Workshop Report:
Understanding the Architectural Model: Research Applications for 3D Imaging

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The GRI hosted a workshop in March 2020, seeking to address the challenge of providing access to architectural models. The workshop considered this challenge in both its technical and scholarly dimensions, gathering together professionals from the fields of architectural history, technical imaging, and information science. The conversation was in support of the goals of this project as a whole which are: a) identifying how architecture models can become subjects of and in architectural historiography and b) developing strategies for providing access to models through 3D digitization. The discussion focused on examples from the GRI's Special Collections, which served as a starting point for a broader consideration of models in their various institutional contexts.

Key Insights:
The workshop confirmed both the immense potential of architectural models subjects of research and 3D imaging as a means of providing broader access to architectural models. The discussion helped us identify key insights that require further research and analysis. The following outlines some of these insights, the exploration of which will inform the design of a second year of project research, from July 2020–June 2021.

1. <u>Models are critically important as records of the architectural design process and as resources for communicating about architecture with its publics, but are not well-understood as objects.</u>
    *   Models are complex objects, used in multiple ways across different architects' practice and even within a particular architect's design process, and exist in many types and forms (for example, some are made many years after a building's construction for exhibitions).
    *   Models' complexity is often lost when models are presented or viewed; in general they are interpreted rather simplistically as surrogates for built structures, rather than understood as objects worthy of analysis and study on their own.
    *   As a result of the current, simplistic understanding of models, their various types, formats, and uses has not been comprehensively or systematically studied.

2. <u>3D imaging is evolving quickly. It is well-developed as a technology, although its use in the field of cultural heritage is relatively new.</u>
    *   Different 3D imaging approaches each have specific advantages and disadvantages and produce a variety of different output files...
    *   3D involves capture, processing, and dissemination; tools (e.g., hardware, software) and workflows for these three steps have in general not been standardized (although the Smithsonian has developed a number of tools to support a more easily accessible, standardized workflow).
    *   Architects use 3D imaging as well as both physical and digital 3D modeling in the design process as well; it is important to distinguish these types of models and forms of model-making, as all are relevant.

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- The discussion revealed that, given the nascent state of 3D imaging, there are considerable opportunities for influencing its development and in doing so, for addressing the question of not only how to do 3D, but also why and for what purposes 3D is most appropriate.

3. <u>The primary reason institutions do not collect models has to do with challenges around their storage and access, as opposed with their value as objects of research.</u>
   - Approaches to access vary across institutions; some are able to open up their collections to researchers to a greater extent than others.
   - Even architecture archives that have a policy of not collecting models (such as the Avery Library and Archive at Columbia University) often end up with models and architectural fragments in their collections, presumably because of these objects' ubiquity and importance within architectural practice.
   - There is a lack of understanding on the part of some researchers regarding what objects are accessible at what institutions, and of institutional policies around access them.
   - Access is a critical question in multiple ways, inherent to the topics of both 3D imaging and architectural models: models have always been used to communicate about architecture to various publics and a key potential of 3D imaging is in providing access to those objects in institutions' collections that are rarely seen or cannot be shown (as Vince Rossi demonstrated in relation to the Smithsonian collection).

4. <u>The challenges with regard to models and 3D imaging benefit from a collaborative approach that brings together all stakeholders.</u>
   - The complexity of the workflows related to models, their creation and cataloguing, their imaging with and without 3D technologies, requires conversations with curators, architectural historians, imaging specialists, archivists, conservators, and information professionals, as well as working practitioners of architecture and design.
   - There is a need for more precise terminology for models (e.g., types, materials, formats, functions, authors) that is furthermore shared and understood across the related domains of expertise.
   - The discussion revealed the need to examine the expectations of both repositories and the patrons who are interested in accessing these models. Questions were raised such as, what is a researcher looking at when he/she consults a 3D image? Where are the moments where interpretation is required by repository staff (e.g., technical imaging specialists, archivists and other information professionals) and what are ways we can communicate these acts of interpretation to researchers, for example through user interfaces and/or metadata?

5. <u>The role and function of 2D versus 3D imaging as forms of documentation needs further analysis.</u>
   - 3D will not replace 2D photography for models. 3D imaging can record, display, and communicate physical attributes of an analog object that 2D photography cannot, such as materiality, scale/dimension, and spatiality (for example, the ability to virtually enter a model). At the same time, 2D photography offers some advantages over 3D imaging, particularly in its

affordability and speed, as well as establish standards for representation and interpretation of the resulting images.

Next Steps:
Based on these insights, the team has identified the following as relevant outcomes for the next phase of the project:

- Conversation series, "On Model Fabrication and 3D Imaging": Continue the conversation begun at the March 2020 works, broadening it to include other partners and colleagues, from other domains of expertise, including for example gaming or animation. One of these events will be intended for a broad, public audience.
- Project Researchers: the project has been approved to invite two project researchers for FY21. We hope they can coordinate their trips, so as to be at the GRI at the same time. As of now, we are thinking of inviting two colleagues who participated in the workshop: Vince Rossi (Senior 3D Program Officer, Smithsonian Digitization Program Office) and Ann Whiteside (Assistant Dean for Information Services, Harvard University's Graduate School of Design and Frances Loeb Library)
- One-day workshop: the year of research will culminate in a one-day workshop in Special Collections, with our two project researchers in attendance, along with relevant Getty staff and local partners (such as staff from Frank Gehry Partners).
- Outreach: throughout the year, we would like to share our explorations of 3D imaging of models to a broader audience outside of the Getty, through both the Zoom-based conversation series and an Iris blog post.
- List of archives with architectural models: the workshop revealed that compiling a list of repositories that collect architectural models would greatly benefit the field.

March 2020 Workshop Participants

Invited Guests
- **Oliver Elser**, Chief Curator at Deutsches Architektur Museum, Frankfurt
- **Francesco Garutti**, Curator of Contemporary Architecture at CCA, Montreal
- **Jia Yi Gu**, PhD candidate at UCLA's Critical Studies in Architecture; Director & Curator at Materials and Applications
- **Jennifer Gray**, Curator of Drawings & Archives at Avery Architectural & Fine Arts Library, New York City
- **Eric Mumford**, Rebecca & John Voyles Professor of Architecture at Washington University, St. Louis
- **Jaap Otte**, Director of Development, Smithsonian Institution
- **Silvia Perea**, Curator of Architecture & Design Collections, UCSB
- **Vincent Rossi**, Senior 3D Program Officer, Smithsonian Digitization Program Office
- **Ann Whiteside**, Assistant Dean for Information Services, Harvard University's Graduate School of Design and Frances Loeb Library

From Frank Gehry Partners
- **Meaghan Lloyd**, Partner and Chief of Staff
- **Jack Gaumer**, Architect
- **Elizabeth Lorenz**, Architect
- **Megan Meulemans**, Archivist

Guests from Getty Staff

Project Sponsors
- **Rich Fagen**, Vice President and Chief Digital Officer, The J. Paul Getty Trust
- **Andrew Perchuk**, Deputy Director, Getty Research Institute
- **Kathleen Salomon**, Associate Director and Chief Librarian, Getty Research Institute

Organizers
- **Maristella Casciato**, Senior Curator, Head Architectural Collections, Getty Research Institute
- **Emily Pugh**, Principal Research Specialist, Getty Research Institute
- **Todd Swanson**, Digital Imaging Manager, The J. Paul Getty Trust
- **Johnny Tran**, Project Administrator, Getty Research Institute

Workshop speakers/moderators
- **Mark Benson**, Conservator Assistant, Getty Research Institute
- **Nancy Enneking**, Head of Institutional Records, Getty Research Institute
- **Gary Fox**, Research Assistant, Getty Research Institute
- **Ann Harrison**, Special Collections Archivist, Getty Research Institute
- **Rachel Rivenc**, Head of Conservation and Preservation, Getty Research Institute

Stakeholders
- **Andra Darlington**, Head of Special Collections Management, Getty Research Institute
- **Aimee Lind**, Reference Librarian, Getty Research Institute
- **Teresa Soleau**, Digital Preservation and Library Systems Manager, The J. Paul Getty Trust