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Digital Tools and the Pedagogy of Early Medieval Visual Culture

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At the beginning of the twenty-first century, Byzantine art historian Robert Nelson reflected upon the pedagogical work that supports the discipline's most venerable tradition: the slide lecture.² In his article, Nelson described the art history slide lecture as a "performative triangle consisting of speaker, audience, and image" that was in danger of being "digitized into oblivion."³ Nearly two decades later, Nelson's predictions have come true as the clicking sound of advancing photographic slides has given way to the eerie silence of the PowerPoint presentation.⁴ For some art historians, there is a fear that this transformation from physical slides to digital images could lead to a less personal, more mechanical educational experience. In what follows, I discuss

¹ I would like to thank Dr. Bradley Hostetler and Dr. Sarah Blick for their invitation to contribute to this important volume of *Peregrinations*. Thank you, also, to all of the undergraduate students who participated in my Early Medieval Visual Culture course at Temple University's Tyler School of Art in Fall 2017. Given the collaborative nature of digital methodologies, I would like to extend my thanks to the graduate students and staff of Temple University's Digital Scholarship Center, especially its academic director Dr. Peter Logan, librarian and coordinator Matt Shoemaker, and CLIR Postdoctoral scholar Dr. Jennifer Grayburn. Additionally, I would like to express my appreciation to Danielle Abdon and Amy Gillette for their digital collaboration and thoughtful discussions over the past several years. Finally, I owe a debt of gratitude to my mentor and dissertation advisor, Dr. Elizabeth Bolman for her encouragement in my pursuit of art history in the digital realm.

² Robert Nelson, "The Slide Lecture, or The Work of Art *History* in the Age of Mechanical Reproduction," *Critical Inquiry* 26, no. 1 (2000): pp. 414-434.

³ Nelson, "The Slide Lecture," pp. 414-415.

⁴ For a discussion regarding the implications of this transformation on university slide collections, see Eileen Fry, "From Lantern Slides to Image Presentation Systems: A Discipline in Transition," *Indiana Libraries* 26, no. 2 (2007): pp. 15-19.

the ways in which the so-called “digital turn” in art history need not be inherently impersonal and cold. More specifically, I approach the topic from the perspective of an educator, one who seeks to enliven the art history classroom through the incorporation of new and emerging digital tools that provide students with the opportunity to foster their own sense of agency in the production and presentation of knowledge.

In the past few years, scholars have begun to address the impact digital tools have had on the discipline of art history.⁵ Through rapid advances in computing and an increase in the affordability of technology, digital tools like those used for creating digital maps and architectural reconstructions are now more accessible than ever. Additionally, with the emergence of digital humanities centers on university and college campuses across the United States and beyond, students and faculty are increasingly able to access these new technologies.⁶ Between 2015 and 2017, I had the opportunity to work in one of these collaborative spaces, Temple University’s Digital Scholarship Center (DSC), alongside fellow graduate students, librarians, humanities scholars, and technology specialists.⁷ As a result, I participated in numerous hands-on workshops and training sessions for a variety of digital tools that are now being used in the practice of digital humanities. This term, which is more of a catch-all, is most easily defined as a field in which digital tools are used to aid in the pursuit of traditional

⁵ In 2012, Diane Zorich wrote an open-access report on the intersection of digital humanities with art history for the Samuel H. Kress Foundation and the Roy Rosenzweig Center for History and New Media at George Mason University; Diane M. Zorich, *Transitioning to a Digital World: Art History, Its Research Centers, and Digital Scholarship* (2013), http://www.kressfoundation.org/research/transitioning_to_a_digital_world/. One year later, Johanna Drucker, published a useful discussion of the same topic. See Johanna Drucker, “Is there a ‘Digital’ Art History?” *Visual Resources* 29, nos. 1-2 (2013): pp. 5-13.

⁶ To date, a single comprehensive list of digital humanities centers does not exist. This is perhaps due to the rapid creation of these spaces. Although, *centerNet* provides a useful starting point (note that is not entirely up to date), <https://dhcenternet.org/>.

⁷ To learn more about the projects and resources available at the Digital Scholarship Center, see their website, <https://sites.temple.edu/tudsc/>.

humanities-oriented research questions and/or projects.⁸ Of all the tools available, I found those that facilitated digital mapping and architectural reconstruction to be the most relevant to my own work, which focuses on the built environment of the early medieval Mediterranean.

As a result of my time in the DSC, I was able to familiarize myself with mapping tools such as Google Maps, CARTO, and QGIS (Quantum Geographic Information Systems) in addition to the architectural rendering program SketchUp to create maps and digital reconstructions specific to my dissertation, “Architectural Decorum and Aristocratic Power in Late Antiquity: The *Gens Anicii*” (**figs. 1-2**).⁹ Rather than depending on pre-made maps and reconstructions that would require a great deal of contextualizing and explanation to fit my needs, the skills acquired at the DSC allowed me to create my own. Regarding architectural reconstructions, in particular, numerous examples of the appearance of Old St. Peter’s exist, both historical and modern.¹⁰ Yet, during the course of my research, I was unable to find any that included the small

⁸ There are numerous publications that seek to define the concept of “digital humanities,” a term itself that is in a constant state of redefinition as technology continues to advance. The following edited volume provides a useful overview: Melissa Terras, Julianne Nyhan, and Edward Vanhoutte, eds., *Defining Digital Humanities: A Reader* (London: Routledge, 2013).

⁹ In terms of mapping tools, I was drawn initially to the simplicity of both Google Maps and CARTO. However, after spending time working with my datasets, I found Google Maps to be limited in its capabilities and the proprietary-based model of data ownership of CARTO to be less than appealing. Therefore, I decided to learn the basics of QGIS, which is an open-source equivalent of ArcGIS, the industry standard for GIS. For more on QGIS, see my blog post “Mapping the Ancient Mediterranean with QGIS: A Quick Guide,” *Digital Scholarship Center* (blog), *Temple University*, January 31, 2017, <https://sites.temple.edu/tudsc/2017/01/31/mapping-the-ancient-mediterranean-with-qgis-a-quick-gude/> For digital reconstructions, I turned to the free version of Trimble’s SketchUp rendering software, called SketchUp Make.

¹⁰ Many of these early-modern drawings and more recent reconstructions are included in the following edited volumes: William Tronzo, ed., *St. Peter’s in the Vatican* (Cambridge: Cambridge University Press, 2005), and Rosamond McKitterick, John Osborne, Carol M. Richardson, and Joanna Story, eds., *Old Saint Peter’s, Rome* (Cambridge: Cambridge University Press, 2013).

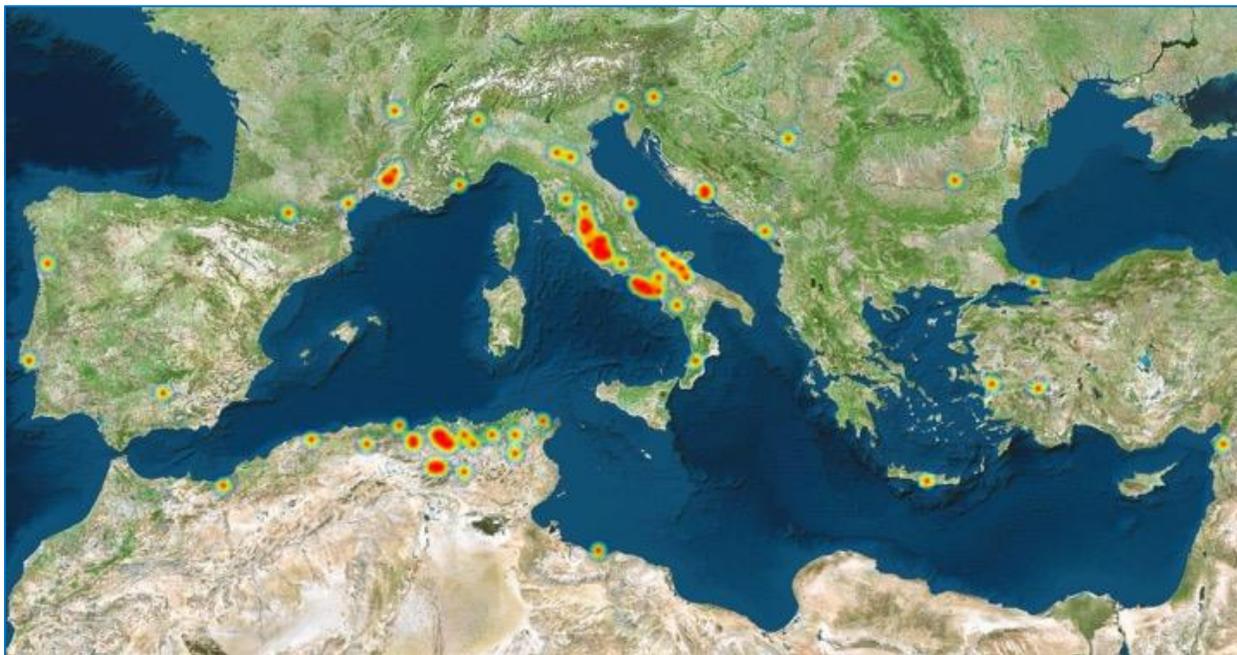


Figure 1 Anicii textual/epigraphic references, *c.* 1st century BCE-6th century CE, Heat Map: author (2016) using CARTO.

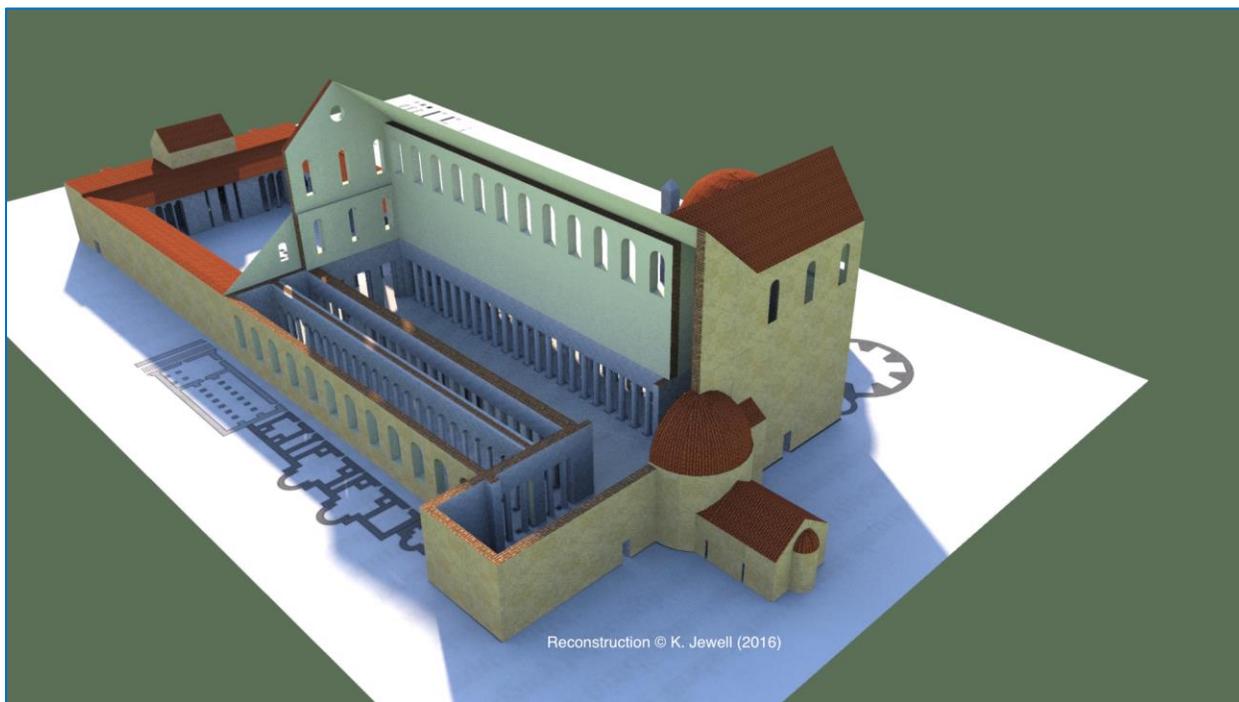


Figure 2 Old St. Peter's Basilica, Rome, *c.* 4th century, based on 16th-century plan by Tibero Alfarano. Digital Reconstruction: author (2016) using SketchUp Make and rendered with Shaderlight.

basilica-style mausoleum attached to the back of the building's apse, a monument that is central to my dissertation, which considers the architectural patronage of the Anicii family, one of the most powerful in the late antique Mediterranean. Therefore, I decided to utilize the most recently published architectural plan of the now-lost basilica that includes this relatively small ancillary structure, which, according to some scholars, served as the mausoleum for members of the Anicii family.¹¹ It is this plan, based on Tiberio Alfarano's 1590 print created during its demolition and reconstruction under Pope Julius II, that served as the guide for my SketchUp reconstruction (**fig. 2**).¹²

Upon my return to the classroom in Fall 2017, I kept this digital problem-solving in mind as I began to shape the syllabus for an upper-level undergraduate course at Temple University's Tyler School of Art titled "Early Medieval Visual Culture." I had taught the same course three years earlier during a semester in which I was also completing my doctoral comprehensive exams. Because of this, I kept the syllabus as stream-lined as possible and organized it around weekly readings and in-class lectures to prepare students for their midterm and final exams. The course culminated with a final project where students chose either an object or monument, dated anywhere between 300 and 1000, to serve as the focus of a ten-minute, in-class presentation. Although students utilized Powerpoint and not actual photographic slides, their presentations adhered closely to what Robert Nelson championed in his 2000 article.¹³ For the most part, students stood before the screen, gestured to images of monumental architecture and small portable objects, and described their various art historical

¹¹ Richard Krautheimer, "The Crypt of Sta. Maria in Cosmedin and the Mausoleum of Probus Anicius," in *Essays in Memory of Karl Lehman*, ed. Lucy Freeman Sandler (New York: Institute of Fine Arts, 1964), pp. 171-175.

¹² This plan, partially visible under my digital model, was published in McKitterick, et al, *Old Saint Peter's*, p. 18, and Tiberio Alfarano's 1590 plan is reprinted on p. 19.

¹³ Nelson, "The Slide Lecture."

underpinnings. Yet, for those students who had chosen architectural subjects, there seemed to be a disconnect between what the students were saying about the buildings and what we were actually seeing presented on the screen. It became clear to me that these students, none of whom had direct observation of the buildings in person, were still unsure about what they were presenting. This is something that had to change.

During course preparations for the Fall 2017 version of Early Medieval Visual Culture, I decided to revisit the final project, where I chose to make architecture the focus. Given the small size of my class, under twenty students, I created a list of buildings that dated between the fourth through eleventh centuries. From this list, students could choose their top three, after which I would assign them based on their preferences and interests. The goal of these projects would be to submit an annotated bibliography in addition to a short presentation that included a discussion of their building's historical context, its relationship to similar buildings discussed in class, and, most importantly, their *own* digital model of the assigned monument. Built into the course schedule, and keeping in mind the timing of their exams, I scheduled two workshops in Temple's DSC where I was able to teach them the basics of SketchUp and troubleshoot any problems they had while working on their own models. It was during these hands-on sessions that I began to see students engaging more fully with their buildings. It became apparent as I walked through the room, answering questions like, "How do I make an arch?" or "What do I do with all of these domes?" that I realized these students had moved beyond gazing upon still images of their chosen buildings to really trying to understand how they were physically constructed.¹⁴ After I helped one student, Emily Dugan, create a horseshoe-shaped arch for her reconstruction of the 11th-century church of St. Laurence in Bradford-on-Avon, she breathed a sigh of relief and began adding them to other portions of her model (**fig. 3**). Another student, Emily

¹⁴ My thanks to Emily Dugan, Emily Staats, and Hannah Wolfram for generously sharing their works-in-progress with me and allowing me to include them in the present essay.

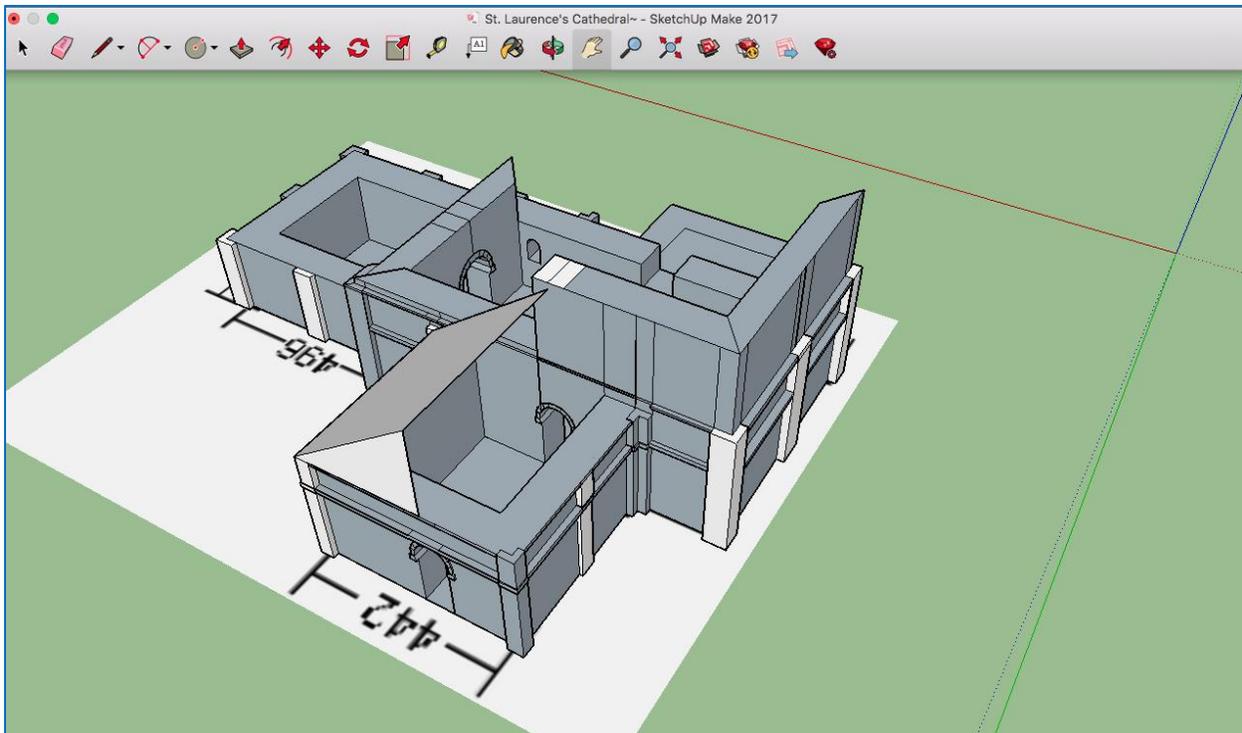


Figure 3 St. Laurence's Church, Bradford-on-Avon, England, c. 11th century. Digital Reconstruction: Emily Dugan (2017) using SketchUp Make.

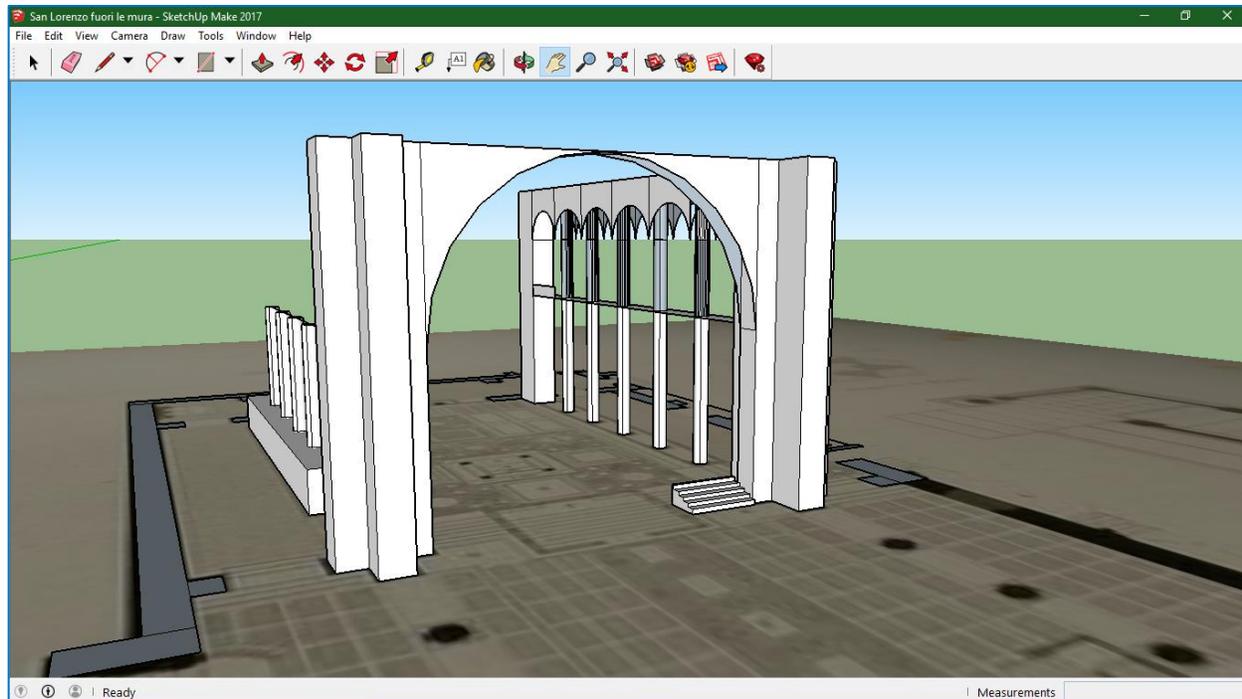


Figure 4 San Lorenzo *fuori le mura*, Rome, c. 4th-6th centuries. Digital Reconstruction: Emily Staats (2017) using SketchUp Make.

Staats, was similarly relieved after consulting with me about the interior arrangement of San Lorenzo *fuori le mura*'s complicated late antique plan (**fig. 4**).

From the beginning of the project redesign, my main goal was to provide students with the opportunity to engage fully with the architecture of the early medieval world.¹⁵ I was inspired, in part, by an undergraduate course Amy Gillette, now of the Barnes Foundation, taught while a Visiting Assistant Professor at St. Joseph's University in Philadelphia.¹⁶ In the class, "Late Antique, Medieval, and Byzantine Visual Culture," Gillette scheduled computer lab meetings where students had the chance to create digital reconstructions in SketchUp of certain key monuments that were central to their discussions, including Jerusalem's Dome of the Rock.¹⁷ For my course, I wanted to give students the chance not only to create digital reconstructions but to present them to the class, so that they too could be active agents in the production of knowledge. It has been the goal of this project to allow these intrepid students to cultivate their own sense of agency in the classroom and to take partial ownership of the educational process.¹⁸ One student, Hannah Wolfram, became so interested in the project, that she plans to refine her model of the Visigothic Chapel of São Frutuoso in Portugal with the goal of printing

¹⁵ A discussion of pedagogy as it relates to digital humanities is found in Brett D. Hirsch, ed., *Digital Humanities Pedagogy: Practices, Principles and Politics* (Open Book Publishers, 2012).

¹⁶ For other digital reconstruction projects involving undergraduate students, see B.J. Novitski, "Santa Reparata, Santa Maria del Fiore: The Evolution of a Cathedral," in *Rendering Real and Imagined Buildings: The Art of Computer Modeling from the Palace of Kublai Khan to Le Corbusier's Villas* (Gloucester: Rockport Publishers, 1998), pp. 46-49 and Arne R. Flaten, "Ashes2Ashes: A Pedagogical Case Study in Digital Humanities," *Proceedings of the 36th CAA Conference, Budapest, 2-6 April 2008* (2008): pp. 193-199.

¹⁷ In addition to SketchUp's desktop platform, there is a web-based version (as of 2017) that allows users to create digital reconstructions without having to download the entire program to their computers.

¹⁸ The agency of students is especially important for educational settings where there is limited contact between the instructor and student, such as online learning. For this, and a useful discussion of student agency, see Robb Lindgren and Rudy McDaniel, "Transforming Online Learning through Narrative and Student Agency," *Journal of Educational Technology & Society* 15/ 4 (2012): pp. 344-355.

a physical copy with a 3D printer (**fig. 5**).¹⁹ It is this hands-on aspect of creating digital reconstructions, and potentially bringing them into the physical world, that I believe, changes a student's perspective on the appearance, layout, and spatial implications of monumental architecture.²⁰

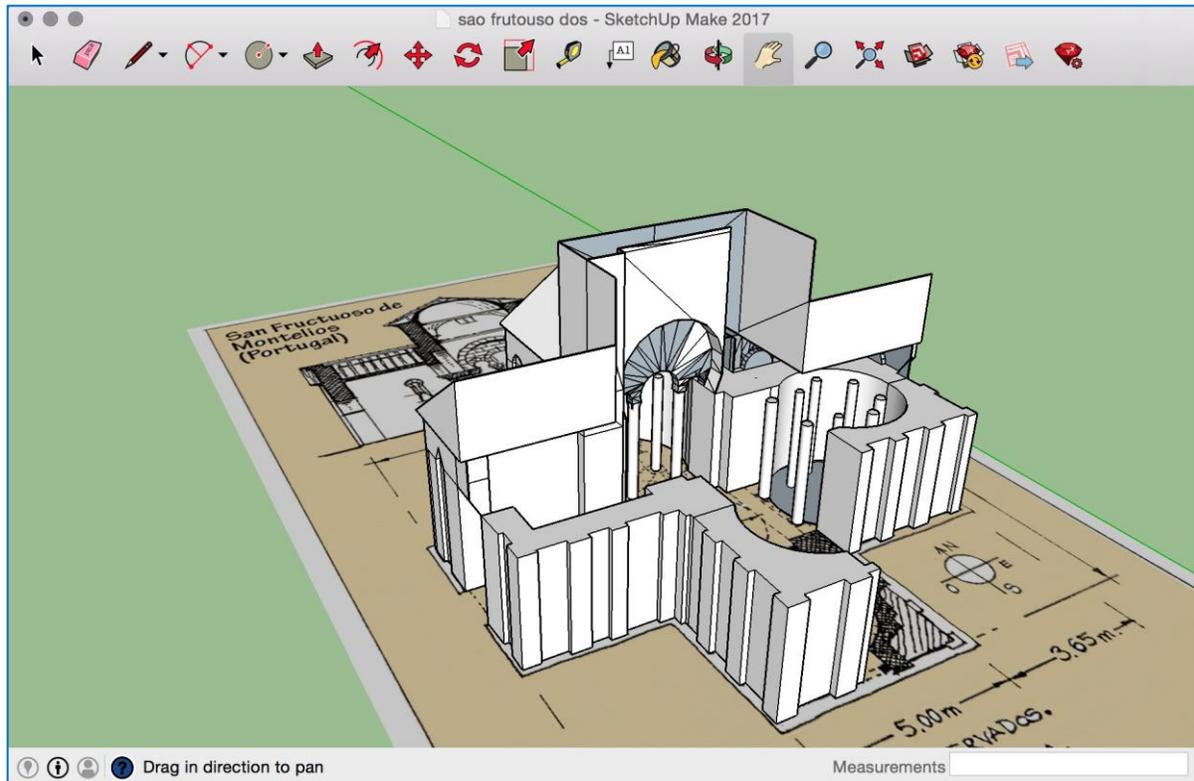


Figure 5 Chapel of São Frutuoso, Braga, Portugal, c. 7th century. Digital Reconstruction: Hannah Wolfram (2017) using SketchUp Make.

During the introduction of this project to my students, I recounted my own experience as a first-year Ph.D. student in a seminar on medieval Rome taught by the celebrated art historian Dale Kinney. After my final presentation, which considered the

¹⁹ On 3D printing and pedagogy see Jennifer Grayburn, Veronica Ikeshoji-Orlati, Anjum Najmi, and Jennifer Parrott, "Shiny Things: 3D Printing and Pedagogy in the Library," in *A Splendid Torch: Learning and Teaching in Today's Academic Libraries*, eds. Jodi Reeves Eyre, John C. Maclachlan, and Christa Williford (Washington, D.C.: Council of Library and Information Resources, 2017): pp. 125-142.

²⁰ Diane Favro addressed the power of the creator in an important article; "In the Eyes of the Beholder: Virtual Reality re-creations and Academia," *Journal of Roman Archaeology* 61/1 (2006): pp. 321-334.

architectural precedents for the late antique church of Santa Maria Antiqua in Rome, Professor Kinney reminded me to be critical of the architectural plan, not to allow myself to be seduced by its geometric beauty, and to always think about its three-dimensional implications.²¹ These are the considerations that I hope the students of Early Medieval Visual Culture have kept in mind. Through their own research, the students in Early Medieval Visual Culture were responsible for finding their monument's floorplans and building digital reconstructions of them in SketchUp in order to interpret their layout, decoration, and function. Although in 2000, Robert Nelson was worried about objects and monuments being "digitized into oblivion," I think that it is through the digitization of medieval architecture that students, many of whom have yet to travel abroad, can have the opportunity to experience these fascinating buildings and foster a sense of discovery that will, I hope, last beyond the end of the semester. 🙏

²¹ A discussion on the flatness of ground plans and the utility of the digital reconstruction is found in Sheila Bonde, Alexis Coir, and Clark Maines, "Construction-Deconstruction-Reconstruction: The Digital Representation of Architectural Process at the Abbey of Notre-Dame d'Ourscamp," *Speculum* 92, no. S1 (2017): S288–S320.