The practice of copying in making knowledge in Early Modern Europe: an introduction

SIETSKE FRANSEN AND KATHERINE M. REINHART

Abstract Though the study of copying, imitation, forgery, and reproduction have a long lineage in the history of art, this special issue, and its introduction, seek to investigate the role of copying texts, and especially images, in the process of making new knowledge in the Early Modern period. By looking at a wide variety of images produced in contexts such as artist workshops, learned societies, and publishing houses, and compared with the texts and terminologies of copying and knowledge that surround them, we are not only expanding the scope of when and where copying takes place but also, and especially, emphasizing its importance to the process of creating knowledge. Copying—both its process and how we understand it—has not been a stable concept, and this introduction digs deeper into how Early Modern artists and natural philosophers conceived of and implemented this practice.

Keywords copying, knowledge, images, imitation, rhetoric, learning, reproduction

In December 1662, Robert Hooke undertook a study of snowflakes using his microscope, an instrument only fifty years old at the time. As part of this study he made an image of fourteen flakes, using a compass to measure precisely the spacing of the branches in pencil and a grey wash to provide contrast between the background and the transparent snowflakes (figure 1). In his drawing, Hooke carefully distinguished the subtle structural variations that composed each unique flake. He created this drawing to communicate the details of his observation to his fellow natural philosophers at the Royal Society of London. Hooke’s original drawing remains with his written paper in the Royal Society’s archives, and he published a version of the study in his famous book Micrographia (London, 1665) (figure 2). The existence of these two images in and of themselves is not surprising. What is more surprising, however, are the multiple contemporary copies of Hooke’s snowflake drawing that were made and kept in the libraries and archives of London. In fact, there are at least four manuscript versions of Hooke’s drawing within the archives of both the Royal Society and the British Library.

These copies are not mere duplicates, but were created for specific reasons tied to the creation of knowledge. For the copies in the Royal Society archives, the early Fellows ordered the image to be copied into the Society’s Register Book, showing the significance and validity of the ideas it contained. Many of the registered papers were copied again for reference and consultation in subsequent years, either in the Society’s series of copy books (figures 3 and 4), or in copies made for individual use, such as this volume in the Royal Society archives, partly copied by Hooke himself (figure 5). A volume in the British Library served a similar purpose, as it seems to have been the personal copy made for Hans Sloane, President of the Society between 1727 and 1741 (figures 6 and 7). In addition, the copies are not identical. The spacing and arrangement of the figures vary in each instance, and in some cases a darker black ink is used for the background. In two examples, the figures have been spaced to take up two pages. Does this make them into different images? Or will they still have the same function, despite these changes? In this curious example of Hooke’s snowflakes lie many of the questions that are at the basis of this special issue. Why were these copies made? Who made them and whom were they for? And did the process of copying change their function? Considering that Hooke created his drawing to facilitate the communication of knowledge, what relationship do these copies have to that purpose?

Though the study of copying, imitation, forgery, and reproduction have a long lineage in the history of art, this special issue seeks to investigate the role of copying texts, and especially images, in the process of making new knowledge in the Early Modern period. Therefore, this issue has deliberately brought historians of science, literature, and art into conversation. These collected articles look at a diverse array of images from the high-art paintings of Flemish artist Frans Floris to archival drawings of scientific equipment in the Royal Society. By looking at this wide variety of images produced in contexts such as artist workshops, learned societies, and publishing houses, and compared with the texts and terminologies of copying and knowledge that surround them, this issue hopes not only to expand the scope of when and where copying takes place but also, especially, to emphasize its importance to the process of creating knowledge. Copying—both its process and how we understand it—has not been a stable concept, and these articles dig deeper into how Early Modern artists and natural philosophers conceived of and implemented this practice.

Imitatio naturae versus imitatio auctorum

There is a long history of studying and theorizing copying practices. Yet, in this long history a critical distinction must be made regarding the source of the copy, namely whether the product was copied from nature or copied from a human-
made exemplar. Thinking of Hooke’s snowflakes, this would be the difference between him copying snowflakes after his microscopic observations (copying from nature) or him copying after another drawing (copying after an example or man-made original).

Copying from nature was already discussed in the classical period, for example, by the Greek philosopher Plato (fifth–fourth centuries BCE) and Roman natural philosopher Pliny the Elder (23–79 CE). In Book X of *The Republic*, Plato discussed the merits and faults of the arts as imitation of nature. In his philosophy, poetry and painting mimic nature and are, therefore, potentially dangerous in leading people even further astray from the truth and knowledge that lie in the ideal or Forms. Pliny made an even stronger connection between art and nature in claiming that the close imitation of nature should be considered the highest achievement of artistic skill. In *Naturalis historia*, Pliny recounts the famous story of the contest between the painters Zeuxis and Parrhasius, and their respective abilities to deceive nature itself with their two paintings of life-like grapes and a curtain. These two classical texts both posit that copying nature was seen as an artform, and this discussion would live on in debates about still-life painting, and the quality of capturing nature.

Copying from man-made objects, in contrast to copying from nature, became especially popular during the Renaissance, when classical art and architecture were seen as the highest forms of art. Whether literature by Cicero or buildings by Vitruvius, classical artforms were perceived as ideal, and all artists and authors in the Early Modern period strived to create the most perfect imitation. However, with the imitation of human-made examples there was a risk of strict copying without adding anything, a risk that did not exist in the copying of nature (as one can never outdo the divine creator). Put another way, a copy of a copy is one step further removed from the perfection of nature. The most important asset for a Renaissance artist was, therefore, to surpass the source of the copy, distinguishing the rhetorical categories of imitatio and aemulatio.

There was another development in the Early Modern period that makes the theorizing and interpreting of copying practices all the more crucial: namely, the invention of the printing press, and thus the introduction of mechanical reproduction of texts and images. Suddenly the process of copying became quicker and more exact than ever before. As several of the articles in this issue demonstrate, the new accessibility and reproducibility of print fueled discussions about copies and authority in this period.

Though it is perhaps natural to consider copying in the context of art and literature, copying also took place in the context of studying nature. While a long tradition of copying previous authorities existed, the Early Modern period saw an increase in the use of observation and experimentation in
combination with more traditional commentaries as ways to respond to classical authors. This meant that the categories of *imitatio naturae* and *auctorum* started to merge. While commentaries were still being written on classical texts, which...
consisted of a process of *imitatio auctorum*, Early Modern natural philosophers increasingly wrote studies based on their own observations and with them created imitations of nature, such as Hooke’s snowflakes. This merging of two forms of copying and imitation also meant that there was a shift in understanding what was the highest form of truth, and thus knowledge. Thus *aemulatio* might not be the best way of representing nature when natural philosophers wanted to discuss phenomena “true to nature.”  

It is for these reasons that the Early Modern period, with changing ideas about the role of observation in the process of natural philosophy, and at the same time changing techniques for the copying and reproducing of texts and images, forms an intriguing moment in time to investigate the effect of copying on processes of making knowledge.

The role of copying in Early Modern learning

Imitation of nature was essential in the education of artists. As the Italian painter and author of *The Lives of the Most Excellent Painters, Sculptors, and Architects* (1550–68) Giorgio Vasari (1511–74), explained:

Design is the imitation of the most beautiful things in nature in all forms, both in sculpture and in painting, and this quality depends upon having the hand and the skill to transfer with great accuracy and precision everything the eye sees to a plan or drawing or to a sheet of paper, a panel, or another flat surface, and the same is true for relief in sculpture. And then the most beautiful style comes from constantly copying the most beautiful things, combining the most beautiful hands, heads, bodies, or legs together to create from all these beautiful qualities the most perfect
figure possible, and using it as a model for all the figures in each of one’s works; and on account of this, it is said to be beautiful style.  

While nature is clearly the best example, it is the artist who can perfect nature with his or her “beautiful style” combining the most appealing examples together. For Vasari, this style of the artist consists of two parts: the ability to recognize beauty with the eye, and the skill to imitate this on a piece of paper. To improve skill, the copying of existing examples of craftsmanship held a central place in learning how to draw and paint. In the Early Modern period copying was an essential part of learning to draw, and many drawing manuals specifically aimed at teaching the disegno and maniera of a master through imitation.

Figure 5. Unknown copyist after Robert Hooke, *Figures of Snow*, 1662. Graphite and wash on paper. 333 × 239 millimeters. London, Royal Society Archives, Manuscripts General 215/039. (©The Royal Society).
This tradition continued into the sixteenth and seventeenth centuries when skill in drawing became fashionable for society gentlemen and virtuosi alike.\(^{16}\)

This exercise of learning by copying from the masters is very similar to the rhetorical \textit{aemulatio}, to imitate and perfect, which was taught at Early Modern universities throughout Europe. There, in a very different learning environment, the practice of copying was also essential to learning and to producing new knowledge. Texts that were used as the canonical, exemplary models were all classical, of which \textit{Rhetorica ad Herennium}—long thought to be authored by Cicero—was the most widespread.\(^{17}\) Rhetoric was directly used for learning to write letters and speeches, and largely consisted of the reuse and expansion of sample texts and phrases.

However, good imitation was not as easy as it might sound. Desiderius Erasmus (1466–1536) himself warned of the dangers of simple imitation. In \textit{Ciceronianus} (first published 1528), he discussed the best style for speaking and writing. Although he encouraged using Cicero as a model, he also argued that slavish copying was not the way forward. Since language and style cannot be separated from the time and community in which they are used, he argued, the classical writer Cicero might not always be the right example for the Christian period in which Erasmus was writing. Ultimately, Erasmus suggests that the correct way of copying Cicero is a delicate balance between imitation and adaptation or emulation to the appropriate, contemporary context.\(^{18}\)

Just as artists \textit{in specie} were encouraged to make copies of paintings, drawings, prints, and sculptures in their scrapbooks, university students would copy useful phrases and paragraphs into their commonplace books.\(^{19}\) Here too the practice of copying was at the basis of learning and education in the Early Modern period, both in artists’ studios as well as at universities. While copying has an already proven track record in Early Modern acquisition of knowledge, this special issue is investigating the role of copying in the process of making new knowledge.

**Copying and scientific images**

This special issue argues that copying practices were uniquely important to the conduct and communication of Early Modern natural philosophy. The copying traditions within
As the articles in this issue demonstrate, copying from life and copying from a man-made drawing or object were both central practices in obtaining, debating, and disseminating knowledge in this period. At a moment when new inventions and discoveries were being made and old ideas were being overthrown, discussions about originality, authority, and truth had greater importance than ever before. Simultaneously the new technology of the printing press made creating exact copies possible in unprecedented ways. This issue demonstrates the complex ways in which copying and imitation were used and understood in the pursuit of new knowledge.

Early Modern philosophers and artists frequently created images in the pursuit of natural philosophy. They used these pictures to record discoveries and observations and to share new ideas and inventions. In the current literature, these images are referred to by various terms (scientific illustrations, scientific images, technical images, epistemic images) and deciding on a definitive name, as well as defining their different meanings, are contentious and debated. Using the term “scientific image” has fallen out of favor as anachronistic, but “epistemic image” is equally contested. For Christoph Lüthy and Alexis Smets, the latter term refers “to any image that was made with the intention of expressing, demonstrating, or illustrating a theory.” In contrast, Lorraine Daston defines “epistemic image” as:

one made with the intent not only of depicting the object of scientific inquiry but also of replacing it. A successful epistemic image becomes a working object of science, a stand-in for the too plentiful and too various objects of nature, and one that can be shared by a dispersed community of naturalists. […] An epistemic image earns its name by translating abstract epistemological priorities into concrete pictures.

As Alexander Marr rightly points out, the contrast in their definitions belies their different concerns. Lüthy and Smets are interested in illustrating ideas, whereas for Daston (much like substitution theories discussed in the history of art) an image can only be epistemic if it not only depicts but also stands in for objects observed. Not all images in this issue fit either definition of “epistemic images” but what they do share are relationships to the communication and dissemination of knowledge, mediated through copying.

In addition to these theories, probably the most influential work regarding image copying is Walter Benjamin’s essay The Work of Art in the Age of Mechanical Reproduction. Written in 1936, Benjamin’s essay follows a Marxist tradition and analyzes the effect of mass production on the value of art. The essay studies the complicated relationship between mechanical reproductive technologies, from stamping by the ancient Greeks to film and photography in 1900, that operate faster than the human hand, to more traditional artforms such as Old Master paintings. For Benjamin, with mechanical reproduction the “aura” or authenticity of a work of art “wITHERs” – the facility with which reproductions can be made “substitutes a plurality of copies for a unique existence” and “detaches the reproduced object from the domain of tradition.” His ideas are essential to understanding the shifts of meaning and value given to the practice of copying in Early Modern Europe.

The mechanical technology introduced at this time—the printing press—had very different implications for natural philosophy. The very reproducibility at the source of Benjamin’s critical analysis facilitated the creation and transfer of knowledge. Printed texts and images meant that ideas could be circulated faster and in greater numbers than previously possible. In some cases, drawings were copied and sent in letters or recorded in personal or societal archives. Printed images, lighter and cheaper than other media, could be created, sent, and manipulated with greater ease than before. As shown by Sachiko Kusukawa in Picturing the Book of Nature, copying images was a frequent practice in the production and publication of books. Economics often drove copying practices, as woodblocks were reused by publishers for different titles or loaned or sold to other publishers, all to save on the cost of designing a new image and cutting a new block. Woodblocks, in contrast to copper plates, were very durable, meaning that the same image could resurface through reuse decades after the woodcut’s first use. This had a direct effect on the role of images in printed books, as they were often generic instead of specific, since they would be used and reused for a variety of publications.

Copying of texts and images was a frequent and widespread practice in Early Modern Europe. In visual and verbal environments copying was one of the methods used for learning. Through repetition, copying facilitated the acquisition of new information and skills in similar ways at universities and in artists’ workshops. Copying was also employed as a way to prioritize, confirm, and validate knowledge—a practice that was especially prevalent within collaborative scientific environments. Copying spurred the transmission and circulation of ideas, from making unique paintings available in multiple places to spreading printed books throughout Europe. In all these instances, the process of copying enhanced, rather than diminished, the mechanisms which produced knowledge.

The articles in this special issue bring to the fore several themes connected to practices of copying and practices of creating knowledge, such as the shifting terminology of copying, imitating, and plagiarizing, and the authority and value given to copies and originals. Another theme tracked throughout are the people involved in these processes as well as the places and spaces where copying occurred. These themes will structure the following discussion, in which the six articles are introduced.
Terminology
The connection between copies and variations is intrinsically part of the word “copy” itself, with its etymology in the Latin word “cópia,” meaning “plenty, abundance, a copious quantity.”34 As Eileen Reeves explains in her article, it took until the Early Modern period for the word copia to take on the meaning of “imitation,” or “copy” in the vernacular, and it was only then that a negative association became attached to it, as discussed by Edward Wouk.33 This negative bias towards copying as “slavish reproduction or bold theft” has affected the perception of the role of copying as well as the appreciation of copying ever since the Early Modern period.34

Thence, copying is associated with “imitation,” “mimesis,” and “forgery.” However, we should first discuss the period term “counterfeit,” which in many ways encompasses all of these terms at once. As discussed by Peter Parshall in his influential article “Imago Contrafacta” the depiction or imitation of nature is related to “the idea of the image as a statement of fact rather than as a display of invention.”35 Parshall connects this definition directly to counterfeiting, or the Latin contrafactum, which, according to him, is more about conveying information than anything else.36 As Wouk explains in his article, this term had many equivalents in vernacular European languages, and was used not only in traditional spaces of learning such as universities but also in the painter’s studio. Counterfeit was used as a verb or a noun that reflected a faithful representation, in the sense of a portrait of a person, or a portrait of nature. It could therefore mean portraying an object on paper (imitatio auctorum), and also the faithful portrayal of a painting or an image turned into another image (imitatio auctoriam). As discussed by several scholars, and most recently by Florike Egmond in Eye for Detail, counterfeits were similar to images made ad vivum, or “from life.” However, research has shown that these terms were used “for almost any situation in which a painter had simply done his best to render a plant or animal accurately.”37 The key in all of this is that “the draughtsman offers his testimony as a witness to an episode or the nature of an artifact unverifiable by other means,” as Parshall helpfully determines.38 Thus, the counterfeit represents something else, for which artists stand witness that they have seen themselves; however, the term does not specify that they have seen this object alive. This term shifts in its meaning and associations. As Anita Guerrini discusses in her contribution to this issue, the artist Sébastien Leclerc worries that the fellows of the Académie royale des sciences in Paris would see him purely as a “counterfeiter,” as someone slavishly copying, and thus without his own artistic input. Leclerc, therefore, according to Guerrini, worked against this assumption by actively showcasing his creativity and skills as an engraver, and by reorganizing elements in his images. In Elizabeth Yale’s article, we see the term counterfeit is not only associated with this form of strict copying in seventeenth-century England, but also used to describe the illegal copying of Nicholas Culpeper’s medical work. Culpeper, and after his death his widow Alice, explained carefully to readers how they could differentiate between the certified print of his work and its counterfeit; the latter must not be trusted.

Though the term “counterfeit” is more about conveying information than anything else, Parshall contrasted the term “counterfeit” with “mimesis” for the late medieval period, where the former represents an exactness and cleverness expressed by the artist; the latter resonates with Plato’s conviction that an artist is always just an imitator. As the articles in this special issue highlight, these meanings and their associations continued to change throughout the sixteenth and seventeenth centuries.

Spaces and media
The forms and media of copied images, as well as the spaces where copying practices took place, were diverse and varied. Physical copies were painted on canvas, drawn on paper, carved out of woodblocks, and etched into copper plates. The process of copying often transferred across media, and in the Early Modern period this transfer occurred particularly from manuscript to print, as elucidated in this issue by Yale.39 In addition, some forms of copying were dependent on the medium or technique, as we see in Guerrini’s article where copying takes place between the different states of an etched image, a process unique to intaglio printing methods.40 In fact, the development of printing processes in the Early Modern period had a profound effect on the reproduction of images.

The exact nature of the print revolution has been debated, but whatever effect it had on textual traditions, it had equal bearing upon printed images.39 Through the creation of relief woodcuts and intaglio copper plates, images were able to circulate in what William Ivins, Jr. has notoriously called “exactly repeatable pictorial statements.”41 For Ivins the development of repeatable visual statements was the most significant contribution to human knowledge since the invention of writing.42 This argument, expanded by Elizabeth Eisenstein and Bruno Latour, placed central importance, for the development of Western civilization, on the ability to copy images mechanically.43 Though the impact of mechanical printing on image creation cannot be dismissed, the changes that Ivins claims resulted from this development were not as straightforward as they might seem. Dániel Margócsy directly challenges Ivins on his presumption of the exact repeatability of printed images. As Margócsy emphasizes, the famous De humani corporis fabrica (Padua, 1543) by the Flemish physician Andreas Vesalius was reprinted countless times, and the images accompanying the text remained anything but static. As generations of new readers engaged with the text, their corrections and annotations prevented Vesalius’s woodcuts from maintaining a fixed meaning over time. In another way, the stability of print is challenged by Guerrini, who shows that an iconic print, Sébastien Leclerc’s L’Académie des sciences et des beaux-arts, was actually built up over time in many states. Thus, Leclerc’s image can be better understood as a layered palimpsest rather than an unchanging, and definitive, image.
In addition to its presence in a wide range of forms and media, copying also took place in a wide range of spaces. David Livingston has argued that the geography and the location where science takes place influence the content and conduct of the knowledge produced; we contend that the same holds true for copying practices. For example, in the artist’s workshop, apprentices and artisans copied master paintings as a way of learning the skills needed to become masters themselves. In the meeting rooms of the Royal Society, clerks and scribes copied texts and images into administrative books, partly to maintain institutional memory. And in the printer’s workshop, block cutters, engravers, and typesetters copied texts and images into printed volumes, such as those of Nicholas Culpeper and Andreas Vesalius or the folio pages of Leclerc, for the publication and circulation of the knowledge kept in these books. These disparate spaces of copying emphasize the diverse practitioners: copying was not merely a scribal practice or an artistic one, but it was conducted by natural philosophers, authors, artisans, and printers, both famous and unknown.

Authority and (in)visibility

Be it the authority of nature or an Old Master painting, the original is seen as holding the authority of the truth or invention it contains. However, the articles in this issue show that where authority lies and how it is bestowed are much less straightforward. As Sietske Fransen, Katherine Reinhart, and Sachiko Kusukawa demonstrate in their collaborative article, the Fellows of the early Royal Society decided to copy an image into their official Register Book only when they had collectively agreed that the invention or observation, such as Hooke’s snowflakes, had the merit to be preserved. In this way it was the copied image that conveyed the authority of scientific vetting by the Fellows of the Society. In this instance, it is exactly the act of copying that gave this status to the copied image—a status of greater authority than the original.

However, in most instances the original maintained its supremacy. In Yale’s article the “perfect true copy” refers to the manuscript originals as “certified by the web of relationships, the named individuals, through which they were produced.” In this case it was the original manuscript that maintained the authority, even after a printed copy was made. The same principle is at work in the art studio of Frans Floris in the sixteenth-century Low Countries discussed by Wouk. In all these cases, authorship and agency are of immense importance. While the authors of a work of art or manuscript imbued the original with the most value, it is the collective witnessing that happened in the Royal Society and the Académie des Sciences that gave authority to the copy, the counterfeit, by collective agreement on the observed phenomenon.

While all images made by artists can potentially be judged on their quality of representation and thus the quality of the counterfeit, Reeves discusses the problems and questions that arise around images that are produced by a \textit{camera obscura}. The copies discussed so far were man-made, even if these were mechanical copies of a copper plate, while the \textit{camera obscura} produced a “fiction of naturalized copies without unique originals.” By using a tool such as the aperture in a \textit{camera obscura}, viewers themselves doubt their authority in seeing, rather than doubting the copyist, since no person is involved in the process. Thus, this pivots the discussion about authority from lying either in the original or the copy to a discussion about the nature of seeing, and the authority of vision.

As is clear from the previous discussion, the people involved give authority to objects and images. However, the process of copying involves many invisible participants, who are not credited, often even discredited for the work they did. Most clearly shown in the article by Yale, we see how women were involved in the process of granting authority and witnessing. In Yale’s first example, Alice Culpeper, widow of the medical practitioner Nicholas, was responsible for authorizing the manuscripts of her late husband as true, so that they could be printed and accepted as the authoritative texts. In Yale’s second example, Valentine Greatrakes uses his wife Ruth as a witness of his miracle cures, even though her name never appears in print. Margócsy’s article shows the clear opposite with the many copies that were made of Vesalius’s images. It is the name and authority of the famous medical author, rather than the printer or artist who created the actual reproduction, that stays with the work, even when the work changes and is altered in the process of copying.

As has been discussed by Steven Shapin and many scholars since, the “invisible technician” or the “invisible laborer” is usually involved in the process of producing scientific outputs or works of art. However, it is not always straightforward to understand who were the active copists in the process. Wouk makes clear that in the Early Modern period it became the hand of the master (in this case Floris) as a \textit{pars pro toto} for the most important person to determine the value of the work. It was the hand of the master that was credited, even when the names of the copyists were known. Yet, these identifiable men were only a few of the many more workshop assistants who made the copying process possible in the first place. The same applied to the practices at the Royal Society. Even though the collaborative act of agreement on an observation gave authority to the copies made in the Register or Letter Book, it was actually often an unnamed clerk who physically made the copy. These examples all underscore how copying was strongly connected to authority and authorship. But it is precisely authorship that becomes a slippery concept when discussing copying practices.

Conclusions

Despite our simple use of the term “copying” throughout this introduction, the period terms are far more varied and diverse, and continuously shift meanings. Concepts and
their linguistic variations such as “counterfeit” and “imitation” are part of the same cluster of words as “copy” and “copia,” describing practices of replication in Early Modern Europe. The shifting meanings of these words and concepts also came with changing associations. In some cases, it was of great importance that the copy resembled the copied object as closely as possible, for example, in counterfeiting nature, or the printing of an authorized manuscript text. A counterfeit in this context meant the best possible copy. However, a counterfeit could also be a negative term when used to describe an illegally produced copy of a text or image.

“Copying” and its related practices were not a localized phenomenon. The articles in this special issue analyze a range of copying practices in England, France, Italy, the Low Countries, and the German lands. In each case, despite differences in geography, terminology, and context, copying contributed positively to knowledge creation and transfer. From contemporary debates discussed in the articles, it has become clear that the historical actors were highly aware of the positive and negative associations of copying practices. Thus, taken collectively, these articles demonstrate that copying, in its various guises, was neither an isolated nor an assumed practice. The diverse and nuanced practices of copying used in the Early Modern period were a European-wide phenomenon contributing to knowledge in verbal and visual forms.

We have brought together an interdisciplinary set of authors, each of whom has written on a specific moment when copying practices intersected with the acquisition and dissemination of knowledge. While the copying of visual material has been central to the investigations of many of the authors, the visual material is always discussed in relation to texts. This resulted in an article discussing the changing terminology around the copied paintings by Floris in the sixteenth-century Low Countries, on the one hand, and an article showing the clear preference throughout the seventeenth century for copying the text over the images in Vesalius’s Fabrica, on the other. Both these articles and the four in between show how the investigation into the duplication of text and image together give one a much better understanding of the decisions made in the Early Modern period to appreciate or discredit the value of copying.

Our multidisciplinary approach to the questions surrounding the role of copying in knowledge production in Early Modern Europe has revealed that artists and natural philosophers had very similar discussions about imitation and authority. However, their answers to these discussions differed. For the buyers of Floris’s paintings, the authority lay in the original; for the Fellows of the Royal Society, the image copied into their administrative books gained authority. Discussions about the value of copies were happening simultaneously, but received very different answers. While there was an increase in monetary value for an author whose book was printed and sold (even if the authority of the text remained with the original manuscript), a painter might not be the one to profit from the copies made of his or her original artwork. While the histories of copying word and image have almost always been studied separately, this special issue demonstrates the need to put these literatures in conversation, as images and texts rarely exist in isolation and similar issues apply to both.

ACKNOWLEDGEMENTS
This introduction was written as part of the Arts and Humanities Research Council of the UK (AHRC)-funded project “Making Visible: the visual and graphic practices of the early Royal Society,” (Grant Reference: AH/M001938/1). Our thanks go to Felicity Henderson, Sachiko Kusukawa, Alexander Marr, and in particular José Ramón Marcáida for commenting on an earlier version of this introduction. Our special thanks to Katherine Marshall of the Royal Society for her help sourcing the images, and to our project administrator Judith Weik for her support of this issue as a whole.

ORCID
Sietske Fransen http://orcid.org/0000-0003-3827-7585
Katherine M. Reinhart http://orcid.org/0000-0003-0804-2259

NOTES
1 – Thomas Birch, The History of the Royal Society of London for Improving of Natural Knowledge, 4 vols (London: printed for L. Davis & C. Reymers, over against Gray’s Inn, Holborn, Printers to the Royal Society, 1760), 1: 154.
2 – For a detailed study of copying practices in the early Royal Society, see the article by the editors and Sachiko Kusukawa in this issue: Sietske Fransen, Katherine M. Reinhart, and Sachiko Kusukawa, “Copying images in the archives of the early Royal Society,” Word & Image 35 no. 3 (2019): 256–276.
3 – For two influential works from about a decade ago, see Maria H. Loh, Titian Remade: Repetition and the Transformation of Early Modern Italian Art (Los Angeles: Getty Research Institute, 2007); and Christopher Wood, Forgery, Replica, Fiction: Temporalities of German Renaissance Art (Chicago: University of Chicago Press, 2006). For a more recent study, see Maddalena Bellavitis, ed., Making Copies in European Art 1400–1600: Shifting Traits, Modes of Transmission and Changing Contexts (Leiden: Brill, 2018).
4 – For some recent studies on the Early Modern connection between making and knowing, see the ongoing project of Pamela Smith at Columbia University (https://www.makingandknowing.org); and Pamela H. Smith, Amy R. W. Meyers, and Harold J. Cook, eds, Ways of Making and Knowing (Chicago: University of Chicago Press, 2017).
5 – Plato, The Republic, ed. G. R. F. Ferrari, trans. Tom Griffith. Cambridge Texts in History and Political Thought (Cambridge: University of Cambridge Press, 2013), 322; Christopher Janeway, Images of Excellence: Plato’s Critique of the Arts (Oxford: Clarendon, 1998).
6 – On Pliny and his story about Zeuxis and Parrhasius, see, for example, John Francis Moffitt, Caravaggio in Context: Learned Naturalism and Renaissance Humanism (Jefferson: McFarland, 2004), 90–94.
32—“copy, n. and adj.,” OED Online, Oxford University Press, http://www.oed.com/view/Entry/41299?rskey=obyuJV&showThePage=41299 (last modified March 2018; accessed August 5, 2018). For a cultural reflection on copying and abundance, see Marcus Boon, In Praise of Copying (Cambridge, MA: Harvard University Press, 2013), 47–76.

33—For the development of the use and associations of the word “copy” in sixteenth-century Dutch, see the article by Edward Wouk in this issue: Edward H. Wouk, “From Nabedel to Kopie: The after-image and the Copy in Early Modern Netherlandish Art,” Word & Image 35 no. 3 (2019): 235–242.

34—See the article by Eileen Reeves in this issue: Eileen Reeves, “The Original Copy Shop: Eclipses and Exemplars,” Word & Image 35 no. 3 (2019): 296–314.

35—Peter Parshall, “Imago Contrafacta: Images and Facts in the Northern Renaissance,” Art History 16, no. 4 (1993): 554–79, at 555.

36—Ibid.

37—Egmond, Eye for Detail, 94–95.

38—Parshall, “Imago Contrafacta,” 565.

39—The opposite movement, copying from print to manuscript, also happens and should not be underestimated; e.g. Egmond, Eye for Detail, 11–12.

40—See Anita Guerrini’s article in this issue: Anita Guerrini, “Counterfeit Bodies: Sébastien Leclerc, Anatomy, and the Art of Copying at the Paris Academy of Sciences,” Word & Image 35 no. 3 (2019): 277–295; Ad Stijman, Engraving and Etching 1400–2000: A History of the Development of Manual Intaglio Printmaking Processes (Amsterdam: HES & De Graaf, 2012).

41—See n. 20.

42—Ivins, Prints and Visual Communication, 1.

43—Ibid., 3.

44—Eisenstein, The Printing Revolution; Bruno Latour, “Visualisation and Cognition: Drawing Things Together,” in Knowledge and Society: Studies in the Sociology of Culture Past and Present 6, ed. H. Kulluck (Greenwich: Jai, 1990), 1–40; See also Dániel Margócsy in this issue: Dániel Margócsy, “From Vesalius through Ivins to Latour: Imitation, Emulation and Pictorially Repeatable Statements in the Fabricea,” Word & Image 35 no. 3 (2019): 315–333.

45—David Livingstone, Putting Science in its Place (Chicago: University of Chicago Press, 2004), 1.

46—See the article by Elizabeth Yale in this issue: Elizabeth Yale, “The Perfect True Copy: Manuscript as Evidence in Seventeenth-Century Vernacular English News and Medical Books,” Word & Image 35 no. 3 (2019): 245.

47—See Reeves in this issue: Eileen Reeves, “The Original Copy Shop,” 300.

48—Steven Shapin, “The Invisible Technician,” American Scientist 77, no. 6 (1989): 554–63.

49—For more on artist studio traditions in different national contexts, see Christine Gottler, “Vulcan’s Forge: The Sphere of Art in Early Modern Antwerp,” in Knowledge and Discernment in the Early Modern Arts, ed. Sven Dupré and Christine Gottler (London: Routledge, 2017), 52–87; Christina Gattringer, “17th-Century Antwerp Artists’ Studio Practice: Rubens and his Circle: An Interdisciplinary Approach in Technical Art History” (PhD diss., University of Glasgow, 2014); Carmen C. Bambach, Drawing and Painting in the Italian Renaissance Workshop: Theory and Practice 1400–1600 (Cambridge: Cambridge University Press, 1999); David Saunders, Marika Spring, and Andrew Meek, The Renaissance Workshop (London: Archetyp, 2013); Brenda G. Jordan and Victoria Weston, Copying the Master and Stealing his Secrets: Talent and Training in Japanese Painting (Honolulu: University of Hawaii Press, 2003); Irina Tatarinova, “The Pedagogic Power of the Master: The Studio System at the Imperial Academy of Fine Arts in St. Petersburg,” The Slavonic and East European Review 83, no. 3 (2005): 470–89.

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