

---

# Dürer's rhinoceros and what he or she was wearing: Carnations, luxury gardens, identity formation, and urban splendor, 1460–1550

Journal of Material Culture  
2015, Vol. 20(3) 273–297  
© The Author(s) 2015  
Reprints and permissions:  
sagepub.co.uk/journalsPermissions.nav  
DOI: 10.1177/1359183515596766  
mcu.sagepub.com  


**John Block Friedman**

The Ohio State University, Columbus, USA

## Abstract

This article examines how images of carnations in the page borders and calendar miniatures of the late medieval devotional books locally produced for Netherlandish civic elites provide an opportunity to examine identity formation and concepts of urban magnificence and splendor. It also considers the role of carnations in discussions and depictions of gardens in a popular medieval Italian estate creation and management book, Piero Crescenzi's *Ruralium Commodorum*, that, especially in French translation in Netherlandish illuminated manuscript copies, was a how-to-do-it manual for those seeking to build manor and town houses with gardens befitting their status. Thus, both depictions of the potted plant in art and scenes of the carnation in a garden setting were intended to project the owners' flower connoisseurship and their splendor and civic magnificence. Further, the makers (in most cases artisan fellow townsmen of the commissioners) of these miniatures and borders projected for the books' patrons luxury and consumption fantasies on which to model their lives, and to help them distinguish themselves culturally from the long established landed aristocracy.

## Keywords

Flemish urban elites, flowers, gardens, identity formation, medieval manuscripts

A one-horned Indian rhinoceros known through a widely reproduced woodcut by Albrecht Dürer signaled the first European public awareness of the animal since Roman times. The Sultan of Gujarat had sent it in homage to Lisbon along with several shiploads of Eastern spices. Eventually it reached King Manuel I of Portugal, who in 1515 re-gifted the pachyderm to the newly elected Medici humanist Pope Leo X. The King's hope by

---

## Corresponding author:

John Block Friedman, Center for Medieval and Renaissance Studies, The Ohio State University, 2676 Summit Street, Columbus, OH 43202, USA.  
Email: [friedman.429@OSU.edu](mailto:friedman.429@OSU.edu)

this gesture was to obtain economic advantage in the spice trade as well as to signal his personal *magnificentia* and splendor. On its way to Rome the animal perished by shipwreck.

Here is a small yet intriguing detail about this tragic commodity. The rhinoceros was decorated with another import from the East, apparently thought by the Portuguese ruler to add to the animal's wonder-provoking qualities, for it wore on its journey a fringed green velvet collar on which were worked gilt representations of carnations (Clarke, 1986: 16),<sup>1</sup> a plant whose high-status among late 15th- and early 16th-century urban mercantile, financial, and ecclesiastical elites prefigured the later manias for tulips, hyacinths and roses in the Low Countries (Hochstrasser, 2007; see also Goldgar, 2007, 2010).

Carnations, an Ottoman export and commodity, had become very fashionable both in life and in art in northern European gardens, where they were cultivated with extreme difficulty in greenhouses warmed in winter by the technique – familiar from medieval alchemy – of burying decomposing animal dung a foot or so beneath the soil (Kamil, 2005: 347).<sup>2</sup> Each spring servants bore these potted plants out to the luxury gardens – luxury in that they had no medicinal or culinary purpose and were purely for owner satisfaction and show – of the civic and ecclesiastical elites of Ghent, Bruges, and Antwerp.

This article examines how images of carnations in the page borders and calendar miniatures of the devotional books locally produced for these owners provide an opportunity to examine identity formation and concepts of urban magnificence and splendor in the Netherlandish cultural imaginary. It also considers the role of carnations and luxury gardens in discussions and pictures in a popular Italian estate creation and management book of the period, Piero Crescenzi's *Ruralium Commodorum*, that, especially in French translation in Netherlandish manuscript copies, was a how-to-do-it manual for those seeking to build manor and town houses with gardens befitting their status. Thus, both depictions of the potted plant in art and scenes of the carnation in a garden setting were intended to project and assert the owners' flower connoisseurship and their splendor and civic magnificence. Further, the makers (in most cases artisan fellow townsmen of the patrons) of these miniatures and borders projected for the owners convenient luxury and consumption fantasies on which to model their lives.

I use the terms 'luxury' and 'consumption' following Roberta Sassatelli (1997: 341, 342). The former is taken as 'individual consumption of new superfluous commodities'. And by the latter I understand 'the use of commodities for private purposes, notably self-fashioning and self definition'. Thus, I hope to show that non-edible, non-medicinal carnations, their high status imported containers, and the purely aesthetic and status-asserting gardens they were set out in for a couple of months a year, embodied wish fulfillment by aiding in the identity formation of these new Netherlandish elites and helping them distinguish themselves culturally from the long-established landed aristocracy.

With respect to chronology, carnations and private luxury gardens formed part of the Netherlandish technological, economic, and cultural scene from about 1460 to about 1550, when the carnation vogue and medieval luxury garden designs were replaced by a desire for New World plants and garden designs of a new type in which to display them among '*fleuristes*', collectors, and 'colonial' botanists.

As Elizabeth Hyde (2005) has shown for the early modern period, northern European *fleuristes* created new and mutable identities crossing class and gender lines through their flowers, often forming, in the Netherlands, for example, confraternities, and writing

about the rarity of their flowers or cataloguing them (see also Hyde, 2002: 77–100). The evidence, however, for late medieval collecting and prizing of exotic natural objects or *naturalia* is much sparser and no *ekphrasis* or written account of a work of art survives to help us understand pictorial representations of flowers. To learn just how these flowers asserted their cultivators' identity it is necessary to see carnations and the gardens in which they were displayed as material objects, mute things, in Lorraine Daston's (2004: 228) phrase, which 'cannot speak for [themselves], thereby inviting representation by those who can speak and to whom the objects matter'.

The study in such a deep past of the material objects luxury gardens and the carnations often grown in them obviously poses, then, a special set of problems. And even more challenging is the fact that they are ephemeral objects merely *depicted* in works of visual art, such as the manuscript miniatures discussed here, yet which clearly had a reality both to the artisan class and to the beholders of all social ranks. As Julie Hochstrasser (2007: 6) noted of Dutch still-lives and the high-status exotic material objects such as lemons and Chinese porcelain so often represented in them, there is 'the danger of a conceptual slippage between objects and *images* of objects ... the distinction between material and visual culture is often allowed to blur or dissolve'. By juxtaposing here the material histories of specific potted plants, their containers, and gardens with their visual portrayals in some late medieval manuscript miniatures, I hope to sharpen our focus on this distinction, showing how the carnation and the Netherlandish gardens showcasing this flower participated in a small way in what Pamela Smith and Paula Findlen (2002: 3) have called 'a profound transformation in attitudes towards the natural world, the material environment, and their artistic representation [that] occurred within a new environment of global trade ... in which commodities were produced, accumulated, consumed, and exchanged'.

Three images from hand-painted Flemish manuscripts, late Gothic in style but Renaissance in date, show the objects of interest here (see Figure 1). The book of prayers to be recited by the owners at certain hours of the day (*horae*) from which the page in Figure 1 comes was made for the soldier and courtier, Knight of the Order of the Golden Fleece, Lieutenant General of the Low Countries, and patron of the handmade book Engelbert II Count of Nassau (1451–1504). Engelbert's commissioning of this book shows the consumption of carnations by a member of the Burgundian hierarchy and through the artist's borders and miniatures expresses Engelbert's sense of himself as one knowledgeable in the most fashionable flowers (Alexander, 1970).<sup>3</sup>

This border is an example of the style of decoration called *trompe l'oeil* or eye deceiving because the depictions of nature were so life-like (Harbison, 1984; see also Kaufmann and Kaufmann, 1991). As Michael Taussig (2003: 109), in his meditation on flowers, so well expressed it, such pages

are like magic tricks in which you suspect sleight of hand but are nevertheless filled with wonder as the rabbit is extracted from the top hat. You are left suspended, unable to decide what is art and what is nature, temporarily stripped of your common sense with its assumptions as to the nature of nature let alone the nature of art.<sup>4</sup>

We see the story depicted in the miniature as if through a window whose frame is covered with these very realistic flowers and insects. With respect to the page's scale, and showing what was most significant to the artist and his patron, the key element in



**Figure 1.** David and Goliath with carnations in Venetian *cristallo* or ripple glass container. *Master of Mary of Burgundy, Hours of Engelbert of Nassau*, Oxford, Bodleian Library MS 219-220, folio 190v, 1480–1490. Courtesy Bodleian Library, Oxford.

this frame is the pot of carnations. These seem to be just-cut border or garden carnations. Often called ‘strewn’, as if the page were covered with freshly picked flowers ready to be put in a bowl, this border style is characterized by decoration in which a rectilinear border enclosing the text and main miniature contains highly realistic but un-organized twigs, vines or branches, fruits, flowers, and insects drawn with great exactness, in what the art historian Robert Calkins (1989: 4) called ‘bravura exercises in illusionism’. Indeed, such borders became so much a part of Netherlandish culture that Joos van Cleve (1485–1541) in his ‘Virgin and Child’ panel painting now in the Metropolitan Museum



**Figure 2.** Carnations in majolica container. Simon Bening, *Hours of Cardinal Albrecht of Brandenburg*. Formerly Oxford, Bodleian Library, Astor Deposit, folio 235, 1530. Present whereabouts unknown. © Photograph: John Block Friedman.

of Art, New York, shows Mary reading a manuscript *horae* where an elaborate strewn border decorates the page.

A similar page (see Figure 2) from the *horae* of Cardinal Albrecht of Brandenburg (1490–1545) was painted about 1530 by the famous Flemish artist Simon Bening, himself a member of the Ghent and Bruges civic elites, Dean of the St John’s Artists’ Guild and a bourgeois artisan who painted his self portrait in the style of the Italian urban patriciate. Bening through his wealth and abilities was a mingler with aristocrats and the civic elites and a very astute student of the tastes of those aspiring to nobility, in short, an identity former. With respect to the manuscript’s commissioner we have the carnation not

associated so much with a man of action and political power, the courtier Engelbert, but with a rather more cultured university-educated humanist and friend of Erasmus, with important ties to the Fugger financial family. In 1518, Albrecht, when only 28 years old, was made a cardinal. To pay for some of the costs of his elevation he borrowed a very large sum from Jakob Fugger and obtained permission from Leo X, the almost recipient of Dürer's rhinoceros, to sell indulgences in his diocese to pay back his debt (Biermann, 1975).<sup>5</sup> Painted on the page's border is another pot, this time holding a complete carnation plant.

Though both pots of flowers are very realistically done, they are on such an unusual scale as to seem as large as the page. In both borders, the painters are clearly celebrating the carnation's rarity, novelty, and costliness, but unlike comparable scenes of potted or vase-held tulips in the 17th-century Low Countries, where we have a considerable body of contemporary writing as a context, it is difficult to infer a precise social significance from the presence of the carnations and how they were intended to enhance Engelbert and Albrecht's religious emotions by more purely aesthetic and social experiences.

By their scale and domination of the borders the flowers just discussed immediately call our attention away from the books' intended devotional purpose and place it somewhere else. But where? What are these borders saying and to whom are they saying it? What is their narrative? How do they fit into the larger picture of European consumerism, visual cultural exchange and consequent identity formation of the newly rich of the late Middle Ages? How do they relate, for example to Pierre Bourdieu's (1984) idea that consumption of goods, particularly the way it shows a certain taste in the process, helps to differentiate a higher class group from a lower, and both formulates and expresses an identity of Italianate magnificence and splendor among these Flemish urban elites (see also Bourdieu, 1993; Goldthwaite, 1995; and Perry, 2001).

Certainly these representations of carnations in such a privileged position illustrate Smith and Findlen's (2002: 8) view of the way that

naturalistic representation, appearing first in northern Italy and then in Flanders ... [in the middle] of the fifteenth century ... became a fashion ... [deriving] from the forced integration of French court culture and the indigenous urban artisanal style of the rich trading cities of the Lowlands. Naturalistic images ... became sought-after objects of patronage and commerce among European nobility and wealthy burghers ... generating a new sense of the natural world.

The answers to the questions just asked may be found through a close study of the content and contexts of these popular floral images, a study from which we can create a narrative that can do cultural work.

Thus, I suggest that the cultivation of these exotic and fashionable plants in private gardens attached to town houses in real life and their depiction in illusionistic manuscript borders in large measure were intended to forge and assert a class identity of collecting and displaying exotic *naturalia* that was coming to the Low Countries from observation of the social status and behavior of the great Italian banking and financial families. For floral interest in the Low Countries must be seen as part of the larger northern European late Gothic preoccupation with Italianate Renaissance culture: Roman law, antique literature, humanistic scripts and typefaces, architectural details, clothing fashion, décor

and accessories such as domestic containers and dinner ware (see Morrall, 2009: 49) much in the way Chinese porcelain of the Wan Li period accompanied tulip mania in 17th-century still-life painting (Hochstrasser, 2007: 5–6, 126; see also Jörg, 1982; Spriggs, 1964–1966). The display of these material resources as horticultural commodities and, finally, their conspicuous consumption as part of personal magnificence and splendor as an ongoing process formed part of the ethos of the super-rich merchants and bankers who emulated their Italian counterparts.

As Christof Jeggle (2010: 37) has observed, Italian humanism was especially preoccupied with *magnificentia* as it pertained to luxury and consumption, and was manifested in the transfer and display of material goods, Dürer's rhinoceros being one prime example. Such gifts and displays showed the world the *magnificentia* of the people consuming their own substance. Yet, an Aristotelian mean (with avarice at one end of the continuum and prodigality at the other) was considered an ideal. The *Nicomachean Ethics* was often invoked to regulate the relationship between a person's cultural status and the amount spent. To know how to spend or display, was, to humanists, a mark of wisdom.<sup>6</sup>

*Magnificentia* was generally limited to the wealthy and had to do with architecture: churches, palazzi, and gardens, while the closely related quality of splendor involved spending on domestic furnishings, clothes, horses, dogs, hawks, and even flowers. An important person must be garbed and 'accessorized' importantly to maintain distinction. As Jeggle notes, 'investments in splendor should demonstrate the taste and intellectual education of the owner to produce distinction'. Though these ideas were available to humanist readers in Latin, they were also popularly accessible in Nicole Oresme's late 14th-century French translation of the *Ethics* (Menut, 1940: IV, 1–45, ii, 1–22; 1957: I, c. 7, 825). Luxury gardens (for example, in Genoa 'more than one hundred villa palaces with gardens were built during the sixteenth century') and the carnations in them then, served exactly to produce 'distinction' in the sense that Pierre Bourdieu used it and were quickly emulated by those aspiring to belong to the class of people to whom *magnificentia* and splendor were fitting (Magnani, 2005).

Moreover, luxury gardens and flowers, as Robert Rotenberg (2001: 147) has noted, are closely related to such identity formation through the consumption and display of commodities:

Garden art patronage is a special case of commodification, the social consumption of material objects. That garden art is a material object should generate little argument ... When people literally consume something, a meal, for example, the material disappears and is transformed into energy and waste. When they socially consume something, the objects are often unchanged, and it is the consumers who are transformed into different kinds of people. Commodities, then, are objects onto which people project the power to alter the way the consumer is perceived by others. What makes garden art a special case of commodification is the expense in land, time, and treasure, not to mention the technical skills and botanical resources required to mount it. It is a commodity for the wealthy.<sup>7</sup>

Certain commodities such as costly or exotic flowers in the late Middle Ages were desirable because they were acquired with considerable difficulty, or came from another country or region that in some way was believed to have a higher status, especially economically and culturally, than that of the consumers; they had a certain type of 'cultural

capital' and gave 'distinction'. Indeed, possession and display of such flowers not only conferred this higher status on the new owners but also confirmed their connoisseurship. So the narrative of late medieval commodities (Riello, 2009: 24; see also Brown, 2001) is largely one of Eastern and Western cultural exchange with high-status objects coming from East to West, especially the *naturalia* (such as Dürer's rhinoceros) and *artificialia* so beloved of humanist collectors (Egmond, 2010).<sup>8</sup> Thus, flowers and gardens in the late Middle Ages belong to this history of consumerism, commodification, and visual and actual cultural exchange. They cannot, of course, still exist, but their representations such as those filling the page borders of Flemish manuscripts came to have the status of these objects themselves.

## The containers

Among the fashions involved in showing domestic 'splendor' are some brought on by 15th-century technological advances in the production of Italian glassware and ceramics, associated with the rise in the number of courses and individual dishes served at the banquets of the Italian mercantile and financial elites. Some forms of this glassware and ceramic became the containers for high-status flowers in late medieval art, especially carnations.

The carnations' containers in the manuscript miniatures are of interest here, for they are objects of material culture and consumerism as much as the carnations themselves, and were clearly intended to form part of an ensemble with the flowers in them. The pots shown in these two images not only illustrate the Netherlandish vogue for greenhouse-raised carnations but also the contemporary taste for Italian or Italian-seeming highly decorated or aesthetically pleasing ceramics and glass which were having a great impact on northern European consumer markets. Thus, the ceramic and glass containers for the carnations reflecting certain changes in the dining and drinking habits of Italian and then later northern European elites conveyed an Italianate chic to the Mediterranean plants they held. The plants *in* their containers, then, show the intersection of several technologies and fashions with consumer commodities at the same historical moment. Since both plant and container were high-status objects, they were closely interrelated and dependent on each other to broadcast the garden owner's taste, magnificence, and identity as someone at the leading edge of horticultural fashion.

The Engelbert of Nassau border shows the flowers in a translucent glass container newly and sweepingly fashionable in northern Europe and called by glass historians Venetian *cristallo* or ripple glass from its origins in the Italian glass capital of Murano. This was typically a type of rock crystal without visible impurities developed about 1450 (Hess and Husband, 1997: 17, 1475–150084. DK.333. Figure 17b, and p. 78).<sup>9</sup>

That such glass containers were considered of great aesthetic significance and were highly prized is clear from their depiction in works of late medieval art showing noble owners and donors in scenes honoring the Virgin and Child or the Crucifixion, as in the Vienna Hours of Mary of Burgundy in the scenes of Mary of Burgundy (Pächt, 1948).<sup>10</sup> Moreover, among other economic and aesthetic factors were that for the wealthy the taste for eating and drinking from gold and silver plates and goblets had changed. For example, *cristallo* began to replace metal drinking ware, allowing the color of expensive wine

to be clearly visible at the table, thus emphasizing to the guests their host's personal 'splendor'.

The Albrecht of Brandenburg *horae's* carnation plant rests in an equally fashionable container, this time of earthenware. As with the *crystallo* just mentioned, the pot is also originally of Italian origin, made in a decorated ceramic style called majolica. By the 1350s, technological changes in ceramic manufacture led to the development of earthenware covered with a tin glaze that turned a brilliant white after firing. Metal oxides supplied colored decoration on this surface, particularly a vivid cobalt blue, as shown in the carnations' container. By the mid 15th century, majolica was a form of high art widely exported from Italy to northern Europe. It became so fashionable that before long Low Country artisans, especially in Antwerp, reproduced it (Goldthwaite, 1989).<sup>11</sup>

Most often featured as flower containers in the borders of Netherlandish manuscript miniatures are large cylindrical or globe-shaped jars for holding the ingredients of medicines and the medicines themselves, called *alborelli* or 'little trees' from their resemblance to the bamboo joint containers in which pharmaceuticals were shipped from the eastern Mediterranean to Europe (Drey, 1978).

Such majolica *alborelli* are often paired with *crystallo* glass as marks of high fashion luxury in panel and manuscript paintings, affirming the status and refined taste of patrons. For example, containers of both materials side by side hold flowers in the center panel of the triptych by Hugo van der Goes called the Portinari Altarpiece, c. 1475. They are on display as if they were the most priceless of objects (Koch, 1984).

As Julia Poole (1997: 6) notes, 'the growth of demand for [majolica] can be seen as part of a general wave of acquisitiveness, which gradually filled great palazzi ... in Italian cities with works of art and furnishings' (see also Goldthwaite, 1995: 19, 20, 234). And by the 1480s, the period in which these carnation-filled borders became common, the increased demand for majolica at lower social levels became widespread throughout northern Europe. To these considerations must be added the widening impact of the new Italianate fashion for the proliferation of courses and dishes where a typical banquet could involve as many as 150 plates and 50 bowls. Soon these changes in taste introduced the *servizio* of multiple examples of tableware and the *credenza* for supporting and housing the service, as well as the rise in production of recipe books to provide cooks with the contents of the many dishes (Goldthwaite, 1989: 20–23). Small wonder then that Simon Bening and his workshop idealized majolica as a perfect container material for the profusion of carnations coming into vogue in the houses of their artistic patrons in Flanders. As Julie Hochstrasser (2007: 127) stated so insightfully about the Low Country rage for Wan Li porcelain a century later, the appearance of majolica 'came at a favorable moment: the quickly growing group of capital-wealthy burgers, who wanted and could afford a certain measure of luxury, ensured a market ... even though it was rather expensive' (Hochstrasser 2007: 127).<sup>12</sup>

## The flowers

Gardeners will recognize the beautiful red carnations in *crystallo* and majolica containers shown in the borders of these two prayer books as *Dianthus caryophyllus* or five-petalled border carnations (see Elliott, 2001:17, 57; Harvey, 1976: 42, 1978). They were

Mediterranean exports, likely from Turkey brought westward through the military campaigns of Sultan Mehmed II, or from Persia (Harvey, 1976: 42, 1978). Probably, they came to Europe in the later 14th century, possibly as seeds carried by members of the Sultan's entourage, or perhaps through commercial channels: trade between the Ottomans and Italy, southern France, and the Netherlands. This plant was thus a late cultivar and is not found in northern Europe until roughly the period in which these books of hours were painted, c. 1460–1470.

At some point, moreover, by the 1440s, according to Albert Lecoy de la Marche, the most knowledgeable student of King René of Anjou's estate expenditures, it appears that René, who was a prototypical collector of *naturalia* such as lions and simians in his several residences in Provence and Anjou, and an ardent gardener, had an important role in collecting and propagating carnations in Provence and in their move northward in France and soon to the Low Countries (Lecoy de la Marche, 1875: 2, 485).<sup>13</sup>

These flowers, then, are not just in pots with a practical function but in those that project a clear sense of status. Thus, the ensemble of flower and container is meant to be immediately recognized and admired, creating a cultural narrative about the garden owner. In short, both flower and container confer status on the person who can grow the plant and own the pot. They are in effect symbols of the owner's power over nature in a climate not conducive to the raising of a Mediterranean plant requiring full sun.

Much less is known about northern European carnation culture in the 15th and 16th centuries than in the 17th. But it is possible to draw some inferences from this plant's better-documented cultural importance in the early modern period. Elizabeth Hyde (2005: 63) has called attention to various books composed in the 1650s devoted entirely to the culture of *Dianthus caryophyllus*, noting, for example that 'Carnations ... were the subject of the earliest treatise written in French about a single species, Louis Boulanger's *Jardinage des oeillets* (1647).' Carnations, moreover, were objects in the visual culture of 'curious florists' well into the age of print, appearing in albums of plants hand painted on vellum to reproduce the character of the late medieval manuscripts that form the subject of this article (Lack, 2001).

Let us now examine our third image of *Dianthus caryophyllus* from a similar devotional book, the *Huth Hours*<sup>14</sup> that more directly points to the identity-assertion of the patron and also wittily illustrates some of the technical aspects of carnation culture in the last decade of the 15th century (see Figure 3). At the bottom margin of the page is depicted a peasant gardener and his wife. The gardeners wheel an enormous carnation plant in a utilitarian wicker container from the green house or hothouse to the garden of their employer, though this location is not shown. Not only is the potted plant many times taller than the laborers and nearly as big around as the man, but sprigs with buds drape with a heavy weight over the couple's shoulders. A new feature is now added to the carnation's cultural context and narrative. Its mobility and means of transportation to the luxury garden for display involve visible human labor, a feature that becomes typical in the horticultural scenes in the books of interest here. As the liturgical and calendar period of the miniature is early spring, it is clear that the plants must have wintered indoors in glass pots to absorb sun or in soil heated by the decomposing subsurface manure mentioned earlier.

The plant – in motion, as it were – is not to be admired only as a grace to the book's borders, but it clearly also has a life outside the book, destined for the owner's garden



**Figure 3.** King David, male and female gardeners transport potted carnations. *Huth Hours*, Simon Marmion Workshop, London, British Library MS Additional 38126, folio 110, 1480-1500. Courtesy The British Library.

projected as a cultural site of admiration by townspeople. The page of the *Huth Hours* depicting the transport of carnations not only affirms the owner's worth, it also ties the flower with its relative cost in human labor for its growth and for its mobility to domestic socio-cultural practices.

Undoubtedly these gardens adjacent to the town houses, connected to them by drawbridges or walkways, as we will see in the images that conclude this article, must have

been emotionally and sensorily satisfying to their owners. As Christopher Tilley (2006: 316) observes, the ‘visual appearance and color of the garden was of primary significance ... because you could see the garden from inside the house, and at all times and seasons’, and several miniatures of such luxury gardens show them in close proximity to their owners’ mansions, where they can be observed through windows at all times of the day.

The image from the *Huth Hours* further develops the theme of identity in the emerging narrative about this object. Here we have gender as well as class inequality, for the woman, not the man, is pushing the wheelbarrow and doing the bulk of the work. She is, in effect, as much subservient to the man as the couple is subservient to the book’s invisible owners and patrons. The image in the lower margin of the page, then, is not merely one of laborers comically pushing a burden, it also shows the proper relationship by late medieval standards, of gender and social class. For the gardener couple does the bidding of those elites who have caused the carnations to be grown in a hot house as a symbol of their social status and connoisseurship, and the scene expresses their identity as wielders of economic power and exhibitors of the rarified taste of such connoisseurship.

So far, the owners of these three books have been absent, only inferred, not glimpsed. We see these beautiful flowers, obviously important by their scale for their rarity of cultivation, their Italianate containers’ social status, and the laborious process of displaying them for townspeople to admire. But we do not yet know precisely what the flowers’ role might be in the lives of the people who enjoy them.

## Gardens and late medieval consumption

Since in these manuscript miniatures the pots are usually shown trundled out to the owner’s gardens in the spring, let us look at some of these smaller private luxury gardens for help in contextualization. Such gardens are, perhaps, even muter as objects than medieval manufactured goods like majolica *alborelli*. In most cases they no longer exist. They are largely known through contemporary representations and descriptions in medieval tapestry, manuscript and panel painting, and romances. Large-scale examples have left more of an evidentiary mark; one thinks here of Hesdin, the 2200 acre park and luxury gardens Count Robert II of Artois constructed in 1288 largely as an affirmation of his status (Farmer, 2013),<sup>15</sup> and, of course, the much later gardens of Versailles constructed under Kings Louis XIII through XV as certainly the most famous and well documented of luxury gardens. Though Erik de Jong (2007: 54) is speaking of the vast and elaborate gardens at Versailles, his comments can apply to some degree to the more modest private luxury gardens of Antwerp, Ghent, and Bruges, which are shown in the manuscript miniatures of interest here. De Jong observes that:

... we must read gardens on different levels, not only as constructs of art and nature embodying intentions of design, but also as social spaces. Even small details may reveal instructive worlds that speak of the complex fabric the garden represents.

The rapidly changing status of nobles and bourgeois in northern Europe in the 15th century had much to do with the creation of these manor and town houses, and their gardens and the specimen plants that formed just such ‘small details’. As Florike Egmond (2010: 59) noted, these gardens and their aspiring owners ‘special plants [such as carnations] functioned as

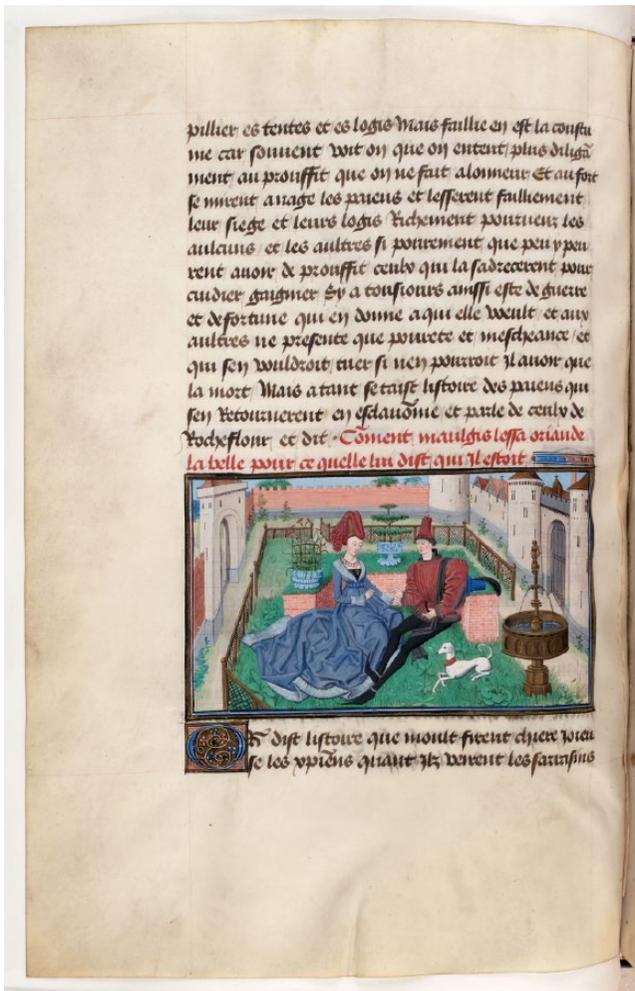
status symbols just like precious horses, jewels, a castle, clothes, works of art, or a library'. As the *nobles de robe* offering cash and bureaucratic skills to French monarchs came increasingly to replace or compete for power and status with the *nobles de l'espée*, the ancient landed aristocracy, they did so largely by buying up country estates with hereditary titles by which they could ennoble themselves (Hyde, 2005: xiii–xiv). In cities, this process often took the form of building mansions and creating smaller luxury gardens in which to show off high-status plants such as carnations. These urban 'manors' served precisely to distance their owners culturally and geographically from the old feudal and rural nobility. Thus, in the Burgundian dominated Low Countries, as in France, the luxury gardens of town houses quickly became marks of fashion and status among the upper bourgeoisie, especially among those with humanist inclinations (Morford, 1987; see also Vandewiele, 1993).

In the mid-15th century when this process of 'ennobilization' was at its height, information on gardens and agriculture was a largely Italian commodity and aspiring merchants and bankers looked to that country for guidance because of the fabled manor houses and gardens of ancient Rome. Thus, the European private luxury garden took on the cachet of Roman antiquity and was generally founded on Roman precepts. So the history of this object – or more precisely the information necessary to recreate it in northern Europe – is again that of an Italian export.

The late medieval luxury garden in which carnations were set out, and the one most commonly depicted in the Flemish illuminated books we have been examining, was about an acre in extent with a primarily square or rectangular layout; it was enclosed by wattle or latticework wooden fencing or a hawthorn hedge. As De Buysscher and De Backer (1993) note in their study of garden design in the Low Countries, these new gardens contained a number of Roman elements. Geometrically positioned plots, apparently necessary to the growing of carnations, often slightly raised, were broken up by intersecting pathways; this style continued as late as 1700 as shown in a painting of a very symmetrical garden of the Dutch burgher Gerard de Rijp with carnations in tall standards in raised beds exactly as they were in the 15th-century miniatures of interest here.<sup>16</sup> On elevated bench-like embankments (Paul, 1985) were displayed moveable containers of non-winter hardy plants. Often, a central turfed area featured an elaborate late Gothic fountain in a small pool (Miller, 1986; see Figure 4). In a miniature from the romance *Regnault de Montauban* is an older style fully-walled 'love' garden adjacent to such a townhouse; a courting couple leans against such raised embankments on which sits a majolica pot of carnations held up by a wire or cane standard, perhaps the earliest such depiction of *Dianthus* in the West, as the picture was painted about 1461–1462.<sup>17</sup>

Such gardens were constructed according to rules set out in a medieval agricultural and gardening manual written to give the newly rich an idea of how to create the proper sort of garden. As mentioned earlier, Pietro Crescenzi's *Ruralium Commodorum Liber* (1305)<sup>18</sup> forms part of the volatile nexus of European commodification, consumerism, and cultural exchange, bringing to Flanders, for example, the newest Italian thinking on manor house and garden construction (Calkins, 1986).

Crescenzi, 1230–1320, was a wealthy lawyer who wrote his treatise in retirement on his country estate for a class of new landowners. There are over 140 manuscripts extant, and it remained the single most important book on agriculture for several centuries, lying behind such Renaissance vernacular manuals so insightfully discussed by Chandra Mukerji (2002)



**Figure 4.** Maugis and Oriande in a walled garden or 'herber' with carnations in a majolica pot. David Aubert, *Roman de Regnault de Montauban*, Loysel de Liédet, Paris, Bibliothèque de l' Arsenal MS 5072, réserve, folio 71v, 1461-1462. Courtesy Bibliothèque de l' Arsenal.

as that of the physician Jean Liébault's (1535–1596) *Maison Rustique* (1570) showing the role of physicians and apothecaries in the new garden culture.<sup>19</sup> She notes their focus on humanist sensibilities, a rational approach to classification and a practical view of husbandry involving mapping, accounting, and the use of the measuring chain.

Of particular interest in the *Ruralium Commodorum*, or *Le Rustican* are the rubrics for Book VIII on private gardens defining the types of gardens to be treated and the income levels of the persons for whom they will be made. For example, Chapter 2: 'Concerning large and moderate gardens' ties these to 'persons of moderate means',

while the rubric for Chapter 3 speaks of ‘gardens of kings and other illustrious and wealthy lords’ (Bauman, 2002: 100, 101).

These rubrics for the individual chapters of Book VIII offer us an important sense of the author’s intention, of the audience for whom he was writing, and especially of this audience’s cultural values, giving us some idea of what the user hoped to achieve from studying the book and eventually creating a garden based on its principles. The exercise of power over the environment and its link to social class are rather nakedly presented in Chapter 3 for example: ‘Because such persons by reason of their riches and power are able to satisfy their own will in all earthly things ... almost nothing is wanted by them except the labor of setting workers to task’ (p. 102).

Clearly aiming at the class aspirations of the new pleasure gardeners, as can be seen from the quotations just given, Crescenzi shows at the top of the hierarchy the very wealthy who can have gardens just like Hesdin if they follow his suggestions. Thus, in our narrative of medieval private gardens, their association with ostentatious wealth and power emerges clearly. Lower on the social scale, people who read Chapter 2 were sure to aspire to the status of the garden owners mentioned in Chapter 3.

How did late medieval readers respond to Crescenzi’s prescriptions for pleasure gardens? One possible way to answer this question is by examining some of the miniatures in illuminated manuscripts of this work, commissioned and owned by the very sorts of people the book was intended to instruct, serving as a manual for the upwardly mobile.

Many 15th-century Crescenzi manuscripts were illustrated with pictures of private gardens and they depicted – as interpreted by the painters – the social behavior that the owners imagined should occur in them. Their miniatures accordingly privileged the display of class distinction and of the garden owner’s splendor and social identity. It is immediately evident from some of the miniatures illustrating the work that these express the values of the manuscripts’ owners and commissioners as these were interpreted by the artists (see Figure 5). In a scene of an older style walled garden from a princely Crescenzi manuscript now in the British Library, there is a pot of carnations on the ground in front of the figure grouping to the left rear. (Though of course Crescenzi did not mention carnations among ideal flowers to plant, as they were not known in Italy in his time, the later miniaturists who illustrated his works did generally show them.)

The artist shows the sage and author Piero Crescenzi, dressed in a long juridical style of gown favored by older members of the late medieval urban patriciate, advising a rather newly minted manor owner in fur-trimmed robe on horticultural subjects. A purse hangs prominently at this owner’s belt, highlighting the source of his power and pointing to his merchant status and membership in the *noble de robe* class. Crescenzi and his auditor’s size and posture, moreover, clearly distinguish them from the female gardener and assert the owner’s power over her as she bends as a sign of servility.

## Carnations in a garden setting

The late 15th- and early 16th-century illuminated devotional books we saw at the opening of this article with potted or mobile carnations in their borders were very probably responding in tone and subject matter to the illustrations of Crescenzi’s agricultural treatise made roughly half a century earlier, largely by Flemish painters. Crescenzi’s work



**Figure 5.** Walled garden with female owners, male owner, and pot of carnations at middle left. Pietro Crescenzi, *Le Rustican*, London, British Library MS Additional 19720, folio 214r, late 15th century. Courtesy The British Library.

created a visual culture<sup>20</sup> and taste for such Mediterranean gardens and their contents. But the northern European artists who painted the gardens allowed their imaginations to play very broadly on Italianate and Arab elements in them, adding, for instance, pots of carnations where there had been none in Crescenzi's text. As Perrine Mane acutely observed of these artists, in order visually to transcribe the author's ideas, they sometimes go well beyond or interpret the text (Mane, 1985).<sup>21</sup> The artist Simon Bening and his workshop, which certainly knew Crescenzi miniatures, sought to show the garden owners' magnificence and power over nature and over their laborers by adapting Crescenzi's secular Italianate garden scenes to a Flemish devotional setting.

As we saw earlier, Simon Bening, who died in 1561, was an artist whose commissions were largely for very wealthy patrons whose values he extolled – and to some degree created – in the work he did for them. Presumably, these values and aspirations were also his own, and he saw himself as a member of the urban artisan elite in terms of personal wealth, of civic position, and of constant contact with aristocratic patrons. It is not surprising then, that Bening quickly recognized from the Crescenzi manuscripts that to cultivate exotic plants successfully and to display them both indoors and outdoors was a sign of wealth and a mark of fashionable Italianate taste. Thus, he extolled in the miniatures of his patrons' books of hours these plants and their culture, placing idealized

Italianate scenes of the manuscripts' commissioners in positions of power over the plants and their caretakers, and using these plants to concretely express the patrons' identities.

Moreover, the Simon Bening workshop was perhaps the most responsive of all the late medieval Flemish illuminators' ateliers to the visual culture of Italian art, and the new trends of taste in Italian architecture, domestic interiors, and male fashion, in effect recognizing these things as exportable commodities their customers would like to see depicted as features of their own northern European homes and lives. Thus, his borders are tours de force in the rendition of realistic space and of the display of the opulence and high fashion of what was presumably the interiors and exteriors, even if somewhat idealized, of their patrons' homes.

Miniatures in a breviary and several other Bening *horae* indicate the importance of luxury gardens as material objects advised for the wealthy, and offer a novel social repurposing in depicting them. For the calendar pages showing the 12 labors of the months in the many devotional books produced in Ghent and Bruges were reworked to have a new civic and social context (Henisch, 1999).<sup>22</sup> The artist simply substitutes Crescenzi's scene of the owner and his wife overseeing the creation of his garden and the management of his workers for the commonly shown traditional task of peasants cutting wood in March or April seasonal labors, either eliminating the traditional task altogether or displacing it by showing only a few fallen logs and branches around the perimeter or in the background of the garden, and putting the focus to greater or lesser degree not on woodcutting but on the power and splendor of the garden owners and on the garden as a work in progress.

Though four of Bening's devotional books use these calendar scenes for the preparation of the elite notable's garden, two miniatures will suffice here to show how Bening created a fantasy of status for the book's owner. In the March labor scene from a *horae* in Munich (see Figure 6), elements of the traditional woodcutting labor of the book's calendar vie with the Crescenzi-style garden preparation scene.<sup>23</sup> We see in the near background a magnificent manor house in front of which is a small fenced private garden. In the left foreground the owners form a power group with the woman predominant in a new role. These power groups are in all cases removed from any consciousness of the laborers (except, of course, to give orders and receive fealty). The laborer seems to be felling a tree that recalls the original labor of this season. Inside the garden space a female servant plants freshly hardened off carnations from pots before her on the ground and the workman doffs his hat to the mistress.

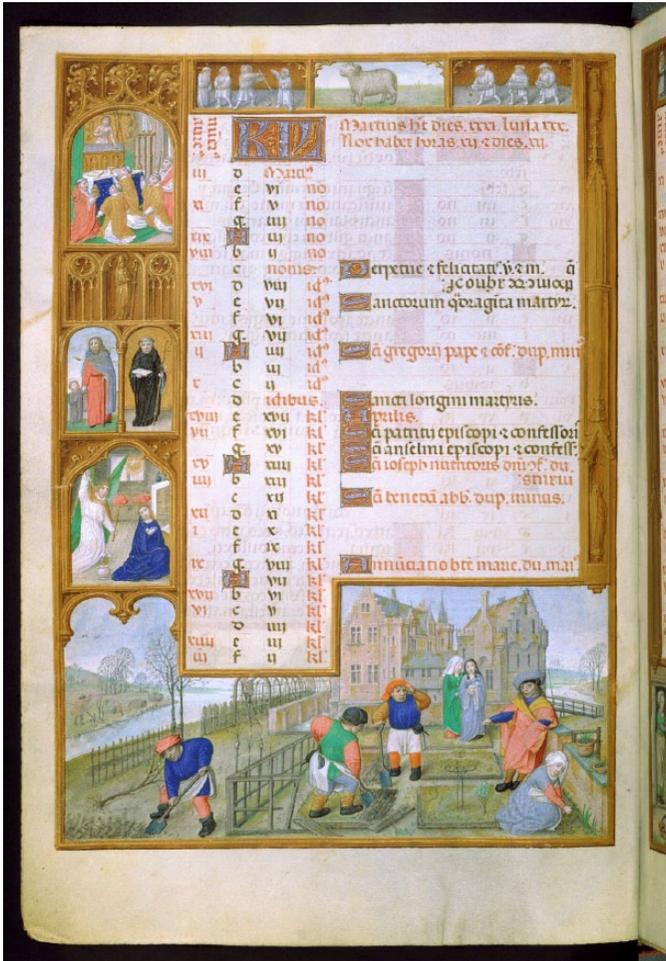
In a breviary from the Bening workshop made for a wealthy Portuguese owner living in Antwerp – perhaps one who saw the actual arrival of King Manuel's rhinoceros – the woodcutting task is virtually absent (see Figure 7).<sup>24</sup> Laborers work to prepare a small private garden adjacent to a manor house. At rear the female owner with a small dog in her arms symbolizes the leisure and affluence of the class to which she aspires. In the right foreground of the scene her husband in furred robe, a member of the merchant elite, actually stands inside the garden space showing his connoisseurship by directing a servant digging. At right a kneeling female gardener prepares beds along the wall and presumably will soon plant specimens from a pot of carnations, apparently just brought out from a greenhouse for hardening off, that rests on the wall just to the right of the gardener's head in front of the owner, to whom one of the workmen seems to doff his hat.

As Elizabeth Hyde (2005) has clearly shown, the new gardens of the wealthy were an important site for the observation of changing gender roles in the early modern period.



**Figure 6.** March labor, owners watch laborers. Pot of carnations on ground. Simon Bening, *Horae*, Bayerische Staatsbibliothek München, Clm 23638, folio 4v, 1510–1515. Courtesy Bayerische Staatsbibliothek München.

The miniatures just discussed push this change backward several generations. While men had largely dominated garden scenes in medieval herbals and other representations in their roles as monks, physicians, or apothecaries ‘officially’ knowledgeable in plants, Bening’s miniatures place women as garden creators and fanciers in a new and privileged position. Now the owner’s wife is not the passive lady in a love garden as in the *Reynaud de Montauban* scene, or the worker bee, but the new owner–collector–fancier. Hyde points out that ‘women were able to exploit their deeply rooted relationship to nature and



**Figure 7.** March labor, owners watch laborers. Pot of carnations on wall. Simon Bening, *Breviary*, Antwerp, Museum Mayer van den Bergh, MS MMB.0618 *Breviarium Mayer van den Bergh*, folio 2 verso, 1510–1515. Courtesy Museum Mayer van den Bergh.

the plant world in order to carve a niche for themselves in the burgeoning world of science and learning’, and these female garden owners look forward to that new role in the Early Modern era (pp. xvi–xvii.).

## Conclusions

As we have seen, the 15th and 16th centuries in northern Europe were a period of considerable social and psychological trial for both the *nobles de l’espée* who wished to retain and justify their privileges, and for the *nobles de robe* who wished to displace

them, using their mercantile and banking wealth to do so. Men like the Benings were everywhere striving to acquire many of these privileges. Thus, Italianate and humanist consumer possessions that reflected current high-status fashions, such as the display of plants in private gardens attached to town houses, and ownership of illuminated books with illusionistic borders, were means to show class-consciousness and to forge class identity among the native 'late Gothic elites' who saw the 'Italianate' as the current most fashionable identity. It is hard to escape the impression that the Bening atelier with its intensely urban and status-conscious artisans sought to offer wish fulfillment for the patrons of the miniatures we have examined and to provide them with magnificent and assertable identities through the depiction of luxury gardens and the carnations planted in them.

### Acknowledgements

I should like to thank David Abulafia, Professor Anna Edlund of Lafayette College, Florike Egmond, Sharon Farmer, Kristen Figg, Jill Francis, Paul Freedman, Kathrin Giogoli, Elizabeth Hyde, Lisa Kiser, Jacqueline Leclercq-Marx, Michael Twomey, and the anonymous *Journal of Material Culture* editorial readers for advice and information during the preparation of this article. A version of this article was presented as a lecture at the Center for Material Culture Studies, The Ohio State University in 2014.

### Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### Notes

1. See more fully Bedini (2000: 6–7, 16–19). For interest in exotic animals and menagerie formation at a slightly later period, see Perez de Tudela and Gschwendt (2007: 419–447).
2. See also Mukerji (2002: 183) for the 'alchemical' uses of manure below the soil for heating of greenhouses.
3. See also Pächt and Alexander (1966: 27, no. 361). On this type of devotional book, see Wieck (2001).
4. Daston (2004: 224) speaks of the 'triumph of all artistic naturalism, the successful deception of the senses'.
5. On Albrecht, the Fuggers and collecting, see Meadow (2002). On Bening generally, see Kren and McKendrick (2003) and Kren and Rathofer (1988).
6. See generally on the concepts of *magnificentia* and splendor and their movement to northern Europe, Muzzarelli (2009) and Guerzoni (1999).
7. See generally on luxury and consumption theory, Berry (1994), Assouly (2005), Appaduria (1986), and Schuurman and Walsh (1994).
8. See, on collections, Findlen (1994), Lugli (1993), Pomian (1990) and Schnapper (1988).
9. On medieval Venetian glass, see Zecchin (1987–1990), and more recently Whitehouse (2010). For the technological aspects, see Jacoby (1993: 65–90) and McCray (1998).
10. This book is now Vienna, Österreichische Nationalbibliothek MS 1857. These containers appear on folios 14v and 43v of the manuscript and are reproduced by Pächt (1948) as Figures 12 and 13.
11. For the intersection of changes in dining and economic fluctuations in the Italian ceramic market with trends of taste among northern European elites, see also Sani (2012) and Veeckman (2003).

12. Meadow (2002: 182) speaks of the collectors of *artificialia* as including ‘majolica pottery, and Venetian glass’ in their cabinets.
13. See also Lecoy de la Marche (1873) from which, presumably, his claims for Ren e’s role are drawn.
14. The *Huth Hours* of 1480–1490 is now in London, British Library MS Additional 38126. The carnation miniature is on folio 110. For the artist, see Hindman (1977).
15. See also the superb study of large-scale English parks by Twomey (2013).
16. This painting is published by Laird (2002: 234) as Figure 10.
17. This miniature from Paris, Biblioth eque de l’Arsenal MS 5072, r serve, folio 71v, depicts Maugis and Oriande in a walled love garden with carnations in a majolica pot.
18. On Crescenzi, see also Darnall (1972) and Mane (1985).
19. See also Egmond (2008), Goldgar (2010), and Reeds (1991: 29) on the role of apothecaries rather more than physicians in the transmission of botanical lore.
20. ‘Visual culture’ is a dominant concept in Baxandall (1972). See more recently, Cardarelli et al. (2012).
21. Mane (1985: 729): ‘les miniaturistes, pour transcrire visuellement les id es de l’auteur, doivent parfois d passer ou interpr ter le texte.’
22. See for the *Labors of the Months*, Henisch (1995, 1999).
23. This manuscript is in Munich, Bavarian State Library MS Cod. Lat. 23638, c. 1510–1515.
24. March labor, *Breviary*, Antwerp, Museum Mayer van den Bergh MS MMB.0618 Breviarium Mayer van den Bergh, folio 2 verso. See on this manuscript, Dekeyzer (2004).

## References

- Alexander J (1970) *The Master of Mary of Burgundy: A Book of Hours for Engelbert of Nassau*. New York: Braziller.
- Appaduria A (1986) *The Social Life of Things: Commodities in Cultural Perspective*. New York: Cambridge University Press.
- Assouly O (ed.) (2005) *Le Luxe, essais sur la fabrique de l’ostentation*. Paris: Editions de l’Institut fran aise de la mode.
- Bauman J (2002) Tradition and transformation: The pleasure garden in Piero Crescenzi’s *Liber Ruralium Commodorum*. *Studies in the History of Gardens and Designed Landscapes* 22: 99–141.
- Baxandall M (1972) *Painting and Experience in Fifteenth-Century Italy: A Primer in the Social History of Pictorial Style*. Oxford: Clarendon Press.
- Bedini S (2000) *The Pope’s Elephant*. New York: Penguin.
- Berry J (1994) *The Idea of Luxury: A Conceptual and Historical Investigation*. Cambridge: Cambridge University Press.
- Biermann A (1975) Die Miniaturenhandschriften des Kardinals Albrecht von Brandenburg (1514–1545). *Aachener Kunstbl tter* 46: 15–144.
- Bourdieu P (1984) *Distinction: A Social Critique of the Judgment of Taste*, trans. R Nice. Cambridge, MA: Harvard University Press.
- Bourdieu P (1993) *The Field of Cultural Production: Essays on Art and Literature*, trans. R Johnson. New York: Columbia University Press.
- Brown J (2001) *Art as Evidence: Writings on Art and Material Culture*. New Haven, CT: Yale University Press.
- Calkins R (1986) Piero de Crescenzi and the medieval garden. In: MacDougall E (ed.) *Medieval Gardens* (Dumbarton Oaks Colloquium on the History of Landscape Architecture IX). Washington, DC: Dumbarton Oaks Press, 155–175.

- Calkins R (1989) Sacred image and illusion in late Flemish manuscripts. *Essays in Medieval Studies* 6: 1–16.
- Cardarelli S, Anderson EJ and Richards J (2012) (eds) *Art and Identity: Visual Culture, Politics and Religion in the Middle Ages and the Renaissance*. Newcastle on Tyne: Cambridge Scholars.
- Clarke T (1986) *The Rhinoceros from Dürer to Stubbs, 1515–1799*. London: Sotheby's Publications.
- Darnall J (1972) Pietro Crescenzi and the Italian Renaissance garden. *Journal of the Society of Architectural Historians* 31: 226.
- Daston L (2004) The glass flowers. In: Daston L (ed.) *Things that Talk: Object Lessons from Art and Science*. New York: Zone Books, 223–257.
- De Buysscher G and De Backer W (1993) Renaissance garden design in the Low Countries in the light of the Officina Plantiniana's botanical publications. In: De Nave F (ed.) *Botany in the Low Countries (End of the 15th Century – ca 1650)*. Antwerp: Plantin Moretus Museum, 61–63.
- De Jong E (2007) The garden as luxury. In: Shonibare Y (ed.) *Jardin d'Amour*. Exhibition Catalogue. Paris: Flammarion, 44–57.
- Dekeyzer B (2004) *Layers of Illusion: The Mayer van den Bergh Breviary*. Ghent: Ludion.
- Drey R (1978) *Apothecary Jars: Pharmaceutical Pottery and Porcelain in Europe and the East 1150–1850*. London: Faber & Faber.
- Egmond F (2008) Apothecaries as experts and brokers in the sixteenth-century network of the naturalist Carolus Clusius. *History of Universities* 23: 59–91.
- Egmond F (2010) Rare naturalia as collectors' items and gifts in early modern Europe. In: Rittersma R (ed.) *Luxury in the Low Countries: Miscellaneous Reflections on Netherlandish Material Culture, 1500 to the Present*. Rijksmuseum: Pharos Publishing, 49–65.
- Elliott B (2001) *Flora: An Illustrated History of the Garden Flower*. Buffalo, NY: Firefly Books.
- Farmer S (2013) Aristocratic power and the natural landscape: The garden park at Hesdin, ca. 1291–1302. *Speculum* 88(3): 644–680.
- Findlen P (1994) *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy*. Berkeley: University of California Press.
- Goldgar A (2007) *Tulipmania: Money, Power, and Knowledge in the Dutch Golden Age*. Chicago, IL: University of Chicago Press.
- Goldgar A (2010) The use and misuse of flowers: Tulipmania and the concept of luxury. In: Rittersma R (ed.) *Luxury in the Low Countries: Miscellaneous Reflections on Netherlandish Material Culture, 1500 to the Present*. Rijksmuseum: Pharos Publishing, 69–84.
- Goldthwaite R (1989) The economic and social world of Italian renaissance maiolica. *Renaissance Quarterly* 42: 1–32.
- Goldthwaite R (1995) *Wealth and the Demand for Art in Italy, 1300–1600*. Baltimore, MD: Johns Hopkins University Press.
- Guerzoni G (1999) Liberalitas, magnificentia, splendor: The classic origins of Italian renaissance lifestyles. In: De Marchi N and Goodwin CDW (eds) *Economic Engagement with Art: Annual Supplement to Volume 31, History of Political Economy*. Durham, NC: Duke University Press, 332–378.
- Harbison C (1984) Realism and symbolism in early Flemish painting. *Art Bulletin* 66: 588–602.
- Harvey J (1976) Turkey as a source of garden plants. *Garden History* 4(3): 21–42.
- Harvey J (1978) Gilliflower and carnation. *Garden History* 6(1): 46–57.
- Henisch B (1995) Farm work in the medieval calendar tradition. In: Sweeney D (ed.) *Agriculture in the Middle Ages: Technology, Practice, and Representation*. Philadelphia: University of Pennsylvania Press, 309–336.
- Henisch B (1999) *The Medieval Calendar Year*. University Park, PA: Pennsylvania State University Press.
- Hess C and Husband T (1997) *European Glass in the J. Paul Getty Museum*. Malibu, CA: J. Paul Getty Museum.

- Hindman S (1977) The case of Simon Marmion: Attributions & documents. *Zeitschrift für Kunstgeschichte* 40: 185–204.
- Hochstrasser J (2007) *Still Life and Trade in the Dutch Golden Age*. New Haven, CT: Yale University Press.
- Hyde E (2002) Flowers of distinction: Taste, class, and floriculture in seventeenth-century France. In: Conan M (ed.) *Bourgeois Influences in Garden Design*. Washington, DC: Dumbarton Oaks Press, 77–100.
- Hyde E (2005) *Cultivated Power: Flowers, Culture, and Politics in the Reign of Louis XIV*. Philadelphia: University of Pennsylvania Press.
- Jacoby D (1993) Raw materials for the glass industries of Venice and the terraferma, about 1370 – about 1460. *Journal of Glass Studies* 35: 65–90.
- Jeggle C (2010) Economies of quality as a concept of research on luxury. In: Rittersma R (ed.) *Luxury in the Low Countries: Miscellaneous Reflections on Netherlandish Material Culture, 1500 to the Present*. Rijksmuseum: Pharos Publishing, 27–44.
- Jörg JAC (1982) Chinese porcelain 450–1700. *Transactions of the Oriental Ceramic Society* 36: 183–205.
- Kamil N (2005) *The Fortress of the Soul: Violence, Metaphysics, and Material Life in the Huguenots' New World, 1517–1751*. Baltimore, MD: Johns Hopkins University Press.
- Kaufmann T and Kaufmann V (1991) The sanctification of nature: Observations on the origins of *trompe l'oeil* in Netherlandish book painting of the fifteenth and sixteenth centuries. *Journal of the J. Paul Getty Museum* 19: 43–64.
- Koch R (1984) Flower symbolism in the Portinari altarpiece. *Art Bulletin* 46: 70–77.
- Kren T and McKendrick S (2003) *Illuminating the Renaissance: The Triumph of Flemish Manuscript Painting in Europe*. Los Angeles, CA: J. Paul Getty Museum.
- Kren T and Rathofer J (1988) *Flemish Calendar CLM 23638 Bayerische Staatsbibliothek, München*. Lucerne: Faksimile-Verlag.
- Lack H (2001) *Ein Garten Eden. Meisterwerke der botanischen illustration / Garden Eden. Masterpieces of Botanical Illustrations / Un Jardin d'Eden. Chefs-d'oeuvre de l'illustration botanique*, trans. M Walters et al. Cologne: Taschen.
- Laird M (2002) The culture of horticulture: Class, consumption, and gender in the English landscape garden. In: Conan M (ed.) *Bourgeois Influences in Garden Design*. Washington, DC: Dumbarton Oaks Press, 222–254.
- Lecoy de la Marche A (1873) *Extraits des comptes et mémoriaux du Roi René pour servir à l'histoire des arts au XVe siècle, publiés d'après les originaux des Archives Nationale*. Paris: École des Chartes, Documents historiques.
- Lecoy de la Marche A (1875) *Le roi René: sa vie, son administration, ses travaux artistiques et littéraires d'après les documents inédits des archives de France et d'Italie*. Paris: Firmin Didot.
- Lugli A (1993) *Naturalia et mirabilia: Il collezionismo enciclopedico nelle Wunderkammern d'Europa*. Paris: Adam Biro.
- Magnani L (2005) The rise and fall of gardens in the Republic of Genoa. In: Schiebinger L, Swan C (eds) *Colonial Botany, Science, Commerce, and Politics in the Early Modern World*. Philadelphia: University of Pennsylvania Press, 43–76.
- Mane P (1985) L'iconographie des manuscrits du Traité d'Agriculture de Pier' de Crescenzi. *Mélanges de l'École Française de Rome. Moyen Age, Temps modernes* 97: 727–818.
- McCray P (1998) Glassmaking in renaissance Italy: The innovation of Venetian cristallo. *Journal of the Minerals, Metals and Materials Society* 50(5): 14–19.
- Meadow MA (2002) Merchants and marvels, Hans Jacob Fugger and the origins of the Wunderkammer. In: Smith P and Findlen P (eds) *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe*. New York: Routledge, 182–200.

- Menut A (ed. and trans.) (1940) *Maistre Nicole Oresme: Le Livre d'Ethique d'Aristote*. New York: Stechert.
- Menut A (ed. and trans.) (1957) *Le Livre de yconomique d'Aristote*. Philadelphia, PA: American Philosophical Society.
- Miller N (1986) Paradise regained: Medieval garden fountains. In: MacDougall E (ed.) *Medieval Gardens* (Dumbarton Oaks Colloquium on the History of Landscape Architecture IX). Washington, DC: Dumbarton Oaks Press, 137–153.
- Morford M (1987) The Stoic garden. *Journal of Garden History* 7: 151–175.
- Morrall A (2009) Ornament as evidence. In: Harvey K (ed.) *History and Material Culture*. London: Routledge, 46–66.
- Mukerji C (2002) Bourgeois culture and French gardening in the sixteenth and seventeenth centuries. In: Conan M (ed.) *Bourgeois Influences in Garden Design*. Washington, DC: Dumbarton Oaks Press, 173–187.
- Muzzarelli M (2009) Reconciling the privilege of a few with the common good: Sumptuary laws in medieval and early modern Europe. *Journal of Medieval and Early Modern Studies* 39: 597–617.
- Pächt O (1948) *The Master of Mary of Burgundy*. London: Faber & Faber.
- Pächt O and Alexander J (1966) *Illuminated Manuscripts in the Bodleian Library Oxford I. German, Dutch, Flemish, French and Spanish Schools*. Oxford: Oxford University Press.
- Paul M (1985) Turf seats in French gardens of the Middle Ages, 12th–16th centuries. *Journal of Garden History* 5: 13–14.
- Perez de Tudela A and Gschwendt A (2007) Renaissance menageries: Exotic animals and pets at the Hapsburg courts in Iberia and central Europe. In: Enenkel AE and Smith PJ (eds) *Early Modern Zoology: The Construction of Animals in Science, Literature and the Visual Arts*. Leiden: Brill, 419–447.
- Perry C (2001) (ed.) *Material Culture and Cultural Materialism in the Middle Ages and Renaissance*. Turnhout: Brepols.
- Pomian K (1990) *Collectors and Curiosities: Paris and Venice, 1500–1800*, trans. E Wiles-Portier. Cambridge: Polity Press/Basil Blackwell.
- Poole J (1997) *Italian Majolica*. Cambridge: Cambridge University Press.
- Reeds K (1991) *Botany in Medieval and Renaissance Universities*. New York: Garland.
- Riello G (2009) Things that shape history: Material culture and historical narratives. In: Harvey K (ed.) *History and Material Culture*. London: Routledge, 24–46.
- Rotenberg R (2002) La pensée bourgeoisie in the Biedermeier garden. In: Conan M (ed.) *Bourgeois Influences in Garden Design*. Washington, DC: Dumbarton Oaks Press, 147–172.
- Sani E (2012) *Italian Renaissance Maiolica*. London: Victoria & Albert Museum.
- Sassatelli R (1997) Consuming ambivalence: Eighteenth-century public discourse on consumption and Mandeville's legacy. *Journal of Material Culture* 2(3): 339–360.
- Schnapper A (1988) *Le Géant, la licorne et la tulipe: Collections et collectionneurs dans la France du XVII siècle*. Paris: Flammarion.
- Schuurman A and Walsh L (eds) (1994) *Material Culture: Consumption, Life-Style, Standard of Living, 1500–1900. Culture matérielle: consommation, style de vie, niveau de vie, 1500–1900*. (Proceedings Eleventh International Economic History Congress, Milan, September 1994). Milano: Università Bocconi.
- Smith P and Findlen P (2002) (eds) *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe*. New York: Routledge.
- Spriggs A (1964–1966) Oriental porcelain in western paintings. *Transactions of the Oriental Ceramic Society* 36: 73–87.
- Taussig M (2003) The language of flowers. *Critical Inquiry* 30: 98–131.

- Tilley C (2006) The sensory dimensions of gardening. *The Senses and Society* 1(3): 311–330.
- Twomey M (2013) How green was the Green Knight? Forest ecology at Hautdesert. *Arthurian Literature* 30: 27–53.
- Vandewiele L (1993) The garden of Pieter van Coudenberghe. In: De Nave F (ed.) *Botany in the Low Countries (End of the 15th Century – ca 1650)*. Antwerp: Plantin Moretus Museum, 23–31.
- Veckman J (ed.) (2003) *Majolica and Glass from Italy to Antwerp and Beyond: The Transfer of Technology in the Early 17th Century*. Antwerp: Antwerp City Press.
- Whitehouse D (2010) *Medieval Glass for Popes, Princes and Peasants*. Corning, NY: The Corning Museum of Glass.
- Wieck R (2001) *Time Sanctified: The Book of Hours in Medieval Art and Life*. New York: Braziller/Walters Art Museum.
- Zecchin L (1987–1990) *Vetro e vetrai di Murano: Studi sulla storia del vetro*. Venice: Arsenale.

### Author biography

John Block Friedman is Professor Emeritus of English and Medieval Studies at the University of Illinois, Urbana-Champaign, USA, and is currently a Visiting Scholar at the Center for Medieval and Renaissance Studies, The Ohio State University, Columbus, Ohio, USA. His research combines interests in material culture, medieval manuscript studies and the history of art, iconography, alterity and animals, and fashion history. His most recent or forthcoming publications are *Brueghel's Heavy Dancers: Transgressive Clothing, Class, & Culture in the Late Middle Ages* (Syracuse University Press, 2010); 'Werewolf transformation in the manuscript era', *The Journal of the Early Book Society* 17(2014): 35–93; and 'Dogs in the identity formation and moral teaching offered in some 15th-century Flemish manuscript miniatures', in Laura Gelfand (ed.) *Our Dogs, Our Selves: Dogs in Medieval and Early Modern Society* (Brill, 2015, in press); and (with Kristen Figg and Kathrin Giogoli) *Libro de las Maravillas del Mundo* (Burgos, 2015, in press), a facsimile, edition, translation, and commentary of *Secrets de l'Histoire Naturelle*.