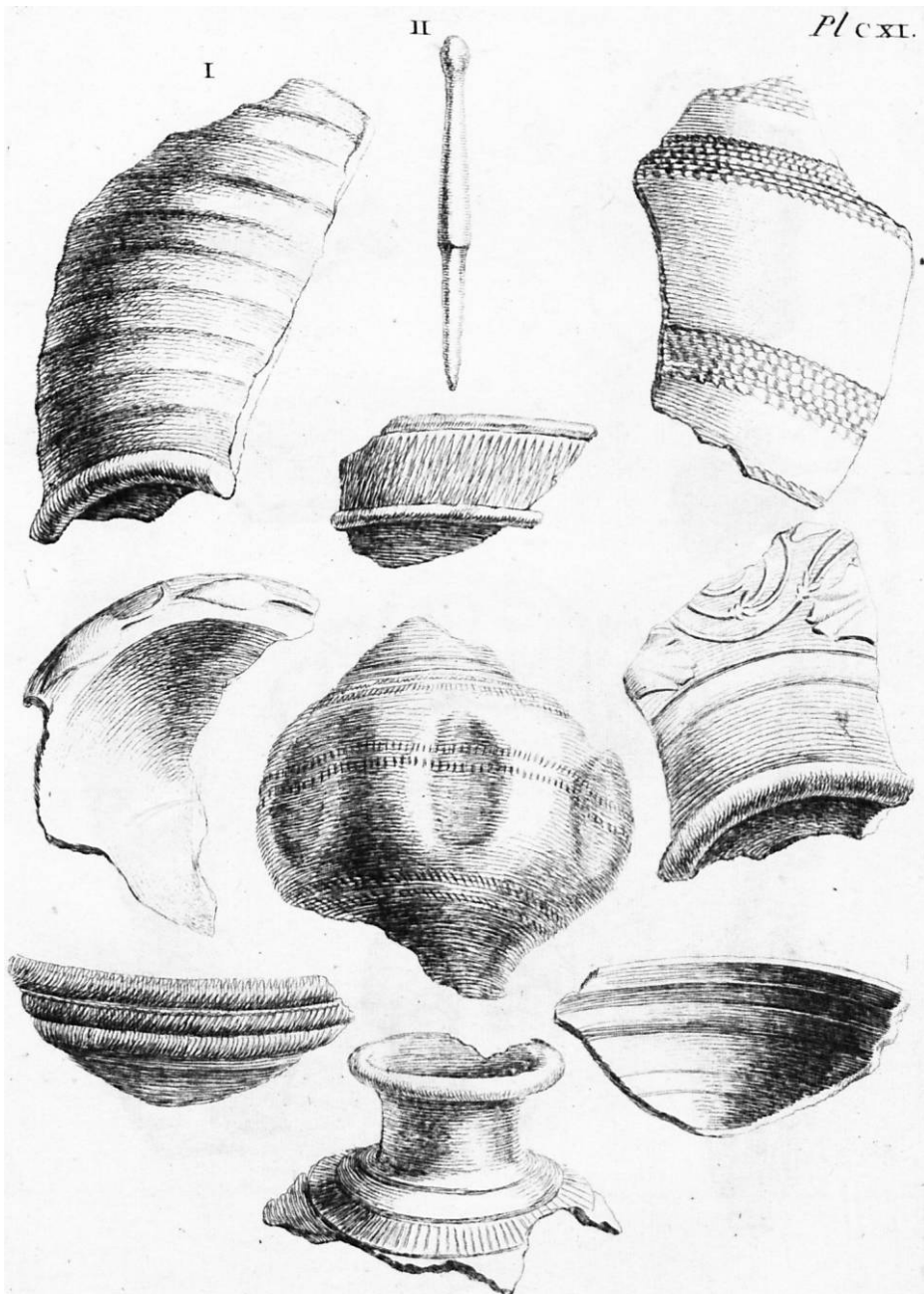


Figure 16. Collection of pottery sherds. Anne Claude Philippe, comte de Caylus, *Recueil d'antiquités Égyptiennes, Étrusques, Grecques, Romaines et Gauloises*, 7 vols. (Paris: Chez Desaint & Saillant, 1752–1757), Vol. 3, Pl. CXL. © The British Library Board 673.g.3.

antiquarian studies were influenced by the illustrations in *Recueil* can be seen in the subsequent importance assigned to the artifact image in formal antiquarian debate. Soon after *Recueil* was published, for instance, specialist illustrators were appointed by antiquarian societies to create drawings of objects for presentation at their meetings. A key example was the Society of Antiquaries of London (founded in 1717), which had high-quality folio engravings of artifacts produced for their meetings. Such images were collated in the society's published papers, the *Vetusta Monumenta*, which was distributed widely in antiquarian circles.⁷⁹ Furthermore, Caylus's engravings represented a crucial step in the consolidation of the pictorial canon for representing artifacts, with the artifact image taking on a clearer sense of purpose in relation to the project of object classification.

CONCLUSION: ARTIFACT ILLUSTRATIONS AND THE STUDY OF THE PAST

In this account I have endeavored to show how images were used to bring into focus the characteristics of objects thought to be significant in the study of the past. The emergent conventions for capturing such features were central to communication in antiquarian scholarship, allowing methods of comparative analysis to be introduced. In the case of the Dal Pozzo illustrations we see the grouping together of objects, the assembling of artifacts in rows, the use of strong outlines, and the omission of certain details to aid a more formal type of observation. With Bonanni's illustrations we see similar types of objects classified together to form distinctive classes of artifacts. Montfaucon's layout of artifact plates, labeling, and detailed descriptions of objects promoted systematization in the analysis of artifacts. His prototype of the small finds image was significantly advanced by Caylus, who introduced a whole suite of visual aids to assert the status of antiquities as evidence. The conventionalization of illustrations in all these works involved the designation of diagnostic features and the stripping away of details thought to be superfluous or distracting. Edited into clean line drawings with accompanying explanatory aids, antiquarian illustrations became visual documents that instructed the viewer as to how to read the contents of the image. These developments corresponded with the development of scientific illustration as a major graphic genre in the seventeenth and eighteenth centuries and reflected how a growing sense of disciplinary purpose was related to the way visual approaches to data were articulated.

The small finds illustrations produced in the first half of the eighteenth century reveal how the nature of looking at artifacts fundamentally changed. In the quest to understand antiquity, objects had become vocal "informants" rather than attractive aids; the significance of illustrations was not simply that they reflected this change in focus but, rather, guided it. By their very nature as works dedicated to the visual, Dal Pozzo's, Bonanni's, Montfaucon's, and Caylus's albums and books encouraged antiquaries to reappraise ancient material culture in a new light. The conventionalized illustrations they developed allowed artifacts to be "read," enabling a more systematic evaluation of them. Such images were central to the construction of a methodological framework distinct from the aesthetic and iconographic type of art historical analysis used for interpreting antiquities, offering an approach different from that pioneered by the "father" of art history, Johann Joachim Winckelmann (1717–1768). While Winckelmann's work on the ancient styles of

⁷⁹ See Martin Myrone, "Graphic Antiquarianism in Eighteenth-Century Britain: The Career and Reputation of George Vertue (1684–1756)," in *Producing the Past: Aspects of Antiquarian Culture and Practice*, ed. Myrone and Lucy Peltz (Aldershot: Ashgate, 1999), pp. 35–54.

art founded the modern discipline of art history, Montfaucon's and Caylus's work on artifact types was the basis for the discipline of archaeology.

The work of Dal Pozzo, Bonanni, and, more particularly, Montfaucon and Caylus ensured that visual recording became a primary way of demonstrating the value of artifacts in the reconstruction of the past. With their attempts to create a visual methodology, these scholars extended the understanding of established research topics by framing new questions about antiquity. For instance, the "instrument" of illustration promoted investigation of how the forms and decoration of vessels changed over time, how the materials used and techniques of manufacture changed and evolved as a result of trade and cultural exchange, and how particular classes of objects related to others.⁸⁰ Topics such as ancient technology, selection and sourcing of materials, variations in object function, the evolution of object types over time, and the introduction of stylistic changes in a class of objects soon joined the more traditional suite of themes like religion and funerary rites. While this account has focused on documenting the codification of illustrative practice, suggesting that it encouraged the establishment of an archaeological approach to the past, investigation of how this development affected the interpretation of material recovered from the first systematic archaeological excavations, such as those at Herculaneum and Pompeii, constitutes another chapter in the history of archaeology.

* * *

Returning to Lüthy and Smets's point about loss of awareness of the "specific philosophical premises" underlying scientific illustrations once they become embedded in disciplinary discourse and practice, the premise underlying artifact illustrations was that the essential "meaning" of a three-dimensional object manufactured by human hands in the past could be gleaned from a series of black lines drawn on paper. When images were no longer perceived as an appendage to text, this principle was extended to support the notion that illustrations offered a different kind of explaining—one in which drawing was seen as a substitute for the object itself, making observation of the original artifact almost redundant.⁸¹ The abandonment of "complete" accuracy and the confidence in the ability of conventionalized drawings to convey the scientifically meaningful qualities of artifacts can be seen as one of those premises so thoroughly embedded as to escape notice. Ingrained in the everyday practice of contemporary archaeology, artifact illustrations and their fundamental epistemic principles have become taken for granted. This point has also been raised by Ann Blum in her history of zoological illustration, where the way in which specimens have come to be represented "seems so obvious" because the conventions that have been employed are so familiar.⁸²

Once drawn, an artifact would begin a tumultuous journey on the route to making knowledge—a journey that involved being delineated in a particular way, being associated with other objects thought to be similar, and being "approved" or sanctioned as representing a class of object through the formal means of publication. Initially produced to

⁸⁰ The shift to addressing these different kinds of questions becomes apparent in Scandinavia at the beginning of the nineteenth century, when pioneers like Christen Jürgensen Thomsen began formally classifying artifacts according to an evolutionary system in which stylistic change and archaeological context were used to date objects.

⁸¹ This point is discussed by Kusakawa in relation to botanical imagery and the work of Fuchs; see Kusakawa, "Role of Images in the Development of Renaissance Natural History" (cit. n. 22), p. 191.

⁸² Ann Shelby Blum, *Picturing Nature: American Nineteenth-Century Zoological Illustration* (Princeton, N.J.: Princeton Univ. Press, 1993), p. 3.

provide a visual record of the range of objects of interest to the antiquarian community, illustrations of artifacts quickly went beyond their descriptive function to assume a fundamental role in the interpretation of the past. This was achieved through conventionalization of illustrations, which enabled early antiquaries to elaborate on the relationships between classes of material more effectively. Like natural historians, antiquaries recognized that the “truest” representation of an object demanded a form of visual encoding so that systematic comparative analysis could be carried out. As can be seen in the illustrations of Dal Pozzo, Bonanni, Montfaucon, and Caylus, a naturalistic form of representation was modified long before a recognized genre of archaeological illustration was established in the nineteenth century.