# Introduction

## The Illuminating Challenge of the Villa Arianna Survey

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This book presents the fruits of an illustrated survey of frescoed rooms in the excavated core of the Villa Arianna in Stabiae (Castellammare di Stabia, Italy) conducted between 2011 and 2024. The Arianna is one of several affluent villas of the late Roman republic/early empire in Stabiae, a small *pagus* (rural settlement) about 5 km south of Pompeii and buried along with it by the eruption of Vesuvius in A.D. 79 (Figs 1–4). The greater region of the Bay of Naples held a special role as a retreat for political elites and the wealthy in the wake of the Social War (B.C. 91–89), when the populations of Campania had become complete Roman subjects (Howe 2018, 97). The region's villas combined the idyllic setting of the coastline and the agricultural activity of early farmhouses with the ordonnance of the affluent *domus* (urban house) where atria, banquet rooms, decorative imagery, and axial views created a semi-public scenography celebrating the owners' status. Like the other villas in Stabiae, the Arianna is large and opulent, about 225 m across and containing over 110 walls with significant surviving fresco decoration. This puts the site in elite company among surviving exemplars of Roman luxury villas in the Bay of Naples.

The documentation presented here fulfils a longstanding need. Measured plans of the Arianna have been made since the Bourbon era: the first excavations and surveys were conducted by Karl Weber and Francesco la Vega between 1760 and 1778, but were only published in 1881 (Ruggiero 1881). The modern period of documentation of the Arianna began in 1950, when Libero d'Orsi resumed excavations on the parts of the villa that the Bourbons had reburied (Howe 2018, 102). The most recent state plan was produced by the Restoring Ancient Stabiae Foundation (RAS) in 2015, accounting for both the buried parts recorded by Weber and La Vega and uncovered finds (see Fig. 3). In 2017, the University of Warsaw completed conservation on a number of frescoed walls, greatly enhancing the visibility of the images (Chmielewski and Burdajewicz 2017; Chmielewski and Burdajewicz 2018). Still missing, however, are detailed scale illustrations of the decorated interior walls comparable to those that now exist for other Roman houses in the Bay of Naples, including the houses illustrated in the *Häuser in Pompeji* series, the Villa San Marco in Stabiae, and Villa A in Oplontis (Strocka, Grunwald, and Papagialias 1984; Allroggen-Bedel et al. 1999; Clarke and Muntasser 2019). Making such a record of the Arianna is especially pressing as the villa gradually deteriorates from storms and the erosion of the cliff bordering the northwest edge (De Simone 1988).

The directors of the present survey Robert Vann and Joseph Williams of the University of Maryland, working under the guidance of Stabiae's Director of Excavations Thomas Howe (Southwestern University) and in collaboration with Southwestern University and Middlebury College, led a student field team in making accurate, georeferenced state illustrations of the Arianna's frescoed walls, presented in this volume alongside color photographs (Catalog) and detailed room descriptions (Ch. 3).[1] The greyscale line drawings were produced using a unique sequence of recording methods integrating field hand-drawing with digital drawing and measurement technologies. While the photographs capture the color palette of the walls and something of the viewer's experience, the drawings communicate the true proportions of the wall surfaces and represent a precise diagram of their physical properties and three-dimensional contours. Recalling an earlier era of archaeological illustration in the Bay of Naples—exemplified by the works of Giovanni Battista Piranesi, the aforementioned La Vega, and Raffaele Oliva (for archaeological director Amedeo Maiuri)—our drawings combine rather than isolate fresco images and architectural settings (Piranesi 1804; Maiuri 1958). This permits investigation of the physical production of the frescoes as well as the experiential relations of the imagery to the building's structure.

**Figure 1. Villa Arianna, Stabiae, Italy. View of north terrace. Photograph by Joseph C. Williams.**

This survey limits its scope to illustrating the frescoed interiors, describing the decorated rooms, and discussing

[1] The survey was carried out with permission of the Soprintendenza Speciale per i Beni Archeologici di Pompei, Ercolano e Stabia. It was generously supported by the Restoring Ancient Stabiae (RAS) Foundation, the Wilhelmina and Stanley Jashemski Grant Program, and Erik Young. The University of Maryland School of Architecture, Planning, and Preservation and the Education Abroad Office supported student travel. Special thanks are due to the staff of the Vesuvian Inn for hosting the team every field season.


**Figure 2. Map of the Villa Arianna of Stabiae in its surrounding region, alongside other key excavated sites of Roman domestic architecture preserved by the eruption of Vesuvius in A.D. 79. Image and caption text reproduced from Williams, Howe, Ramos, and Maslen 2023, with permission from Taylor & Francis.**

the new kinds of interpretation that this campaign supports. It is not a comprehensive monograph on all aspects of the Villa Arianna; rather, it has unfolded alongside earlier and forthcoming publications concerning the architecture of the villa, its chronology and archaeological history, fragments of the mosaic floors, and especially the great peristyle garden excavated between 2007 and 2012 (Camardo and Ferrara 2001; Pesce 2004; Guzzo, Bonifacio, Sodo, and Ėrmitazh 2007; Gleason 2010; Howe 2016a; Jashemski, Gleason, Hartswick, and Malek 2017; Howe 2018; Gardelli and Ariano 2019; Gardelli 2024). Thus in contrast to the comprehensive approach of the recent survey of Villa A in Oplontis, for instance, the present volume forms one small part of a decentralized effort to illuminate what survives of this villa (Clarke and Muntasser 2019).

In addition to documenting the site, the team's experience of completing an integrated manual and digital illustrated survey has caused us to reflect on the role of the field architect as it continues to evolve in the age of digital field recording. Field architects are the members of an archaeological survey responsible for creating state

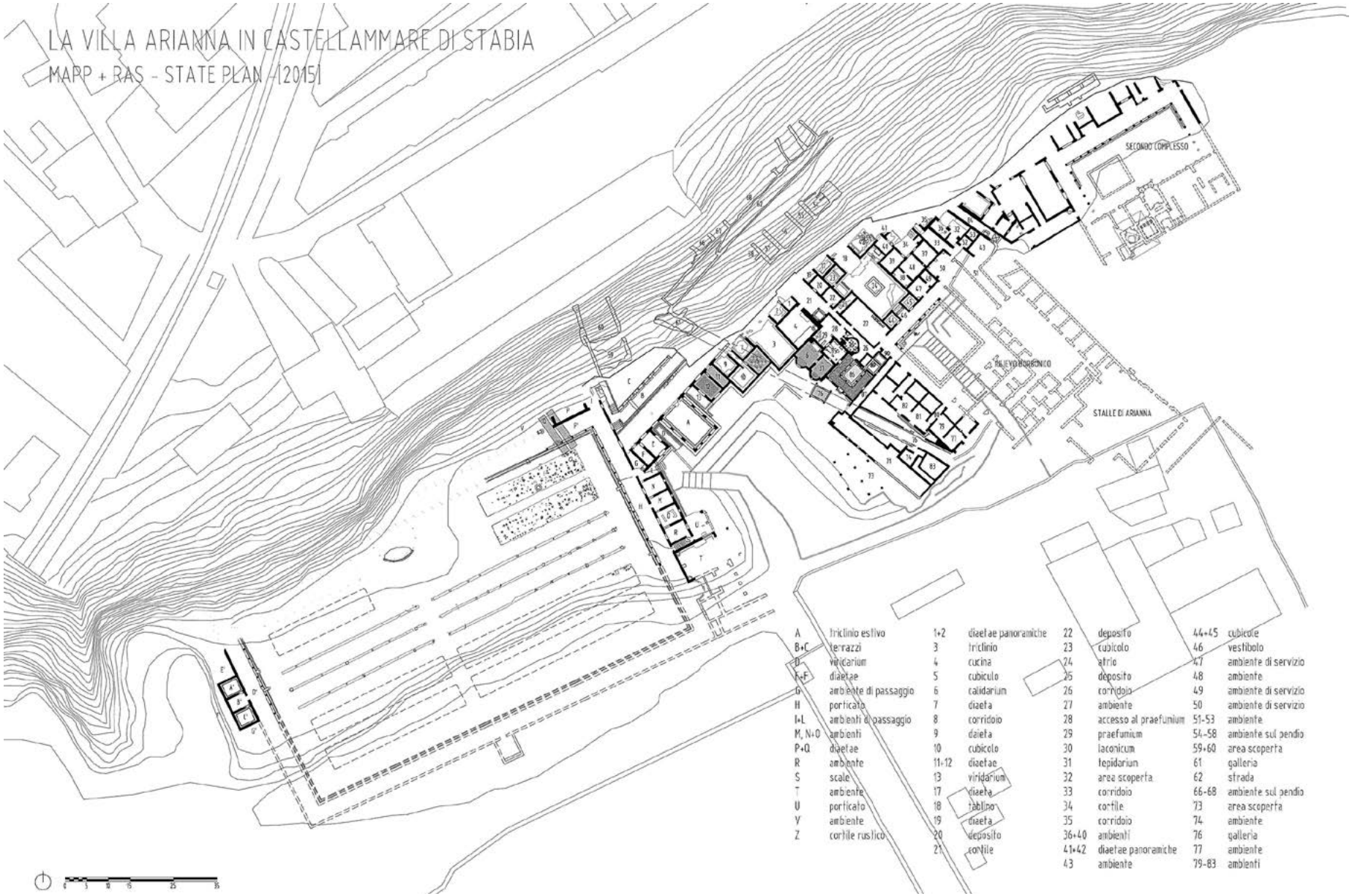


**Figure 3. Castellammare di Stabia, Italy. State plan. Image made 2015 by Thomas N. Howe and Luke Petrocelli. Image adapted and caption text reproduced from Williams, Howe, Ramos, and Maslen 2023, with permission from Taylor & Francis.**

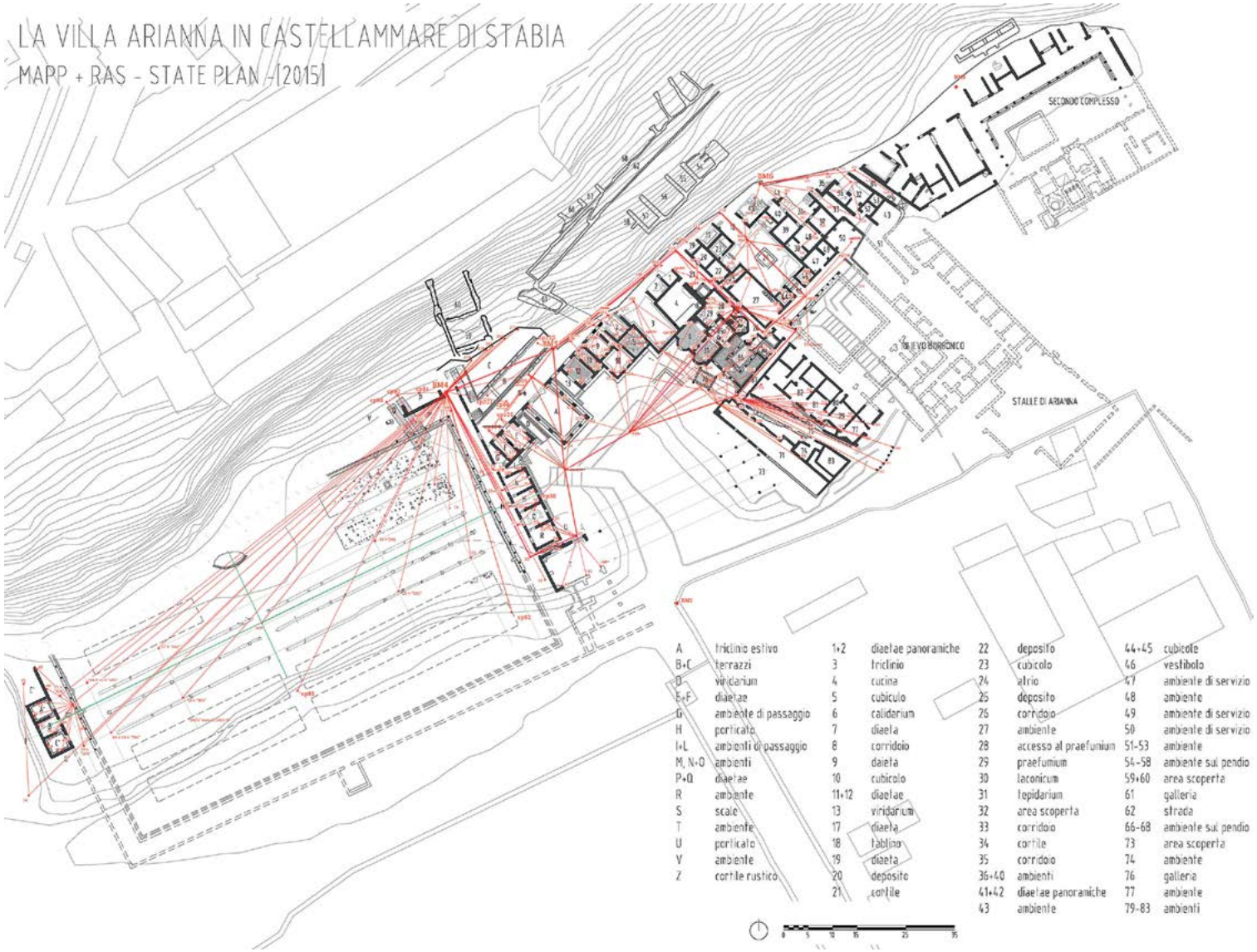


**Figure 4. Castellammare di Stabia, Italy. Villa Arianna. Plan, showing survey traverses of the "first complex" in red. Geo-referenced benchmarks from Vittorio Fontanella's survey between April and June 2010, with elevation levels obtained by Thomas N. Howe in June 2010. BM 4–6 are the benchmarks used for the "First Complex" of the Villa Arianna, the focus of this study. The benchmarks are registered to the following Gauss-Boaga national grid coordinates: - BM4: X Easting 2477059.9339; Y Northing 4505546.6179; Z Elevation m. a. s. l. 48.501 - BM5: X Easting 2477080.5349; Y Northing 4505554.8649; Z Elevation m. a. s. l. 49.616 - BM6: X Easting 2477122.8300; Y Northing 4505589.8595; Z Elevation m. a. s. l. 49.692. Image made 2015 by Thomas N. Howe. Image and caption text reproduced from Williams, Howe, Ramos, and Maslen 2023, with permission from Taylor & Francis.**

illustrations of architectural structures, as defined by William B. Dinsmoor Jr (Dinsmoor Jr. 1977, 309). In a 2016 issue of the *Journal of Field Archaeology*, Christina Luke and Emanuel Moss prompted field architects to consider how digital technologies of building documentation have transformed their approaches, not only by introducing new recording techniques but also by changing the scope and focus of archaeological research (Luke and Moss 2016, 530). Indeed, a major outcome of the digital revolution in archaeology has been epistemological: an expansion of the field architect's purview from simply mastering certain recording skills to evaluating the benefits and implications of an array of techniques for new research horizons. Such benefits extend beyond the technical (the degree of error in measurement, the density of a point cloud) to the analytical (what information is being selected in the recording) and heuristic (what interpretative processes are prompted by the recording process). Assessing both analog and digital techniques in relation to different types of epistemological value allows team leaders to make an informed judgment about what mix of human and technological resources to employ for a given survey.

The Arianna survey provided a perfect opportunity to consider these various aspects of the field architect's role. Carrying out the survey in conjunction with a perennial summer Education Abroad course "In the Shadow of Vesuvius: Architectural Recording in Archaeology" allowed us to observe different architectural recording techniques over several years and in the hands of many surveyors. The course involved undergraduate students and graduate-student/alumni teaching assistants in all stages of the illustration process, which included hand-drawing, digital field survey with a Total Station and lidar, and digital drawing in AutoCAD. The field-architects-in-training learned these skills under the supervision of experienced field architect Thomas Howe. At the same time, the students completed coursework under instructors Vann and Williams on the social and architectural history of Roman houses in the Bay of Naples. Historical learning and on-site discovery reinforced one another as the team honed the survey method toward the peculiar demands of the site. These included the challenge of legibly capturing the fine detail work of frescoes in very large rooms (such as the peristyle walks of the great garden, some of whose decorations span over forty-five meters), as well as the diversity of archaeological signatures found in frescoed surfaces (exposed masonry, lacerated plaster and rough-cast, fresco imagery, surface damage from both natural and human destructive deposits, and even the artist's preparatory processes such as incised grid lines). Equipping the students not only with technical skills but also with the typological familiarity necessary to understand what features needed to be recorded positioned them to see the peculiar advantages of each recording method at this multifaceted site.

As will be discussed in more detail in the second chapter of this book, properly evaluating the utility of different approaches to illustration and recording requires that part of the survey process be dedicated to reflection on the constraints of the site and a corresponding adaptation of the illustration methods. For Colleen Morgan and Holly Wright, retaining this reflexive learning is of central importance when using digital technologies of archaeological illustration instead of manual methods (Morgan and Wright 2018, 21). Some authors, such as Paolo Vitti, maintain that direct hand-drawing in the field is indispensable for this learning, as it engages the field architect in a reciprocal process of discovery and selective articulation of archaeological traces (Vitti 2016, 695). Others, such as Philip Sapirstein, have pointed out that direct on-site illustration by hand is often beset by logistical challenges, such as staying oriented, maintaining focus in extreme weather, or seeing around obstacles; in such cases, observing scan data in post can better facilitate comprehension of the building, by both creating a more controlled viewing environment and allowing a more totalizing perspective of the whole site (Sapirstein 2020, 141–51). Our survey process incorporated two key kinds of collaborative, reciprocal learning. The first occurred during on-site hand drawing, in which team members focused on discovering and parsing significant archaeological signatures. In the midst of drawing campaigns, students repeatedly gathered with the team leaders to discuss what drawing conventions (such as line weights or line shades) would best distinguish these signatures to viewers, while also deciding upon how to represent newly encountered deposit types. The second collaborative process occurred in our lab at the Vesuvian Inn in Castellammare, where the student field architects used digital drawings to integrate the archaeological signatures captured in their drawings with accurate measurements gleaned through digital survey techniques. Here the team collaborated to assess which technologies (Total Station, lidar, etc.) were authoritative for which information. This caused us to develop what we call an *authority hierarchy*, a formal expression of the relations between all recording methods, manual or digital, employed in any mixed-method archaeological survey. These relations are controlled to enforce the authority of each method over a particular body of information (e.g. diversity of archaeological signatures, accurate geolocation of the wall, exact position of wall features, and resolution of the frescoed image).

Through these two processes of reflection, one on site concerning the language of representation, and the other off site concerning how to synthesize the data collected, the right combination of methods most appropriate for the villa revealed itself. In sum, the Villa Arianna survey came to embrace the combination of technical and evaluative expertise that, in our view, is coming to define the role of the field architect in the digital age.

To both contextualize the illustrations and highlight what we believe is innovative and useful about them, this book contains framing essays following a two-part structure. The first part, which includes this introduction and the first three chapters, focuses on the data itself, giving the background history of the survey; our illustration

methodology; and room descriptions to accompany the illustrations. The second part, comprising the fourth and fifth chapters and the conclusion, focuses on the analytical and interpretive potential of the new data.

Ch. 1 "The University of Maryland at Stabiae," by original director of the Villa Arianna fresco survey Vann, relates the campaign to the broader history of UMD surveys of the Arianna. Among these, Wilhelmina Jashemski's foundational studies of Roman gardens, including those of the Arianna, particularly inspired our recording of the rest of the villa's environments. Ch. 2 "An Integrated Methodology of Architectural Documentation," by Williams, Howe, and alumni of the UMD Architecture Program Adan Ramos and Gabriel Maslen, discusses the solution of the UMD team to integrate on-site hand drawing with digital measurement. By explaining our *authority hierarchy* of recording methods, this chapter parses the benefits of various techniques: the opportunity for informed analysis gained through human observation and illustration, the accuracy of measurement gained through mechanical-assisted survey, and the speed and density of data points made feasible by digital technologies. Ch. 3 "Description of Frescoed Rooms at the Villa Arianna," by Professor of Archaeology Ian Sutherland (Middlebury College), comprises a technical description of each decorated room of the villa, covering the function and chronology of each room, materials and production, and the formal organization and iconography of the images. Detailed, comprehensive, and conducted by Sutherland on site, the descriptions stand as a form of state documentation in themselves, capturing the content of the images and including some observations that could not have been made from our scans and illustrations alone. The room descriptions are cross-referenced with the catalog; however, they are not in the same order. Whereas the catalog, for ease of reference, proceeds in the numerical and alphabetical order of the official archaeological room names, the descriptions depart from this disorderly, excavation-based sequence to follow the organizational logic of the villa, helping to situate the reader in space and render the functional and chronological discussions more intelligible. Occasionally, the descriptions account for very partial or poorly preserved decorations that lie beyond the scope of the illustration campaign (a brief discussion and photographic overview of these instances can be found in the Conclusion).

The fourth and fifth chapters unite around the theme of how the Roman frescoes created visual environments in tandem with their architectural context, something that our illustrations greatly assist by representing the frescoed surfaces in their physical settings. As such, each chapter offers a method for holistically analyzing the experiential grammar of the decorated Roman house. Ch. 4 "Enlivening Images: The Experience of the Wall Paintings at the Villa Arianna," by Professor of Art History Maryl Gensheimer (University of Maryland), targets the "enlivening" effects of the frescoes, which disrupt the stasis of the solid walls by defying the wall plane, framing and connecting to views of space, animating scenes with wildlife and human activities, and engaging the viewer in exploring small details. Ch. 5 "Prestige, Illusion, and the Role of Architectural Supports in the Villa Arianna Frescoes," by Amanda Chen (Kansas City Art Institute), focuses on the architectural illusionism of the frescoes as a way of extending the physical settings of the villa beyond the walls. Taken together, the chapters show that Roman domestic wall paintings of the late republic and early empire achieved their full effect only when *in situ* among their architectural surroundings, whether acting to subvert or fictitiously amplify the real structure. This research in experiential archaeology addresses a certain tension in architectural recording: how not to lose sight of those aspects of a building that lie in the interstices between categories of documentation. When recording a building, it is necessary to selectively articulate phenomena based on criteria of classification, for example to draw fictive outdoor backgrounds depicted in fresco but not real outdoor backgrounds revealed by windows. In the experience of Roman viewers, however, such oppositions (real/fictive; exterior/interior; natural/manmade; permanent/impermanent) often seemed to break down. It is all too easy to naturalize the classifications used to make an archaeological recording unless the recording is accompanied by an interpretive paradigm that rigorously qualifies those classifications.

The conclusion, by Williams and alumnus of the UMD Architecture Program Artur Kalil, discusses the future potential of the new evidence: interpretive methods and paradigms that lie beyond the specialized scope of this effort. First, these future paths include chronological, technical, and iconographical interpretations, for which our descriptions, illustrations, and analysis methods constitute a foundation that may support a range of results. Second, we discuss how possible future innovations in the digital documentation of architectural wall surfaces, such as artificial intelligence and *Machine Learning* (ML), may impact the work of field architects employed in projects similar to ours. Drawing on the experience of this documentation effort, we discuss how long-term surveys can be structured and budgeted to account for the relentless pace of technological innovation.

Ultimately this volume presents the remains of the Villa Arianna's frescoed rooms at many different levels of resolution for a diverse audience. The illustrations are geared toward accurate measurement, detail, and the legibility of archaeological processes, while the framing essays provide both a general introduction to the villa's interiors and methodological reflection on the value and meaning of the data. This book does not presume to be the last word on the Villa Arianna; it is intended to bring this archaeological gem more fully into the public and scholarly consciousness and thus to inspire a new generation of readings.