its various architectural expressions, with reference to the relevant art historical literature.

The next chapter returns the reader's gaze to the historical developments that shaped Shajar al-Durr's brief sultanate. Ruggles's ability to transform the complex political maneuvering that ended Salih's rule into a gripping succession drama is sheer expository alchemy. While this engaging account can sometimes read like a suspense thriller, Ruggles resists the temptation to sensationalize the events. Rather, owing to her mastery of the difficult art of narration, this is gripping stuff! Explanatory digressions provide cultural context: for example, Ruggles expands on the concept of kingship in medieval Islamic societies. She identifies as the most explicit signs of authority the invocation of the ruler's name on local currency and in the weekly Friday sermon (*khutba*), and then examines how Shajar al-Durr deployed such instruments to her advantage.

Ruggles returns to architectural analysis in the following two chapters, focusing on the mausoleum that Shajar al-Durr built for Salih at his madrasa complex and the funerary complex that she later constructed for herself. The construction of the mausoleum not only transformed the madrasa into a funerary complex but also led to the further encroachment of the madrasa into the thoroughfare. Drawing on a brief excursus into commemorative architecture in Islam, Ruggles analyzes the implications of patronage of mausoleums by females, demonstrating that Shajar al-Durr, as a childless widow and former slave, had much to gain by publicly honoring her late husband in this fashion. Ruggles further demonstrates how the prime location of this madrasa-cum-funerary complex at the heart of the Fatimid-era walled city contributed to the mausoleum's success. Ultimately, by experimenting with this new type of architectural ensemble in Cairo, Shajar al-Durr introduced what would become the most iconic typology of Mamluk architecture. As Ruggles notes, "Earlier tombs had achieved the feat of commemoration and semiotic representation as solo structures, but from Salih's tomb onward, it was the urban placement of the tomb, its extraordinary visibility, and its aggrandizement as a defining element in a larger commemorative complex—guaranteed by its function to be full of people—that became the new paradigm" (101).

Having immersed the reader in thirteenth-century Cairo, Ruggles brings us up for air, as it were, in her introduction to the next chapter, where she writes, "From Ibn Wasil and Barhebraeus to modern Cairo's taxi drivers and this writer, the role of gender has complicated the way that we understand the political struggles of mid-thirteenth-century Egypt" (106). It is this chapter that features Shajar al-Durr's demise, as well as the study of her own funerary complex (originally much more expansive than what survives today) and the circumstances surrounding its commission. By contextualizing the mausoleum's extant decoration, Ruggles persuasively reclaims its spectacular glass mosaic mihrab—in which Shajar al-Durr's moniker is translated literally into a pictorial depiction of a tree of pearls—as part of the former queen's original commission, putting to rest the notion (asserted by a long chain of scholarship, including my own) that it dates to a later restoration.

The book concludes with a chapter titled "Matronage" that brims with thought-provoking insights. Here Ruggles returns again to the first-person voice to ponder broader questions about how to approach the study of women in history. With the closing of this chapter, the reader experiences the ambivalent sensation of having just attended a brilliant symposium where all manner of big ideas have been bounced around: at the same time that one is exhilarated by fresh, inspiring perspectives, one is sad that it is over. How delightful, then, to turn the last page to discover an appendix with a recipe for the delicious Egyptian dessert traditionally associated with the story of the sultan-queen, Shajar al-Durr!

This book is written for a wide audience, with glosses of Arabic-language terms and careful definitions provided throughout. Understandably, Ruggles steers clear of the kind of academic jargon and scholarly squabbles that might prove tedious for nonspecialists. And yet she manages to convey the faulty logic that has inhibited a clear-eyed reckoning of Shajar al-Durr's role in history and architecture by demonstrating the catch-22 frequently encountered in the study of women in history. That is, scholars have regarded Shajar al-Durr as too exceptional, too briefly holding power, or too lacking in agency to merit dedicated research. Alternatively, she has been too popularized to be considered suitable for serious study (an irony that the author is quick to point out). Thanks to Ruggles's remarkable capacity to make this material accessible, *Tree of Pearls* is both an invaluable cross-disciplinary teaching tool and fascinating reading for anyone interested in learning more about Islamic art and architecture, women in medieval history, or the city of Cairo. That said, the book is also a must-read for specialists, not only because of its contribution to ongoing scholarly debates within the Islamic art specialization but also because it is an exemplar of an ongoing desideratum in the field, as a monograph that treats individual patrons, buildings, and objects in ways that cut across modern boundaries, disciplines, theoretical perspectives, and history itself.

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Dario Donetti and Cara Rachele, eds.

Building with Paper: The Materiality of Renaissance Architectural Drawings

Turnhout: Brepols, 2021, 176 pp., 60 color and 30 b/w illus. $111 (cloth), ISBN 9782503591186

One century ago, Alfonso Bartoli published the sixth and final installment of *I monumenti antichi di Roma nei disegni degli Uffizi di Firenze* (Rome, 1914–22), a project monumental in scope, size, and subject. The series reproduces more than nine hundred drawings of ancient Roman architecture in photographic facsimile plates and surveys the Uffizi's enormous collection of architectural drawings from the Renaissance to the eighteenth century. Thomas Ashby, one of the first scholars to use photography to study and publish architectural drawings, predicted in 1911 that this technology would usher in a new era of research—a prognostication that proved correct.[1] Today questions about drawings and their relationship to building continue to animate the field of Renaissance architectural history. The issue of a drawing's physical support, in particular, connects the six essays of *Building with Paper: The Materiality of Renaissance Architectural Drawings*. Edited by Dario Donetti and Cara Rachele, two scholars who trained in the architectural drawings collections

of the Uffizi, the volume is both a descendant of Bartoli's massive work and a reaction to it.

Because *I monumenti antichi* is so physically imposing, daunting in scale, and relatively rare even in academic art libraries, it is easy to forget that its publication represented a democratizing achievement made possible by a new medium. The facsimile series opened the Uffizi's drawings cabinet to anyone who could find its giant cartons of heliotype plates (and lift them), and its contents made it possible to compare sheets dispersed among far-flung collections. Bartoli's method was egalitarian in another sense as well, as he decided to include drawings even if he could not identify their artists or locate their subjects. Photography enabled a new level of accessibility and comprehensiveness: as pictures became the primary means through which scholars encountered architectural drawings, the medium also encouraged interpretive methods that focused on drawings primarily as images. And yet the essayists of *Building with Paper* resist such methods by emphasizing aspects of sixteenth-century Italian drawings that, in many cases, are not entirely visual.

In their joint introduction, Donetti and Rachele explain that they will excavate "the layered history of drawn sheets in order to uncover the temporalities hidden within them" and consider "paper in response to other materials, either evoked or emulated" (15). It may seem paradoxical, then, that a digitization project helped to spawn this book, because digitization eliminates material supports. Donetti, Rachele, and several of their contributing authors gained firsthand experience with Italian Renaissance drawings by participating in the Euploos project, the ongoing effort to digitize the holdings of the Gabinetto dei Disegni e delle Stampe at the Uffizi.[2] As Michael Cole has observed in a trenchant essay, the material turn in art history can be understood as an effect of photography.[3] *Building with Paper* sits squarely within broader historiographical trends.

The first essay in the book, Morgan Ng's "'An Impression Made on the Ground, Either in Dust or Paste or Snow': Mediums of Architectural Drawing at the Dawn of Paper-Based Design," provides a preamble by covering the various ways Renaissance architects and some of their predecessors made drawings without paper. The author discusses tracing floors and other surfaces where builders made marks as evidence of processes in which the visualization of a design cannot be neatly separated from its construction. In another example, he describes ropes used as guides as another means to translate ideas into form. Ng also notes several cases of building ornamentation that contain representations of the buildings themselves, including stone decorations that amount to full-size tracings or projections of three-dimensional building elements.[4]

Full-size tracing is the central theme of the fascinating essay by Jonathan Foote, "The Authorial Dimension of Paper in Early Modern Architects' *Modani*." Foote argues that although the use of templates to guide construction is an ancient practice, the introduction of paper templates in late quattrocento Italy had broad implications. Paper allowed template production to occur far from the building site—differentiating it, for example, from the tracing floor. Foote cites sources that attest to the use of templates cut from tin and demonstrates how paper expanded the possibilities of template making. He argues that this expansion gave the architect greater control of construction, because templates (or *modani*) enabled a tight connection between intellectual authorship of architectural details and their physical manufacture. With the introduction of paper, templates could be used as legal specifications, for example. That many templates have been preserved also suggests their perceived art historical value even at the time of their making, and Foote draws an evocative analogy between such preservation and the preservation of painting cartoons long after the practical use of these cartoons had expired.

Dario Donetti takes up the issue of "traveling drawings"—that is, drawings intentionally created to be sent by mail. His engaging essay "Into the Fold: Drawings on the Move from the Sangallo Archive" brings together two recent scholarly trends—art historical interest in epistolary correspondence and studies of institutional archives and the mechanisms of bureaucracy—and applies them, unusually, to Renaissance architectural history. A specialist on the Sangallo family of architects and sculptors (among many other topics), Donetti introduces the reader to the family's vast extant corpus of architectural drawings. He demonstrates how the organizing processes used to archive these drawings, as well as other drawings related to the complex building site of St. Peter's, developed out of papal bureaucracy. Donetti closely reads a few sheets to show what individual marks reveal about how drawings entered and also left the archive. His scholarship offers a model for how annotations, fold lines, and other archival traces can be used to narrate the object lives of architectural drawings.

The Sangallo archive also provides fodder for Cara Rachele's essay "*Spolia*, *Imitatio* and Detail Drawings in the Circle of Antonio da Sangallo the Younger," which examines the relationship between stone *spolia* fragments and detail drawings. Rachele unravels the connections among several sixteenth-century architectural sketchbooks—a notoriously difficult subject to navigate—and writes with nuance about the subtle differences between drawings of similar capitals and cornices. She argues against a conventional view of Renaissance architectural drawing that presents the period as an ever-advancing march toward precision and orthography, noting that architects in fact often chose to copy older drawings, consciously mimicking their style.

In his illuminating essay "The Use of Architectural Paper Models in Medici Florence," Giovanni Santucci analyzes sixteenth-century Italian drawings using a novel method. He explores *modelli di cartone*, a period term for drawings that depict a building's walls, floors, and ceilings as what Santucci calls "adjacent edge-joined orthographic elevations" (106). To illustrate his essay, Santucci photographed reproductions of original drawings that he cut and folded to create models as he imagines the drawings' artists must have intended their sheets of paper to be used, employing a low-tech procedure to generate highly effective results. Santucci notes the high number of such paper models he has found from architects working in Tuscany under the Medici and considers why this method became a preferred one in that context. He hypothesizes that the patronage system was responsible for the rise in use of *modelli di cartone* because the models offered an efficient and impactful way for architects to involve their projects' sponsors in the design

process. *Modelli di cartone* gave patrons the means to exercise the "judgment of the eye," as Michelangelo had advocated. Yet the very question of context could be expanded: Santucci's procedure prompts one to ask, in addition to why Tuscan architects used so many paper models, who else used them too? Other paper models are surely hiding in plain sight.

In the final essay, "Mixing Media in Late Sixteenth-Century Florentine Architectural Design," Victoria Addona moves away from *disegno*, and its attendant focus on lines, to examine color in architectural drawings. She addresses a sequence of designs for the façade of Santa Maria del Fiore, arguing that "the mass of architectural drawings that were sketched, colored, tinted, highlighted in red and black chalk, smeared with ink, pasted, and transferred to façades, call attention to architecture's range of expressive features" (142). Here, as well as in the volume's other essays, a generous program of illustrations helps to make the case. *Building with Paper* also includes a compact but judicious bibliography that provides an introduction to the wider field of scholarship on Renaissance architectural drawings, as well as a short preface by Alina Payne and an epilogue by Marzia Faietti.

Building with Paper is a tightly crafted collection of essays about sixteenth-century Florentine architectural culture examining the impact of one medium—paper—on multiple dimensions of practice. The book demonstrates how thoroughly and effectively the material turn, itself prompted by the introduction of another technology and accelerated by the elimination of paper, has been absorbed into our own culture of architectural history. Where to go next? The lessons of an adjacent field, that of ancient architectural history and archaeology, may prove instructive. Since Lothar Haselberger published his landmark discovery of the incised drawings on the Temple of Apollo at Didyma in the 1980s, that field has been invigorated by a generation following his lead.[5] Scholars have uncovered more than 130 Greek and Roman construction drawings spanning forty building sites across the greater Mediterranean world.[6] Several of the essays in *Building with Paper* refer to drawings that do not use paper at all. The next phase of scholarship on Renaissance architectural drawings might incorporate the wealth of tactics developed by ancient archaeologists and historians for finding construction marks on building surfaces. This line of inquiry turns the building into its own archive.

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Notes

1. Thomas Ashby, "Review: Codices e Vaticanis Selecti Photoypice Expressi, Volumen XI," *Classical Review* 25, no. 6 (Sept. 1911), 173–75.
2. See Euploos, Gabinetto dei Disegni e delle Stampe, Le Gallerie degli Uffizi, https://euploos.uffizi.it (accessed 21 July 2022).
3. Michael Cole, "The Cult of Materials," in *Renouveau et invention: La sculpture à travers ses histoires matérielles*, ed. Martina Droth and Sébastien Clerbois (Oxford: Peter Land, 2011), 1–15.
4. Contrary to the sources cited by Ng, the floor of Philibert de l'Orme's chapel of the Château d'Anet is not an orthographic projection of its ceiling, as Sara Galletti demonstrates in her recent article "Philibert de l'Orme's Dome in the Chapel of the Château d'Anet: The Role of Stereotomy," *Architectural History* 64 (2021), 253–84.
5. For a précis, see Lothar Haselberger, "The Construction Plans for the Temple of Apollo at Didyma," *Scientific American* 283, no. 6 (1985), 126–32.
6. For an essential compilation, see Jeanne Capelle, "Les épures du théâtre de Milet: Pratiques de chantiers antiques," *Bulletin de Correspondance Hellénique* 141, no. 2 (2017), 769–820.

Laura Fernández-González
Philip II of Spain and the Architecture of Empire
University Park: Pennsylvania State University Press, 2021, 240 pp., 45 color and 42 b/w illus. $94.95 (cloth), ISBN 9780271087245

In *Philip II of Spain and the Architecture of Empire*, Laura Fernández-González undertakes a study of architecture and ceremony during the reign of Spanish Habsburg king Philip II (1556–98). Early in this period, in 1561, Madrid became the permanent seat of the Spanish king and his royal court, as well as the site of the councils entrusted with the administration of the vast Spanish Empire. The book is composed of an introduction, four chapters, and an epilogue. The first chapter, titled "'A World, an Empire, under Construction': Domestic Architecture and Spanish Imperial Authority," offers an overview of the changes proposed to transform Madrid's urban landscape into a space fit for the royal court of a powerful monarch, the legislation aimed at improving the design and construction of the city's housing stock after the royal court permanently settled there, and the extent to which many of the desired improvements to Madrid's urban fabric went unrealized during Philip's lifetime.

In 1540, Philip's father, Emperor Charles V, established an archive for royal documentation in a fortress in Simancas, a town outside Valladolid. Chapter 2, "Ruling an Empire through Paper: Architecture and the Simancas Archive," documents the architectural transformations of this original archival space during Philip II's reign. Under Charles V, the archive had been housed in a small room in one of the castle's towers. As the Spanish Habsburg domains grew in complexity and size, so did the volume and diversity of their documentation, creating the need for a new archive. As pressure to accommodate the growing volumes of royal paperwork mounted, construction of an additional chamber was undertaken in 1567. Beginning in 1570, Philip II envisioned a major expansion of the archive in Simancas, and newly designed spaces, specifically planned to meet the needs and functions of the institution, were built in the periods 1571–88 and 1589–98, transforming the fortress into one of the great European royal archives, now, as Fernández-González describes it, with a "Renaissance sensibility" (79). Floor plans, elevations, and other visual materials provide details of what the architects and the king proposed for this new archive—which entailed vast structural and spatial transformations of the existing building—and illustrate the significance of these changes. Comparisons with older, well-established royal archives, like that at the Torre do Tombo in Lisbon, which dates to the 1370s, demonstrate the influences of those archives on some of the changes implemented at Simancas.

In 1581, King Philip II of Spain became King Philip I of Portugal, marking the beginning of the Iberian Union, which lasted until 1640. In chapter 3, "The Global Empire and Its Circulations: Philip II and the Iberian Union," Fernández-González analyzes the ceremonies surrounding Philip I's royal entry into Lisbon in 1581, examining contemporary chronicles of this event as well as various images (prints, paintings, drawings) dealing directly