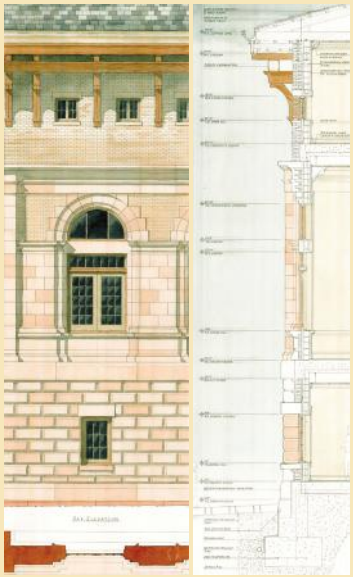
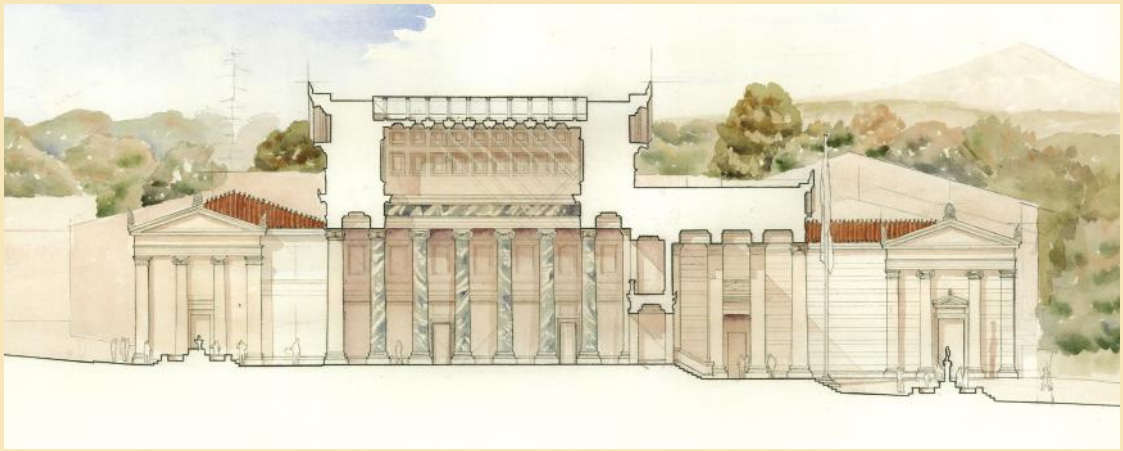
AN ARCHITECTURAL PEDAGOGY

for the Twenty-First Century

THE UNIVERSITY OF NOTRE DAME • SCHOOL OF ARCHITECTURE

2024





EDITED BY

Samir Younés • Selena Anders • Jonathan Weatherill

INTRODUCTION BY

Stefanos Polyzoides

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for the Twenty-First Century

Matthew and Joyce Walsh Family Hall of Architecture on the campus of the University of Notre Dame in Notre Dame, Indiana

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EDITORS' NOTE

Much of the material in this book is the result of a collaboration between the faculty and students at the University of Notre Dame's School of Architecture. It is intended as a summary of the School's pedagogy and is offered to all schools of architecture as a way to exchange ideas about teaching it in our time.

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Samir Younés, Selena Anders, Jonathan Weatherill

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Introduction by Stefanos Polyzoides

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Front cover: Left: Arts Centre, Anacortes, Washington. Luke Golesh. Professor Michael Lykoudis. Right: Urban Esquisse, Las Catalinas, Costa Rica. Completed by Jennifer Burke, Marie Cross Lopez, George Cruess, Carolina Fábrega, Paige Mariucci, Martin Sandberg, Tiffany Tran, Andrea Vergara Bernal for Design Studio. Professor Samir Younés, 2010. Bottom: Section, Lafayette Civic Market Hall, California, Alexander Preudhomme, 2018.

Back cover: Piazza del Duomo, San Gregorio, Italy.
By Ernesto Gloria. Professor Samir Younés, 2009.

Title page: Walsh Family Hall of Architecture
(Photo by Matt Cashore/University of Notre Dame).

This book is dedicated to the memory of Richard H. Driehaus, financier, philanthropist, and fervent supporter of traditional architecture and urbanism. Creating and funding the Driehaus Prize, the Manzano Prize, and the Henry Hope Reed Award exemplifies his enduring commitment to the excellence necessary for addressing current urban and environmental challenges. His leadership continues to inspire the faculty and students at our school as they dedicate their teaching, research, and practice to realizing a vision of a world in balance.

CONTENTS

PREFACE

In the early Spring of 2020, after twenty years in academia followed by twenty-five years in practice as a partner at Moule & Polyzoides, I agreed to serve as dean of the School of Architecture at the University of Notre Dame, beginning on July 1, 2020. During March and April of that year, I had the opportunity to familiarize myself with the state of the school by conducting Zoom calls with each of its faculty members at all ranks. During these calls, I discovered that most faculty members had a personal commitment to teaching a new classical and traditional architecture. Yet, there was no clearly articulated or coordinated statement about what constituted such a pedagogical position. It turned out that the school's pedagogical stance had been actively developed over three decades but had not been shared in detail among colleagues or recorded in a definitive form.

In mid-May, as I was preparing to move from California to Indiana, I asked then dean Michael Lykoudis to engage with me in an effort to describe the essential points of the pedagogy of our school in writing. His acceptance, and the fruitful exchanges that followed, eventually produced the summary document that is the subject of this book. We approached our collaboration under two different perspectives: He from a documentary one, based on his extraordinary eighteen years of experience in leading the school; and I from an aspirational one, anticipating possible future incremental curricular advances.

Since then, the advantages of having produced this summary of our pedagogy have been manifold. The document has assisted us in explaining the nature of our programs to the University and to our Advisory Council. It has served as a platform to describe the school to architecture colleagues and deans here and abroad. It has helped us bolster a sense of solidarity among our faculty and strengthen the intellectual ambitions of our students. Most importantly, it has allowed the faculty to remain aware, open, and collaborative with each other while delivering their studios and courses. Our collective understanding and support of these twelve points has allowed the school to become a more extroverted community, one that can both defend and modify its positions depending on the nature of the criticism it receives. For the existence of this document, we have become better and more helpful colleagues and a more self-confident school.

In the expanded form that follows, the Twelve Points are organized in two parts. In the first part, individual faculty members have taken on one or more points and have written validating statements about their importance as vital components of an architectural education, particularly in our undergraduate program. A review of our undergraduate curriculum describes the objectives of each studio and course and how they coordinate with each other, and then provides a sequential outline of skills and knowledge modules that must be incrementally imparted to the students. Part and parcel of this transfer of knowledge is the expectation that students must be capable of illustrating that they have received these lessons and have made them part of their evolving capacity to think and act as young architects. The book's second part focuses on the pedagogy of the graduate programs. Both parts conclude with examples of student work that demonstrate the kind of inventiveness and competence produced through our teaching methods and practices.

An integrated education in architecture, urbanism, and landscape design demands no less a degree of teaching and learning intentionality than this.

STEFANOS POLYZOIDES
Professor of Architecture
Francis and Kathleen Rooney Dean
University of Notre Dame

TWELVE POINTS FOR AN ARCHITECTURAL PEDAGOGY

At Notre Dame, architecture is taught as an integrated discipline and profession that includes simultaneous instruction in a discrete set of traditional subjects: drawing, history and theory, building and environmental technology, design studio, and relevant topics in various peripheral disciplines. These subjects are understood as essential and coequal. They are delivered to the students to the greatest degree in combination. The following are the foundational points that students of the school are directed to continuously study and to master while they are on campus and, eventually, in their professional lives beyond.

1. **ARCHITECTURE AND NATURE:** Over the centuries, architecture has served as the means of sheltering people, their enterprises, and institutions. It has provided stability, beauty, and meaning to human communities while allowing them access to the bounty of nature. Our program is grounded in the premise that architecture is the foundation of an evolving human habitat that must always develop in harmony with nature.
2. **PURSUIT AND PRESERVATION OF KNOWLEDGE:** We are dedicated to the idea of learning based on safeguarding and extending the deep theoretical, historical, and practical knowledge of architecture, Urbanism, and Landscape Design available to us. Connecting new projects to the nature of received regional form can be best accomplished through the study of relevant precedents.
3. **DIVERSITY AND UNITY OF THE BUILT ENVIRONMENT:** We are students of all the local, regional, and shared building traditions of the world, without exception. Their diversity of means and responses to climate and culture have produced examples of unequaled aesthetic excellence and environmental performance. These should be emulated in the future as a matter of identity, sustainability, and delight.
4. **PRACTICE AND STEWARDSHIP:** We encourage our students to think of their design additions to the built and natural environment as ennobling and sustaining human life, acting with reverence for the planet, and inspiring a commitment to the long-term prospects of the diverse cultures of the world.
5. **ARCHITECTURE AND CONSERVATION:** We teach in the interest of resource conservation and long-term investment. We support the idea of a building economy that is based on human labor and high skill in the practice of the traditional crafts. We address the production of enduring objects and places, not just temporary streams of consumption and waste.
6. **ARCHITECTURE AND JUSTICE:** We direct our efforts toward serving the cause of community and social peace and justice, and in support of the quality of life of all people across the demographic scale, not only the privileged few.
7. **ARCHITECTURE AND THE CITY:** We recognize that the architect's highest responsibility throughout history has been the enhancement of the city; this is to say, the reinforcement of those things that make it a field of opportunity for individuals and an enriching, supportive, and protective environment for all. We encourage our students to follow upon this path of cultural continuity.

8. **ARCHITECTURE AND THE UNIVERSITY:** We are resolute in our view that architecture is an engaged, intentional discipline and practice, not just an autonomous, unintelligible fine art. We advocate for a cooperative relationship with many other allied disciplines at the University and beyond. These include the arts, humanities, sciences, engineering, business, and law.

9. **BUILDING THE SKILLS OF OBSERVATION AND JUDGMENT:** We believe that learning by seeing and experiencing an architecture, urbanism, and landscape of time, place, and beauty exposes the underlying values and resilience of societies beyond merely the visible or tangible. It eventually impresses on students the need to become responsible for their design choices and actions.

10. **DESIGN, REPRESENTATION, AND ACTUALIZATION:** We know that architecture is born from ideas and is then translated through drawings and models into a physical presence. All means of graphic representation, from ancient to contemporary, have inherent value and are useful to us. We learn from both their successes and failures.

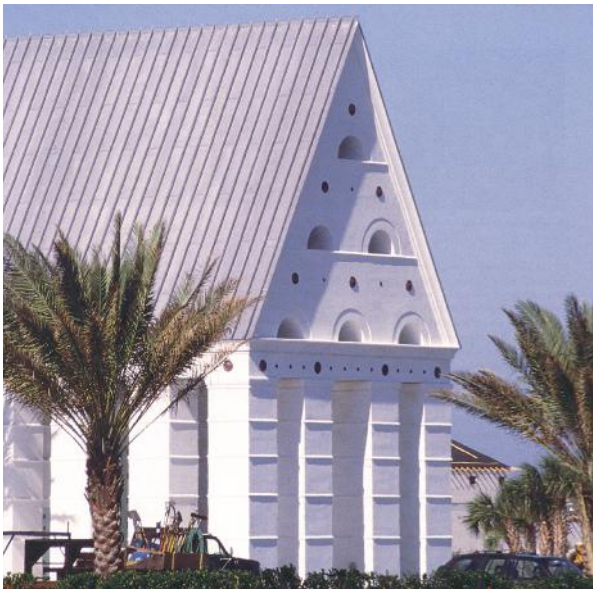
11. **NOTRE DAME IN ROME:** We consider the year of study in Rome as the cornerstone of the school's pedagogy. Rome presents the most complete spectrum of projects ever built across 2,500 years of history: domestic and monumental buildings, public and private gardens, and civic infrastructure. Students are encouraged to understand these as living precedents and discern their importance in the design of the public and private realm.

12. **NOTRE DAME IN THE WORLD:** We encourage students to study in many countries throughout the world to ensure that they develop a diverse, international view of architecture and the cultures it serves. Here students experience thriving, complex, and humanely-scaled urban environments. Buildings and places responsive to local resources and climates present rich design lessons relevant to modern life.

We are currently teaching in the context of an unprecedented world crisis: On all continents, cities and their natural settings are being devastated by the absence of basic planning and administrative controls, by political inertia, transactional economic relationships, generic design, and impermanent construction. Faith in a robust future seems to be increasingly beyond our reach. During their formative educational experiences, future architects, urbanists, and landscape architects are exposed to a critique of the processes and methods that have brought the cities of the world and nature to the precipice. We do not simply oppose these trends. We engage them and offer viable alternative solutions to them.

In addressing this critical state of affairs, we train our students to be future leaders in the urgent campaign to return the world to a state of balance between livability and prosperity. As part of the Catholic intellectual tradition, we support the principle of the unity of knowledge, through which we connect our discipline to the University. We project a sense of urgency and optimism that the world as we know it can be regenerated, through faith, knowledge, commitment, cooperation, care, and hard work. This ethic is the core value of our program, as it encourages our students to assume their deep professional responsibilities—aesthetic, civic and ecological—that lie ahead.

Dean Michael Lykoudis (2002–2020) & Dean Stefanos Polyzoides (as of July 1, 2020)
May 19, 2020



We educate our students to aspire to the world's highest standards in the practice of a new traditional architecture, as exemplified by the work of the Richard H. Driehaus Prize winners of the last 22 years.

INTRODUCTION

Pedagogy: The method and practice of teaching, especially as an academic subject or theoretical concept. From the Greek term παιδαγωγία.

Rationale

Architecture operates in diverse cultural settings, and while its principles are time-tested and enduring, their renewal through every generation of young architects is as necessary as it is inevitable. We have chosen to base our pedagogy on the best lessons that human experience has to offer: the evolving classical and vernacular design traditions and building skills developed around the world over millennia of practice. Architectural education should unfold in a balance between understanding the lessons and experiences of the past and renewing these by the design of buildings and places that will become the crucible of life in the future, for the benefit of people not yet born. Foremost in designing for such a livable and desirable future is directing our students toward delivering beautiful, durable, and resilient buildings in balance with nature. This is an awesome responsibility that we face daily throughout our program as a whole and in its various organizational and instructional details.

The new traditional architecture and urbanism that our curriculum embraces is not a style. It is, more importantly, both a design approach and a cultural choice. It is a choice because it proposes that an accomplished architectural invention should be based on highly refined design ideas received and renewed over time, relayed from person to person and from project to project—each generation producing architectural designs that balance the genius of the individual with the wisdom of received knowledge. It is also a design approach that depends on a number of vital intellectual virtues and cultural obligations that are regularly tested through criticism-based studio instruction:

- ***Tolerance*** that allows some members of our academic community to pursue architecture as an expression of divine providence and others in terms secular.
- ***Knowledge and insight*** that enable the transfer of ideas from the historical treasury of exemplary buildings and place precedents to the generation of new ones.
- ***Rationality and vision*** that connect new architectural ideas with design precedents in a manner that ensures their own continuity.
- ***Precision and economy*** that direct project use of material and energy resources to the construction of a human habitat in balance with nature.
- ***Civic duty*** that inserts new projects in existing settings and considers every project as an addition to their urban and natural order.
- ***Cultural diversity*** that honors human differences and tolerates a variety of understandings of beauty and physical and spiritual comfort.
- ***Symbolic representation*** that endows objects and places with tangible meaning and fulfills the human need for place-based identity.
- ***Ethical practice*** that obliges architects to consider the needs of others before their own, and to take full responsibility for their design actions.

We currently face dire urban and environmental challenges across the globe, the result of flawed building, planning, and development practices in the service of an out-of-control, growth-based economic system. In the same way older architects have designed and built us into the chaotic and highly inefficient world that we now inhabit, younger ones can now slowly begin to design us out of it. At the School of Architecture, we are attracting and graduating the University's most diverse student cohorts in terms of class, race, and ethnicity. Our best hope to escape the worst damage to our environment and our humanity is to encourage these young architects who have received such an enlightened education to use their knowledge and skills to address the broadest possible range of architectural, urbanist, and environmental issues through design. In the process, they will help forge a new worldwide movement that rejects design that serves limitless consumption and growth. Project by project, they will repair and consolidate a human habitat worth inhabiting.

Organization

The aim of the University of Notre Dame School of Architecture is to educate leaders who will create a human habitat for future generations—a habitat whose viability is based on a foundation of conservation and judicious investment rather than consumption and waste. The Notre Dame School of Architecture is organized around a number of accredited professional programs: a five-year bachelor of architecture; a two-year and a three-year master of architecture; and a two-year master of science in historic preservation, resilience, and sustainability. A two-year, non-accredited, post-professional master of architecture is also offered.

All programs present extraordinary learning opportunities. Instruction is personal and involves regular interaction between faculty and students. The facilities of the Notre Dame campus and our home, the Walsh Family Hall of Architecture, are remarkable in their quality, and the learning environment of the University is highly collaborative and supportive. Our faculty members are dedicated to teaching, research, and practice; their work is well published and highly recognized. School and University material resources available to our programs are significant, and our pedagogy is distinct. We are now in our 126th year of operations in South Bend and 54th year in Rome, where our third-year students receive a full year of instruction. This continuity reflects a steady, stable advance of a curriculum with a holistic sense of learning architecture in its place and context. Our school is today one of the oldest and most distinguished in the United States, and its pedagogy reflects the ideals of our University's Catholic mission.

Our programs encompass the ecological, the urban, and the architectural at the entire constructional range of the built world: from buildings, streets, gardens, and parks to neighborhoods, towns, and cities. Our students are exposed to the best design and building traditions of our country and of many others throughout the world, especially those where architects and builders have generated notable places over time. They are taught to consider these stellar accomplishments of past global cultures as foundational precedents and to use them wisely in their cultural sphere as ingredients in current architectural practice.

Our curricula emphasize intellectual inquiry as well as the teaching of composition, tectonics, and craft so that the most valuable lessons of historic precedent might be learned and expanded upon. Combined with the judicious consideration of contemporary programs, methodologies, and techniques, these emphases can contribute to the design of buildings, landscapes, and cities that are environmentally and culturally durable.

Scope

Educational institutions must operate on the basis of explicit educational objectives. Schools of architecture are no different. Architecture is a discipline that, as an essential part of the unity of all knowledge, should be taught under humanist objectives: central and true to its unique calling, but also understandable and relatable to all other disciplines. Pedagogies should be driven by a comprehensive ideal that inspires and directs all teaching and learning within their curricula. Since the collapse of ideological modernism in the 1970s,

mainstream architectural education worldwide has been focused on training starchitects. By contrast, we believe that architects should be educated to be first and foremost competent generalists—in other words, to be able to design urban settings of different kinds while stewarding the countryside around them, as cultures have done over millennia, from generation to generation, time after time and place after place. It is through this priceless endowment that architects can continue to serve their societies as compassionate, creative, and responsible leaders. The following statement of purpose is the foundation of our pedagogy at the University of Notre Dame School of Architecture:

At the University of Notre Dame, we educate the architectural leaders of tomorrow to address critical issues facing the world through the study of classical and traditional architecture and urbanism. Human flourishing necessitates sustainable development patterns that stand the test of time, facilitate a strong social infrastructure, provide a platform for general prosperity, and leave a better world for future generations. We believe these aspirations are best achieved by the design of adaptable, beautiful, and durable buildings and places. We draw precedent from traditional architectural, landscape, and urban forms that embody a human scale, respond to varied contexts, are calibrated for local climates, and relate to the material and spiritual needs of the varied societies of the world in a form specific to their culture.

Our undergraduate curriculum is delivered through the following component parts. Its subject matter is presented to the students each semester as a set of distinct topics, but in the process of instruction these topics constantly overlap in the content of various courses and studios.

1. FORMATION: In the course of five undergraduate years, our students are transformed from aspiring architects to young professionals. Part and parcel of this monumental shift in mindset is the cultivation of mental habits that are at the core of being an architect in the world today. Students begin with the slow accumulation of skills and the incremental advancement of confidence in design.

Key to this education process is learning about the nature of studio culture, being at home with criticism, finding one's voice, learning to collaborate with others and, most importantly, tapping into the flow of historical design knowledge and engaging with the richness of its ideas. Our students begin to understand and embrace the role that architects must play in their communities as agents for supportive placemaking for all. They start to appreciate the professional demeanor they must project by becoming aware that their work does not belong exclusively to them, but primarily to the people whose lives are meant to be elevated by its presence. This process is driven by curiosity, boldness, and dedication—the engine for lifetime learning. This ongoing process of formation and education can lead young architects to address the key issues of today and to discern the issues of tomorrow, which will be necessarily different from the ones that they experienced during their formative years.

2. GRAPHIC SKILLS: Human beings have a deeply rooted desire to define themselves through drawing. Learning how to draw expressively and precisely is, therefore, an essential human endowment that must be carefully cultivated as an important dimension of an architectural education. Eye-hand coordination is the fastest, most comprehensive faculty by which one can relate to the physical world. Drawing by hand provides for identifying, capturing, appreciating, and ultimately absorbing the qualities of the natural and built environment as they relate to the human body. It also develops a closer connection and a sense of empathy toward the subject. Aptitude in hand drawing is not required for being admitted to our school. It is taught over five years under a

method that depends entirely on a slow advancement in skills based on repetition. It proceeds from basic development in free, technical, and presentation drawing to a level of proficiency that supports the conception, development, and presentation of studio work.

During the fourth and fifth years of study, students learn how to integrate their hand drawing skills with digital media to assist in the development of their designs across a variety of scales, from the urban and architectural to the tectonic. In the process, they learn to produce final presentations of exceptional quantity, scale, medium variety, personal expression, and beauty.

3. LIBRARY SKILLS: Engaging in library research is the cornerstone of a precedent-based architectural education. Our curriculum draws on the resources available in the school's exceptional architecture book library and drawing archive to educate students on how to become familiar with the historic record of our discipline. Instruction in this area is not provided in specialized courses, but through the constant mentoring of students by the whole faculty. Faculty and students can freely request books to be added to our collection, and books openly circulate in the studios. The library of the school is a daily presence in the life of the students, helping them to develop the mental habits to seek texts, images, people, places, ideas, and past projects that may provide relevant knowledge and inspiration for their ongoing work. The utilization record of our library books is sensational. Out of a current collection of 36,000 volumes, 90 percent of them have been used over the last 10 years.

Throughout the years of study, the development of research skills supports both the academic work and the design studio work. The process begins by cultivating the students' familiarity with library resources and introducing them to the nature of academic research. It extends to learning how to navigate the physical library and online resources to research particular topics, discover precedents, and develop writing and citation skills. It culminates in the ability to explore complex topics and conduct independent targeted research specifically in support of a fifth-year thesis project, a graduation requirement at our school. It eventually helps students decide between a practice or academic professional path.

4. FOUNDATIONAL ARCHITECTURAL LEARNING: History & Theory, Technology, and Studio Design have been the traditional triad of architectural education since the beginning of US architectural schooling in the late nineteenth century. As it is described below, our school is unique among its peers in the United States and abroad in how it approaches instruction in these three areas. Our students are so comprehensively educated that their transition into professional practice is virtually seamless. Over the last decade, we have been ranked first or near first among the 136 US schools in the percentage of graduates who pass the professional registration exams every year. In the same time frame, the employment record of our graduating classes stands at a remarkable 100 percent. While these statistics are not the only criteria by which professional education should be judged, they reflect the excellence of our programs and are, in effect, a positive societal validation of our pedagogy.

- *History & Theory:* At Notre Dame we teach history and theory as the intellectual source for engaging in architectural design in the present. We believe that knowing how patterns of architectural intentions were considered in the past and how sets of buildings and places were constructed under their sway is fundamental to all design going forward. Undergraduate instruction in history and theory begins with exposure to the global history of architecture and the current state of architectural theory. It proceeds with a sequence of four courses in Ancient, Medieval, Renaissance, and Modern Architecture. The latter two are taught during the required third year in Rome with full access to extraordinary historical monuments and some of the best examples of urbanism anywhere. American Architecture is taught through the fourth-year studio and also as an elective course, as are issues of advanced theory. The fifth year brings all previous learning in this area to bear on a design thesis; this architectural project most often includes building, landscape, public space, and urban dimensions, and it is based on concrete historical precedents and specific programmatic intentions.

- *Technology:* At Notre Dame we impart lessons in all kinds of technology, high and low, active and passive, labor-intensive and machine-centered. We are convinced that competence in the design of a variety of structural and environmental control systems is necessary to successfully realize projects in different locations and climates. We are likewise convinced that construction systems should match the availability of the resources, technical skills, and cultural expectations of different societies.

  Instruction in this area of our curriculum begins with exposing our students to the ways materials and methods of construction translate into built form, and introducing them to the mechanics of structural systems. During their year in Rome, third-year students are given the opportunity to observe a variety of traditional systems and assess their structural elements and performance characteristics. The fourth year of study focuses on the design of contemporary structural and constructional systems in brick, wood, steel, and concrete. Fourth-year students also explore ways in which these translate into discrete design strategies for the foundations, frames, walls, envelopes, and roofs of buildings. They are also introduced to the study of environmental control systems that can provide human comfort in various climatic zones. During their fifth and final year of undergraduate study, students are introduced to ways of considering the illumination and acoustical design of buildings and integrating these along with the appropriate structural, mechanical, electrical, and plumbing systems into particular building types. This is accomplished as a discrete task during the fifth-year thesis project.

- *Studio Design:* At Notre Dame studio design instruction is based on the study and incorporation of classical and vernacular building and place precedents into contemporary work. We are certain that the most compelling examples of architecture and placemaking everywhere are those that partake of a culture of design, constructional economy, urbanity, and environmental frugality that vary by task and place. We encourage our students to turn their attention to these best practices as they also fully absorb inquisitive research and broad criticism in their daily engagement with design.

  Studios are organized according to a scale of increasingly elaborate scope and complexity. They are coordinated from year to year in terms of their subject matter and the learning expectations for the students. The first year is focused on introducing students to university education. It includes a course in architecture and visual literacy as well as studios dealing with composition, rendering, and technical drawing. The second-year studios are based on the design principles of classical and vernacular architecture and urbanism. They cover building composition, fluency in the steps of the design process, and the ability to design in plan, section, and elevation. The third year of studies is spent entirely in Rome. This immersive experience leads to a nuanced understanding of the variables and complexities of traditional architecture and urbanism and introduces students to the design of the landscape.

  Upon returning from Rome, and throughout the fourth year, students continue to operate within the classical and vernacular design traditions by designing projects first in the United States—in Philadelphia, Washington, DC, and Virginia—and then in multiple other contexts throughout the US and the world. These studios aim to develop nuanced thinking by stressing user and regulatory requirements, emphasis on programming and pre-design analysis, and understanding of climatic opportunities and constraints. The fifth year is framed as a final transition from the academy to the profession. It emphasizes independent learning; synthesis of the compositional, technical, and presentational lessons learned to date; and includes an elevated expectation of professional demeanor. The beginning of this last year of studios engages the students in the design of housing at scale in different settings. It includes instruction in thesis preparation and culminates in a demanding self-generated and expansive thesis project.

  Studios at every level are organized on the basis of a syllabus that specifies a range of topics to be mastered step by step as students advance within the program. These introduce issues that spur their imagination, creativity, and ability to think freely. Topics include the purpose of each studio—that is, the problems it is addressing and their relevance in the present; the understanding of classical, vernacular, and rustic architecture in typological and contextual terms, and the application of their lessons to a range of settings; the search for relevant historic precedents and their relevance to current design; the development of compositional skills for complex architectural programs; and the understanding of scale and massing, materials, urban and architectural character, and the public realm.

  The topics also include the technical dimensions of design, such as contemporary building structural and service systems, the mastering of user and regulatory requirements, and the place of sustainable systems and practices within the design of buildings and communities. Throughout their studio studies, students are encouraged to exercise their ability to command all the necessary dimensions of the design process, including programming, parti studies, precedent analysis, and the measurable environmental impact of their design decisions. Finally, their ability to develop their own conception of architecture is enhanced by training in verbal presentation and advanced communication through sketches, drawings, and models appropriate to the work at hand. Particularly important in this respect are media, like perspective, that enhance the optical conception, development, and presentation of architectural ideas.

5. GRADUATE PROGRAMS: Graduate education at the School of Architecture is pedagogically similar but more independent than that of the undergraduate program, and it is different in some key ways. For graduate students, the process of general student formation and the development of graphic and library skills can be compressed for a variety of reasons: Students bring clarity and focus to their studies, having already chosen architecture as a profession; they possess many of the necessary skills that allow them to cycle through course and studio content at a more rapid pace; and their heightened appreciation of the mission of the School of Architecture and the University allow them to progress through the program faster.

It is at the level of foundational architectural learning that the graduate programs vary most substantially from the undergraduate one. Architectural history is taught in a compressed two- course sequence. The method of teaching it is non-chronological and is based on a typological understanding of the propagation of architectural ideas. Theory is also covered in various required and elective courses, with particular emphasis on the study of treatises. This particular understanding of history enables the transfer of ideas from historical precedents into current practice more easily.

Technology is taught with a greater emphasis on its relevance to ongoing studio work and with the understanding that it will be applied to a range of architectural projects, from state-of-the-art technical developments to traditional methods of constructing and servicing buildings. Graduate students are guided to consider technology in the service of making beautiful buildings and places. That is, as much for its advantages as for its externalities, as these are currently becoming more and more obvious. Depending on the context that each architectural project is addressing, a range of technical solutions becomes available for consideration.

In studio design instruction, students who have studied various other disciplines can more readily question the failures of a contemporary, fragmented approach to planning and development. They also possess the interest and life experience to work on projects that involve institutions and communities that can be improved through architectural, urban, and landscape design; to work directly with citizens to learn about opportunities to provide beauty, meaning, and service to people that crave it. The degree program in preservation, resilience, and sustainability is particularly notable. Its scope extends beyond the study of distinguished buildings and building ensembles, to assess their performance in terms of long-term resilience and sustainability. This includes the consideration of the conservation, reuse, and reconstruction of fabric buildings and whole urban precincts.

The school's graduate offerings are being enriched to amplify the school's research capacity. We are in the process of generating and evaluating new knowledge that identifies classical and vernacular architecture and urbanism as important ingredients in the construction of a sustainable human habitat. This is being accomplished through new curricular offerings and research programs in three topical initiatives: Adaptive Buildings and Cities; Housing and Community Regeneration, and Mediterranean Studies in the Global North and South. These initiatives include hiring new research faculty and attracting the best students from around the country and the world to study tuition-free at the South Bend campus. They also involve establishing contacts at the administrative and research project level with other architecture schools throughout the world, and with schools and colleges within the University of Notre Dame. We see the design activities that flow from this kind of outreach as confirming the value of our school's pedagogy and solidifying our global reputation.

6. MISSION: The strictly artistic or technical dimensions of an architectural education cannot be divorced from the ideological ones. At the School of Architecture at Notre Dame, we are committed to the ethical formation of our students. We teach them to direct their aspirations, skills, and imaginations to do good in the world through their projects and practices. We guide them to discover the standards of design excellence of our discipline and to ensure that they understand the rules and virtues necessary to act within their context. We pursue these teaching goals within a Catholic university—a community dedicated to the discovery, exploration, and service of truths. The Catholic social mission of the University of Notre Dame illuminates every aspect of our pedagogy: protecting the dignity of all human beings, engaging in community building, practicing solidarity with those



in need, and subsidiarity in democratizing decision-making across the board. We consider this set of values and obligations to be universal and essential in ensuring a civilized, empathetic, peaceful, and prosperous world. It is this understanding of the true, the good, and the beautiful that allows our academic community to also recognize these truths wherever they may encounter them during their academic journey, including in other religious or philosophical traditions and in the experience of civic and everyday life.

Our social mission is practiced through the daily actions that flow out of the administrative decisions and academic delivery of our entire curriculum. Examples abound. Studios and courses emphasize understanding architecture both as a fine art and as a socially beneficial force. Early on, students become aware that they alone are responsible for safeguarding the values and needs of communities through their project work. Faculty-initiated studio programs and student-chosen thesis topics deal with classes of people and societies in need, conflict, or danger. Studio work that directly engages the participation of communities is common. Research that combines design, engineering, and policy in project responses to the environmental crisis has emerged. Students travel widely throughout the United States and abroad in pursuit of studio enrichment and individual study that supports the process of community engagement. By engaging in such socially, culturally, and spiritually sensitive work, students graduate with a clear understanding and optimism that the world they will be operating on as citizens and professionals is comprehensible, that humans are unique among all beings in their capacity to plan their future, and that they should, therefore, act with reverence for preexisting knowledge and for the benefit of all people.

Progression

The University of Notre Dame had the foresight to engage Thomas Gordon Smith as chairman of its School of Architecture more than thirty years ago. At the time, a number of architects around the world had rebelled against the techno-modernist project, and some had begun to teach traditional architecture in a few architecture programs. Smith was the only architect of his generation to found and lead an entire new program in architectural education and practice rooted in the classical tradition. His successors, Chair Bill Westfall and later Dean Michael Lykoudis, followed and extended the pedagogical foundations that Smith established to include urbanism—the traditional art of planning, designing, and inhabiting cities in nature.

The trajectory of our pedagogy over these years has propelled it to the center of the current worldwide ideological debate on the place of the built environment in addressing climate change and human flourishing. We find ourselves in a special position for a school of our size and geographical location, and we owe it all to the boldness and fearlessness of these academic leaders and faculty members, as well as the ongoing support that the University has extended to us over the years.

We should be proud that Notre Dame has been on this journey for a generation already. But for any pedagogy to flourish, it has to respond to the changing conditions of its time. From within, we regularly consider refinements to strengthen our programs and curricula. These are based on student feedback, changing interests and priorities of a faculty body in constant slow transition, and our collective willingness to adapt to the changing needs of the world around us. From beyond, the school is also subject to larger contemporary challenges like climate change and technological advancements like artificial intelligence. As we have done in the past, we will continue to adapt our pedagogy as necessary by remaining faithful to its humanist foundations: mining the past in order to inspire and guide our students to transform its wisdom into urban, architectural, and landscape forms relevant to the future.

The first school priority in the years ahead is to fully reestablish the premodern definition of architectural education as it existed before the fragmentation of architecture, landscape, and planning into separate departments at Harvard under the direction of Walter Gropius and others. That fateful decision contributed to an unprecedented situation three generations later, where architects are not considered knowledgeable or trustworthy enough to lead societies through their current challenges. We urgently need to restore a holistic approach to understanding and practicing building, landscape, and urban design; construction; interior design; real estate development; and planning as a single, integrated field of knowledge. Teaching it on our campus and promoting it fiercely in our country and in the world is imperative.

Other key priorities include near-permanent efforts to hire best-in-class professors to maintain and advance the school's academic status, as well as constantly improving our teaching facilities. Our faculty must meet our criteria for excellence in delivering our curriculum while reflecting the diverse and shifting demographic makeup of our student body. Securing school facilities— studios, classrooms, offices, workshops, and review spaces—to accommodate the school's growing academic and research footprint is also a never-ending task.

Restoring Reason, Beauty, and Trust in Architecture

Our program does not aspire to operate as a focus-limited classical academy in the manner of the Accademia di San Luca in seventeenth- and eighteenth-century Rome or the Academie Royale and the École des Beaux-Arts in seventeenth- to mid-twentieth-century Paris. Daily we are in touch with a world that is teetering on the edge of climate catastrophe. We are actively engaged in trying to address its causes, many of which are urban and architectural design-based, by being open to questions that we do not yet know or understand. As we are a proud part of a great University, we engage in climate-focused activities beyond narrow instruction: by research across a wider set of issues, faculty exchanges with other institutions, collaborations with colleagues in other schools and colleges within the University, and openness to change in the ways our faculty is assembled and our curriculum refined over time.

We impart to our students the significance of the continuity of ideas and forms, of architecture as the shaper of collective living, as a solid and durable expression of social and cultural values that are measured by centuries and not by a mere few years. Our students are educated in a program that strives to preserve and advance the classical and vernacular traditions of the world while engaging in new design that applies these traditions and transforms them for further consideration by future architects. At the same time, they are subject to intense cultural forces that pervade their lives, including the individualism that dominates the modernist global culture of the twenty-first century.

They graduate as informed and independent thinkers, committed to design beyond popular trends and short-term practices. They know that the mainstream architecture of our time is ideologically empty and practiced under an utterly failed urbanist agenda. They realize that the profession they aspire to join is dominated by fashion, obedience to narrow financial interests, and senseless technical and administrative constraints; they know it is complicit in the current global climate crisis. Yet despite all of this, upon graduation, they are not expected or obliged to engage in traditional architectural practice as a matter of faith alone. Most of them do

so as a matter of choice. As they possess the necessary skills, ideas, values, and an operative mission in their lives, they are sought after by professional firms and eventually become reformist design leaders in a relatively short period of time. The ones who choose to follow alternative ways of practicing can still design with compositional and tectonic rigor, urbanist and environmental skill, and with a commitment to serving our social mission. Finally, the few who choose academia or public service do so with great conviction. There are currently over one hundred firms in the United States dedicated to the practice of a new traditional architecture and urbanism, many led by graduates of our programs.

Over the last thirty years, our school has developed a pedagogy that seeks cultural continuity, community, and harmony with nature through mindful design. It is a vital point of departure for addressing the urban and environmental changes that all societies currently face. We consider our pedagogy's goals, content, and methodological rigor, as well as its commitment to both substance and change, as part of a legitimate campaign to restore architecture to its millennial role: generating the most diverse possible human habitat with reason, beauty, intelligence, justice, and peace in mind. This lesson has not escaped the attention of citizens, educators, and practitioners in other parts of our country and the world. Seen from within and from afar, our school is becoming a source of hope that our beloved profession can be trusted again to restore placemaking in the city and nature as the core ingredient for human happiness and well-being.

STEFANOS POLYZOIDES
Professor of Architecture
Francis and Kathleen Rooney Dean
University of Notre Dame
South Bend, Indiana, USA
February 16, 2024

Page 4

Left column, from top: Demetri Porphyrios, Interamerican Headquarters Office Building, Athens; Ben Pentreath, Poundbury Royal Pavilion, Poundbury, UK; Robert A. M. Stern, Schwarzman College, Beijing; Robert Adam, Delaford Park House, Buckinghamshire, UK. Right column, from top: Léon Krier, Town Hall at Windsor, Florida; Peter Pennoyer, House at Millbrook, New York; Robert Krier, Cité Judiciaire, Luxembourg.

Page 7

Top, from left: Sebastian Treese, Julia Treese, Jan Burggraf, Eisenzahnstrasse 1, Berlin; Allan Greenberg, Tommy Hilfiger Flagship Store, Beverly Hills, California. Bottom row, from left: Rafael Manzano Martos, Casa Fernando Chueca, Seville; Scott Merrill, Windsor Town Centre, Windsor, Florida.

Page 8

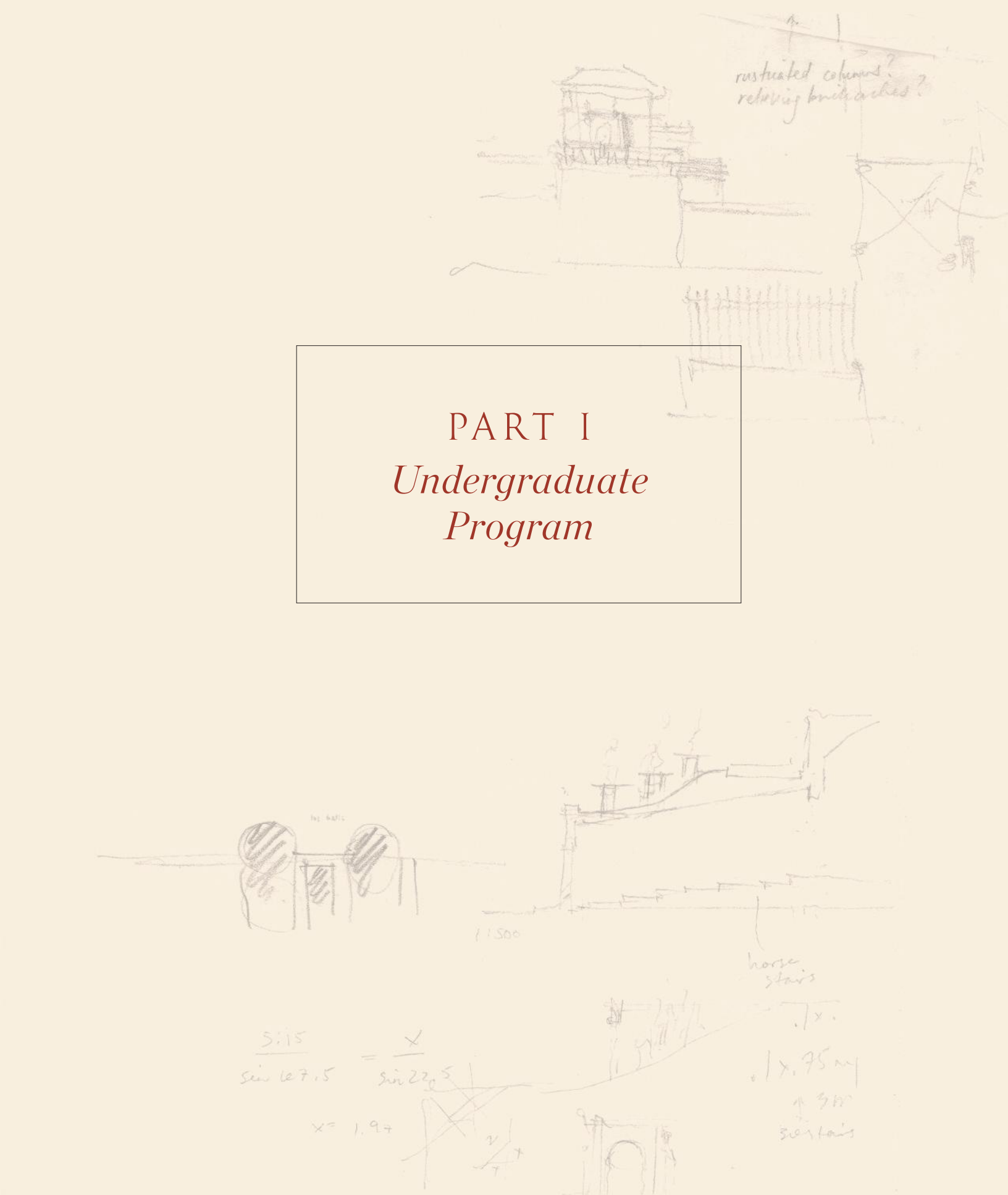
Top, from left: Thomas H. Beeby and HBRA Architects, US Federal Building and Courthouse, Tuscaloosa, Alabama; Michael Graves, Minneapolis Institute of Arts, Minneapolis. Bottom, from left: Jaquelin T. Robertson, Broad Street Charleston County Courthouse, Charleston, South Carolina. Pier Carlo Bontempi, Masone Labyrinth, Parma, Italy.

Page 10

Top, from left: Quinlan Terry, Richmond Riverside Development, Surrey, UK; Marc Breitman and Nada Breitman-Jakov, Serris, Val d'Europe, Hi Park, France. Bottom, from left: DPZ CoDesign, Seaside, Santa Rosa Beach, Florida. Ong-ard Satrabhandu, Rachamankha Hotel, Chiang Mai, Thailand.

Page 13

From left: Abdel-Wahed El-Wakil, Quba Mosque, Medina, Saudi Arabia; David M. Schwarz, Nicholas S. Zeppos College, Vanderbilt University, Nashville; Maurice Culot, the Tower of the Piazza, Val d'Europe, France.



PART I

Undergraduate Program

Piazza del Duomo, Florence. Sketch by Beth Gribschaw. Professor Selena Anders, Fall 2022.

TEACHING ON THE SUSTAINABLE ENVIRONMENT

MING HU | POINT 1 & 3

For any architectural education to be successful in adapting to climate change, local wisdom rooted in a deep understanding of the land, nature, and culture must be prioritized over shining new technological advancements. Our intention is to teach students to understand that we are students of nature and all the local, regional, and shared building traditions of the world, without exception. We focus on their diversity of means and responses to climate and culture.

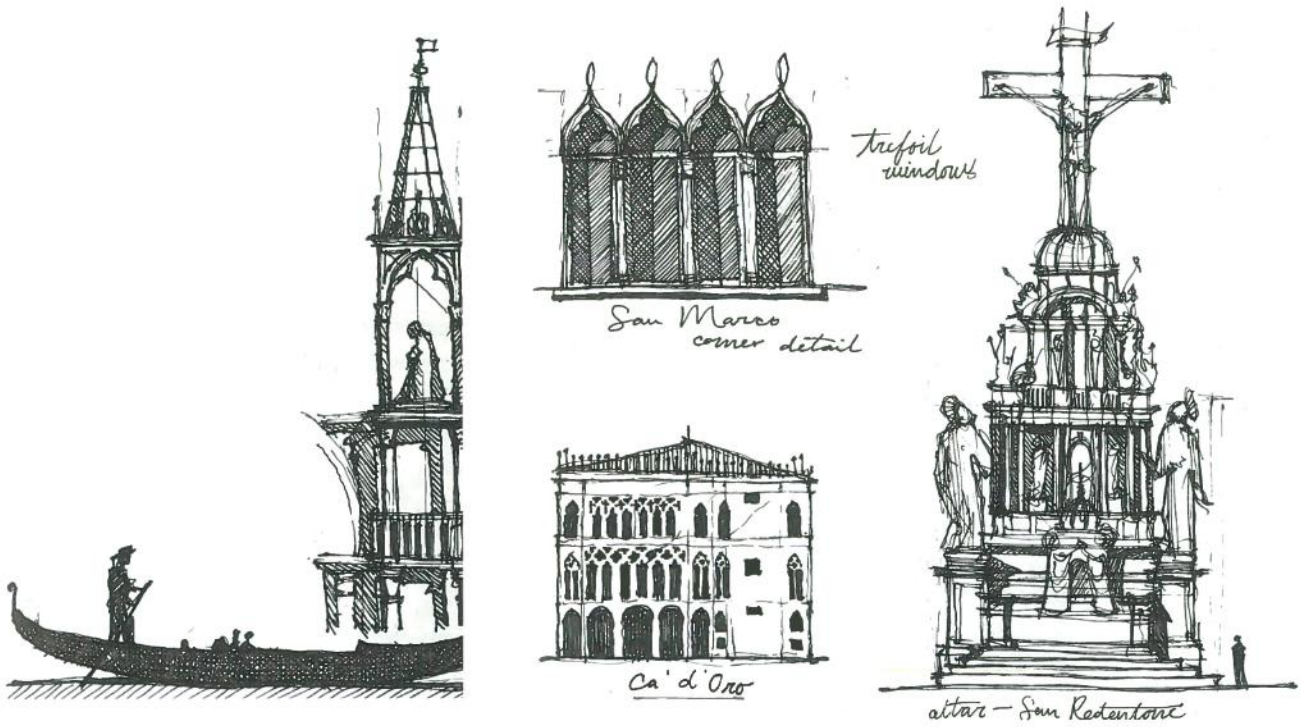
Three categorical sustainable areas of knowledge, outlined below, can be learned from vernacular and traditional architecture: sustainability requires contextual factors; design must highlight reuse with low tech; and culturally appropriate solutions should be chosen.

First, sustainability requires plural but contextual approaches to global challenges. With 194 countries and the EU joining the Paris Agreement, addressing climate change is a global commitment through political will. In line with this commitment, buildings must be constructed to be carbon neutral by limiting both operational carbon (i.e., emissions because of heating, cooling, lighting, and power) and embodied carbon (i.e., construction-related emissions).

The Western solution to this shift toward low-embodied carbon buildings has been mass timber construction, in which the advantages of wood—regarding renewability and atmospheric carbon sequestration—are utilized through products (e.g., cross-laminated or glue-laminated timber) to reduce a building's carbon footprint. While timber buildings are promoted at a global scale,[1] the extent to which the present and future demands of the construction industry can distress the available forests is less clear. In fact, the largest forest areas allowing for the sustainable sourcing of wood building materials exist in developed countries, notably in North America and Europe,[2] while the largest building stock growth happens in developing countries—Asia and Africa—some of which are experiencing significant population growth.[3] Accordingly, the application of timber buildings as a one-size-fits-all approach to all building types may not be a solution for many developing regions. Research has shown that approaches like sustainable forest management may not be effective in all countries and can even be associated with higher deforestation in some low-income economies, mainly due to the increased foreign investment and international timber demand.[4]

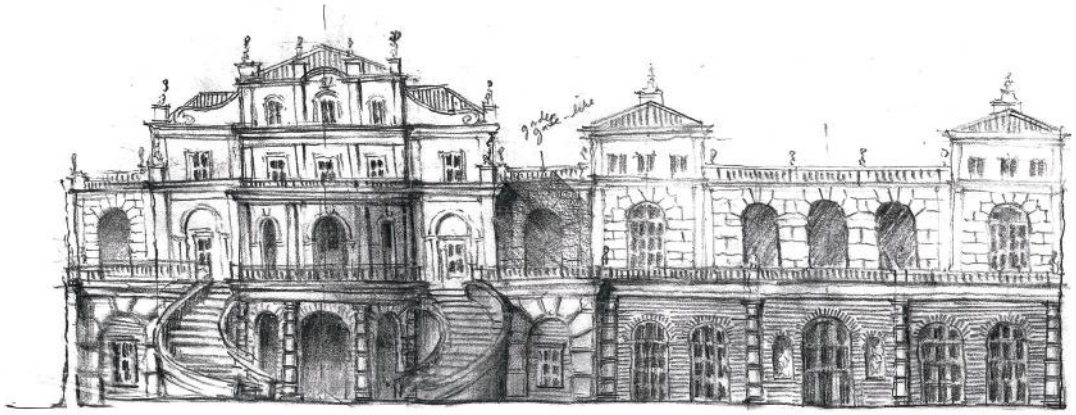
In these cases, locally available low-carbon materials found in vernacular architectural practices can be creatively used in modern construction. Straw bale, for example, is a renewable waste byproduct of grain production of crops[5] and has been traditionally used in vernacular buildings in Africa,[6] the Middle East, and Asia.[7] Recent scientific research indicates it has superior thermal properties, as compared with concrete, brick, and wood.[8] Using natural materials in construction based on their local availability can reduce embodied carbon and emission particulates released from burning.[9]

Second, design for low-tech, low-impact versus high-tech, high-impact. Ecological economist and Nobel laureate Herman Daly defined sustainable development as development without growth (i.e., qualitative improvement without a quantitative increase). The development must occur within the biosphere boundaries and be treated with extraordinary caution and by considering its rebound effects, especially in growing economies where technological advancement has a higher potential to yield increased resource consumption through growth rates, intensive use, and other factors. In a low-tech and low-process approach to construction, designing for a longer life span, spatial and structural reusability, and adaptiveness to different conditions can enhance the quality of architecture and limit demand



for new construction. This approach is the opposite of most modern practices in which buildings are designed and constructed for short life spans, serve specific purposes (e.g., office buildings), and are fully demolished once their life span is complete. Part of the problem is construction techniques and materials that make it extremely difficult to disassemble building components. Design for reuse, especially for disassembly, has long existed in traditional construction worldwide. In Europe, the scarcity of suitable timber in the Middle Ages led to the regular reuse of major structural members in buildings.[10] Traditional Chinese and Japanese wood houses were constructed using primary and secondary frames, with the secondary timber members conveniently disassembled and remodeled with few tools. In Japanese, the term *kaitai shūri* means "repair by disassembly," meaning that traditional wooden buildings were entirely or sometimes partially disassembled and reassembled with repairs, where the primary and secondary structures could be repaired and maintained to extend the building service life.[11]

Third, design with a cultural foundation. Cultural relevance has been at the core of architecture for centuries, created through a process of trial and error by civilizations worldwide. Accordingly, vernacular and traditional architecture has continuously evolved to generate features and forms that adapt to the living cultures and collective wisdom of its community. An example is *mashrabiya*, a perforated screen made out of cut stone or wood[12] (Bagasi and Calautit, 2020) and used as a distinctive feature of traditional architecture in some Islamic countries. Its design is based on environmental, social, and cultural factors,[13] and the screen's porosity serves multiple functions: it enables air circulation, generates shading and protection from intense sunlight, and creates privacy while allowing for outdoor visibility. *Yakhchal*—ancient Persian ice houses—relied on their dome-shaped forms, underground structure, and the thermal mass provided by thick adobe to provide a local architectural solution to a practical and climatic challenge (i.e., the need to store ice for summertime use in hot and arid conditions). Until the collapse of cultural frontiers in the twentieth century, these distinctive local forms dominated architecture in different societies, and their aesthetics were the co-product of technological availability, environmental responsiveness, practicality, and cultural relevance. In this sense, judging the quality of architecture based on one beauty norm underestimates the complexity of variations in personal preferences and experiences as shaped by factors.



REFERENCE

Alcorn, Andrew, and Michael Donn. (2010). "Life Cycle Potential of Strawbale and Timber for Carbon Sequestration in House Construction." 2nd International Conference on Sustainable Construction Materials and Technologies, 885–895, Ancona, Italy., 2010.

Bagasi, Abdullah Abdulhameed, and John Kaiser Calautit. "Experimental Field Study of the Integration of Passive and Evaporative Cooling Techniques with Mashrabiya in Hot Climates." *Energy and Buildings* 225 (October 2020): 110325. https://doi.org/10.1016/j.enbuild.2020.110325.

Fukuda, MihĐ. "'Repair by Disassembly'(Jap. Kaitai ShĐri) in Japan." In *Authenticity in Architectural Heritage Conservation*, 247–60. Cham, Switzerland: Springer, 2017.

Göswein, V., J. Arehart, F. Pittau, F. Pomponi, S. Lamb, E. Zea Escamilla, F. Freire, J. D. Silvestre, and G. Habert. "Wood in Buildings: The Right Answer to the Wrong Question." *IOP Conference Series: Earth and Environmental Science* 1078 (2022): 012067. https://doi.org/10.1088/1755-1315/1078/1/012067.

Hamilton, I., O. Rapf, D. Kockat, and D. S. Zuhaib. "2021 Global Status Report for Buildings and Construction." Nairobi: United Nations Environmental Programme, 2021. https://www.unep.org/resources/report/2021-global-status-report-buildings-and-construction.

Kraxner, Florian, Dmitry Schepaschenko, Sabine Fuss, Anders Lunnan, Georg Kindermann, Kentaro Aoki, Martina Dürauer, Anatoly Shvidenko, and Linda See. "Mapping Certified Forests for Sustainable Management: A Global Tool for Information Improvement through Participatory and Collaborative Mapping." *Forest Policy and Economics* 83 (October 2017): 10–18. https://doi.org/10.1016/j.forpol.2017.04.014.

Kubba, Sam. "Chapter Six—Green Building Materials and Products." *Handbook of Green Building Design and Construction*, 2nd ed., 257–351. Oxford, UK: Butterworth-Heinemann: 2017.

Marques, Beatriz, António Tadeu, João Almeida, Julieta António, and Jorge de Brito. "Characterisation of Sustainable Building Walls Made from Rice Straw Bales." *Journal of Building Engineering* 28 (March 2020): 101041. https://doi.org/10.1016/j.jobe.2019.101041.

Onyegiri, Ikechukwu, and Iwuagwu Ben Ugochukwu. 2016. "Traditional Building Materials as a Sustainable Resource and Material for Low-Cost Housing in Nigeria: Advantages, Challenges and the Way Forward." *International Journal of Research in Chemical, Metallurgical and Civil Engineering* 3 (2): 247–52.

Peters, Tom F. *Building the Nineteenth Century*. Cambridge, Mass: MIT Press, 1996.

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1 J. S. Brandt, C. Nolte, A. Agrawal, "Deforestation and Timber Production in Congo after Implementation of Sustainable Forest Management Policy" *Land Use Policy* 52 (2016): 15–22. See also World Economic Forum, "5 Reasons Why Sustainable Timber Must Become a Core Global Building Material," World Economic Forum, January 24, 2023, https://www.weforum.org/agenda/2023/01/sustainable-timber-core-building-material.

2 Florian Kraxner et al., "Mapping Certified Forests for Sustainable Management: A Global Tool for Information Improvement through Participatory and Collaborative Mapping." *Forest Policy and Economics* 83 (October 2017): 10–18. https://doi.org/10.1016/j.forpol.2017.04.014.

3 V. Göswein et al., "Wood in Buildings: The Right Answer to the Wrong Question." *IOP Conference Series: Earth and Environmental Science* 1078 (2022): 012067. https://doi.org/10.1088/1755-1315/1078/1/012067. See also I. Hamilton, O Rapf, D Kockat, and D. S. Zuhaib, "2021 Global Status Report for Buildings and Construction: Towards a Zero-emission, Efficient and Resilient Buildings and Construction Sector." Nairobi: United Nations Environmental Programme, 2021.

4 Brandt, Nolte, Agrawal, "Deforestation," 15–22.

5 Ikechukwu Onyegiri and Iwuagwu Ben Ugochukwu, "Traditional Building Materials as a Sustainable Resource and Material for Low Cost Housing in Nigeria: Advantages, Challenges and the Way Forward." *International Journal of Research in Chemical, Metallurgical and Civil Engineering* 3, no. 2 (2016): 247–52.

6 Onyegiri and Ugochukwu, "Traditional Building Materials."

7 Sam Kubba, "Chapter Six—Green Building Materials and Products." in *Handbook of Green Building Design and Construction*, 2nd ed. (Oxford, UK: Butterworth-Heinemann, 2017), 257–351.

8 Beatriz Marques et al., "Characterisation of Sustainable Building Walls Made from Rice Straw Bales." *Journal of Building Engineering* 28 (March 2020): 101041. https://doi.org/10.1016/j.jobe.2019.101041.

9 Andrew Alcorn and Michael Donn, "Life Cycle Potential of Straw Bale and Timber for Carbon Sequestration in House Construction." 2nd International Conference on Sustainable Construction Materials and Technologies (Ancona, Italy, 2010), 885–895.

10 Tom F. Peters, Building the Nineteenth Century (Cambridge, Mass: MIT Press, 1996).

11 Miho Fukuda, "'Repair by Disassembly'(Jap. Kaitai ShĐri) in Japan." In *Authenticity in Architectural Heritage* Conservation, ed. Katharina Weiler and Niels Gutschow (Cham: Springer International Publishing Switzerland, 2017) 247–60.

12 Abdullah Abdulhameed Bagasi and John Kaiser Calautit, "Experimental Field Study of the Integration of Passive and Evaporative Cooling Techniques with Mashrabiya in Hot Climates." *Energy and Buildings* 225 (October 2020): 110325. https://doi.org/10.1016/j.enbuild.2020.110325.

13 Bagasi and Calautit, "Experimental Field Study."

Opposite page: Sketches of Venice by Beth Gribschaw. Professor Selena Anders, Fall 2022.
This page: South Elevation Sketch by Emily Fuchs. Professor Selena Anders, Spring 2023.

Urban Esquisse, Las Catalinas, Costa Rica. Completed by Jennifer Burke, Marie Cross Lopez, George Cruess, Carolina Fábrega, Paige Mariucci, Martin Sandberg, Tiffany Tran, Andrea Vergara Bernal for Design Studio. Professor Samir Younés, 2010.

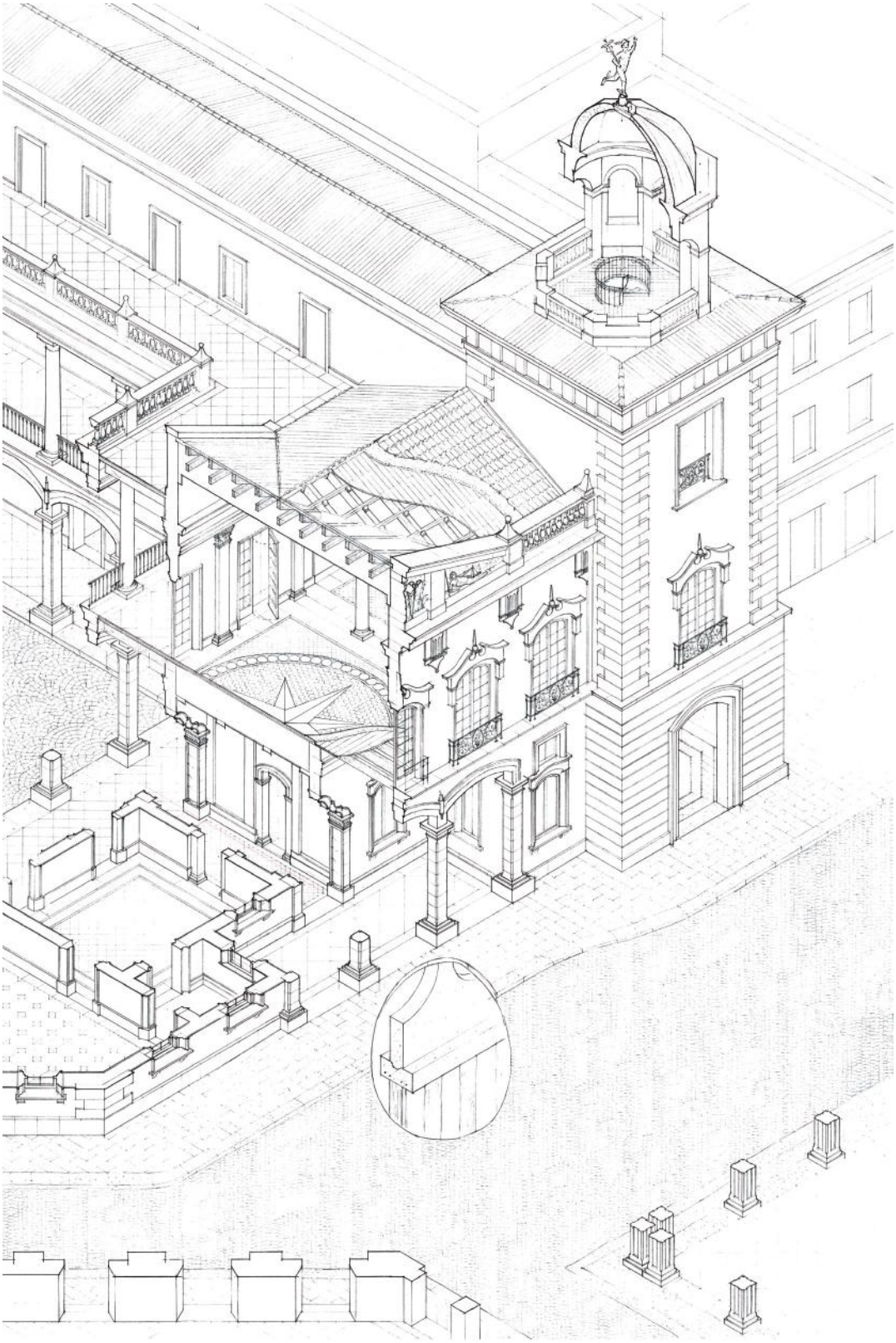
ON SIX INTERRELATED CONCEPTS IN ARCHITECTURE

SAMIR YOUNÉS / POINT 2

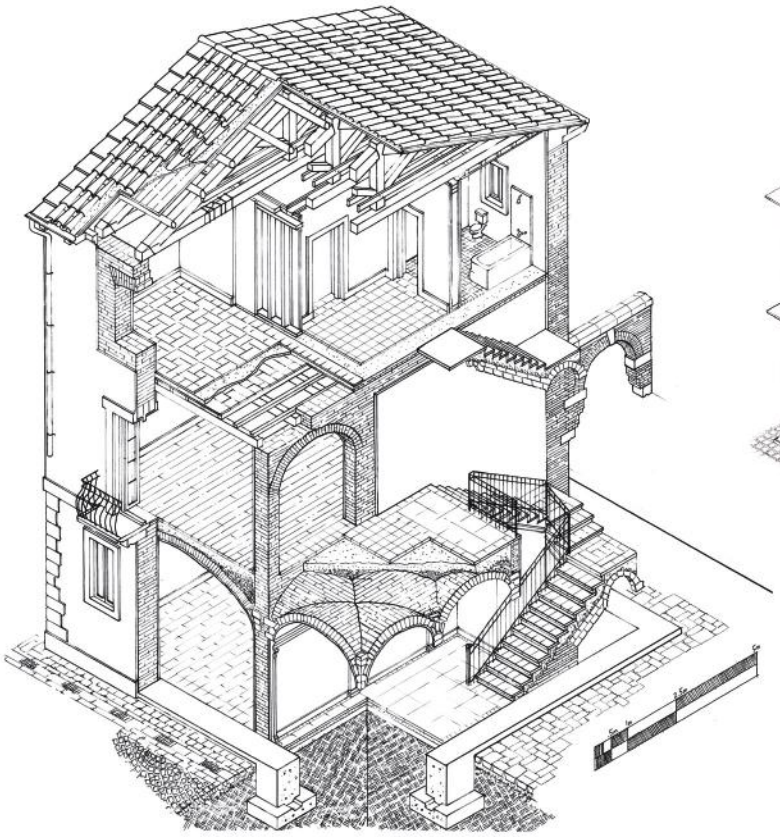
All of the world's architectural traditions, in their successes and failures, are now available for our use. This is one of the most significant cultural conditions since the eighteenth century. To judiciously blend the right lessons from this ever-accumulating knowledge with the intelligence of our own experience requires working toward a far-reaching goal: the durable co-evolution between Nature and the City. How we pass on this wisdom to future generations depends on certain foundational concepts which are indispensable to this vital form of making called architecture—which at its best, enables us to wisely dwell within Nature, and to wisely build the City within Nature. Such foundational concepts frame the very existence of architecture, and indeed every artistic practice. They include the entwined relations between ***conventions*** *and* ***traditions****,* ***imitation*** *and* ***invention****, the* ***vernacular*** *and the* ***classical****, or* ***civic****, all of which amount to a wide-ranging architectural knowledge. How these six concepts are entwined, how they cohere, form at once the high goal(s) and essential test of the teaching of architecture at the University of Notre Dame.*

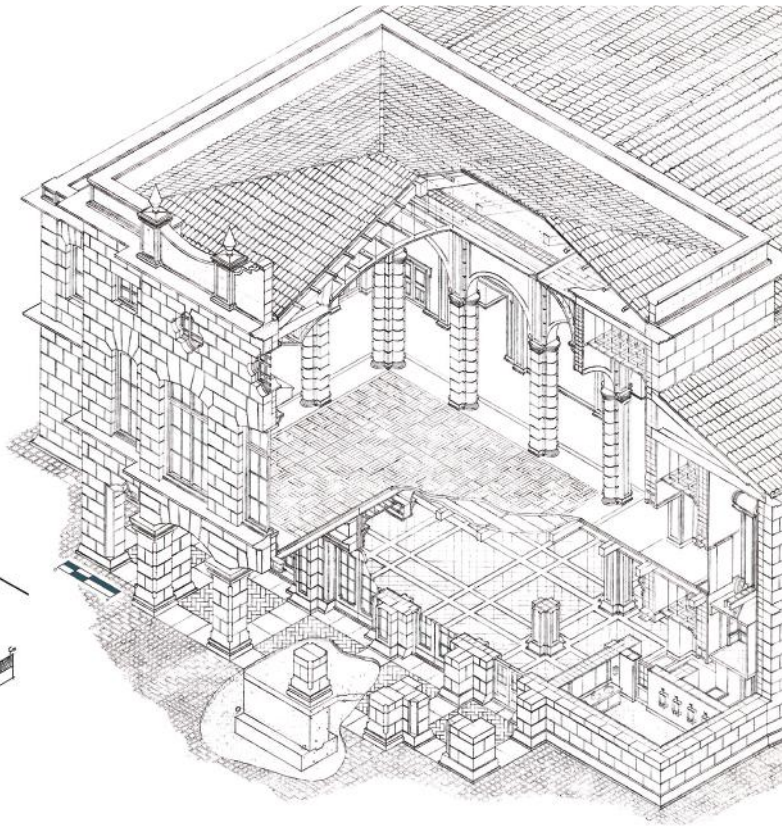
Conventions (Latin: *con* and *venire*, to agree upon) imply an alliance of thought that is collectively elaborated and transformed. More than simply inherited common sense, architectural conventions at their best exemplify a *sense-in-common*: the purposeful agreement or consensus-building efforts between many minds to elaborate a shared artistic practice. Put differently, conventions embody collective rationality. Conventions are at once poietic (Greek: *poiein*, to make, to shape) and practical, and as such they are the means of imitation and invention. They are poietic in the sense of the underlying reasons for architectural form (composition, tectonics). They are practical as a means to apply and modify the lessons of the building experience to suit the exigencies of present construction with special attention to execution or realization. Practical conventions also concern the crafts used to embody architectural knowledge.

Conventions and their larger regional assemblies, known as **traditions**, converge a broad range of architectural experience, especially the kind of experience that intelligently challenges and improves accepted wisdom. Conventions, and larger traditions, are teachable because they embody the rationality of successful building experiences —but with an important caveat. Too rigid an application of conventions places constrictions on inventiveness. Too lax an application of conventions leads from license to caprice, and from caprice to the corruptly uncanny. We see this when individual taste and expression are considered as the only determining guide, and thus come to be understood as logical opposites of conventions. Yet contrary to some beliefs, conventions sometimes benefit from license, because while licenses are exceptions to agreements on rules of practice, they do not necessarily imply rejecting such rules. Indeed, as individual interpretations, some licenses reinforce accepted rules or conventions by accepting them as larger collective experiences. Tempered by reason and propriety, license can be useful for invention. *Between the modernist rejection of conventions and the traditionalist respect for conventions, we tend to forget that many conventions used to be inventions*.



This page: Tectonic Section of an Academic Institution, Havana, Cuba. Completed by Mark Santrach for Design Studio. Professor Samir Younés, 2013.
Opposite page, left: Tectonic Section of Apartment in San Gregorio, Italy. Completed by Caleb Laux for Design Studio. Professor Samir Younés, 2009.
Right: Tectonic Section of New Theatre, Havana, Cuba. Completed by Matthew Cook for Design Studio. Professor Samir Younés, 2013.





Imitation in architecture provides the intellectual discipline that enables the architect to judicially select and unify relevant aspects of the building experience. In larger terms, this is the truly instrumental value of historical knowledge. But mere antecedence is insufficient for a building to become exemplary for one's use in the present. Age-value alone is insufficient for a building or a convention to become truly operative precedents. Therefore, reason is vital in selecting what is properly and directly useful for the daily intellectual life of the architect in the service of present needs and the greater service to Nature and the City.

Imitation is categorically distinguished from the copy. The copy implies identical repetition, while the imitation implies the production of dissimilar buildings based on a common set of principles (e.g. architectural types and characters). Far from making objects out of nothing, **invention**, as a combinatory art, seeks to improve the rational choice made from preceding experiences based on a justified need. Thus, imitation and invention are an inseparable couple. This is one of the major distinctions between modernism and modern traditional architecture. For modernism, invention is an end in itself; it is opposed to imitation, and it conflates the imitation with the copy. For modern traditional architecture, imitation and invention are two facets of the same coin. Imitation and invention mold the student because they molded the teacher as well as the teacher's own exemplars.

The term ***classical*** has had many meanings throughout history, and it is given several meanings among modern traditional architects as well. Ever a synonym for excellence in the visual and literary arts, the concept of the classical in architecture has been used to designate either historical or qualitative categories. In certain historical contexts, it designated the Periclean, the Augustan, the Carolingian renaissance, the Mauryan dynasty in India, the Tang dynasty in China, the Renaissance in many countries since the late fifteenth century, the so-called neoclassical period, and many derivations of these traditions operating in the twentieth century, as well as the re-elaboration of modern traditional architecture since the late 1970s. As a qualitative category, the classical has been frequently used as a value judgment associated with maintaining desirable principles such as rationality, harmony, symmetry, propriety, noble simplicity, solidity, and

Top: Masterplan Section of New Town in Las Catalinas, Costa Rica. Bottom: New Town in Las Catalinas, Costa Rica, Waterfront, Section One. Collaborative studio work completed by Kennedy Collins, Abigail Courtney, Amy Dunbar, Whitley Esteban, Daniel Ostendorf, Joseph Peterson, Kathleen Puls, Christine Tiffin. Professor Samir Younés, 2011.

durability. Most importantly, the terms *classical* and *traditional* are entwined with received knowledge and the authority of reason. *But if tradition has authority, it is the authority of reason*.

Currently, the term *classical* is applied in three general ways. One is a historical application: that which is termed classical designates only the architectures of ancient Greece and Rome as the foundational architectures of Western countries. A second application is slightly broader: that which is termed classical includes the derivatives of Greek and Roman architectures in their disseminated movement throughout Europe, North and South America, and former colonies around the world. A third application is much more inclusive and cross-cultural in its scope. Indeed, it includes and transcends the first two. It considers the classical as part of a broad range of architectural expression that spans from the private realm to the public realm, respectively designated as the **vernacular** and the **civic**. Reasoned comparison between multiple architectural traditions throughout the world reveals that they contain a range of architectural expressions that answer the needs of the most humble private house in the countryside to the most elaborate commemorative public edifice. The composition of architectural elements in modest or private constructions (sills, lintels, rafters, openings) find themselves transformed, refined, ennobled in the composition of buildings that serve the public realm, be it a village or a city. Simple lintels become architraves, ordinary rafters become modillions, windows become aedicules, and a modest porch becomes an impressive arcade. If the constructions of the private realm are termed the vernacular and those of the public realm are termed the civic or classical, then both the vernacular and the classical grow from one another and mutually partake in conforming one another with propriety. Put differently, the range between the vernacular and the classical corresponds to the range between construction and architecture—a distinction already present in the Vitruvian text.

The two general categories of traditional architectural expression then, the vernacular and the classical, or civic, are inseparable. Both partake in forming the sense of place. No city is made of private buildings exclusively nor public edifices exclusively. It is in comparison with private buildings that the civic edifice gains its hierarchical value, its figurative distinction, its proper sovereign monumentality. The city

Dos Pueblos Research Institute, California. Collaborative studio work completed by Thomas Assad, Jack Darnell, Joseph Faccibene, Lito Moroña, Jessica Most, James Pescio, Darrien Yafai, Mary Rzepczynski, Esteban Salazar, Ethan Scott, Joanna Skros. Professor Samir Younés, 2020.

This page, top: Dependencies of the Monastery of San Cristobal, Cusco, Peru. Completed by Sharon Yehnert for Design Studio. Professor Samir Younés, 2022. Bottom: Market and Palacios, Havana, Cuba. Completed by Joseph Abbamonte for Design Studio. Professor Samir Younés, 2014.

Opposite page: Reconstruction of San Gregorio, Italy. Collaborative studio work completed by Nicole Bernal-Cisneros, John Brady, Brian Droste, Ernesto Gloria, Alejandra Gutzeit, Laura Hattrup, Caleb Laux, Paul Masino, Daniel Morales, Nathaniel Savona. Professor Samir Younés, 2009.

finds its completion in the judicious combination of the private and public realms even if present conditions in many cities betray a divorce between architectural character and propriety. The architecture of the public realm (e.g. the municipality) is presently in retreat in comparison to the architecture of the private realm (e.g. the office). Powerful private interests use the most ostentatious architectural extravaganzas (skyscrapers that invert the hierarchy of the public and private realms) and are served by architects who place their own personal expression over and above the public realm. *That is why many architects build in the city, but fewer architects build the City*. Building the city, for the foreseeable future, will likely include, at best, fragments of urban order.

By definition, **traditional knowledge** is rooted in reason and what is deservedly enduring in tradition. Traditional knowledge can ever be renewed, revised, and adapted to best suit present exigencies in view of dwelling in an enduring way within Nature and the City. Blindly repeating a tradition is an affront to reason. Blindly rejecting a tradition is also an affront to reason. The soundness of tradition derives from the soundness of reason. In other words, soundness of tradition derives from the continual reflection, agreement, and disagreement between many minds contemplating the same concerns and enriched by the wisdom of experience. *Continuity is judiciously approved where architectural production has rationally been proven successful, and change is carefully approved where and when there is a rational need to depart from a practice that has failed*. Such is the rationality of traditional architecture as a modern practice. Following the hard-earned lessons since the Renaissance and the Enlightenment, the practice of tradition stands to benefit from avoiding the belief in an unsurpassable and idealized past, and the belief in an unknown idealized future that will somehow emerge from a technologically determined reality. The use of collective reason, however, is not a safeguard against error. Consider the catastrophes that deeply wounded Nature and the City, catastrophes resulting from the rationality of modernism. Reason can err. It cannot always be vigilant, but it can always be reformed.

Analytique Drawing describing a courtyard building in Rome, including urban context and details. Alexander Preudhomme, Design III, Professor Selena Anders, Fall 2015.

UNITY AND DIVERSITY IN ARCHITECTURAL FORM

KATE CHAMBERS | POINT 3

Architectural historians have recorded the history of our built environment as a series of connected but disparate building cultures. And while classical architecture has a mythologized single beginning in Laugier's primitive hut, the reality of classical architecture's origins is more complex. Around the world, cultures have defined a canon of traditional forms that relate to individual cultures. These forms also relate to the universal, which can be defined as architectural type. This juxtaposition between the specific and the universal is what creates unity and diversity in the world traditions of classical and traditional architecture.

The universal forms of architecture relate primarily to two things: material properties and human nature. Although different cultures have explored and utilized disparate materials, there are structurally sound materials that show up consistently around the world. Those materials tend to be used in similar ways in different cultures because their physical properties lend themselves to specific forms of constructions. For example, stone is strong only in compression, while it is extremely weak in tension. Because of this, stone is stacked to create walls or arched forms that put stone in compression. So while we have different types of stone masonry throughout the world, the material properties of stone allow for certain applications to become commonplace. Wood, by contrast, is good in compression and tension and has a wider range of architectural expressions throughout the world. Even so, there are forms that are repeated over and over by cultures that historically had little to no interaction. This is because, while the cultures are different, the primary impetus behind building is the same: to create strong and durable shelter. Forms like pitched roofs, which shed water, and rectangular forms that are simple to construct are found consistently throughout cultures.

Related to the idea of sheltering is the role of human nature in architectural design. Humans around the world are more similar than different, and their architectural expressions are no exception. As groups of humans around the world sought to create shelter, their solutions tended to have similarities. Furthermore, outside of the basic need to create shelter, most cultures emphasize similar activities and create structures to support those activities, like commerce and religious and cultural affairs. These types of spaces, though they are designed by and for extremely unique cultures, tend to have similar characteristics because they are designed to support humans interacting and performing in similar ways.

These universal characteristics have been explored as architectural types. The idea of architectural types or typologies is that we can distill all architectural forms around the world, regardless of culture or location, into a series of universal forms that relate to the use and planometric layout of the building. These architectural types are useful in understanding how world architecture and disparate cultures are, in fact, connected and related as a universal architectural language. Through the understanding of architectural types, one can pursue study of any architecture and relate it to this universal understanding of architectural forms. While these architectural forms on their surface might not look the same, their underlying forms and uses link them across time and space, creating an ever-evolving but continuous architectural tradition.

Beyond architectural type, climate is one of the greatest drivers of architectural form. There are four ba-

sic climates that dictate how we build: hot-humid, hot-arid, temperate, and cold. Each of these climates has historically led to architectural solutions that helped humans thrive before the use of heating and cooling systems. Climate begins to create variation in architectural form. So while these forms can still be described by universal architectural types, the architecture in different climates is varied. We find that across the world, similar climates have produced similar architectural forms even if expressed in dissimilar materials. These designs are efficient and durable because they do not rely on mechanical systems for basic human comfort. Buildings in cold climates tend to be compact and stout, while those in hot-humid climates tend to be more open to allow for breezes to pass through the buildings. Studying historical architecture can help us to design efficiently so that our buildings are less reliant on mechanical systems and more resistant to the elements.

The particulars of local variation are what give each region or culture its individual, unique architectural identity within the broader set of universal architectural principles and climatic variation. Each culture's values and identity are linked to their local building traditions. These building traditions are the result of available building materials and building technologies, local climate, and the culture. Within these variations each region has a hierarchy of architectural expressions from the vernacular, the simplest and least ornate forms, to the classical, which has the power to imbue meaning in architecture. Each of these individual forms relates both to the universal and the particular, expressing fully unity and diversity in architecture.

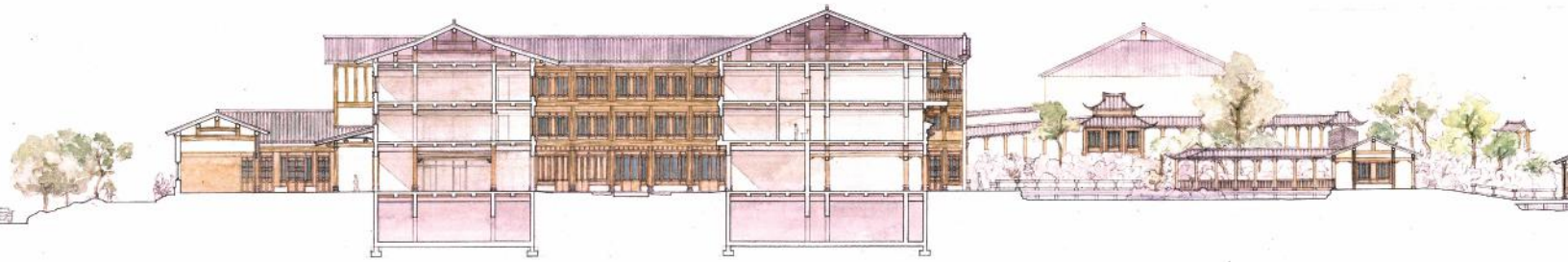
Cultural variation provides perhaps the greatest distinction between architectures across the world. Cultural variation accounts for both the unique needs of

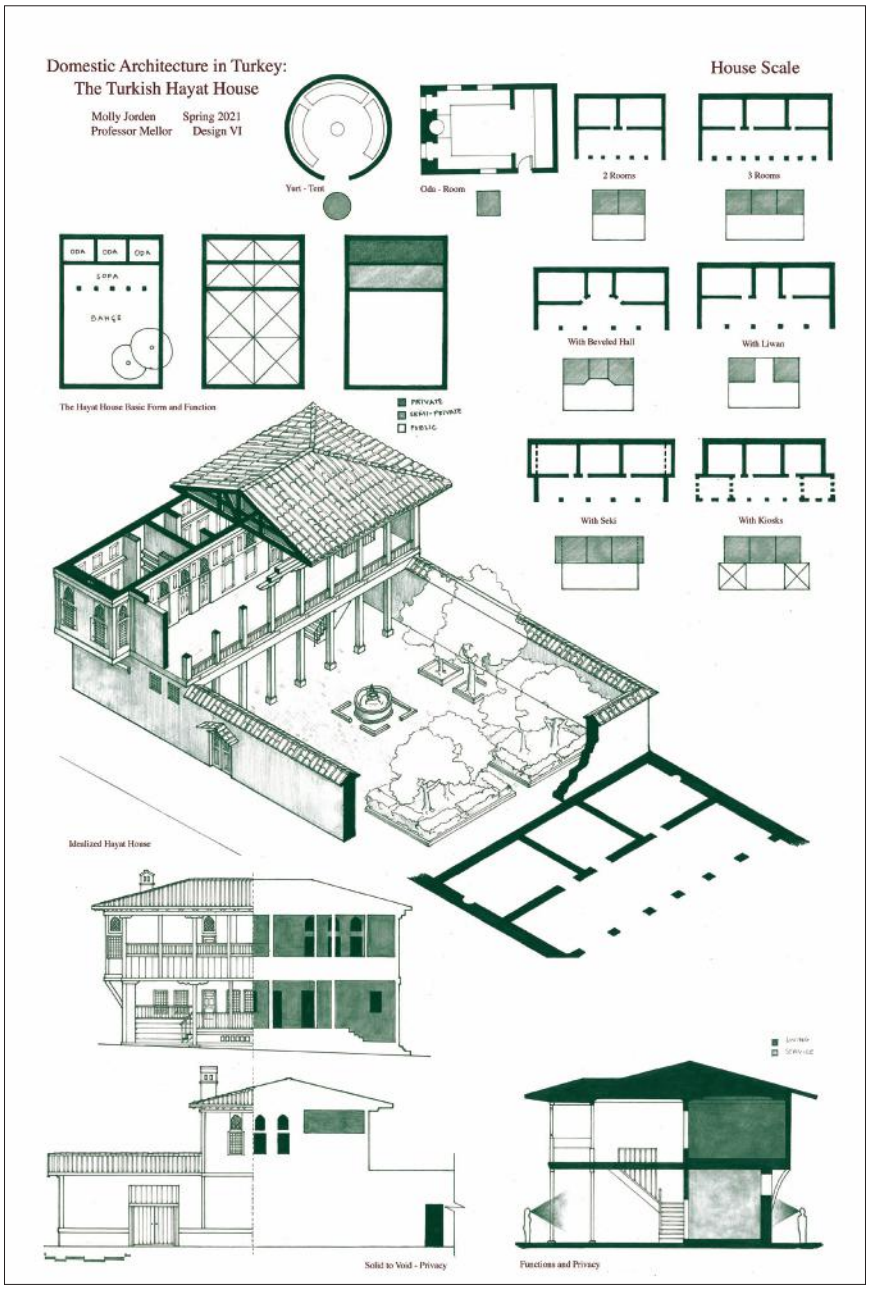
Above: The National Museum of Aleppo, Syria. Completed by Danielle Corbin. Professor Kate Chambers, Spring 2022.

a civilization or community and also describes their value system. This is achieved through architectural hierarchy and ornamentation that elevates the status of buildings or monuments. The types of expressions and ornamentation that exist around the world are endless and continue to be developed and changed as part of an ever-evolving tradition. For example, in the Western tradition the use of columnar orders signifies a higher hierarchical status when applied; in Eastern traditions the wood joinery and roof structure express the same thing. Cultural architectural variation is what defines our unique architectural identities and creates local character. The idea of local character is essential as it is what ultimately creates a sense of place. Through this defined sense of place, it is possible to understand where we are in the world; it links the architecture to the land, the people, and their culture. Without these unique expressions architecture would not speak to us, it would not be able to explain our culture, our shared beliefs, or our identity. So while architecture does have universal principles, it is the local variations and vernacular that bring joy and life to architecture.

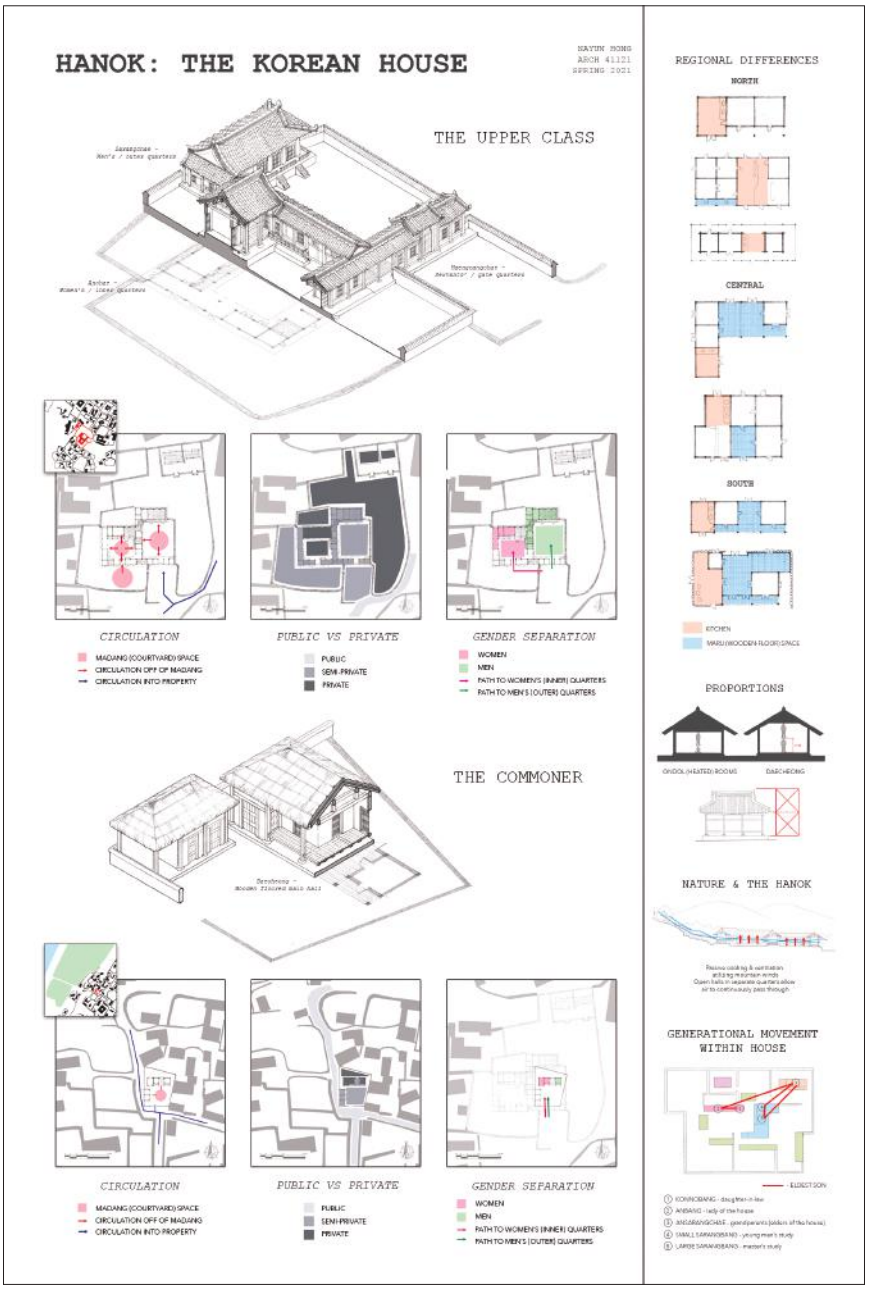
Architectural type connects architectural design to the world traditions of building. It expresses our shared humanity and physical and intellectual needs. Type also describes the ubiquity of architectural hierarchy that exists in cultures throughout the world. It shows us the importance of buildings as signifiers of our values through the articulation of civic forms. Architectural character describes our smaller community units and local cultures. It distinguishes place from place, giving clarity to our world. Without unity and diversity in architecture our world is confusing and unidentifiable. It is through connecting to both our shared and local principles that we can be part of the continuously evolving practice of traditional and classical architecture.

Above: Section Perspective showing the interior courtyard of a Roman palazzo building.
Completed by Alexander Preudhomme for Design II. Professor Selena Anders, Fall 2015.

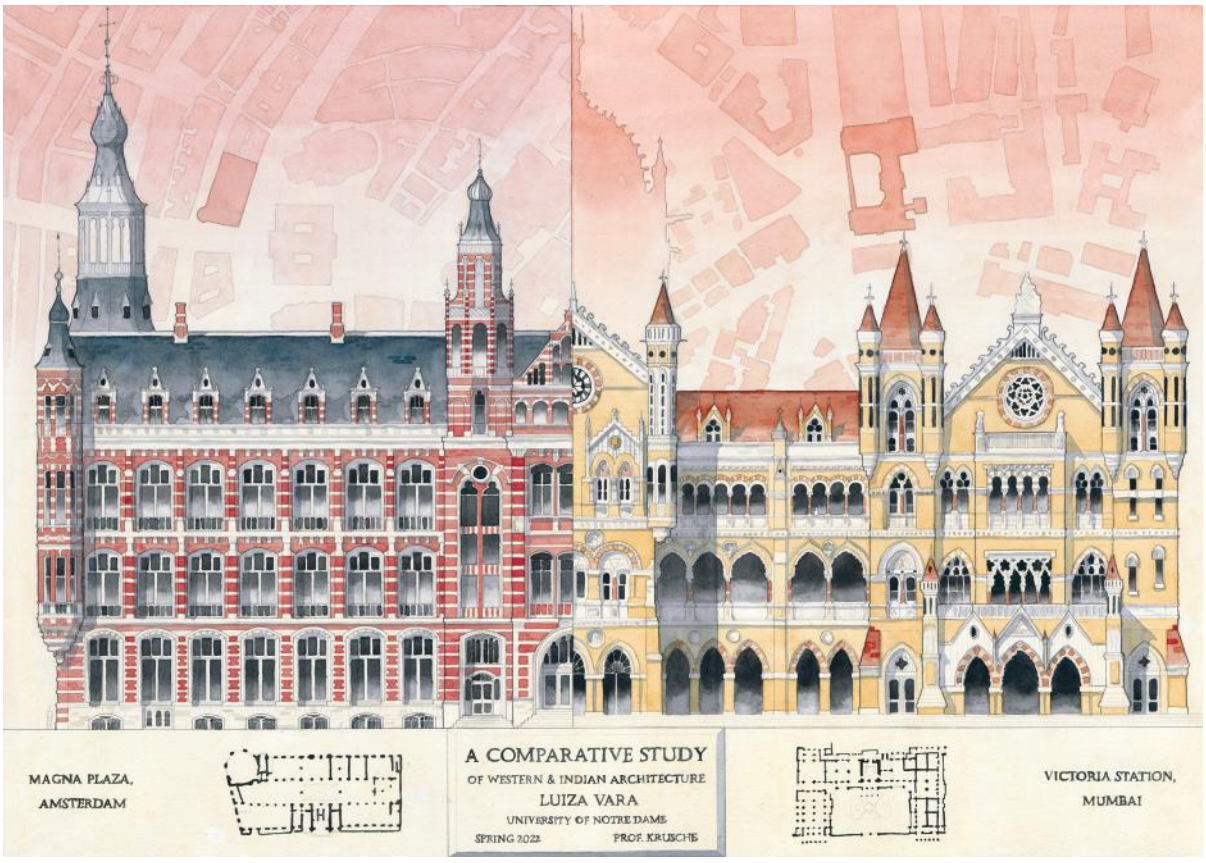




Top: Site Section through a series of buildings, including a courtyard building designed through the tradition of Chinese architectural design. Completed by Stacey Xiong for Design VIII. Professor Sebastian Treese, Spring 2023.

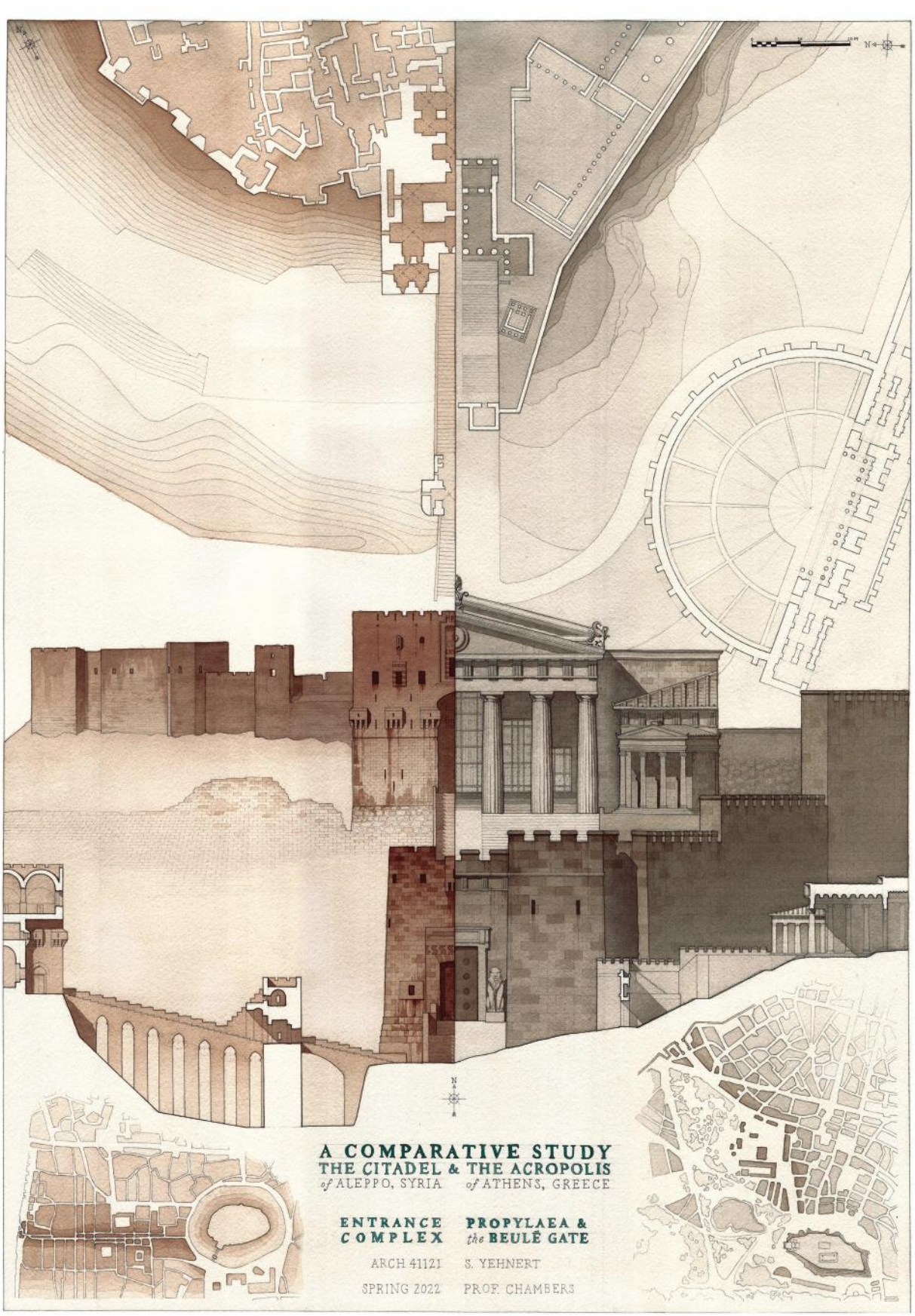


Opposite page: Analysis Project completed by Molly Jorden for Design V. Professor John Mellor, Spring 2021.
This page: Analysis Project completed by Nayun Hong for Design VI. Professor John Mellor, Spring 2021.



This page, top: Bay Details showing the internal courtyards in a transitional housing project. Completed by Max Meuth for Design VI. Professor Kate Chambers, Spring 2022. Bottom: Comparative Analysis of Amsterdam's Magna Plaza and Mumbai's Victoria Station. Completed by Luiza Vara for Design VI. Professor Krupali Krusche, Spring 2022.

Opposite page: Comparative Analysis of the Citadel of Aleppo and the Acropolis of Athens. Completed by Sharon Yehnert for Design VI. Professor Kate Chambers, Spring 2022.


A COMPARATIVE STUDY
THE CITADEL & THE ACROPOLIS
of ALEPPO, SYRIA of ATHENS, GREECE
ENTRANCE COMPLEX
PROPYLAEA & the BEULÉ GATE
ARCH 41121 S. YEHNERT
SPRING 2022 PROF. CHAMBERS

Top: Aerial Perspective of reconstructed Aleppo with historical Citadel in the background. Completed by Matthew Digoy, Spicer Emge, Cole Rembecki. Professor Lucien Steil, Spring 2018. Bottom: Proposed Masterplan for the reconstruction of Aleppo. Collaborative design studio work. The design process referred to principles of philological reconstruction (cf. Paolo Marconi), imitation (cf. Quatremère de Quincy and Maurice Culot), and pattern language (cf. Christopher Alexander). Professor Lucien Steil, Spring 2018.

BUILDING IN A WIDER WORLD

LUCIEN STEIL | POINT 3

The genuine alternative for most of us is that between an aimless utopia of escape and a purposive utopia of reconstruction.

—Lewis Mumford

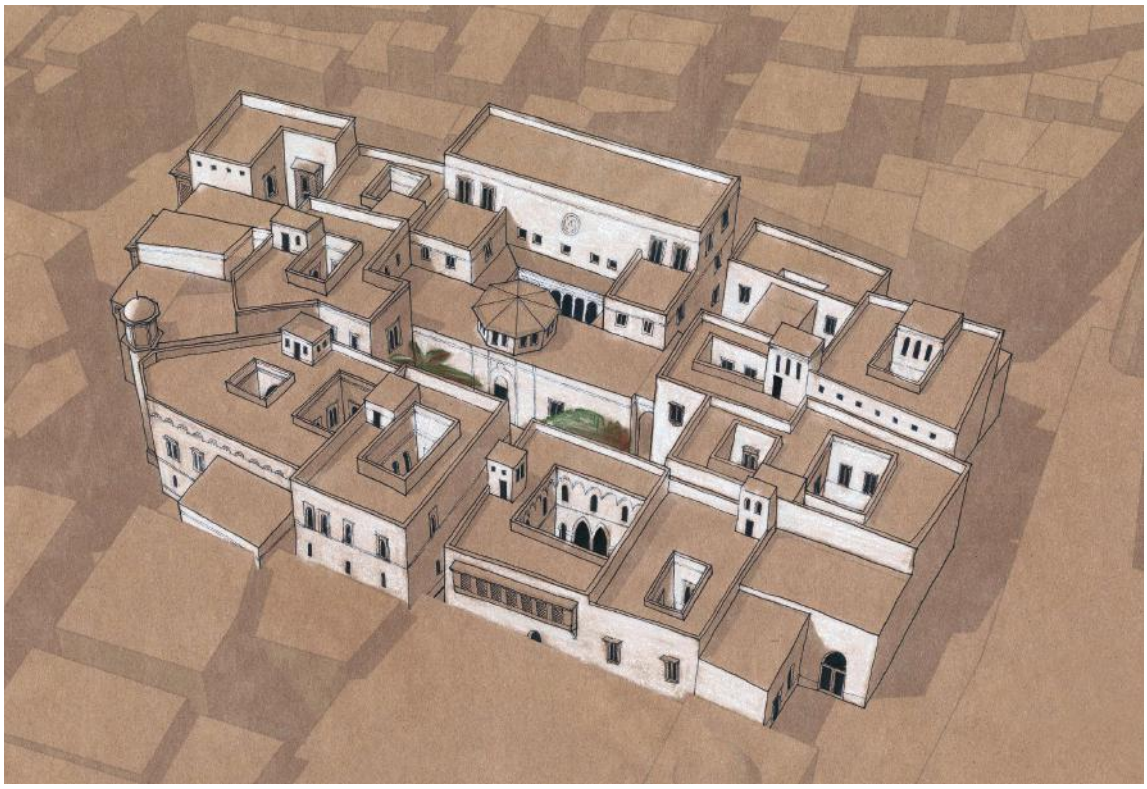
The School of Architecture has durably and successfully established a design studio tradition in fourth year spring studio design, exploring, discovering, and elaborating on non-Western design cultures with deference, diligence, and empathy. The purpose of this pedagogical endeavor, though in line with the excellent tradition of the Grand Tour, is not in any manner inspired by an appetite for exotic tourism and romanticizing *Wanderlust*—rather, it is inspired by solid academic and didactic reasons. It is indeed an intellectual, philosophical, cultural, as well as technical and ecological inquiry into a universal art of sustainable placemaking, building, and dwelling that responds poetically, ethically, and pragmatically to the nature and culture of places and communities, their climate and geography, their faith and mythologies, their thinking of the universe and time, their philosophy of change and permanence, as well as their aspiration for beauty and peace.

This is neither driven by an anti-Western sentiment nor an idealization of indigenous cultures nor an anti-industrial nostalgy, but by a rational and purposeful acknowledgment of the selected wisdom and genius, as well as the practical and operational intelligence to be gained, not only from preindustrial cultures, but as well from diverse, alternative, and different cultures. The emerging general consensus is that we share far more things in common than things that divide us, and the contrast, alterity, and diversity, rather than disproving this, does indeed reveal the complex and sophisticated scale and rich spectrum of our humanness. As Lev S. Vygotsky pointedly noted in *Mind in Society*, "Through others we become ourselves."[1] We cannot but emphasize how engaging with a wider building culture of "otherness" leads us back to the very foundations of our own historical cultures and enhances our identity as a living and evolving component of "perpetual becoming," rather than the archaeological ruin of a stagnating Self. This moment, or journey, where "identity arises when the Self meets the Other"[2] may occur in a way that we not only recover lost memories and forgotten knowledge, but even may be able to reconstruct essential components of "Techne"—, not only an optional, but a fundamental feature for the moral and ecological reconstruction of architecture and urbanism, both in theory and practice.

Terror and wars raging and the destruction of many cities throughout the Near East and Middle East, from Gaza to Syria, Iraq, Libya, Yemen, and beyond, and in Europe, as well as the all too frequent and redundant natural disasters—earthquakes, tsunami, tornadoes, hurricanes, flooding—and global pollution and the destruction of natural resources have contributed to humanitarian desolation, misery, and suffering. More than ever there is a pressing need for empathy and sympathy for otherness and diversity to save us from despair, indifference, and even cynicism. Learning from the world's wider ecology of knowledge and intelligence is not an act of charity, not even of humanitarian interest. It also does not result from a postcolonial *mea culpa*, nor is it selfish cultural appropriation; it is an urgent and indispensable requirement for healing and rebuilding the world—and maybe our only chance to save our planet from irreversible deterioration, if not complete annihilation.

The world has never been at peace for long and is, alas, often struck by natural or manufactured tragedies; if golden ages ever existed, they were rare and short-lived. So here we commemorate the heroic and compassionate resilience of human responses to destruction and draw inspiration from epic efforts to rebuild a finer world over the ruins of old cities and memories.

Even early in my education I have been fascinated by the issue of *Reconstruction*. Though most of the post-World War II reconstruction in my home country Luxembourg had been beautifully completed in my childhood with no ruin or ravage left from the German



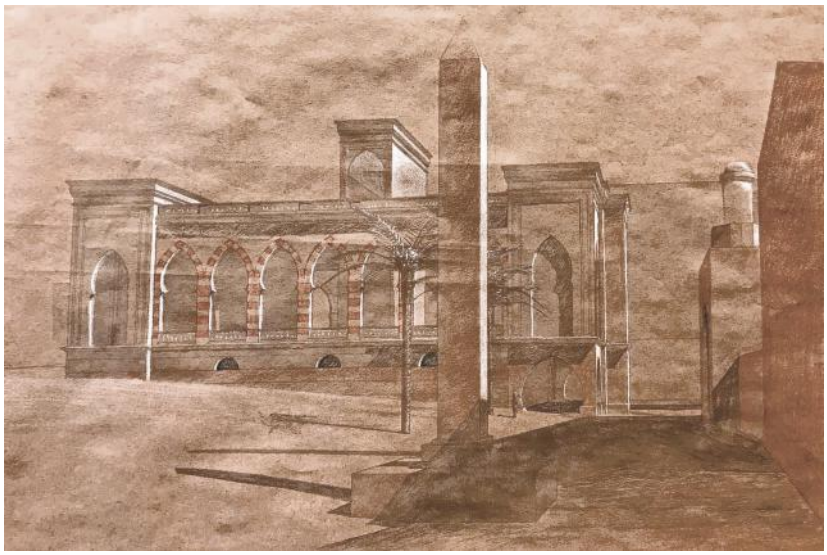
This page: Aerial View and Plan of the typical mixed-use block structure for the reconstruction of Aleppo. This block is composed of a limited number of traditional courtyard houses grouped around a shared half-public courtyard. It offers excellent climate comfort, privacy, and flexibility as a design paradigm. Completed by Cynthia Sigler and Sean Gaoutte for Design VI, Professor Lucien Steil, Spring 2018.

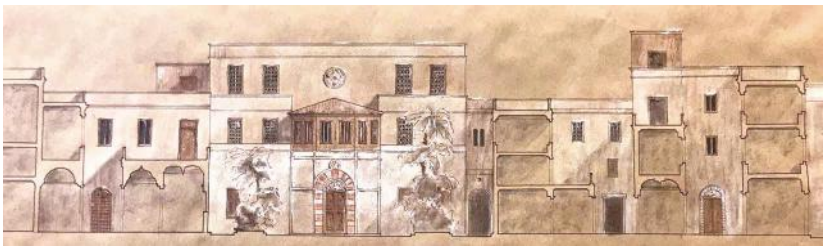
Opposite page: Aerial Perspective of reconstructed Aleppo seen from the Citadel, with minaret of reconstructed mosque in center and new Market Hall. Completed by Luke Palmer for Design VI. Professor Lucien Steil, Spring 2018.

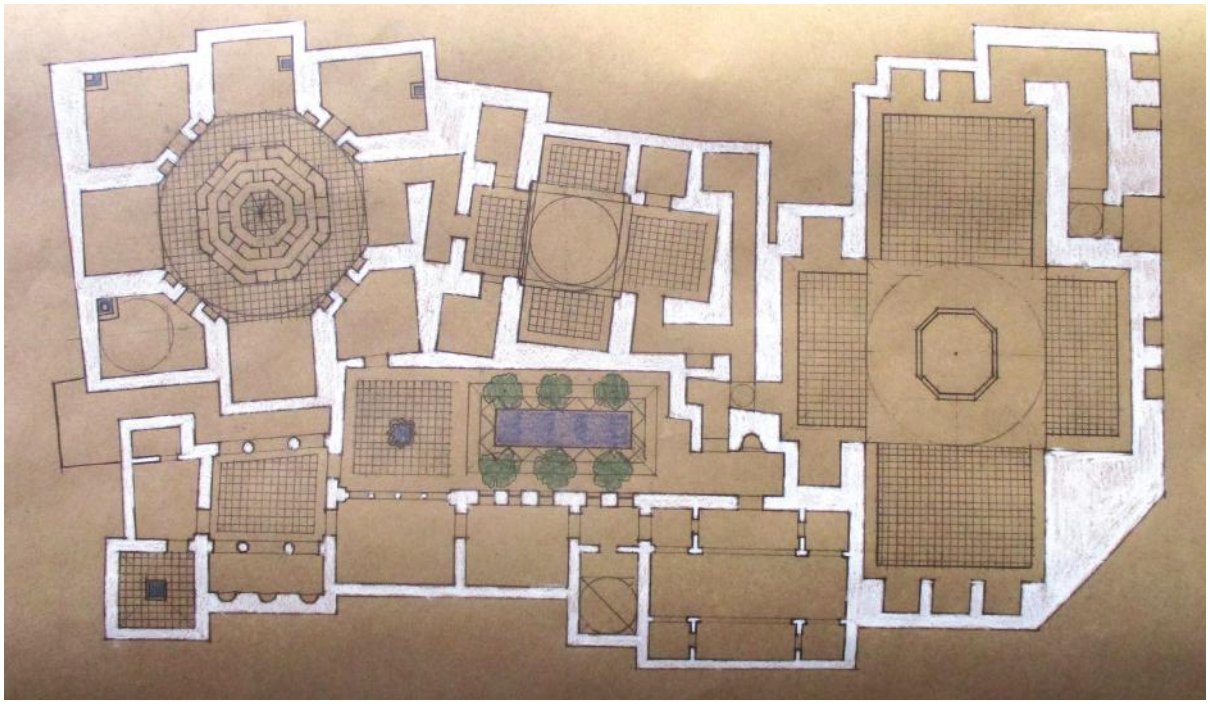
occupation and the Rundstedt Offensive [Battle of the Bulge], I witnessed the brutal and rapid destruction of my hometown's historic center and large portions of Luxembourg City by an enthusiastic crowd of landlords, politicians, and real estate agents served by docile and opportunistic architects who were not interested in traditional and popular visions of comfort and beauty, but eager to sign the death certificate of the traditional city and declare the end of popular architecture.

Though most people preferred traditional architecture and city-building, I remained perplexed by the passivity and their lack of resistance to the rapid deterioration and destruction of familiar urban environments. It came to my mind much later that the issue of reconstruction was not only a material, structural, and technical endeavor, but also, almost more importantly, a political, philosophical, poetical, moral, ethical, and maybe a mythological one. The trauma of destruction and physical and archaeological remainders of our homeland and hometowns, the images of our *Patria* in shards, unfortunately and surprisingly did not seem sufficient to rouse the patriotism and emotion required to salvage our dearest and most evocatory dwelling places.

Coming across the destruction of whole blocks of beautiful Haussmann architecture in Paris during my architectural studies, I thought of how important and central the issue of reconstruction had been in my earliest understanding of the significance of architecture. I vividly remember reading Léon Krier's and Maurice Culot's joint publications, particularly the "Declaration of Bruxelles," in which they write eloquently about the urgency of a "moral and material Reconstruction." In one of his earliest interviews, Léon Krier narrates in a very poetic manner the postwar reconstruction of Echternach in the 1950s as a paradigmatic model of this kind of material and moral reconstruction. Both Léon and his brother, Rob, refer to this magnificent reconstruction, efficiently and beautifully executed by outstanding local craftsmen and architects as an almost mythical task. Witnessing how a small country was able to rebuild consistently and elegantly its villages, towns, and cities immediately after the war—and then experiencing their destruction by modernist architecture, functional zoning, and traffic-planning in the following decades—had a foundational impact on their thinking and design work. The pairing of "moral and material" in the reconstruction task had a particularly suggestive influ-







This page, top: Main Elevation of new Market Hall by Luke Palmer. Middle: Typical Street Elevation studies by Cynthia Sigler. Bottom: Aleppo Bath Reconstruction by Spicer Emge.
Opposite page: Reconstruction of Bath Complex by Spicer Emge.

ence on my own studies and professional development. I was never attracted by the moralism one finds both in "fundamentalist" modernism and "doctrinaire" classicism; my major reasons to study architecture had to do with social justice, sense of place, and the common good —not with "morality" perverted by strict interpretations of religious fanaticism and ideological extremism.

Though historical reconstructions were generally conceived as imitations of destroyed cities, the memories they sprang from were never straightjackets for imagination and recollection. The rebuilders were not bound by nostalgia but rather saw their task as a creative and poetic opportunity. Free of the dogma of archaeological authenticity, literal restitution, or folkloric mimicry, they were unashamed to borrow, copy, and imitate where appropriate, and to innovate where necessary or useful. They were not particularly concerned with expressing a "spirit of the time"—or at least not as posited by modernism. It probably seemed evident that their buildings should fit into their settings and that the "spirit of the time" was an inherent condition of human existence in the world. The best reconstructions were not meant to manipulate, censor, or distort memory with emotion or sentimentality. There was no retribution, manifesto, or utopia, but rather an expression of human solidarity, patriotism, and culture.

The Aleppo Reconstruction Project

Our Reconstruction of Aleppo project addresses urban architecture in the specific context of Syria's post-Civil War reconstruction. We chose one of the most damaged yet remarkable neighborhoods located at the foot of the Citadel among various central areas to be rebuilt within a perspective of "philological reconstruction" in both their urban and their architectural forms. The site was chosen for its symbolic and historic significance and complexity in the context of its contemporary and historical civic, architectural, and urbanistic identity and collective memory. Students worked in small planning groups to research, analyze, and sketch various iterations of a masterplan to be synthesized afterward in a single draft. Drawing upon local precedents through typo-morphological analysis and research, the final plan was based on principles of "philological reconstruction" (with reference to Paolo Marconi and Léon Krier) and developed through a methodology of "imitation" (Léon Krier and Demetri Porphyrios, 1980) and "pattern language" (Christopher Alexander, 1977), allowing students to quickly draft a coherent, contextual, and empathic reconstruction model. They then focused individually on the design of a building or built ensemble using similar techniques of imitation; they sought to recover the "originality" of the place by returning to the origins and essences of placemaking and architecture in Aleppo.

My thanks to my students Cynthia Sigler, Eva Baghdan, Madeleine Donohue, Patrick Keough, Spicer Emge, Cole Rembecki, Sean Gaouette, Matthew Digoy, and Luke Palmer. They put their talent, intelligence, passion, and dedication into researching and designing a project for rebuilding Aleppo. The outcome is a moving tribute to the people of Syria and also quite an achievement in urban design and architecture.

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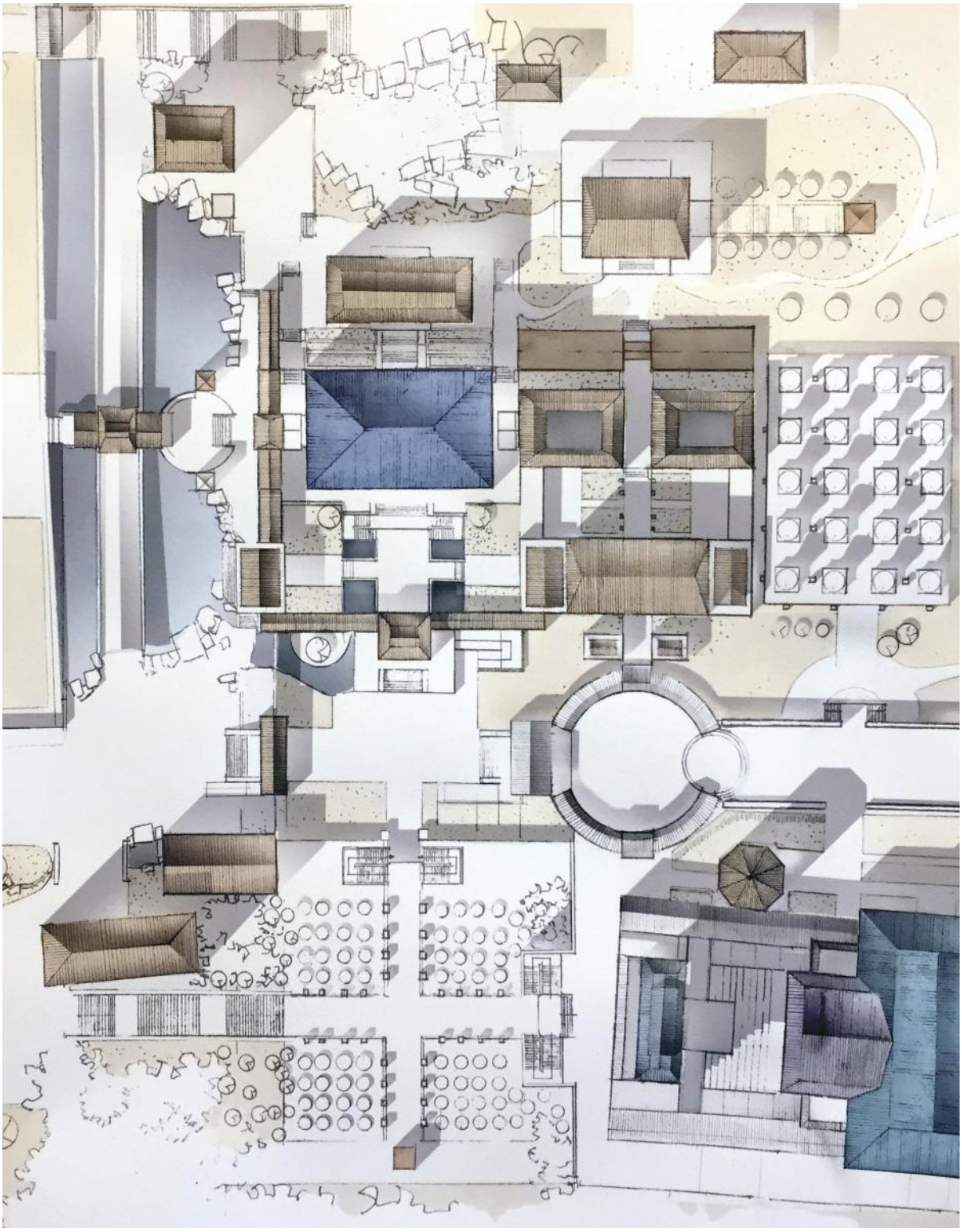
1 Lev Semyonovich Vygotsky, *Mind in Society* (Cambridge, MA: Harvard University Press, 1980).

2 Énard, Mathias. 2017. Compass. New York: New Directions Publishing.



Martial Arts Academy Site Plan completed by Yueting Zhang. Professor Michael Lykoudis, thesis advisor. Spring, 2017.

THE SHARED BUILDING TRADITIONS OF THE WORLD

MICHAEL LYKOUDIS | POINTS 3, 4 & 6

The past twenty-five years have been a watershed period. The "great acceleration," or the period of time where human activity has increased dramatically over a broad spectrum of measures, is reaching a point where human-induced change overcomes our ability to control and manage the outcomes of those changes. While this acceleration started at a relatively slow pace with the Industrial Revolution and offered many obvious rewards and benefits, it is ending with the digital age and its exponential growth and cult of consumption and waste. This acceleration now threatens our entire planet. Talk of the "sixth extinction" has reached mainstream discussions, and almost everyone on the planet has seen changes in the climate and weather they experience. Wildfires, droughts, and heat waves on one end of the spectrum and more powerful storms, torrential rains, floods, and blizzards on the other add to a possible, even likely, apocalyptic vision of the future.

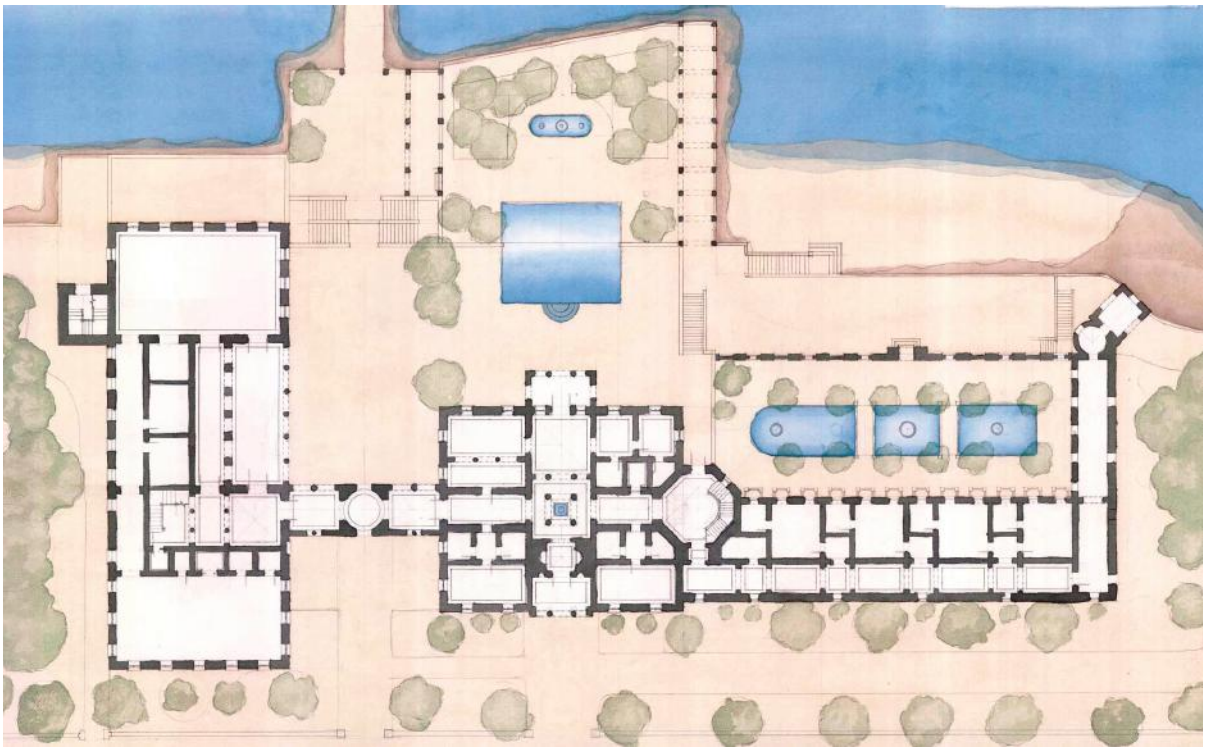
At the root lies a loss of reverence for all that surrounds us, living and nonliving, and a selfish, individualistic society that is almost suicidal in its unfulfilled and unfulfillable desire for more. What is needed is a new transcendental narrative that embraces an understanding of reverence and consilience as a way of linking the accumulated knowledge of the world with values that promote virtue and wisdom so that we may address what appear to be insurmountable challenges and allow future generations to pursue the joy and happiness that life on planet Earth makes possible. To do that, we will need to address the issues facing our climate and our society. Climate change and injustice threaten our very existence, and that of all living things.

Climate

With climate changing and resources diminishing simultaneously in what Jim Kunstler has called the Long Emergency, there is much for architects and urbanists to consider as they look into the future. How they respond to the challenges covered in today's headlines—global warming, peak oil production, and matters of inclusivity and accessibility—will make all the difference for our future.

Combined, the building industry and the built environment and its dependence on mechanical transportation consume about 70 percent of our energy resources. By changing how we live together and how we build, we could better shape the future that lies ahead. While we recognize that other aspects of green and modern architecture are a necessary part of the solutions to these problems, we also must emphasize to our students that traditional architecture and urbanism are the foundation of sustainability.

Many advocates of green architecture suggest that we can consume our way to a sustainable future through new technologies and gadgetry. "Gizmo green" they suggest, will allow us to keep living the way we live now. While gizmo green has produced many good options, it has also sown the myth that it will provide free energy and a zero-carbon footprint, all while we keep our consumption rate the same as before. In reality, most gizmo green products require a fossil-fuel-based economy to be produced. In the end, the most ecological way of living together is much simpler. More compact communities and buildings, through their positioning and relationship to each other and their quality of construction, will allow us to build more durably, more sustainably, and more beautifully.



Hotel Main Floor Plan, Mati, Greece. Completed by Austin Proehl for Fifth Year Studio. Professor Michael Lykoudis, Fall 2019.

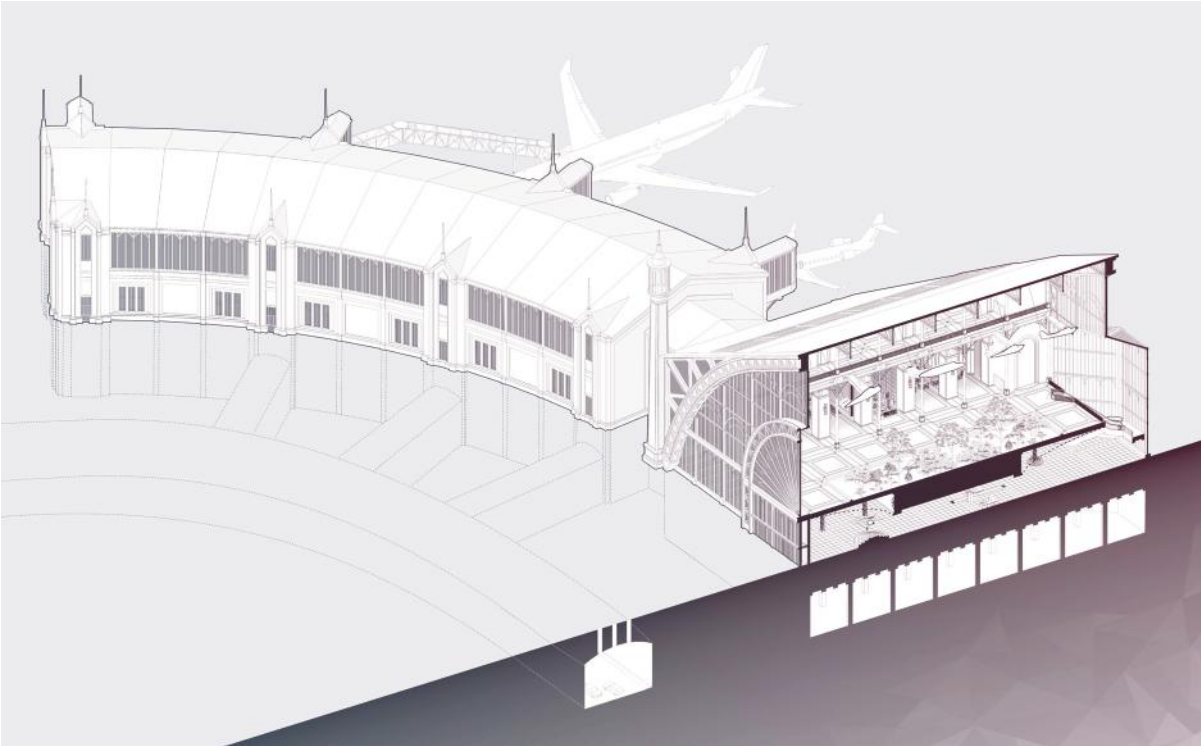
Society

The blurring of urbanism and architectural character with political agendas further confuses even the most well intended activists. The attack on and subsequent loss of the public realm over the past fifty years has resulted in the withering away of social, artistic, political, and economic norms. This erosion of the very glue that held society together has allowed a kind of social schizophrenia to develop at all levels of society; both individuals and communities have lost sight of the relationship between their public and private lives.

Norms have played both constructive and destructive roles in the world's history. On the negative side, racism and authoritarianism have had devastating results when they are part of normative cultural behavior. On the positive side, norms have provided reference points about our behavior that have created civilization's greatest achievements. On knowledge-based foundations, with norms, we can evaluate what is harmful to society and what is beneficial. Unfortunately, in the early twenty-first century, the increasingly dominant norms are promoting an individualistic and consumer culture along with a denial of reality.

From the clothes we wear and technology we use, with their constantly changing fashions that require us to consume more and more each day, to the kinds of buildings and cities that are built, with only the immediate profits in mind, our world has become dependent on consumption and waste at every level. These are deleteriously disruptive norms, and there are few good examples to follow for those who wish to live outside of them. Should one want to live outside that world, one must pay a large price.

Over the course of the last twenty-five years, we have arrived at a tipping point for the environment and society. Fly over almost any city or town to observe the sprawling ground-scrapers and wastelands that were once productive farmlands or carbon sinks such as forests and other ecosystems that kept the world in balance. How we can emerge on another side of this seemingly



Axonometric Section of the South Bend Airport. Completed by Faith Primozic for Fifth Year Studio. Professor Michael Lykoudis, Fall 2021.

imminent and catastrophic peril is the question that we all must embrace.

The Shared Building Traditions of the World

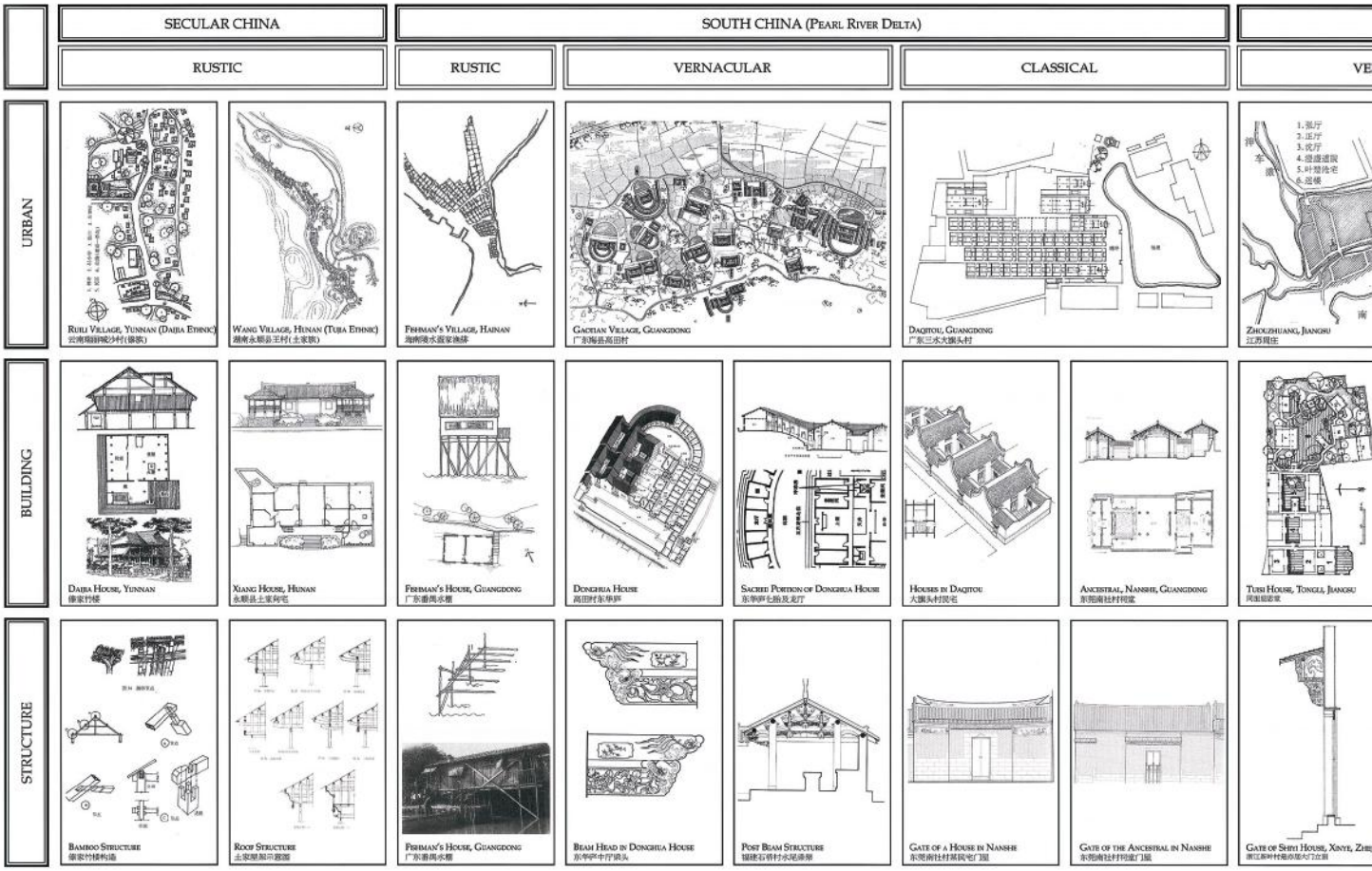
One positive lesson to be learned is part of modernity and would not have been as visible in the Old World. When we look at almost all traditional cultures, no matter on what latitude or longitude they sit, they possess lessons that apply almost universally. While these lessons are applied with adaptation to local and regional conditions such as climate, geology, geography, and cultures, one can observe criteria and principles in what we could call normative conditions around the world. I would call these principles "the shared traditions of the world."

Almost all cultures follow several principles with respect to the art of constructing cities and their buildings: compactness and accessibility, durability and resilience, economy and utility, environmental harmony and beauty. These principles guide the design and construction of cities and their buildings in almost every corner of the earth such that there is an overlapping, integrated, and interrelated system that governs the composition and relationship of the entire ecosystem of the planet, its regions, and its localities.

Urbanism, Architecture, Construction, and their Relationship to Nature

Construction, architecture, and urbanism are essentially three different scales of one discipline. Without attending to these three scales, we cannot optimize our sustainability efforts. At this point we have an opportunity to see the world as one and concurrently with its regional and local cultures that share the planet's resources and with all life forms.

Architecture and urbanism are inextricably tied to nature. They are connected through various spectra: The first has to do with our relationship to the planet: the elements of this spectrum are nature, the city, and its buildings. Another spectrum is nature, the rustic, the

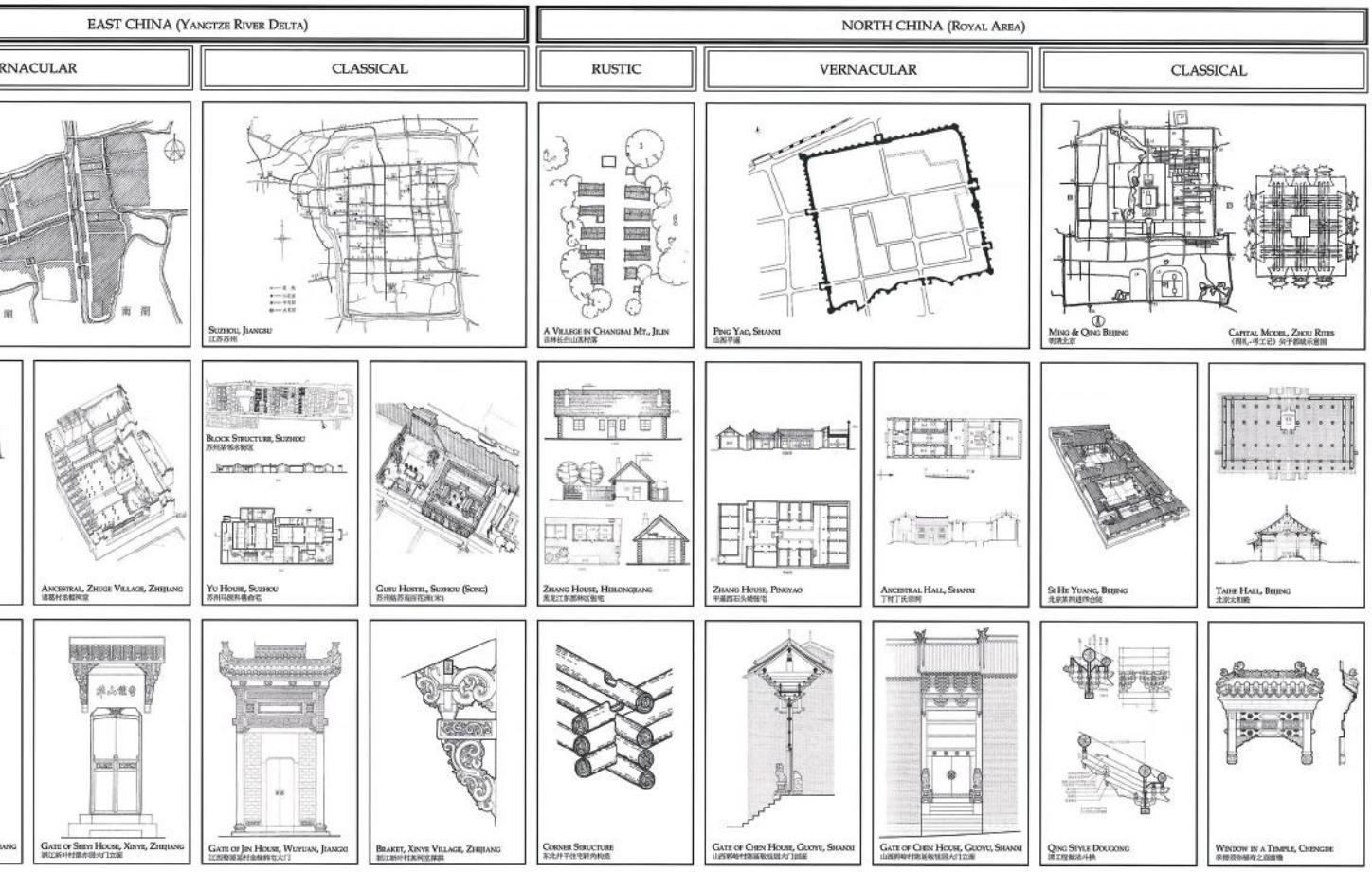


vernacular, and the monumental (classical). The third spectrum outlines the relationship we have to each other through the architectural and urban expression of our own nature. This includes the sacred, public, and private realms. All of these spectra overlap, reinforce, and embellish each other to develop a culture of globally shared building traditions, local and regional identities, and individual and personal expressions.

While we recognize that each landscape, village, town, or city has its own particular history and development in this day and age, it is essential to see the principles of what the world shares in common sitting side by side with the world's differences.

Through an understanding of typology, we recognize the difference between sacred, public, and private buildings in nearly all cultures. We recognize the identity of regional cultures through the common elements of streets, squares and blocks, and walls, openings, and roofs. Through style we can see how an individual contributes his or her own personal approach to the design process. The entire system is linked, from the global to the local scales. The shared building traditions of this planet inform, inspire, and connect the individual person to their community and region and, in turn, that community is then linked back into the world.

Traditional architecture and urbanism around the world have been, and still are, environmentally friendly compared to more recent practices that feature sprawl and shoddy buildings with short life spans. Traditional urbanism relies on polycentric cities and towns with pedestrian accessibility, mixed-use neighborhoods, and mass transit. Traditional architecture ensures the longevity of the built environment necessary for projecting a community's aspirations into the future.



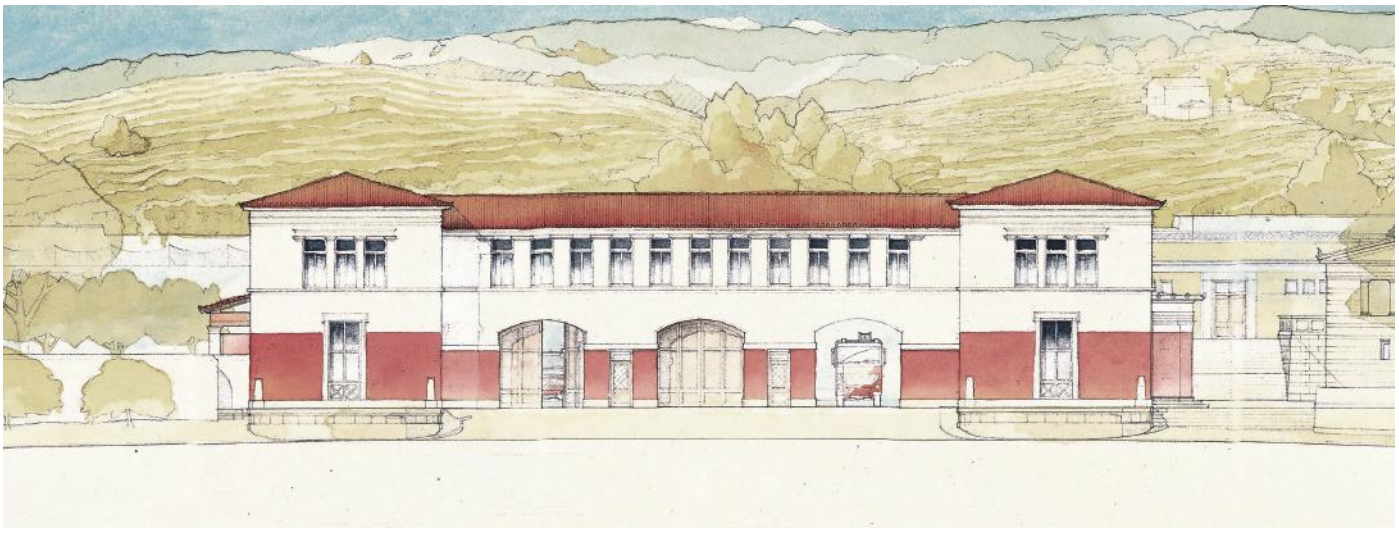
Conclusion

The fossil fuel era has brought about the most egregious misallocation of resources in human history. We have squandered so much through suburban sprawl and consumerism, and so little time remains to correct what we have done. The models of architecture and land development taught in architecture and planning schools for the last half-century have been based on the premise of unlimited energy sources and infinite possibilities. As we are now faced with limited options and difficult choices, the cities and buildings of yesterday that faced similar constraints have something to teach us today.

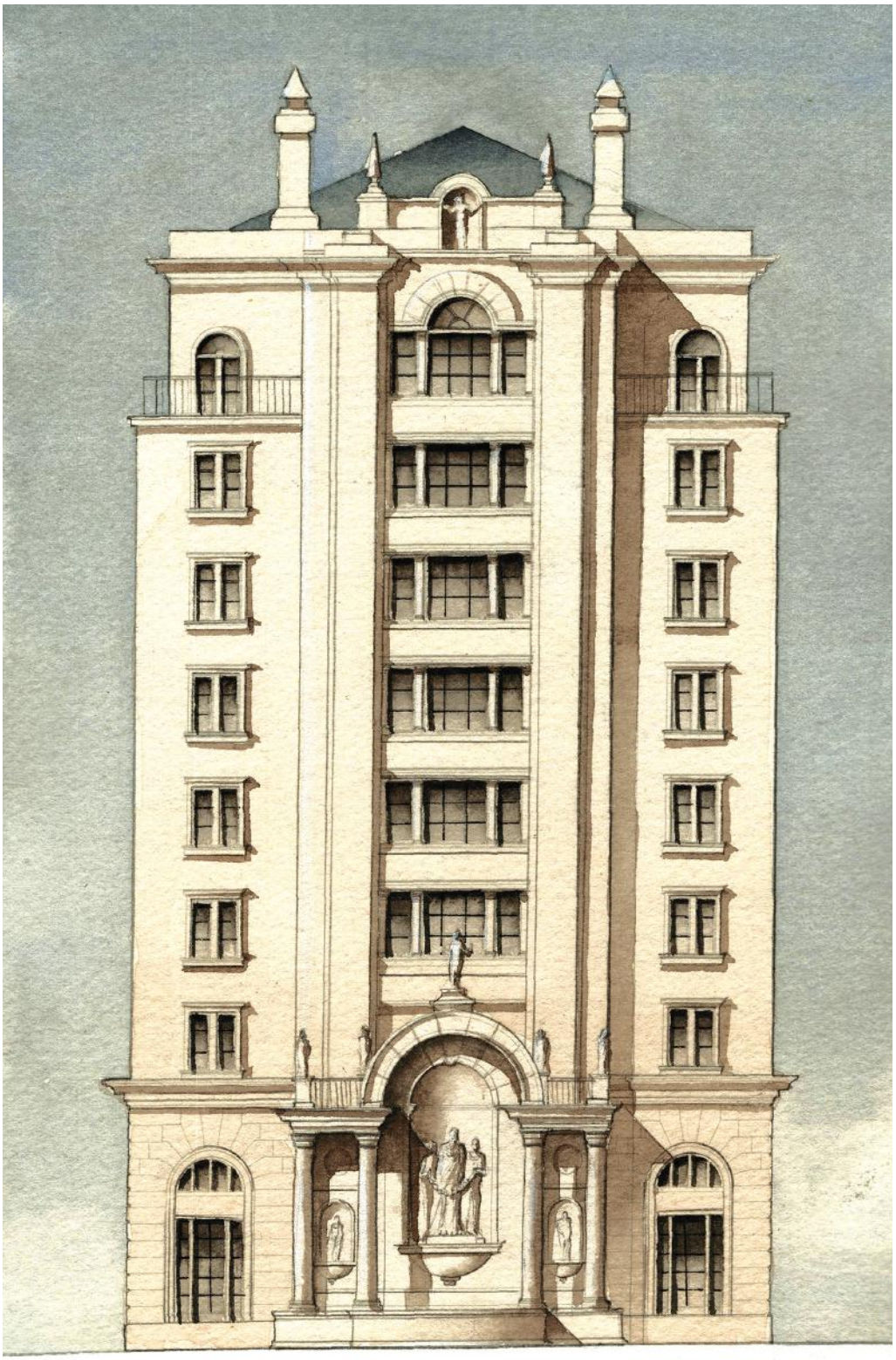
While issues of inclusivity, diversity, sustainability, and reliance have often fallen to the level of memes and cliché, it is important to remember that reverence for all things living and nonliving underpins true justice, peace, and harmony. Done with a comprehensive and integrated intellectual approach and using virtue as a guide for judgment, the result can be a beauty that is beyond the subjective eye of the beholder. This beauty is the reflection of a dynamic world that is always in flux and that reveals harmony through a transcendental narrative that will allow us to see beyond the fog.

Our society is better today than those of generations past. We presumably embrace a more inclusive, equitable, and a more enlightened perspective of our place in the universe. The way we build and live together should reflect that. Our cities should be reflections of our highest hopes and aspirations and a gift to the generations that will follow us. We inhabit a momentous point in human history, one in which we can see our many different selves through our shared purpose on this planet. It is seeing that shared purpose in all of our cultures, through their differences and continuities, and stewarding that sense of purpose that we hope we impart to our students.

Above: Rustic, Vernacular, and Monumental Rubric completed by Chao Zheng. Professor Michael Lykoudis, Spring 2010.



Opposite page: Hotel Street Elevation (top) and East Elevation (middle), Mati, Greece. Completed by Austin Proehl for Fifth Year Studio. Professor Michael Lykoudis, Fall 2019. Bottom: Fire Station Elevation, Mati, Greece. Completed by Andrew Seago for Fifth Year Studio. Professor Michael Lykoudis, Fall 2019.
This page: Martial Arts Academy Elevation. Completed by Yueting Zhang. Professor Michael Lykoudis, thesis advisor, Spring 2017.



Design for a New Hotel in Washington DC. Completed by Faith Primozic for Design V. Professor John Mellor, Fall 2020.

PRACTICE AND STEWARDSHIP

JOHN MELLOR | POINT 4

As a registered architect actively engaged in practice, I receive a fair number of trade publications on a monthly basis, each offering insight and advice to various aspects of building construction. Most of these magazines focus on a particular aspect of building material assembly, offering insight on the latest methods of detailing and specifying those components used to shape our twenty-first century buildings. In an industry where every new building is a one-off prototype, most of the lessons learned are usually the result of failures related to improper assembly, poor maintenance, or the unanticipated effects of weather and time. These failures in turn lead to careful analysis in the laboratory and in the field, the results of which are published with the aim of mitigating future failures through better materials and methodology—technical solutions for technical problems.

I read these articles for the reason they were written: to seek out solutions for those things that make architecture impermanent, the destructive forces of the natural environment. What is the same about architecture today as it was a hundred or even a thousand years ago is that all of our buildings suffer the same deleterious effects of the sun, water, and wind, of gravitational and lateral forces imposed from without, and of the immutable laws of thermodynamics. What has changed, however, is the stunning disconnect of architects and the building industry from nature itself, the hubris of a profession that seeks salvation in the mechanical and artificial at the expense of the natural.

It has become increasingly self-evident that human development has harmfully altered our shared environment. In only the last year, we have experienced what seems to be an unending series of catastrophes that have upset almost every aspect of our common humanity. A pandemic, wildfires, extreme weather events, and civil unrest have made life difficult or unendurable for many both abroad and here at home. In spite of these challenges, the cycle of consumption and waste churns on ceaselessly, seemingly disconnected from the reality of the afflicted.

The professional of architecture must shoulder the blame for their share of the damage that contemporary design and urban thinking has wrought worldwide. Our buildings and cities consume a disproportionate share of natural resources and energy. They also create vast amounts of pollution in their manufacture and operation, and they destabilize natural ecosystems. When they reach the end of their lives, they are knocked down and thrown away in a cycle known as "cradle to grave." To the credit of the profession, architects have responded to this crisis by taking steps to change course, acknowledging that the status quo is untenable. These steps include a greater focus on sustainability through LEED certification, pledges of carbon-neutrality in building design and operation by 2030, and even through mandated curricular changes at colleges and schools of architecture. By themselves, though, these steps are insufficient. They are voluntary and not universally adopted across the building industry, which results in very little construction that is truly sustainable. Moreover, they are the by-product of the same faith in technology that created the global crisis in the first place.

We must acknowledge that our profession today, while well-intentioned, has continued to contribute to the decline of our planet. Architects today are asked to solve increasingly complex problems but are not given the right tools to do so. Architects are uniquely positioned to influence not only what and how we build, but how we might live together in commu-


THE ARTISAN HOTEL
IN WASHINGTON, D.C.
FAITH PRIMOZIC
FALL 2020
PROF MELLOR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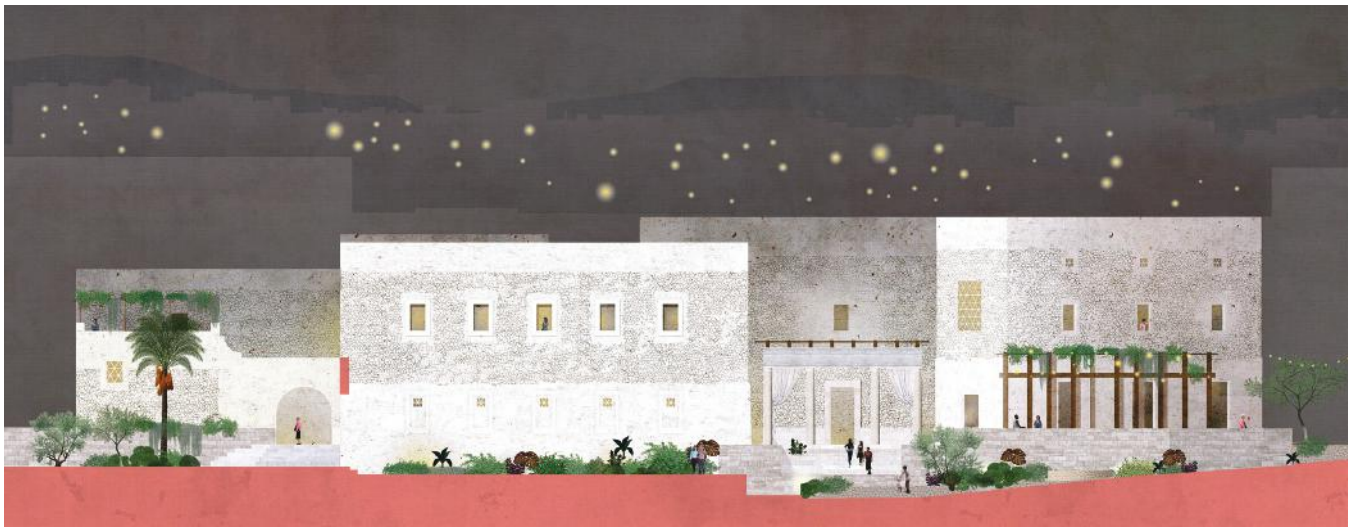
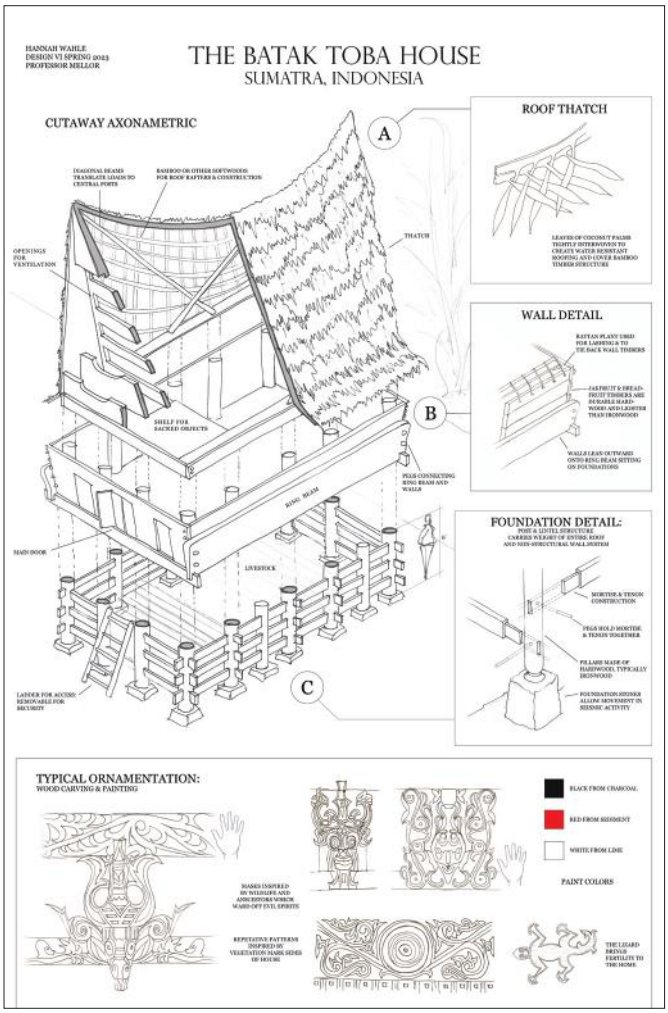
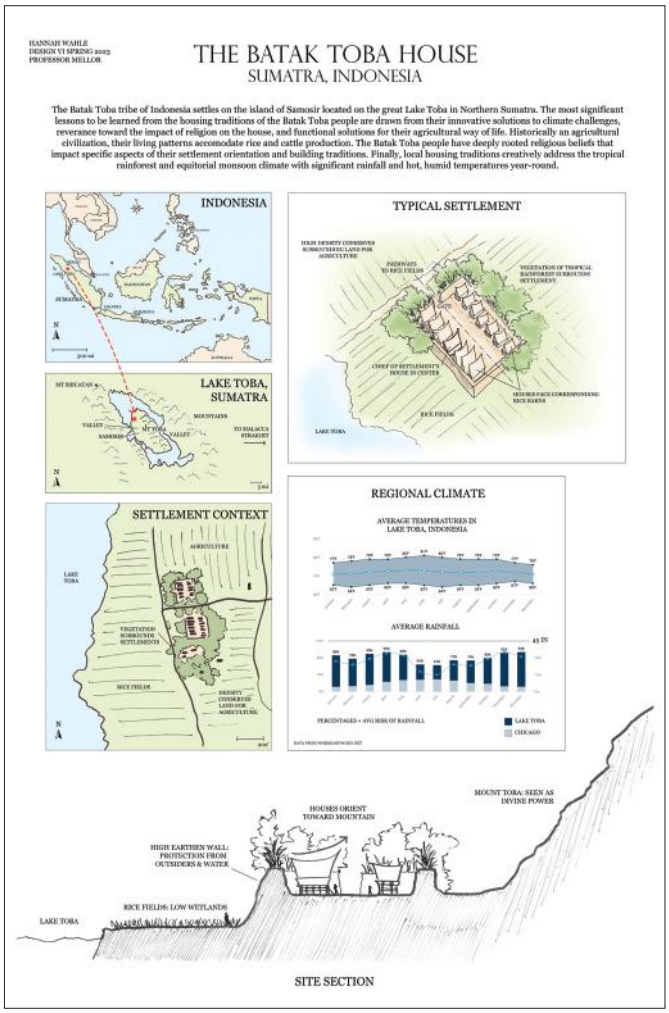


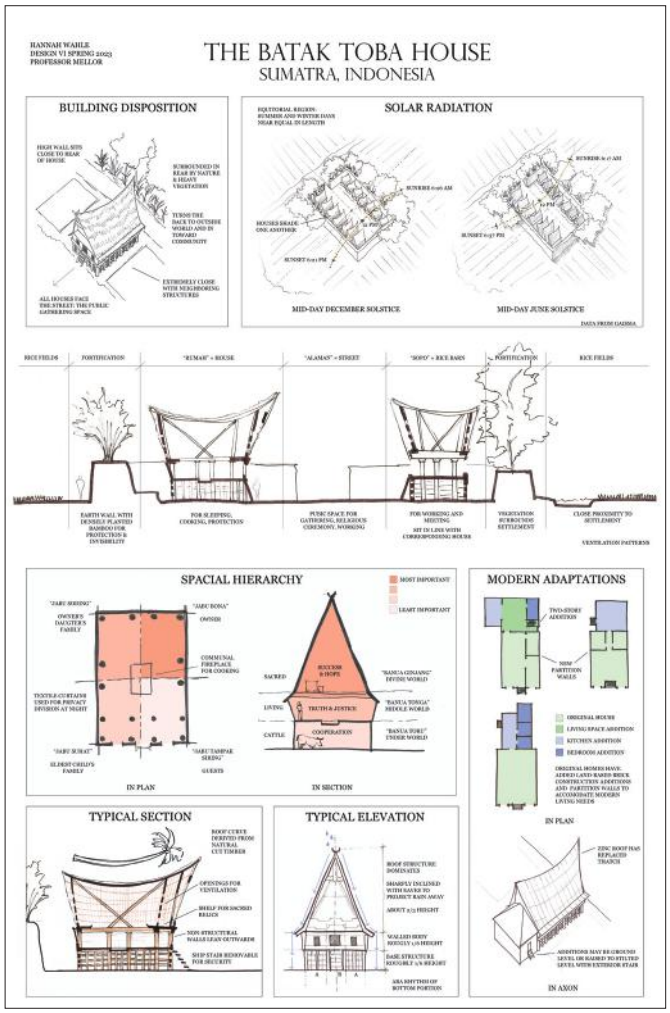
Opposite page, top: Design for a New Hotel in Washington DC. Completed by Faith Primozic for Design V. Professor John Mellor, Fall 2020.
Bottom: A Train Station in Milwaukee, Wisconsin, completed by Sam Fischer for thesis advisor John Mellor, Spring 2020.
This page: Museum in Athens, Greece. Elevation and Section completed by Anna Drechsler for thesis advisor John Mellor, Spring 2023.

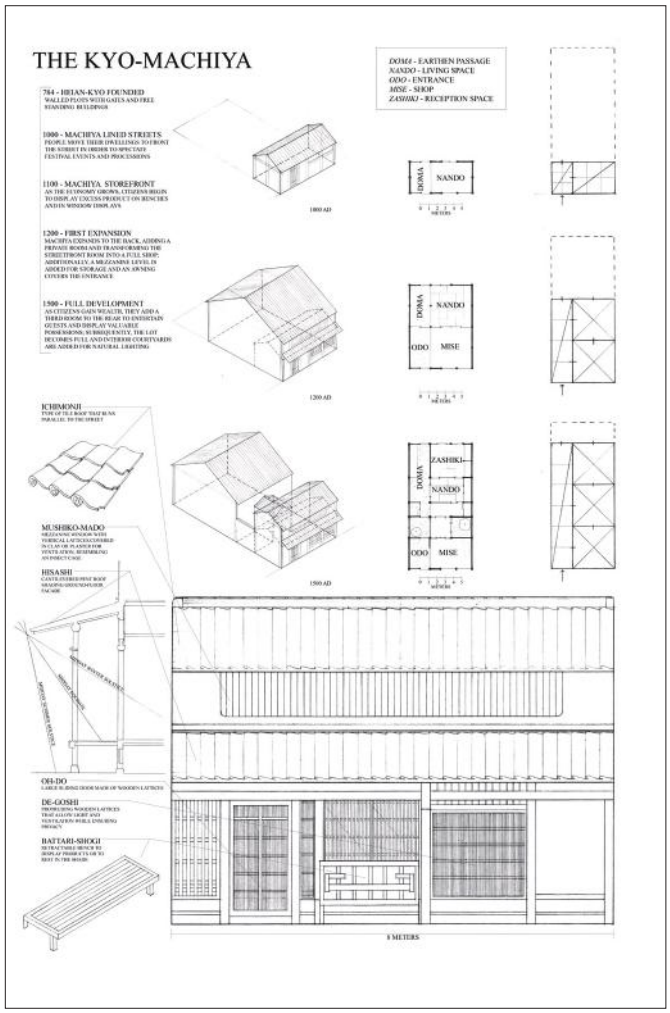




nity for mutual benefit—but our training and our industry deliberately leads us astray. No amount of technical progress or faith in scientific achievement will save us from ourselves. It is only when we as a profession admit our own failure to be good stewards of the planet and protectors of the health and welfare of our societies that true change might occur.

My time at Notre Dame as a professor has given me the opportunity to choose a different path, to reconnect my practice to nature in an increasingly human-constructed world. To those outside the school, my work might seem pastiche, an imitation of time gone by, a nostalgic longing for that which never was. For me, though, it is the pursuit of a more ideal architecture and urbanism, a holistic contribution to our built environment that works in concert with nature. It looks back to the past with deliberation, seeking solutions to today's problems using materials and methods developed over the centuries by a culture of building that progressed though the slow accumulation and dissemination of collective wisdom. My work seeks to reconnect to a time when architecture and building were a truer reflection of our common humanity, a physical embodiment of the social, physical, and natural forces that shape our environment. It does not reject technology but instead uses it in an evolutionary context as one element among many, seeking only those materials and methods which can endure. I am not interested in the quick or the cost-effective, and I do not seek short-term solutions for

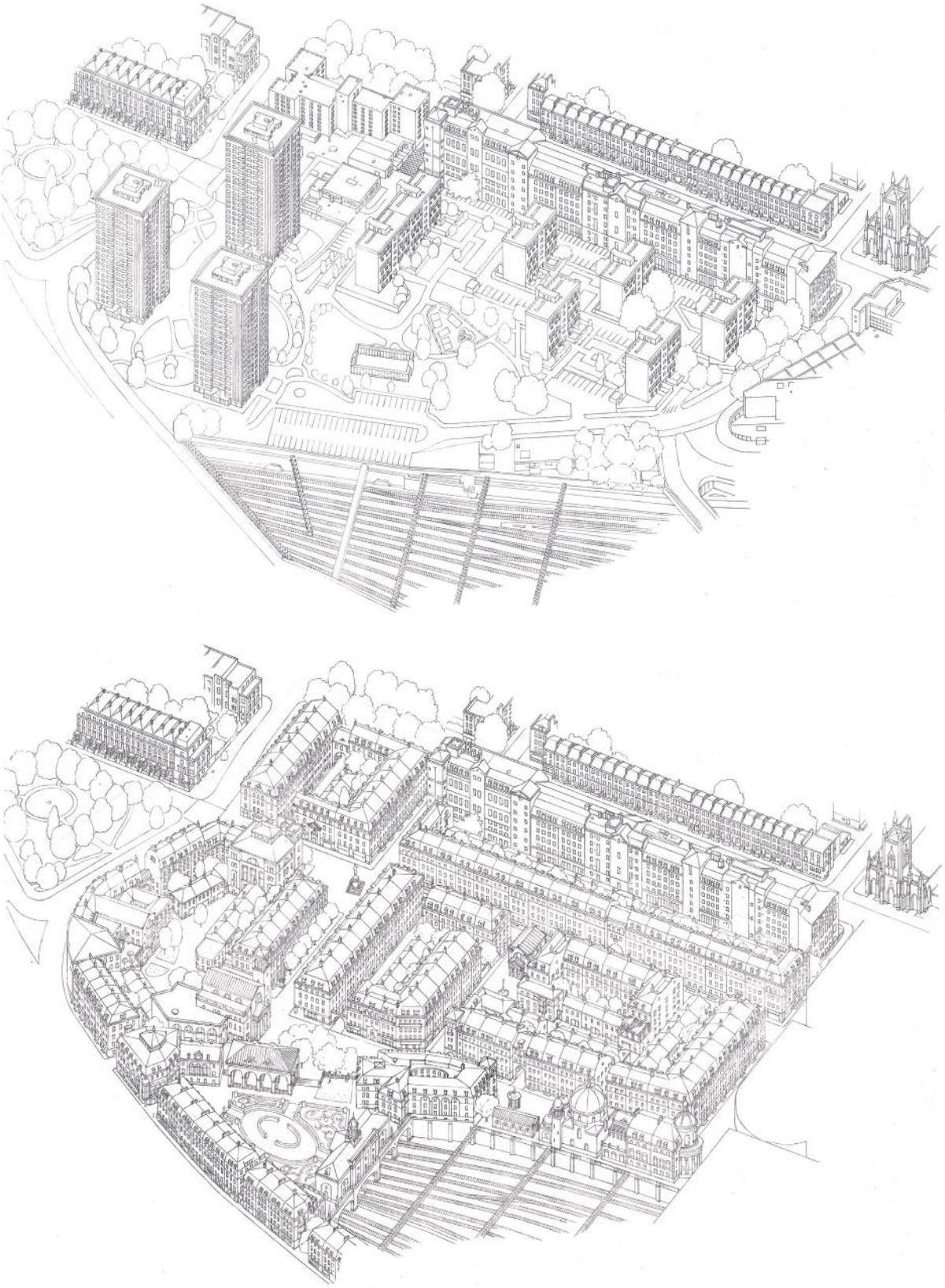




long-term problems. I reject architectural practice that is driven by the desire for quantity over quality, and the acceptance of mediocrity for the sake of profit.

As a professor, I have the obligation to educate our students so that they all might someday make meaningful contributions to society as architects. In each of my courses, I challenge my students to set aside their preconceptions of our modern environment and instead be open to and learn from its failures. I teach manual graphic skills so that my students can build stronger connections between their heads and their hands, making them better designers as well as more adept in the digital realm. I teach design studios that look to repair, whether by redeveloping within a dense urban context or by reimaging housing for underserved populations. And I teach professional practice to ensure that all of our graduates leave Notre Dame fully aware of the perils of contemporary practice. These students represent the hope of our profession. Their training at Notre Dame teaches them to seek solutions wherever they might be found, without prejudice, as they are the inheritors of our building traditions. It is my hope that each of them leaves Notre Dame with a deeper understanding of their obligations to the profession and with reverence for and commitment to the salvation of our common humanity.

Opposite page and this page, left: Analysis Project completed by Hannah Wahle for Design VI. Professor John Mellor, Spring 2023.
This page, right: Analysis Project completed by Searra Bell for Design VI. Professor John Mellor, Spring 2022.



Top: Ampthill Street, London, existing conditions, isometric. Bottom: Ampthill Street, London, 30-year Masterplan, isometric. Completed by Daniel Prize, Metaya Tilahun, Alex Athenson, Hallie Swenson, Lauren Sommerville, Ian Griffey, Richard Economakis, Anbreen Basher, Sam Fischer, Sarah Abalos, Daniel DeMaagd Rodriguez for Graduate Design Studio. Professor Richard Economakis, Spring 2018.

ARCHITECTURAL EDUCATION BEYOND THE DESIGN STUDIO

ALAN DEFREES | POINTS 2 & 4

The public's concept of the architect is usually some version of an arrogant artistic genius derived from the mythology of Frank Lloyd Wright or Ayn Rand's Howard Roark. In this understanding, the architect is born with artistic talent and bold ideas that somehow lead to the formation of beautiful buildings. Unfortunately, the architect is often thought of as some kind of exterior decorator *who acquired the gift of creativity in some way other than hard work and the desire to learn.*

There is more. The core of architectural education is the design studio. This is the "main event" in the pedagogy of the program and embodies twice the credit hours and usually many more actual hours of work than any other course. It occurs in some form in all ten semesters of study. Studios are small classes that meet with professors three afternoons a week and include direct contact in an environment that is both encouraging and critical. Students create and present designs that aim to be both beautiful and functional. This is where the elements of architectural design and presentation come together in a form that most people would identify as architecture.

It is not architecture until it is built, which means the architecture student must learn how buildings are built. The buildings must not fall down. They must enclose occupants in comfort, keep out weather and water, emit no toxins, have sustainable and resilient features, resist fires, and many other practical things. The required courses I teach are involved with these things.

Architectural Structures

Buildings must stand up, preferably without excessive cost or waste of natural resources. In the modern world, we have a long history in perfecting the knowledge of the math and physics of architectural structures. There should be no reason for buildings to collapse other than the most extreme, yet collapse they do. Often this is caused by the errors or incompetence of the engineer or contractor, but also from errors or misunderstandings originating with the architect. Contrary to the hopes of students, I tell them, "Structures is more complex than it looks. Each lesson learned is simple, but you must learn each lesson."

I teach an introductory course in architectural structures, which is followed by two advanced courses taught by a civil engineering professor. The introductory course uses algebra, geometry, trigonometry, and some calculus to solve fundamental problems of statics and mechanics. The course also analyzes the structural concerns of various structural components, including beams, columns, cables, arches, vaults, and domes. Special attention is drawn to wind, flood, and earthquake design, as these topics present special challenges and high risk.

How buildings stand up is the primary aim of these courses, but why they unnecessarily fall down often provides the most compelling and most important lessons in structural education. Students learn that the fault is human error, haste, and poor judgment.

Subsequent courses focus on the specifics of engineering wood, steel, and concrete structures. The design of each of these three material systems can be very different and have special considerations. The phrase "the devil is in the details" is a good descriptor for what students must learn for these very different materials. We caution students that even when a consulting structural engineer has been hired, the architect must still know what and how to communicate with the engineer and builder to avoid disaster.

Building Construction

Through most of history, the architect and the builder were the same person. One learned the process by

View of Proposed Athletic Center. Refugee Village, Panormos, Chios. Completed by Daniel Kiser. Professor Richard Economakis, Spring 2017.

growing up on building sites, usually at the side of an experienced relative. Construction knowledge was firmly developed by an age when most of today's architecture students are just starting their construction learning.

The School has two required courses in the materials and methods of construction plus analytical work that occurs in the design studio. Courses start with the portions of a structure at or below the surface by developing knowledge and understanding of soils, foundations, surveying, site work, and topography. For example, in my limited region of practice I have encountered expansive clays, mucky organic soils, quicksand, land slippage, hidden springs, seasonally rising water tables, 100-year floods, artesian geysers, and non-potable ground saltwater. I caution students to be aware of the existence of these problems which may seem to be mundane topics but become more than fascinating when encountered in practice.

Properties of strength and durability of concrete, masonry, wood, and metal are studied along with the proper uses and pitfalls for use in building floors, walls, and roofs. Problems with thermal and moisture protection, galvanic and capillary action, expansion and contraction, decay and dissolution, and fire re-

sistance and smoke generation may not be obvious on the drawing board, but they can plague architects and clients and endanger building occupants.

Many course hours are devoted to the exterior walls and other building envelope components. These portions are the most visible and often the most expensive parts of buildings. The ideal wall should prevent the intrusion of water and air; be simple to build with low-cost, durable materials; need little maintenance; resist gravity and seismic and wind loads; incorporate thermal resistance appropriate to climate; allow the controlled admittance of sun and air; provide security and privacy; and resist fire, mold, fungus, and vermin.

These studies also include detailed presentations of issues in roofing, windows, doors, stairs, interior finish materials, and special assemblies. All of these subjects have special considerations in utility, aesthetics, and safety concerns.

Environmental Systems

I once taught a student who, three weeks into the first of the two environmental systems courses, assertively asked, "What does this have to do with architecture?" I probably did not have a good answer then because as a practicing architect I was not prepared for anyone to find *this* body of knowledge an alien part of an architect's education. Architects deal with energy and mechanical system issues on a daily basis. Architects generally have in-house specialists or hire consultants, but these issues are a large part of every building project.

A tempting answer is that "Environmental systems are the essential parts of every building that architecture students don't consider to be architecture." As with structures, engineers are often, but not always, involved with the design of these features. If they are, they usually have little input until the architect has completed preliminary design. Architects who neglect these components will damage the environment and waste money and energy.

Energy usage is a fundamental part of these courses. The most basic concerns of the architect are how to plan for the location and size of spaces used for building system components and how climatic concerns shape building design. Heat loss and gain topics include heat, thermal envelope analysis, psychrometrics (the study of atmospheric air under a given pressure), solar energy, air exchange, and heat gain analysis. Heating, ventilating, and air conditioning equipment along with distribution configurations are complex and varied and have health concerns that are more important than ever as we consider ways to improve building ventilation.

Safety concerns are greatest regarding fire and smoke control, egress, and signal systems. New attention has been directed to resource issues such as a safe water supply and quality, proper drainage, and waste removal, while distribution and public utility design are becoming increasingly important in this unsustainably overpopulated world.

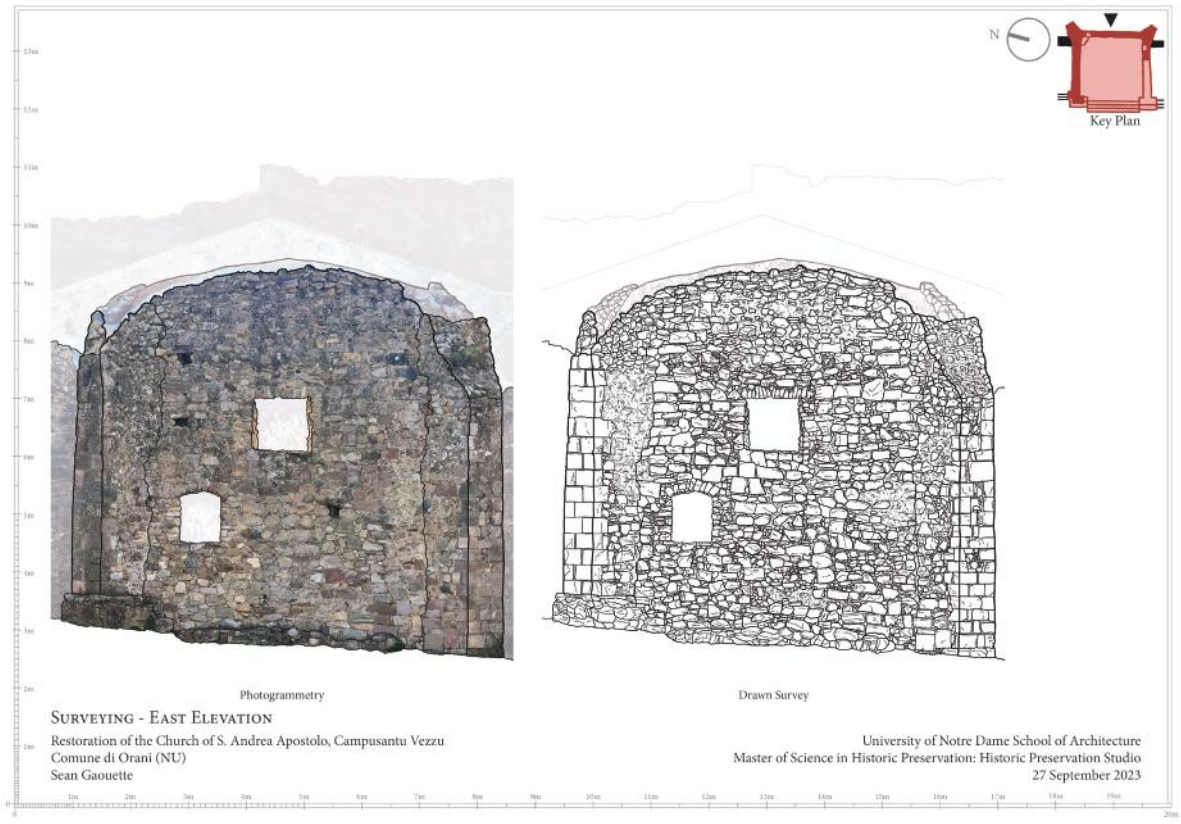
Acoustic design may be a small concern in most buildings, but it becomes the most important part in spaces dedicated to music or speech. It is especially important to present these issues to students in a rigorous manner, as the physics concepts are often counterintuitive and hard to comprehend.

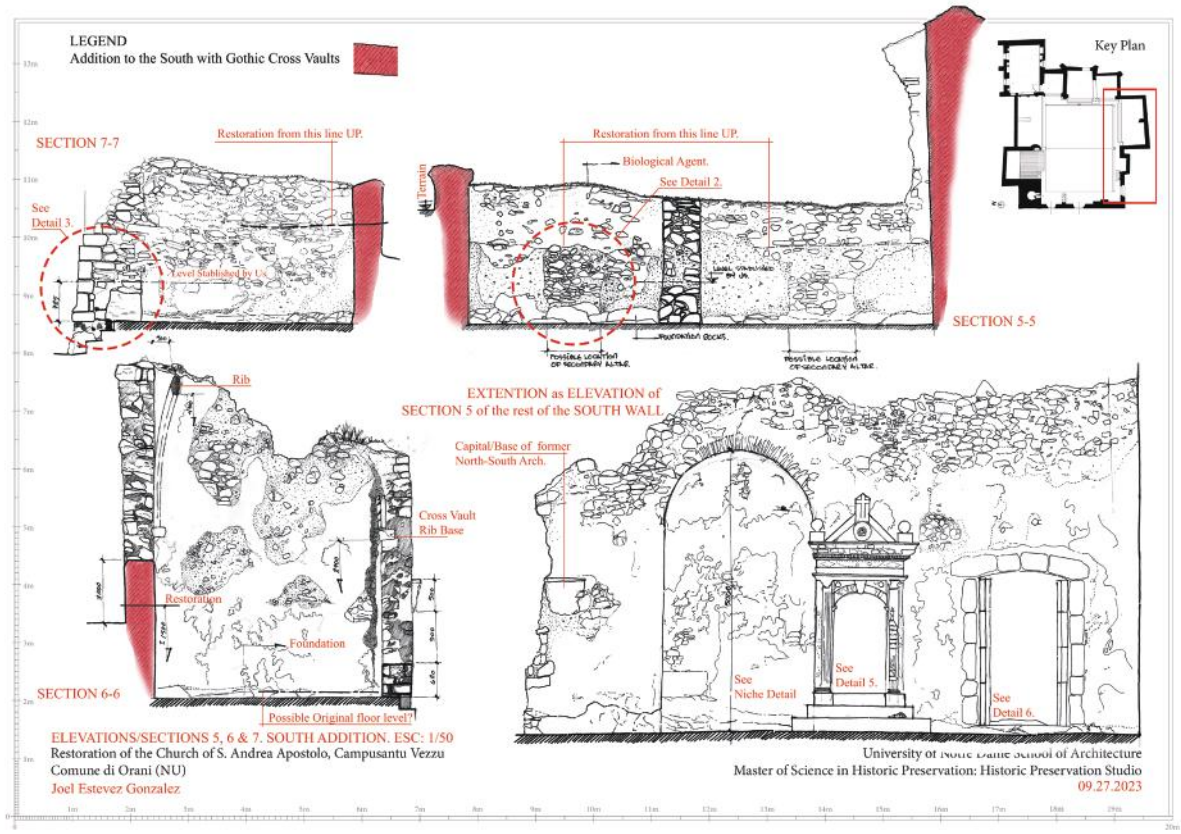
Lighting and electrical systems have undergone profound changes in the twenty-first century. Electrical systems and new methods of generation and distribution that were once of small concern to the architect now require special attention. Lighting has long been a major energy concern, constituting a quarter to a third of the energy usage in office buildings. The intelligent use of proper artificial and natural daylighting can have profound effects on the aesthetics of a building and the health of both humans and nature.

Other Key Areas of Study for Architects

Architecture encompasses an enormous range of skills and knowledge. Architectural history and theory and historic preservation guide us; we base our future work on that of architects who have come before us. Sociology, psychology, and anthropology help us understand how buildings can be improved, but also how the world can be better. Professional practice, construction law, business management, finance, and accounting lay groundwork for our students to become effective leaders in their chosen professions.

The study of architecture is more than education in liberal arts, aesthetics, humanities, and science. It may be the broadest of all courses of study.





Top: Survey of Masonry Wall in the Church of S. Andrea at Orani, Sardinia, Italy. Completed by Sean Gauette for Historic Preservation Studio. Professor Paolo Vitti, Fall 2023. Bottom: Survey of a Chapel in the Church of S. Andrea at Orani, Sardinia, Italy: Elevations. Completed by Joel Estévez González for Historic Preservation Studio. Professor Paolo Vitti, Fall 2023.

PRESERVATION AND SUSTAINABLE ARCHITECTURE

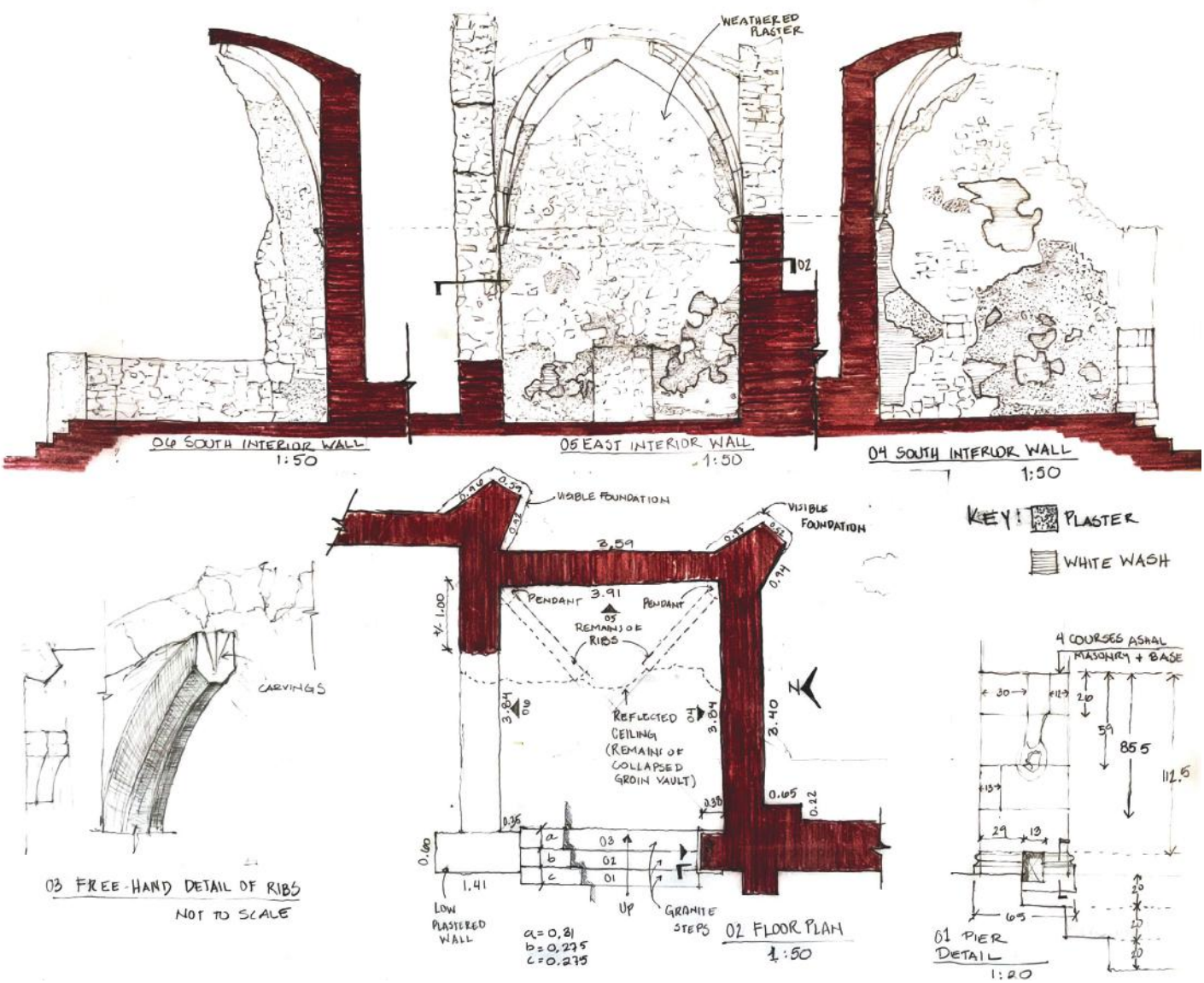
PAOLO VITTI | POINT 5

At a moment when discussion on sustainable architecture is critical for adaptation to and mitigation of the effects of climate change, the role of traditional architecture must be reconsidered. Traditional buildings are not merely a meaningful record of the past that needs to be preserved and transmitted to future generations. They actually can inspire and inform current discussion on sustainability and thus contribute actively to a new green future.

The building and construction sector is one of the major energy consumers and is responsible for nearly 40 percent of global carbon emissions. Attempts to reduce its impact are focused on developing new technologies and innovation, applied at a global level. However, traditional practices achieved excellent results, producing high performing buildings with a much more thoughtful use of local resources. For this reason, the contribution of traditional architecture in achieving the goals of the Paris Agreement must not be underestimated. Historic buildings can inspire a change in direction in the building sector, from global to regional. Traditional building cultures were based on a participatory approach in which knowledge about rules, trades, and technologies developed from a deep understanding of local resources and the best ways to use them for the benefit of the community. Against the belief that nature is an inexhaustible resource, as the consumerist approach suggests, traditional building processes were aware of materials and the way they could be transformed and assembled to achieve the most performing buildings. The response to loads and hazards, as well as the capacity to address environmental matters, evolved naturally from a long process of trial and error, until the best result was achieved. Things are different today. Having become unaware of the origin of our products, the way they are transformed, and the processes that are used in their production, we have lost our capacity for thrift and for responsibly avoiding waste.

One of the most significant objectives for revitalizing traditional building practices is recovering the loss of craftsmanship, expertise, and all the intangible culture that supported them. Traditional buildings resulted from processes that used knowledge gained throughout a long-term process and know-how transferred through training from generation to generation, elements which are not directly or easily deducible from the study of the buildings. While many traditional building trades are still practiced by some artisans, many others have been forgotten and remain documented only in historic buildings. This is the case in regions where the building industry has succeeded in replacing traditional building trades entirely, offering building solutions that appear to be more advantageous in terms of cost. For this reason, one of the main goals is to record, document, and promote those practices which are still active. To that aim, the Smithsonian Center for Folklife and Cultural Heritage together with our School of Architecture has a joint program for the online National Network of Traditional Building Masters.

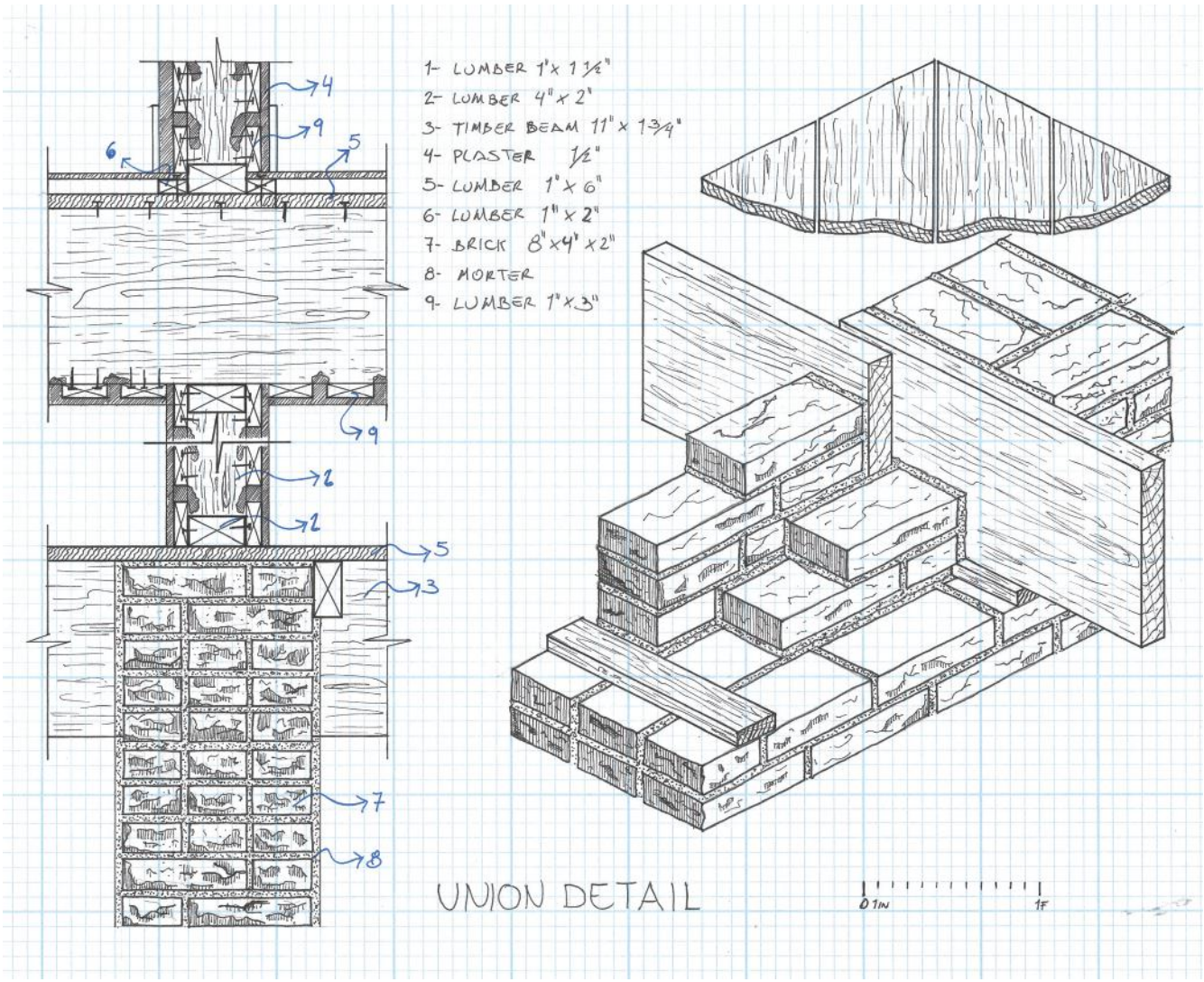
There is however, one sector where traditional building practices are acknowledged as meaningful and are still practiced: Historic Preservation. Following a relatively short period—from the 1930s to the 1980s, when modern techniques and materials such as concrete, iron, and resins were used extensively on historic buildings—there was a swift return to traditional building techniques in conservation. The reason for this was that monuments such as the Acropolis of Athens were literally crumbling because of the use of modern materials in place of the traditional ones. A massive program to remove these incompatible interventions was started, hand in hand with work to recover practices that had been lost in fifty years of predominance of modern materials. Today restoration works offer the only opportunity to investigate



historic construction in depth; learn from the building culture that generated it; and come to use materials, crafts, and technology in the most similar way as in the past. Structures are analyzed, materials are investigated, and building techniques are recorded.

Until recently, knowledge coming from restoration works was considered useful only for the purposes of preserving the past. What we now propose is to use that knowledge to inform the construction of new buildings. Take, for instance, the renowned gypsum plasters in Paris (plaster of Paris mortars) documented since the Middle Ages and used for external surfaces with impressive aesthetic and mechanical properties. These plasters were progressively abandoned in the nineteenth century, when industrialization focused on the use of lime- or cement-based binders. Since then, the higher energy and carbon footprint lime technology replaced gypsum plasters and expertise was lost. Today, as we begin resuming their use for conservation works, we understand that this knowledge can be transferred to new buildings, and gypsum binders—which consume less energy—can be used for construction and external finishes. In this

Above: Survey of a Chapel in the Church of S. Andrea at Orani, Sardinia, Italy. On-Site Drawing completed by Guillermo Alfaro Wahn for Historic Preservation Studio. Professor Paolo Vitti, Fall 2023.

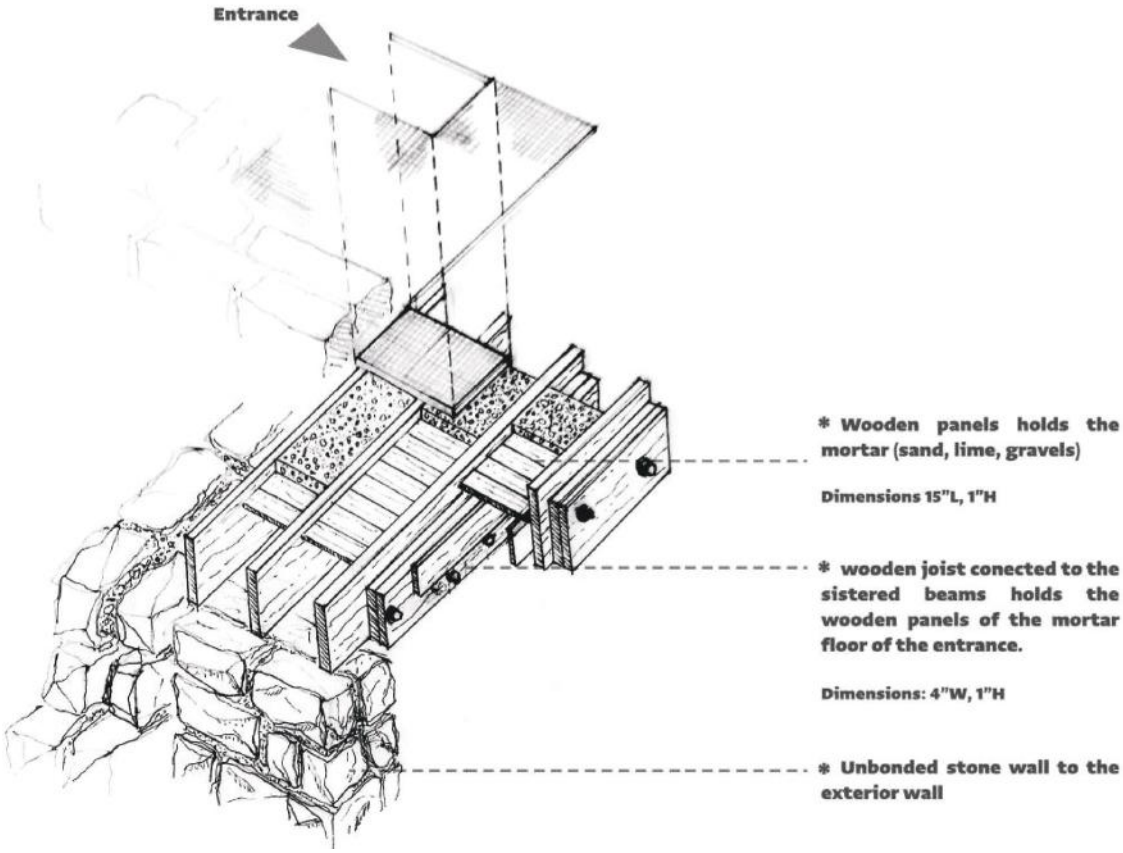


way, past knowledge is reactivated through conservation and then transferred to modern buildings.

We believe the inevitable change that the current climate emergency is calling on us to make must be achieved by taking advantage of the technological progress gained in the last decades, but including also traditional knowledge. We urge to reconsider the role of new materials and technologies in terms of their longevity and sustainability. Among the many topics that need to be addressed are mass-produced, low-cost materials, short-term life-cycle products and artifacts, high-energy production processes, long-distance sourcing that increases transportation, design that disregards functionality, and individualist design approaches that aim to glorify the designer even to the disadvantage of the user. In contrast, traditional buildings sourced materials locally, thus reducing transportation, allowed reuse of materials, and were community-centered.

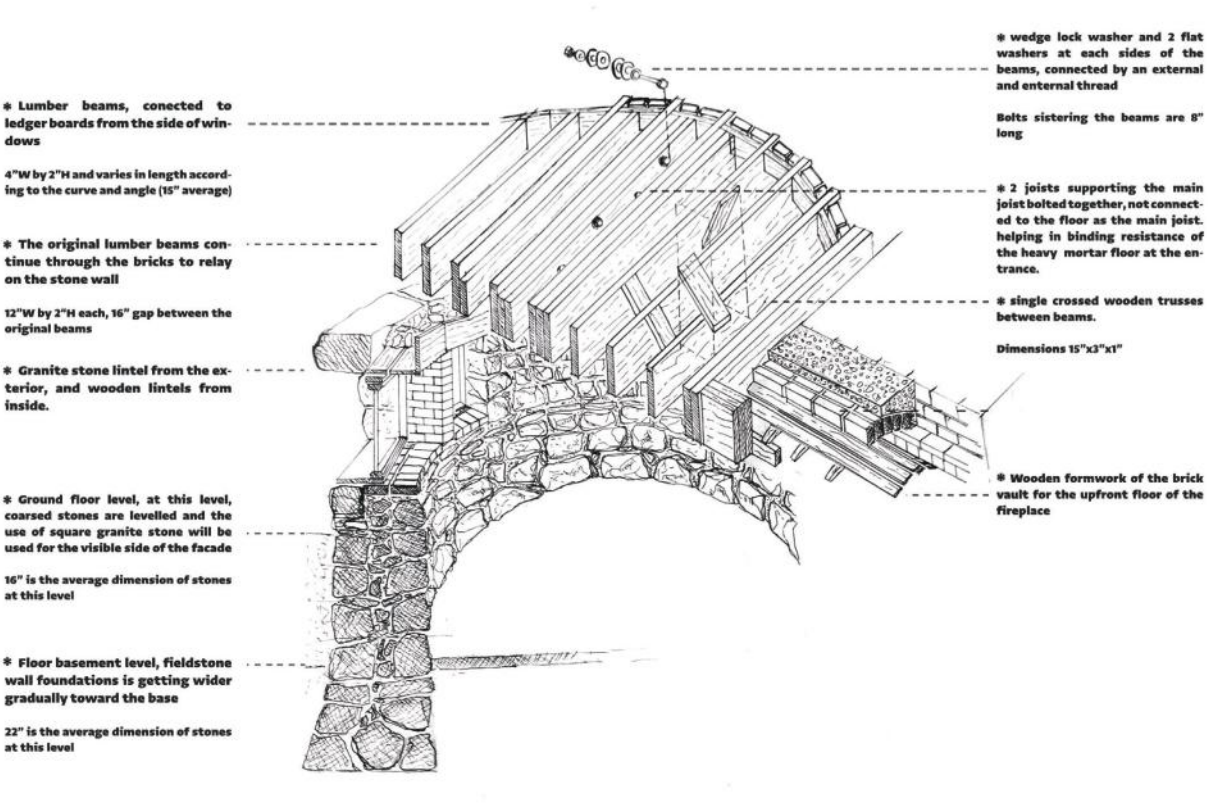
For the above reasons, one of our pedagogical goals is to teach students to learn from local building traditions through an intensive work of analysis, docu-

Above: Kizer House in South Bend, Indiana: Section and Axonometric Diagram of the Joint between a Brick Wall and the Timber Floor. Completed by Jeremy Salazar for Orientation to the Master of Historic Preservation. Professor Paolo Vitti, 2023.



mentation, and interpretation. The aim is to discover a variety of solutions that goes well beyond the limited examples included in the manuals, and to express a wide and articulated identity of architecture, varying from place to place, from building to building. The manuals are a codification of disciplinary expertise and give general instructions on construction according to the *regola dell'arte* (best practice), but generally do not include deviations from it, which are the true expression of local identity of architecture, deriving from local expertise and know-how. By a matter of fact there are infinite local variations to the *regola dell'arte* due to adaptations, misunderstandings, or simply unskilled workmanship that are not considered in codifications whose purpose is to define best practice. However, these variations are of particular interest to us, since they can express the traditions developed locally after a trial-and-error process.

Recording building techniques as a fundamental way to understand historic architecture beyond formal, spatial, and structural matters had a long tradition in the nineteenth and early twentieth century with scholars such as Choisy, Viollet-le-Duc, Durm, and Giovannoni. Such tradition was based on excellent hand drawings, which allowed for a clear analysis and interpretation of historic buildings. This tradition is now challenged by current uncritical use of digital tools. Drawings always had an important role in guiding the learning/interpretative process of architecture. The graphic analysis of construction, taking advantage of the cognitive process activated by hand drawing, shows building elements in a critical way and thus is of paramount importance if we want to recover building traditions that are lost. The interpretation of a construction process and its building phases means understanding the way materials were



selected, transformed, and assembled, and the process which was adopted, not differently from the Building Archaeology methodology in analyzing historic buildings. Such diagrams need to be created on site, since they are developed through a close analysis of the building. They can be a useful means of tracing building processes of past building cultures. As such, they can become a useful tool in defining our capacity to reconnect to the past and define the future of architecture. As it happens, the past meets the future. We can use laser scanners, but at the same time we should not forget how important hand drawing is!

Less-privileged countries will be heavily impacted by global approaches promoting new and rapidly changing technologies. They will depend more and more on industrialized countries. The threat of increased social inequality in fragile contexts is proportional to the current trend in migration to urban centers as the countryside is more exposed to the consequences of extreme meteorological phenomena and natural hazards.[1] In this context, we believe that more nature-based approaches expressed by traditional buildings have to go hand in hand with the progress gained by humanity in the last hundred years. Again, the study of traditional architecture can contribute to identifying viable solutions, as it allows us to learn from building cultures that were in balance with nature and varied from region to region.

1 *Report on the Impact of Climate Change on Migration*, prepared by the White House (Washington, DC, 2021).

Above, left and right: Kizer House in South Bend: Axonometric of a Curved Wall and Floor in the Basement. Completed by Mulham Kharboutli for Orientation to the Master of Historic Preservation. Professor Paolo Vitti, 2023.

Masterplan for a Villa and Garden on the Caelian Hill, Rome. Completed by Natalie Pratt. Professor Jonathan Weatherill, Spring 2020.

ARCHITECTURE AND CONSERVATION

ALESSANDRO PIERATTINI | POINT 5

Buildings have a huge impact on society and the environment. The production and use of building materials and their performance over time determine the cost of the built environment to the planet in terms of energy and pollution. Because material production and use have an effect on the environment and the social distribution of resources, they raise important, urgent ethical questions.

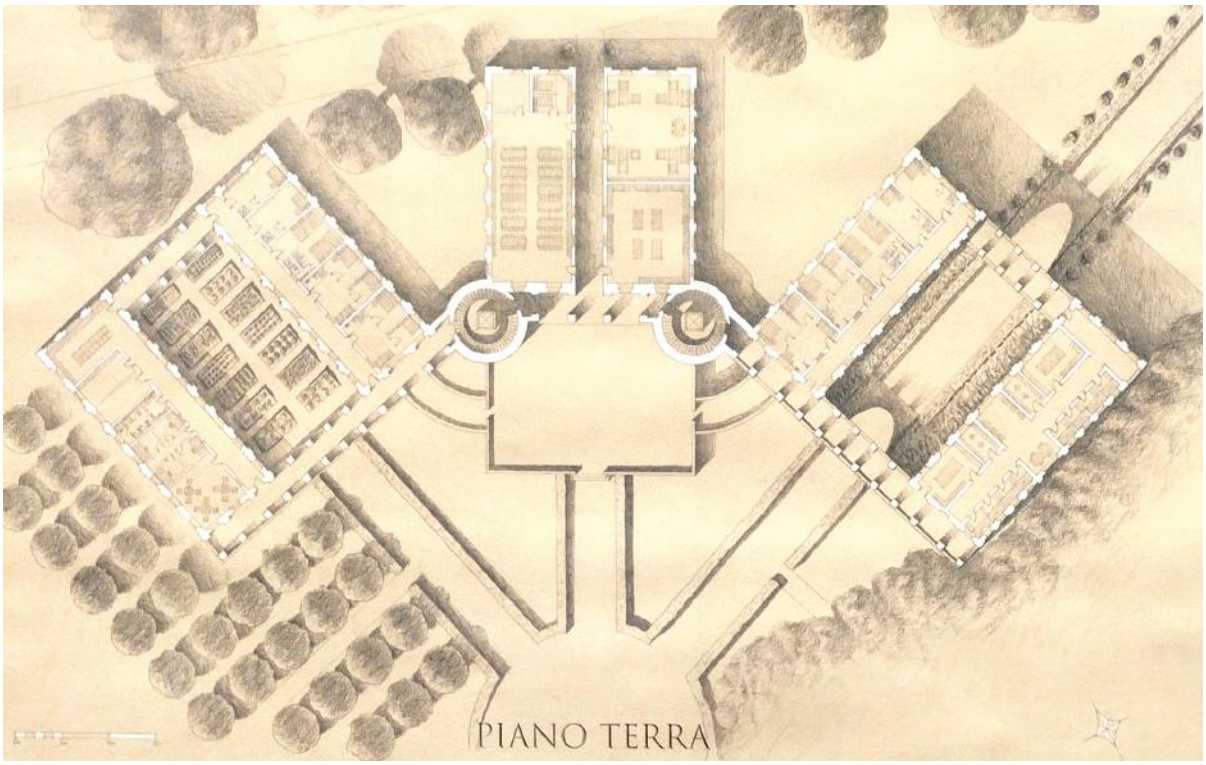
The current trend in construction promotes the use of a limited range of materials of industrial production worldwide. The production, transport, and use of these materials come with a high energy cost (*embodied energy*)—much higher than the regional, craft-based building methods that were traditionally in use before industrialization. This high energy cost does not often make a good return on investment, since the lifecycle of buildings is relatively short. We produce and consume too much too quickly for the environment to replenish its resources and assimilate the by-products and waste of the construction industry. The built environment alone accounts for over 30 percent of total global energy use and produces about 50 percent of all carbon dioxide emissions in the atmosphere. The destructive consequences of this vicious cycle of production and consumption range from conflicts for the control of resources to pollution, climate change, and the consequent risk to human (and nonhuman) life.

Given this urgent state of affairs, we must reconsider the relationship between the built and natural environments. While architects have a role to play, schools of architecture can act as catalysts of change by training future designers and policymakers. Thus far, however, these institutions have been rather passive in teaching young architects how to use the materials and technologies of industrialism, and they have rarely looked beyond this limited palette.

Part of the problem is that academia worldwide is still anchored, to some degree, in the ideology of the modern movement's International Style, which was developed in the early twentieth century. Central to modernism was the association of industrial production with "the good." The aesthetic of the International Style was modeled on the use of mass-produced, industrial materials. Industrial techniques and mass-production were then "the new." Intellectuals espoused them as a means not only to revolutionize old styles in art and architecture, but also to create a higher standard of living for every social class. In the 1960s, as the high cost of the modernist dream became increasingly clear, architects began to look for solutions to reduce the environmental impact of architecture, or to make architecture more "sustainable." For the most part, these solutions have involved scientific research on more energy-efficient industrial materials and technologies that produce fewer pollutants.

Our School recognizes the economic and cultural processes that have created the present global crisis, and it promotes a responsible approach to building. We prepare our students to understand the mechanisms behind the present production model and its impact on the economy, society, and the environment. While we engage in research on new materials and technologies and teach our students how to use them efficiently, this approach alone has a limited impact in the world. The new, sustainable products of industry require an advanced production infrastructure and often have a high production cost. As such, they are not affordable to a large part of the world's population, almost half of which lives on less than five dollars a day.

To pursue a more socially inclusive approach to sustainability, we research and teach a wide spectrum of building technologies that are not limited to the purview of industrialism. We draw upon a diverse legacy of traditional, craft-based materials and methods with a wide geographic and cultural scope. These include (but are not limited to) natural stone, rammed earth and adobe, brick, plaster, and timber framing. The word *tradition* is often used misleadingly in opposition to *innovation*. Yet "traditional" does not mean stuck in the past—



Proposed Hospice and Gardens on the Caelian Hill, Rome. Ground Floor Plan. Robert (Rob) Baranko. Professor Jonathan Weatherill, Spring 2022.

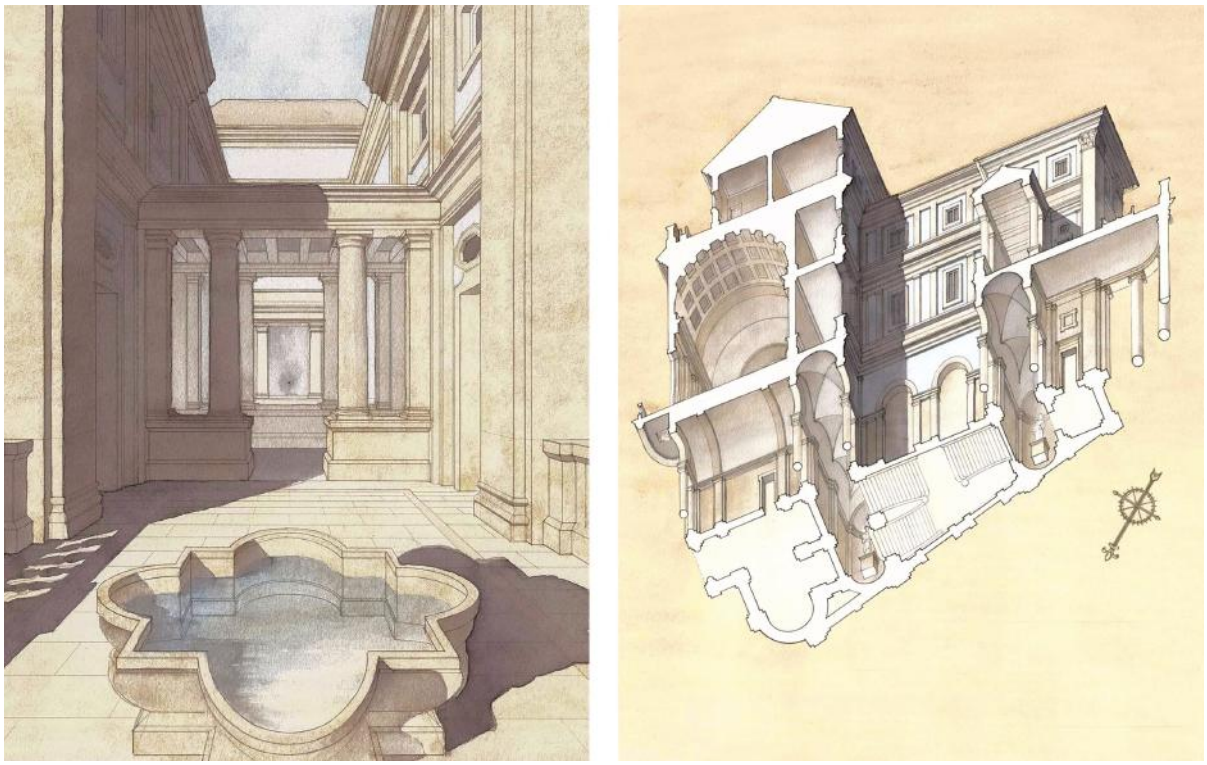
quite the opposite. It means a legacy of knowledge that is passed on because it holds value to a community —culturally, practically, and economically. History teaches us that tradition is anything but static. While it preserves a culture's highest achievements, it also transforms as it is enriched by innovation.

In teaching the value of traditional building methods, we emphasize the many reasons why they have a right not only to survive but also to recover ground. Their materials are produced from local natural resources with craft-based processes. Because local materials reduce the need for long-distance transportation and craft-based production saves on fossil fuels, traditional building methods save energy.

Furthermore, traditional building methods are climate responsive. Provided we understand that the standards for human comfort are not universal but vary with climate, each local culture has historically developed efficient methods for sheltering humans from the harshness of local climate. In the scorching Mediterranean summer, thick, whitewashed masonry walls reflect and absorb the sun's heat to keep the interior cool and release heat at night. In the harsh winters of northern Europe, timber-framed walls are infilled with materials such as reeds, which include air and function much like industrial closed-cell insulation materials.

Not all traditional building materials are durable for long periods of time, but some have given buildings a life as long as several thousand years. It is not only stone that provides long-term durability, but also "perishable materials" like mud brick and timber. Durability depends on and how materials are used in a particular climate. In arid Egypt, mud brick walls can last for millennia. Submerged in water and mud with no exposure to air, the wooden posts underneath the foundations of Venetian buildings have lasted as long as the oldest stone monuments they support. Other materials traditionally used in various parts of the world last a relatively short time. Thatch roofs, for example, need to be replaced every twenty to forty years. Yet these materials have an extremely low embodied energy. Maintenance and reconstruction do not exceed the environment's capacity to replenish the resources.

Finally, traditional building methods affect the distribution of wealth in society in a radically different way than industrial materials do. Globalized industrial produc-



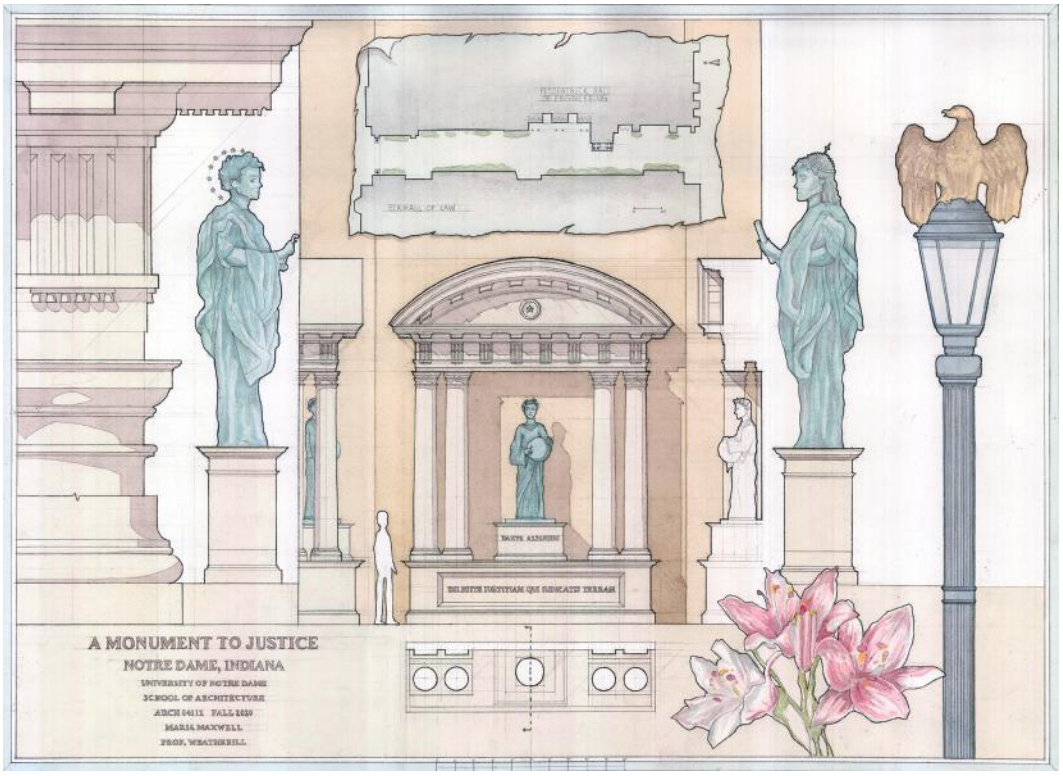
Roman Palazzo Project. Perspective and Cutaway Inverted Axonometric. Completed by Nathan Walz. Professor Jonathan Weatherill, Fall 2021.

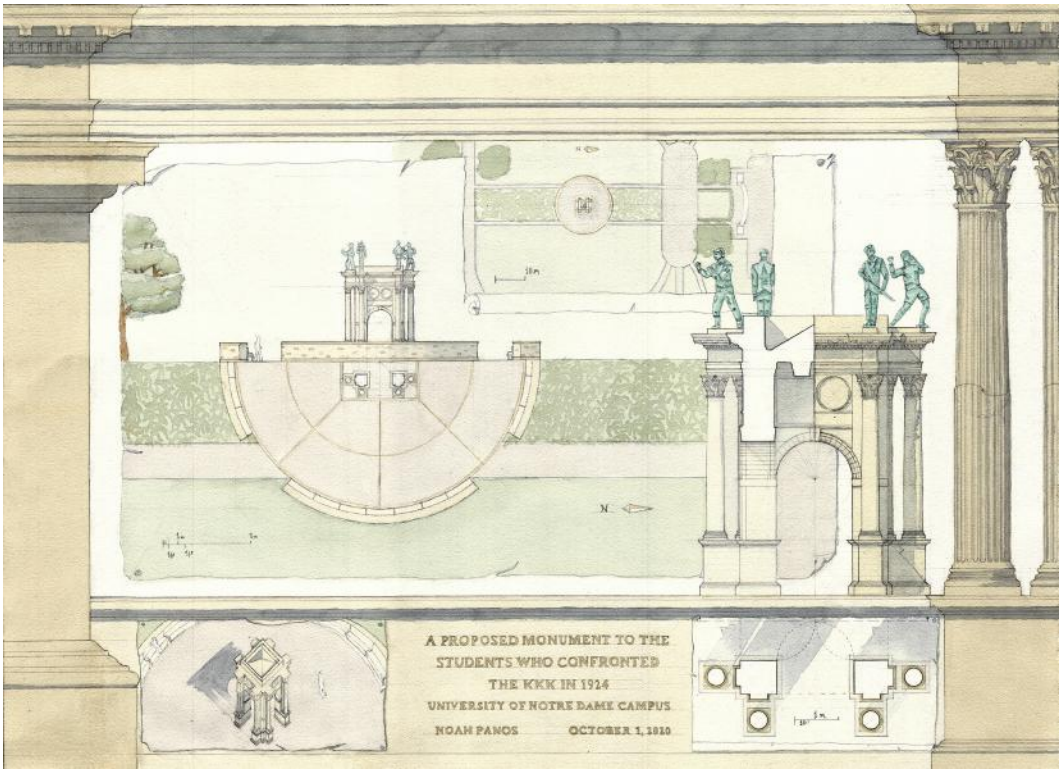
tion favors the concentration of wealth as the financial resources of local communities land in the hands of a few power players. This does not change when products are "environmentally friendly." The same multinational corporations can start manufacturing such products to replace other, less "friendly" products, without challenging the existing infrastructures or the current distribution of wealth. Craft-based building methods using local materials, on the other hand, favor a more equitable distribution of wealth, both geographically and socially. Economic resources are spent locally in support of local communities of manufacturers and craftsmen.

To promote the learning of traditional building methods, the School partners with institutions such as the International Masonry Institute and collaborates with a network of highly skilled craftsmen in a wide range of specialties, from stone masonry to timber framing, plastering, and earth construction. These institutions and craftsmen contribute to our program not only with lectures and demonstrations, but also by assisting our students in developing the technical aspects of their design projects. This network continues to be of value during our graduates' professional careers. Ultimately, this collaborative approach fosters continued learning between architects and craftsmen to the benefit of design quality and the performance of buildings.

Our built environment demands that we face its challenges by regrounding architecture in the craft and materiality of its construction, and that we do so with full awareness of the manifold effects of building on the world. We promote knowledge of and research on a wide array of building materials and methods, and we show young designers how to use them responsibly from technical, environmental, and socioeconomic perspectives. Industrial materials and technologies currently remain the most viable option for large infrastructures and industrial facilities, but desirable change would come to most of the built environment with the reintroduction of local, craft-based materials and methods.

Architects can occupy a variety of positions in the production and management of the built environment. These include positions in design firms and construction companies, and policymaking and research institutions. By forming critical thinkers who will take on leadership roles in these organizations, we contribute to creating a building culture that meets the needs of the present without compromising the future.





Top: A Monument to Justice, proposed for the campus of the University of Notre Dame. Completed by Maria Maxwell for Design III. Professor Jonathan Weatherill, Fall 2020. Bottom: A Monument to the Students who Confronted the KKK in 1924, proposed for the University of Notre Dame's Irish Green. Completed by Noah Panos for Design III. Professor Jonathan Weatherill, Fall 2020.

BUILDING JUSTICE

MARIANNE CUSATO | POINT 6

… because being American is more than a pride we inherit,

it's the past we step into / and how we repair it

—Amanda Gorman, "The Hill We Climb"

We are sold a myth that says if you work hard and make good choices, you too can live the American Dream. This leaves us with the misperception of the inverse position, that if you live in poverty, it's because you don't work hard enough or you make bad life choices. But the reality is, your prospects for mobility are more likely influenced by where your grandparents lived than by your personal actions or achievements. And it's important to highlight this: where your grandparents lived was most likely determined by their ethnicity and the color of their skin.

The Fair Housing Act of 1968 was intended to right these wrongs and eliminate barriers to housing. But today, over half a century later, we are more segregated than ever. It feels like the system is broken—but it is not. Unfortunately, the system is working exactly as it's designed to work. *Housing and urban policy in the United States was, and continues to be, designed to discriminate against Black and minority communities.*

One of the essential tools of housing segregation started in the 1930s with the introduction of the thirty-year mortgage. Rather than determining lending risk by an individual's personal finances and income, risk was assessed by neighborhood. Neighborhood risk was determined by the color of your skin, with four categories ranging from green ("Best: All white, non-Jewish") to red ("Hazardous: Negroes, low class whites, and foreign born"). This practice became known as Redlining. Mortgages were not available in redlined or marginalized yellow communities. White families fled to places such as Levittown, New York—new suburbs where racially restricted covenants prohibited Black residents. Wording varied, but the following statements were common across the country: "No person or persons of African or Negro blood, lineage, or extraction shall be permitted to occupy a portion of said property." And "no conveyance, contract, or lease to be made to or with any person not of the Caucasian race."

With Black and minority communities forced to live in a limited number of neighborhoods, demand increased and pushed up prices. At the same time employment opportunities were limited for black men, reducing household incomes. These factors resulted in overcrowding. With costs rising and secure mortgages unavailable, landlords and property owners stopped maintaining structures (the former because they didn't have to keep a building up to garner high rents, and the latter because costs were so high that there wasn't anything left to pay for upkeep after basic expenses.) Municipalities slowed services like trash collection and deferred maintenance on public utilities in favor of investing in suburban growth. Slum conditions resulted not from the actions of the black residents, but from the policies created by the white majority.

Urban Renewal and the expansion of the freeway system in the 1960s carved through predominantly black neighborhoods while weaving to avoid affluent white neighborhoods. Take a moment and explore how this history played out in your city or hometown. Pull up a redlining map (www.mappinginequality.richmond.edu), then trace the path of the freeway as it connects to downtown. Consider this path the next time you are exiting a freeway into downtown. Most likely you are driving over the previous location of a predominately black neighborhood.

Despite being widely used through most of the twentieth century, racially restricted covenants were ruled unconstitutional in the 1917 Buchanan v. Warley Supreme Court decision. Thus, to ensure the segregation of races in our built communities, racial restrictions were often paired with exclusionary zoning restrictions. Res-

idences and commercial uses were split apart starting in Berkeley, California, where the tactic was used to shut down a Black-owned business near white-owned homes. Single-family homes were separated from multifamily apartments to keep out renters, who were often Black; whites, even those with low incomes, had an easier time getting mortgages long after the redlining practices of the 1930s. Other restrictions include minimum lot sizes, minimum home square footage, minimum parking requirements, material ordinances, and more. All of these moves kept suburban housing more expensive, so by the time the Fair Housing Act was enacted in 1968, the combination of generational wealth that whites had accrued from decades of low-barrier lending coupled with the high costs of new construction meant Black Americans were overwhelmingly priced out of the American Dream.

In Richard Rothstein's seminal book, *The Color of Law*, he observes that when you desegregate a bus, anyone can ride the next day. When you desegregate a lunch counter, anyone can eat there the next day. But when you desegregate housing, and in large part schools, the financial deficit is so great and so fixed in place that, despite the legal ability to move, the economic cost is prohibitive for most. The system had worked exactly as designed: Black and minority Americans were blocked from moving into mostly white suburban communities.

Today, we live the legacy of these policies. Seventy-five percent of residential land in the United States is zoned R-1, which means it is illegal to build anything other than single-family homes, not even a backyard granny flat for your elderly parents. The result is the flagship of the American Dream, the suburban single-family home —once a petite postwar cottage with a white picket fence, now a sprawling auto-dependent McMansion with gables—designed to privilege white Americans is buckling under its own overextended girth.

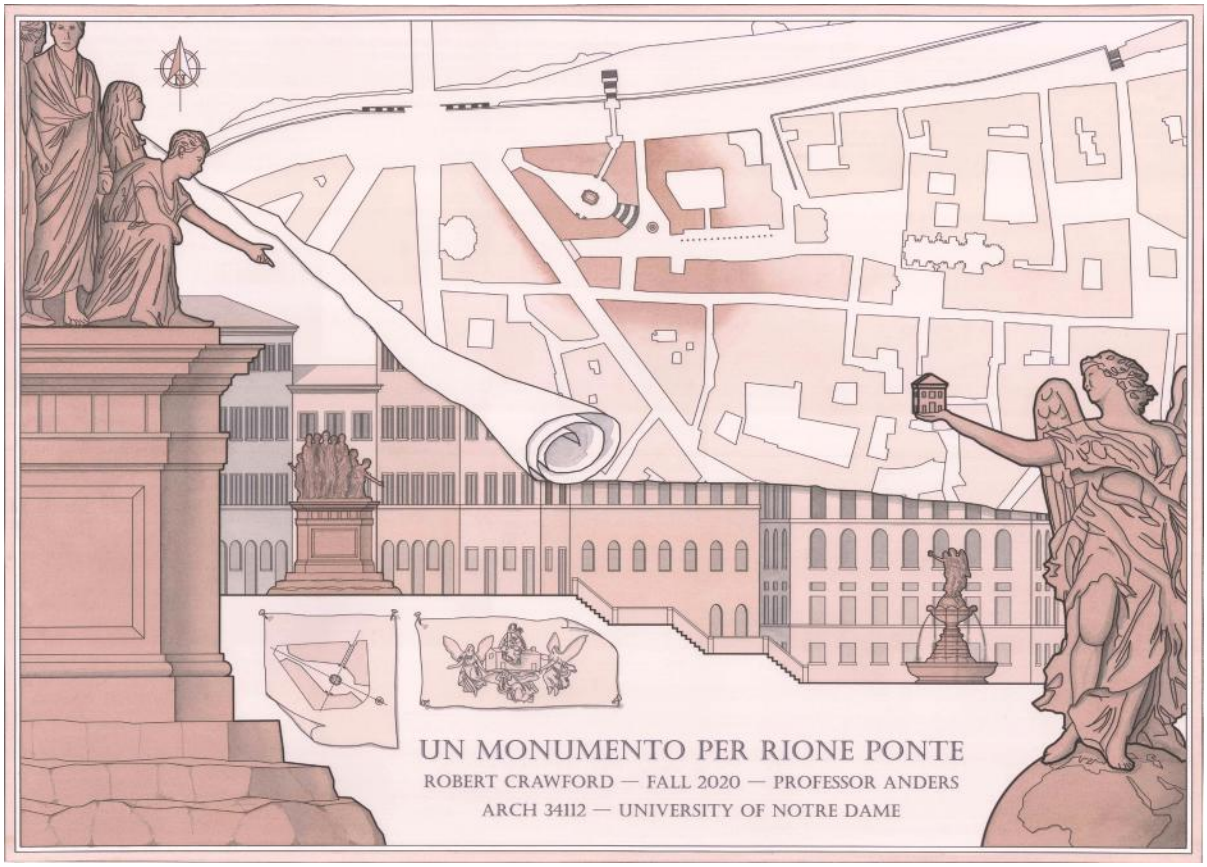
At a municipal level, communities are struggling to maintain a crumbling infrastructure and activate disinvested downtowns due to decades of sprawling low-density unproductive growth. Individually, over 30 percent of Americans are housing insecure, and the American Dream is attainable for fewer and fewer people.

The very tools employed to segregate American housing and create the suburban dream home have backfired and are turning on the very people these tools were intended to privilege. And as these failures ripple through society, the impact is disproportionally being felt by the Black and minority communities already disadvantaged. This manifests in many forms; one of the most visible is the gentrification formerly redlined communities, now available for pennies on the dollar to affluent, mostly white "urban pioneers," and the resulting displacement of Black residents.

Despite widespread recognition that we need to address this nation's affordable housing crisis, progress is slow for several reasons. First, after a century of systemic housing segregation, our society has come to believe the false narrative created by the stigmas we attached to those trapped in generational poverty—that they are lazy dirty criminals. And if "they" move in down the street, surely our property values will fall, and crime will rise. Second, the solutions needed to address these issues are being blocked by the very rules that caused the problems: the racist exclusionary zoning policies and design practices put in place to drive up costs. And third, even if we manage to win hearts and minds and remove the barriers to affordable building, we still have lost knowledge, once common among all builders and developers, of how to economically design and build mixed-use and mixed-income communities.

It's the decisive role of the academy to train tomorrow's leaders to address all of these barriers to change. To do so, we must first learn our history and see what is hiding in plain sight, even when this history is uncomfortable and shameful. In our course US Housing and Social Justice, the first assignment is for each student to study housing segregation in their hometown and present their findings to the class. This is a powerful exercise that becomes personal as students see a familiar place through a new lens. Then, as they watch their classmates' similar presentations, they see the depth and breadth of the collective atrocities. One student discovered that he lived in a "Sundown Town," where several thousand Black residents were expelled over a one-week period. Another discovered he lived in a community that previously had racial restricted covenants and suddenly understood why, even decades later, his community is 99 percent white. The list of discoveries is too long to include in the essay.

Next we arm our students with the ability to articulate arguments to combat stigmas and prejudices. No, affordable housing doesn't create crime. But yes, badly



Un monumento per rione ponte. Completed by Robert Crawford for Design III. Professor Selena Anders, Fall 2020.

designed housing projects with concentrated poverty without community fabric does foster conditions that increase crime. In St. Louis, the failed Pruitt-Igoe housing project was riddled with crime, while the neighboring Carr Square Village, serving the exact same demographic of people, were much safer because the design of the townhomes created a public realm, with "eyes on the street" as famously described by Jane Jacobs. Crime is a result of failed urbanism, not the failure of individual choice. And no, being poor doesn't mean you are lazy—it means you are trapped in a system with very few paths out. Let's start with compassion. Ask yourself, how well would you do in third grade math if you were worried about being evicted when you got home after school or were up all night having an asthma attack?

Once we have unpacked history to see the built environment—and the people it serves—in plain sight, we can then teach our students how to design communities that are safe, walkable, and economically successful, with a mix of uses and income levels and the potential to repair our social fabric.

For far too long, our land has been used as a weapon to limit freedom. What can we do? Are we brave enough to confront the history of our homes? The answer, as is the problem, is black and white. We have a legal, moral, and even economic imperative to aggressively confront these issues. And we must, because the American Dream is broken and needs us to step in and repair it.

This page: Koumoundourou Square Masterplan, Athens, Greece. Proposed East Elevation (top), Existing East Elevation (middle), and Proposed Aerial View Looking South. Richard Economakis.

ARCHITECTURE AND THE CITY

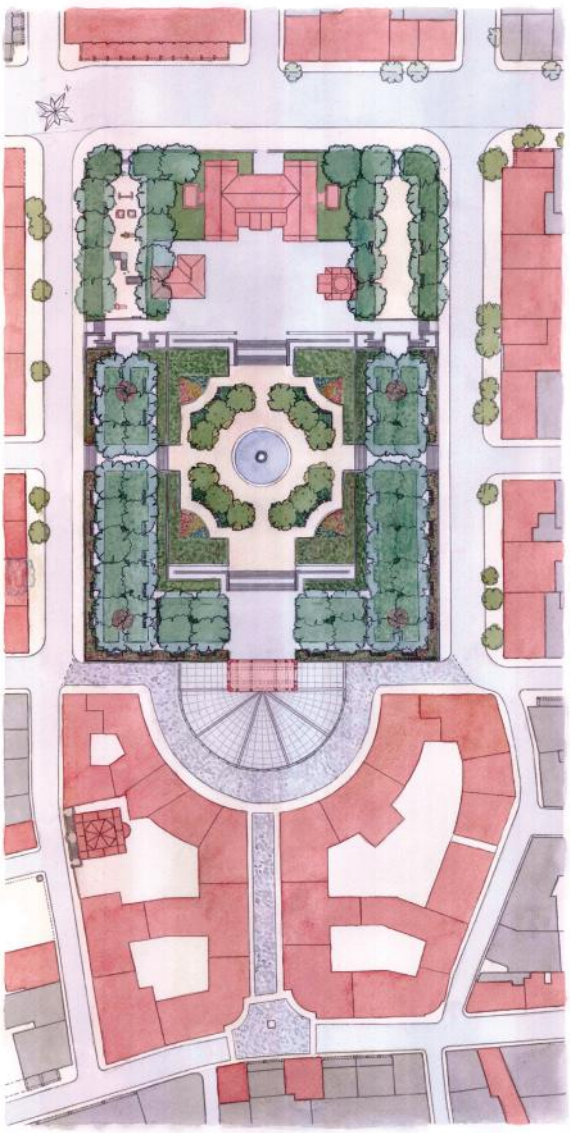
RICHARD ECONOMAKIS | POINT 7

When asked to speak about the origin of the art of building, architects like to cite the story of the "primitive hut" as related by the Roman author Vitruvius.[1] This account is, of course, fictive, but it also tends to be misconstrued. Vitruvius was careful to use the plural, "huts" (casarum) *when referencing archetypal shelter, lest it be thought that architecture originated in a single, isolated structure. He recognized that since the earliest times, humans have congregated and lived in close proximity to each other, forming clusters of buildings, or settlements, to facilitate social interaction and exchange. In those first villages, dwellings stood alongside places of fabrication, exchange, and governance, which eventually evolved into manufactories, shops, market buildings, theaters, town halls, and so on. It is therefore more accurate to think of the first human settlements or villages, not some stand-alone shelter, as the true crucible of architecture.*

Traditional settlements are comprised of two interdependent realms: the public and the private, each of which addresses essential aspects of human coexistence. Each realm is sustained by a range of building types that are set in close proximity for the purpose of convenience. Larger towns and cities are made up of neighborhoods or urban quarters, which retain all the characteristics of villages. Like villages, neighborhoods have clear centers and edges, and a network of streets, squares, and blocks that comprise a mix of residential, commercial, and civic buildings. Shops usually line one or two principal streets, which tend to be set perpendicularly to each other. Occasionally, they will surround a dedicated market square. In mature traditional towns, corridors of open space separate the neighborhoods and channel heavier vehicular traffic between and around them. Manufactories, showrooms, hospitals, schools, and other large semipublic buildings that generate noise, traffic, exhaust, and other undesirable effects are conveniently situated along these corridors. When large numbers of such buildings need to be next to each other, they sometimes combine to form single-use districts; examples of districts are hospitals and athletic complexes, college and university campuses, industrial parks, and so on.

In a traditional neighborhood, public and commercial buildings are placed no more than a ten- or fifteen-minute walk from the farthest houses—in other words, within easy reach of all residents, from the youngest to the oldest. Civic and sacred edifices are situated close to the center and often overlook public squares where citizens can gather, and outdoor public events can be held. Shops occupy ground floor and mezzanine levels, only rarely upper floors that require elevators. In general, buildings are no more than five or six stories tall, making stair access possible. Proximity of urban functions reduces reliance on the automobile and other mechanical means of transportation.

Traditional towns and cities are organized like the neighborhoods of which they are comprised, but on a larger scale. Public edifices and squares are located near the center and are accessed by way of larger avenues and boulevards set in the corridors between neighborhoods and districts. Public transportation is concentrated along these broader thoroughfares, which sometimes extend beyond the city limits to other towns and destinations in the surrounding landscape. Parks and recreation grounds, museums, exhibition halls, convention centers, and other public functions that take up large areas and serve the entire city's population are also normally set in the corridors between neighborhoods.

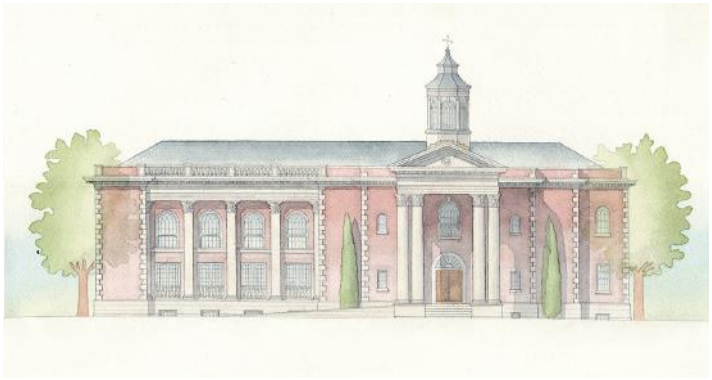


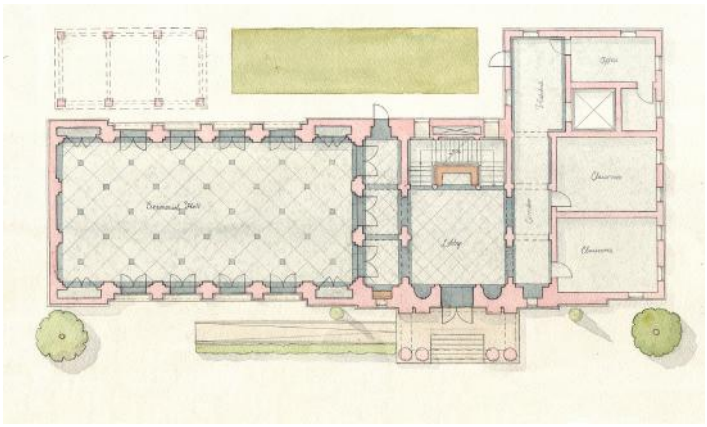
This page: Koumoundourou Square Masterplan, Athens. Proposed Plan of Square (left) and Existing Site Plan (right).
Opposite page: Lincoln Hall, Academic Campus in Chicago, by Benjamin Felix. Professor Richard Economakis.

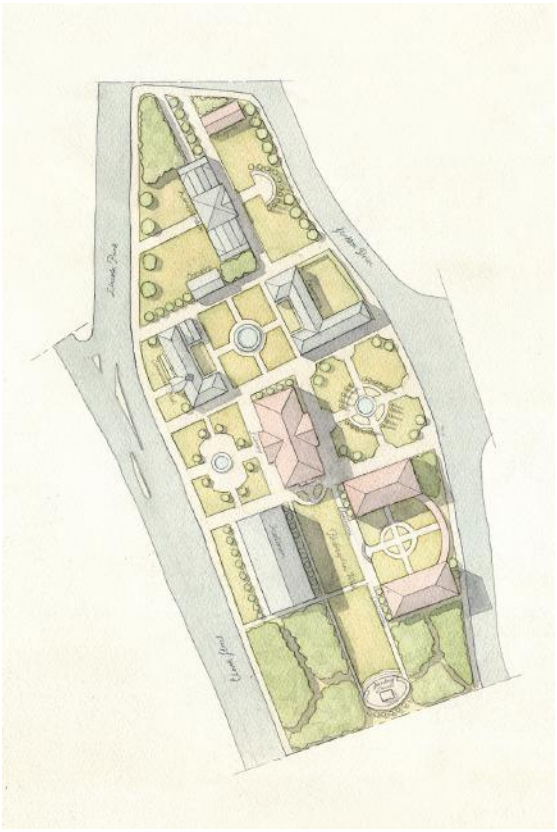
The public buildings are designed to stand out against the urban fabric in height, scale, and degree of articulation, so that they can be easily identified as the more important edifices, which serve the entire body of citizens.

In the traditional city, buildings are conceived as lasting components of the urban fabric; they contribute to the making of enduring places. Well-built edifices can also be adapted for reuse, thereby reducing the need for new construction. Natural materials are preferred over industrial synthetic products as they have significantly lower embodied energy levels, and if properly procured, their impact on the environment is negligible. Their ability to last for generations further reduces their impact. To ensure durability, solid load-bearing techniques are employed whenever possible. Where steel- or concrete-frame construction is mandated, for instance in seismic zones, exterior walls are treated as self-supporting load-bearing envelopes that are secured to the structural frames using flexible connections.

A traditional building's formal articulation varies according to its civic importance. A warehouse, residence, commercial, or other privately-owned building may be







elegantly treated but defers in the degree of its elaboration and monumentality to the church, theater, town hall, and library. By contrast, a public building is expected to employ a richer, more sophisticated array of expressions. These expressions elevate the forms of straightforward construction, transforming them into poetical "languages" that project a society's higher civil aspirations and self-image. Naturally, architectural expressions vary from place to place and culture to culture. In the West, early monumental buildings gave us the classical Greco-Roman formal repertoire; this expressive system obeys a rigorous set of proportional and compositional rules which, like those of other cultures, are designed to enrich and dignify the edifices of the shared public realm. While traditional architectural forms differ depending on cultural, geographic, climatic, and other conditions, the same juxtaposition of public and private edifices, foreground and background buildings, vernacular and monumental expressions, is found in historic towns around the world. These traditional urban settings constitute a global patrimony and serve as models for sensible new urban growth.

The restitution of the traditional city is urgently needed today. For over a century, cities have been subjected to unprincipled sprawl on an unprecedented scale. Countless historic towns, which had achieved a delicate balance with nature, have been overwhelmed by opportunistic growth that is entirely disinvested from the notion of urban and environmental balance. Our towns are now held in asphalt chokeholds. In the meantime, their centers are being decimated as sustainable older buildings are replaced at the first opportunity by office towers and parking lots to accommodate legions of white-collar workers who travel to and from remote bedroom communities. It is not sufficient to argue for reform in architectural design or just an embrace of premodernist expressions. New buildings must also take stock of the broader urban and environmental implications of their realization and contribute to the reconstruction of a humane, walkable, mixed-use, and beautifully crafted urban setting.

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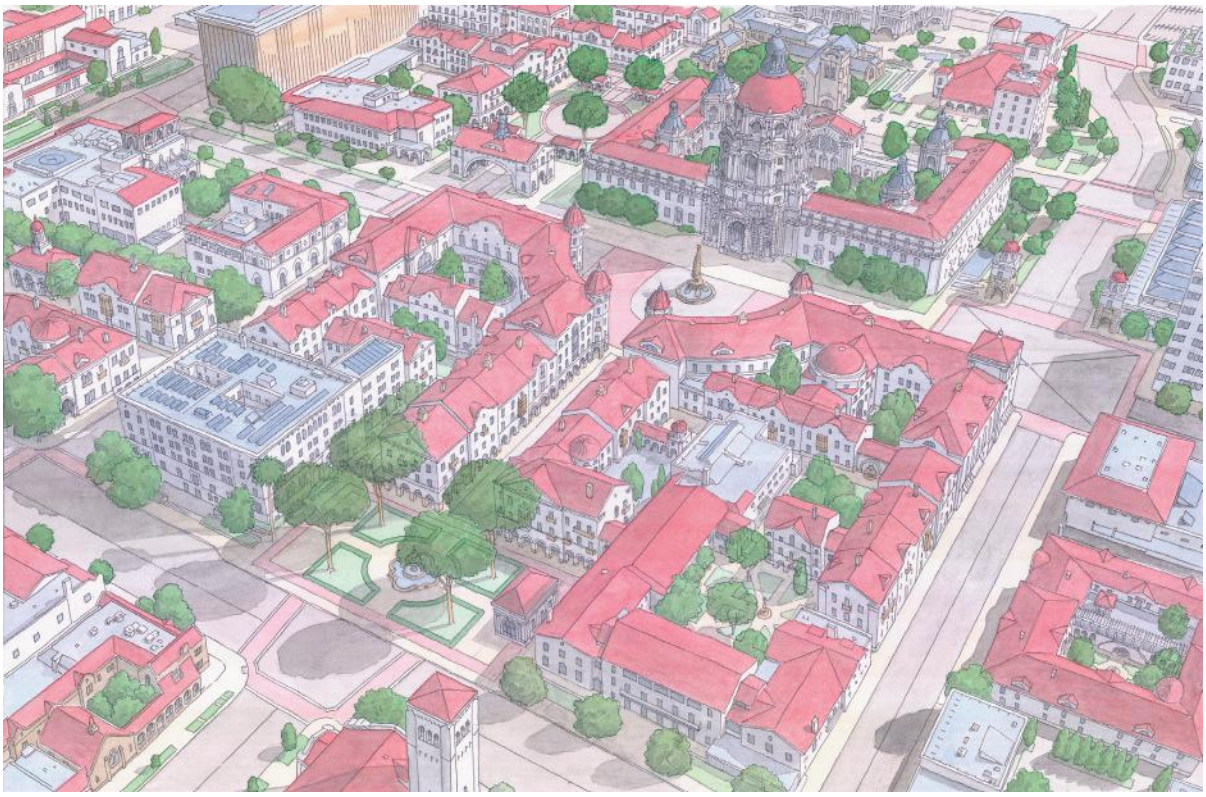
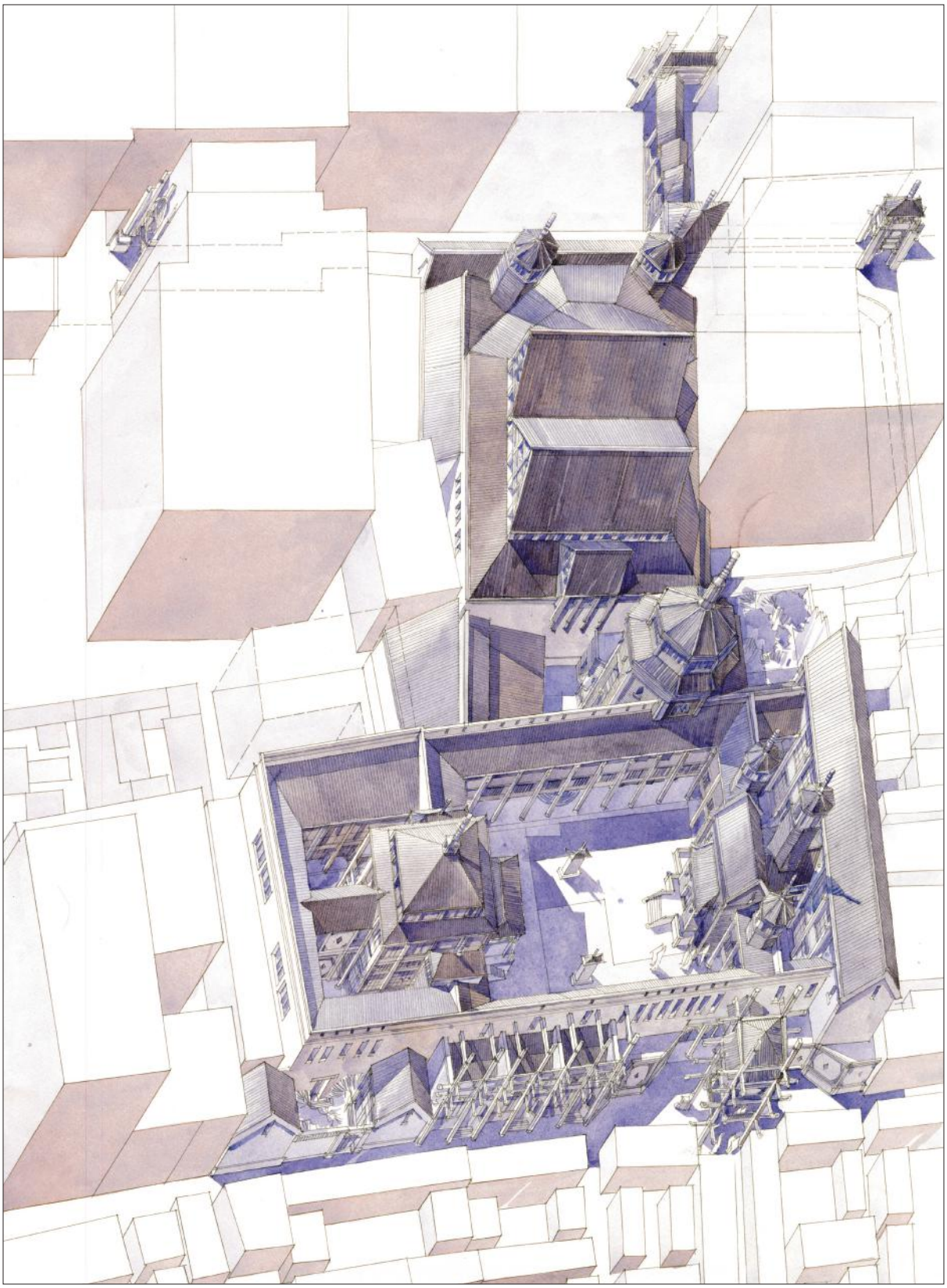
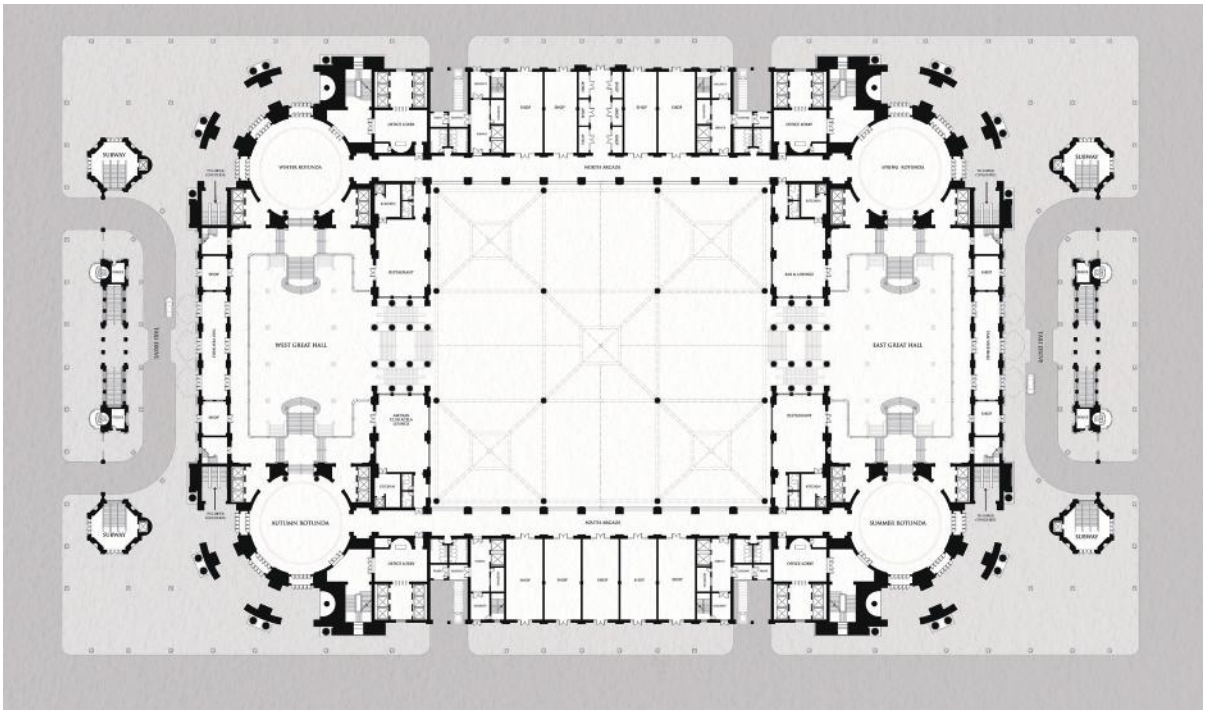
1 Vitruvius, *Ten Books*, II, 1.



Top: Proposed Pasadena Civic Center Aerial View. Bottom left: Proposed Pasadena Civic Center Masterplan. Bottom right: Pasadena Civic Center Existing Conditions. Foundational Design II. Professor Richard Economakis, Spring 2021.

Opposite page: Bird's-Eye View of the Guang He Lou Theater Complex. Completed by Kai Hu, 2004.





Pennsylvania Station, New York. Front Elevation and Ground Floor Plan. Completed by Andrew Califano. Professor David Mayernik, 2015.

ON THE TEACHING OF ARCHITECTURE

DAVID MAYERNIK | POINTS 4, 8, & 11

It seems to be a lesson of history that the commonplace may be understood as a reduction of the exceptional, but that the exceptional cannot be understood by amplifying the commonplace.

—Edgar Wind, *Pagan Mysteries in the Renaissance*

Since Thomas Gordon Smith's appointment as chair of the University of Notre Dame School of Architecture in 1989, classical architecture has been an integral part of the School's curriculum. Not all those who have taught it have done so in the same way, but classicism has been widely recognized as representing the best, or excellence, in the history of architecture. It might be said that classicists are traditionalists with higher standards. The focus on excellence, on the history of architecture as a record of exceptional achievement, is fundamentally why we have a Rome program. Rome is not merely a walkable, mixed-use European city: it is the *Caput Mundi*, "our common home" (*Roma communis nostra patria est*), a place where our students confront excellence. Excellence in architecture, excellence in urban form, excellence in all the arts and culture generally, excellence in the craft of drawing and representation: these are the reasons our students base themselves in Rome and consider it as a frame of reference for everything else they see in their year or semester abroad.[1]

The classical point of view at its core is not a repertoire of forms, it is a critical worldview in which we believe the world makes sense, we can make sense of the world, and we are obliged to operate sensibly in the world. We believe in the coherence of Nature and our responsibility for its care and amplification. Christian classical architects believe in improving our inheritance from God.[2] Classicism, then, is not an end, but a means, not only to making a more perfect world, but a world of meaning.[3] Since at least the Renaissance, classical architecture has been understood as a language,[4] a rhetorical way of speaking about the issues that have occupied Western thought for millennia—our relationship to Nature, our relationship to each other, and our relationship to the divine. What we teach when we teach classical architecture, therefore, is coherence—the ability to think clearly, and aspirationally, in the context of the best thinking that has been done to date. It is a way of framing questions about the nature and making of architecture that is opposed to the arbitrary and willful.

While imitation has historically always formed the basis of learning, emulation was the goal for those who intended to prove their mastery.[5] This implies that the best that has been done does not delimit the best that *can* be done. The classical point of view, then, is progressive, and optimistic. But it is rooted in principles that transcend time and place.[6] Thus the classical architect does not privilege the local over the transcendent, because there is a fine line between regionalism and provincialism; architectural lessons can translate across time, and from place to place, precisely because they are timeless and part of a shared culture. This is the distinction between principles and precedents (it is implicitly opposed to the idea that one can credibly operate in another culture with different principles). The obligation of an education in architecture is to teach those shared transcendent principles as the foundation for a practice that is sensitive to the inflections of local culture but is not Zelig-like in its pretense toward eclecticism (the notion that one can believe contradictory things about architecture according to context), nor is it constrained by the zeitgeist. From the experience of the atemporal and exceptional, a student can learn to operate knowingly in the temporal commonplace.


HOC PALATIUM VECTURAM

Pennsylvania Station, New York. Left: Typical Wall Section and Elevation. Above: Principal Section and Reflected Ceiling Plan. Completed by Andrew Califano. Professor David Mayernik, 2015.

1 David Mayernik, Timeless Cities: An Architect's Reflections on Renaissance Italy (Boulder, CO: Westview Press, 2003). See also "The Relevance of Renaissance Rome," Introduction to revised edition of *Letarouilly on Renaissance Rome* (Mineola, NY: Dover, 2012). See also David Mayernik, "The Baroque City," in *The Oxford Handbook of the Baroque* (Oxford: Oxford University Press, 2019) 211–237; online at http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780190678449.001.0001/oxfordhb-9780190678449-e-41.

2 David Mayernik, "Stewardship and the School of Architecture," Acroterion (2006–2007): 3–5. See also Francis, *Laudato si'* [On Care for Our Common Home], The Holy See, May 24, 2015, http://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.

3 David Mayernik, "The Winds in the Corners: Giulio Romano, the Elements, and the Palazzo Te's *Fall of the Giants*," in *Aeolian Winds and the Spirit in Renaissance Architecture,* ed. Barbara Kenda (London: Routledge, 2006), 125–149. https://www.academia.edu/17667562/The_Winds_in_the_Corners_Giulio_Romano_the_Elements_and_the_Palazzo_Tes_Fall_of_the_Giants.

4 David Mayernik, "Classical Humanism in Practice and Pedagogy," talk delivered in Madrid, 2015, https://www.youtube.com/watch?v=PQUqCGU3R90. "Language or Tradition? Continuity and Innovation in the Landscape of Ticino," *Putting Tradition into Practice: Heritage, Place and Design*, Springer, Cham, 2017. Proceedings of the INTBAU Italy conference, Milan, July 2017.

5 David Mayernik, The Challenge of Emulation in Art and Architecture: Between Imitation and Invention (London: Routledge, 2013).

6 David Mayernik, "Urban Echoes: Listening to the Lessons of Rome," *The Classicist* 7 (2005–2007):10–17. https://www.classicist.org/workspace/pdf/C7_WEB.pdf] "Bodies & Buildings: Microcosm and Macrocosm in Traditional Architecture and Urbanism," in *Green Living* (New York: Rizzoli, 2010) and *Tradition & Sustainability* (London: Compendium, 2010).

Proposal for a Palazzo, Rome. Section and Oblique Elevation completed
by Jordan Fredricksen. Professor Jonathan Weatherill, Fall 2021.

BUILDING THE SKILLS OF OBSERVATION AND JUDGMENT

JONATHAN WEATHERILL | POINT 9

Compare our nature in respect of education and its lack to such an experience as this. Picture men dwelling in a sort of subterranean cavern with a long entrance open to the light on its entire width. Conceive them as having their legs and necks fettered from childhood, so that they remain in the same spot, able to look forward only, and prevented by the fetters from turning their heads. Picture further the light from a fire burning higher up and at a distance behind them, and between the fire and the prisoners and above them a road along which a low wall has been built, as the exhibitors of puppet shows have partitions before the men themselves, above which they show the puppets.

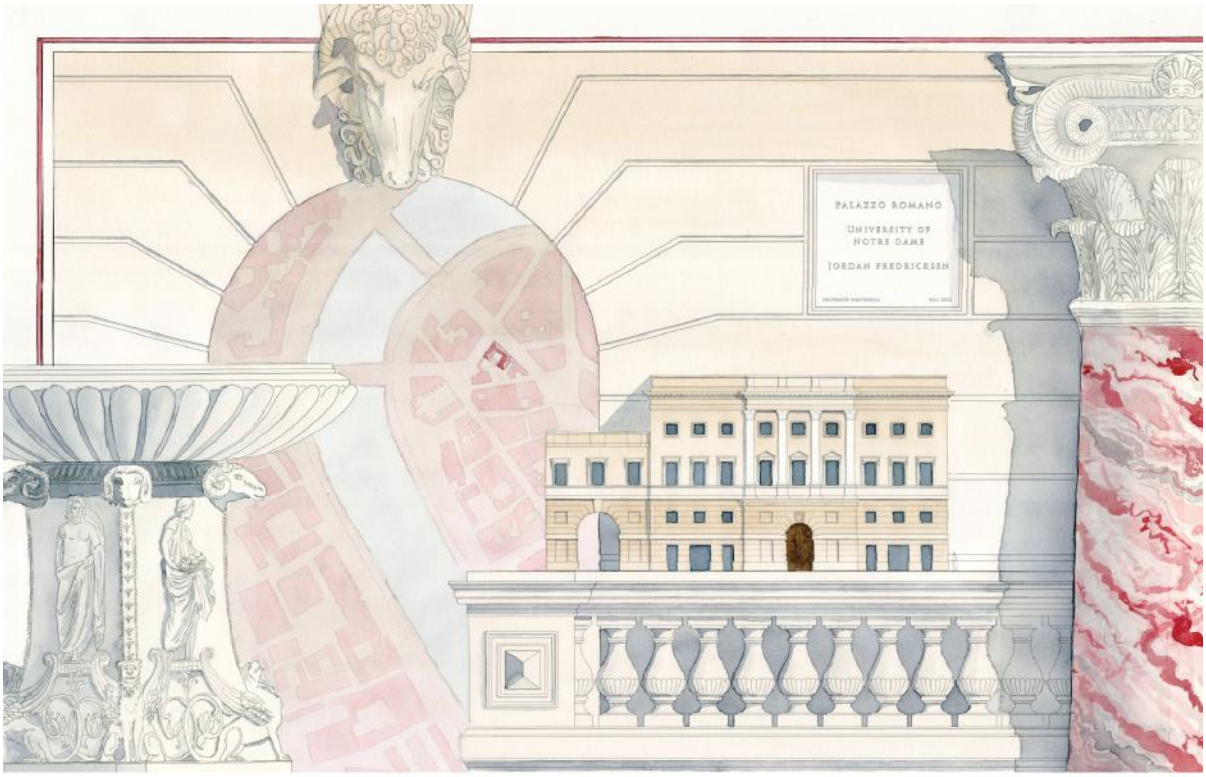
—Plato, *The Republic*

Plato's allegory of the cave is familiar to us all; a demonstration of how perception is subjective and how easily it may be conditioned. Philosophers ever since have continued to study the issue of perception, and what has become clear is that it is dependent on codes: Significance only exists if a key is present to transform what is perceived into recognizable form. One of the most important tasks of education is to equip the observer with these very keys, and it is not by chance that Plato employs the analogy of the cave in the context of education. In this case the key is represented by the imprinting the prisoners receive since birth, causing them to recognize an alternative truth to such an extent that, if released, they would perceive reality as an illusion.

Plato's analogy seems far removed from us, yet even today our perception is constantly conditioned by keys of all sorts; provided by figures of authority, media, peers, institutions, marketing, and advertising. Everyone has keys to understand situations, and many strive to persuade others to use certain keys to perceive things in a particular manner: We are often being exhorted to read reality as interpreted by others.

In few fields today is this conditioning more pervasive than in that of architecture: Until the end of the nineteenth century the keys to evaluate the built environment were derived directly from the human being and the fundamental necessities of man and society. The Vitruvian parameters of commodity, firmness, and delight were taken to be as valid then as they had been for the past millennia. Architecture and urban design had evolved and grown to address the changing needs of humanity. By no means were all buildings or urban environments unfailingly beautiful, sound, or satisfactory, but the measures by which they could be judged were clearly recognizable to all.

As we know, with the end of World War I, European architects who had been traumatized by the horrors of modern warfare felt an impelling need to start fresh from scratch, and in an impulsive reaction the Vitruvian values that had formed the basis of thousands of years of development of the built environment were discarded. New paradigms of functionalism were embraced, and new building technologies allowed the creation of architecture that was free from past constraints. The urban environment underwent a similar reappraisal, and new models of city planning were adopted that were unconditioned by the customary manner of conducting daily activities: These activities could now be separated into clearly distinct zones to be reached thanks to new forms of transport. The operative word to be used for the following century was *innovation*. At the expense of local identity, the built environment was to constantly reflect developments in other fields of humanity, to be "of its time" and as "unprecedented" as possible.



This page, top: Proposed Palazzo in Via dei Coronari, Rome. Oblique Elevation completed by Jennifer (Jenny) Trazaska. Professor Jonathan Weatherill, Fall 2019. Bottom: Project for a Palazzo, Rome. Analytique and Cutaway Axonometric completed by Jordan Fredricksen. Professor Jonathan Weatherill, Fall 2021.

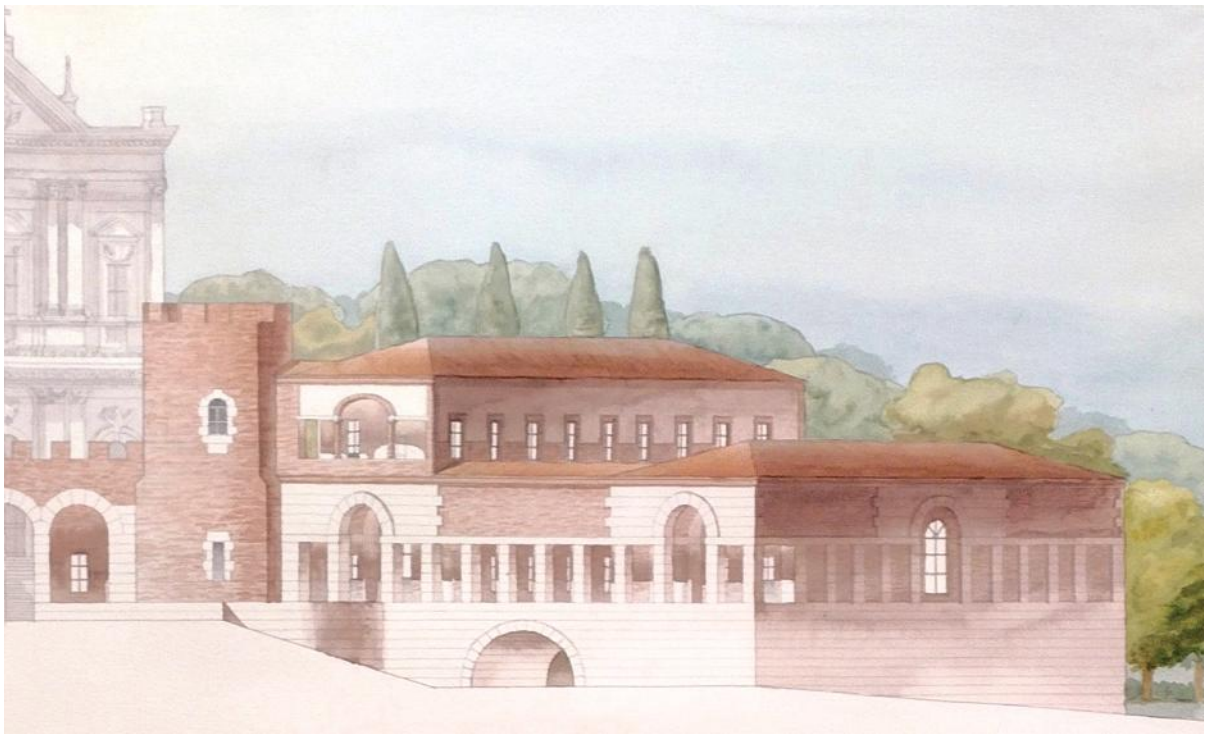
Opposite page, top: Proposal for a Palazzo, Rome. Elevation completed by Nathan Walz. Professor Jonathan Weatherill, Fall 2021.

All this may have been understandable in the context of the time, but it was the work of an elite avant-garde. As is always inevitably the case, following hot on the heels of the avant-garde came the mainstream, seduced by the promise of apparently cheap and rapid construction methods and no longer obliged to pay more than lip service to the quality of the environment created. A new way of building and planning cities spread rapidly. The members of the profession of creating the built environment confined themselves figuratively to the "cave" to perceive a reality that only they could understand, ignoring the needs of the rest of humanity that remained outside.

The development of architecture and urbanism throughout the twentieth century has been the subject of innumerable publications by the most illustrious of authors, and this is hardly the place for even the briefest of summaries. Suffice to say that, a century after the end of World War I, humankind now enjoys the benefit of hindsight. A number of members of the building and planning profession, on hearing the clamor of humanity from without the cavern, have been drawn out into the open. Here it has become painfully clear that ideologies have begat and continue to beget an endemic dystopia where mass mechanized transport has brought about unsustainable congestion, pollution, and consumption of resources and where humankind has fabricated an inhospitable environment inconducive to the needs of society. This environment has become populated with structures that—with rare exceptions—are plagued by a voracious appetite for energy, and that age and deteriorate rapidly and are uninspiring at best.

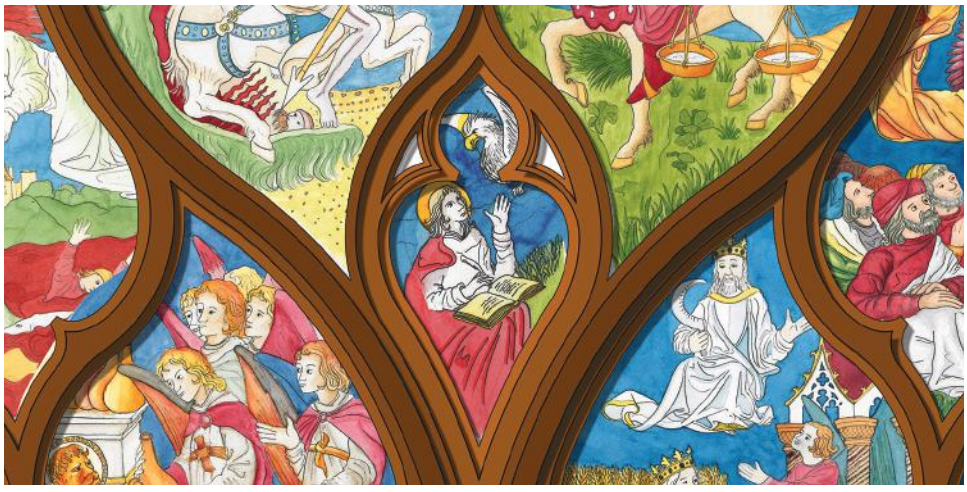
But there are professors of the arts of building and planning who, instead of requiring their students to remain confined within the cavern to be imprinted with an alternative reality, prefer to allow them the freedom to remain in the open to learn the principles by which the built environment may once again truly respond to the needs of individuals and society. We strive to teach our students to recognize the aspects that permit a building to become commodious, firm, and delightful, encompassing all the connotations that these terms can imply. We teach our students to recognize the aspects that permit the built environment to be inhabited and enjoyed, be used fully and sustainably rather than experienced from within a moving box. Our students are shown and taken to visit benchmark examples of architecture and urban environments ancient and modern, both of which can be capable of expressing the values of civilization that we consider to be important instruments in the education of a *forma mentis*. We teach our students to analyze, draw, and record the built environment, to understand its history and bear in mind the context at the time it was constructed, so as to provide them with the keys to accurately evaluate its response to the needs of the person and to society. Most importantly, they are taught to observe reality with their own eyes and to develop an independence of judgment unconditioned by academic dogma. In this way they will be fully capable of unlocking their own ability to create places that uplift the spirit and reveal their ethical qualities with consummate elegance; places that are conducive to the activities of a vigorous and equitable society and that are fully sustainable; places that, even if emulated by mainstream commercial developers, can retain their value and succeed in creating a world once again fit for humankind.


GARDEN ELEVATION



Opposite page, top: Elevation of a Villa on the Caelian Hill, completed by Matthew Gschwind. Professor Jonathan Weatherill, 2019. Bottom: Analytique of the design for the restoration of Villa Mergé and its gardens, Frascati, Italy. Winning entry, Lazio Chapter of the ADSI (Associazione Dimore Storiche Italiane [Association of the Historic Dwellings of Italy]) student competition. Nicholas (Nick) Oddo, Michael (Micky) Parks, Juan (Esteban) Salazar and Philip Spence. Professor Jonathan Weatherill, 2019.

This page: Proposed hospice and gardens on the Caelian Hill, Rome. Oblique Elevation and Masterplan completed by Robert (Rob) Baranko. Professor Jonathan Weatherill, Spring 2022



Top: Advanced Mixing Colors. Completed by the freshmen classes of 2019 and 2020 for Graphics I. Professor Giuseppe Mazzone, 2019–2020.
Bottom: Advanced Mixing Colors. Completed by Nia Canty-Smith for Graphics I. Professor Giuseppe Mazzone, 2020.

ARCHITECTURE AS GRAPHIC NARRATIVE

GIUSEPPE MAZZONE | POINT 10

Every discipline is composed of a multitude of layers in constant interaction with one another; Architecture is not an exception. To develop an inclination toward specific areas in a chosen field of study is a rather common situation. As for myself, the component sparking initial interest was—and still is—architectural representation. The manipulation of three-dimensional space achieved through applications of descriptive geometry attracted my attention from as early as middle school. However, it was only later, in high school, that the application of drafting techniques for the reconstruction of Greek and Roman ruins cemented my choice to make a career in architecture. Years later, that very same spark led me to a doctoral degree focused on the reconstruction of a seventeenth-century, un-built church.

The intricacies posed by the convoluted geometries in that project, while perfectly in line with baroque principles, offered a continuous graphic challenge—requiring new graphic methods to render conic sections and accurately draft curved surfaces in perspectives.[1] By combining traditional applications with digital media, new applications were tested (e.g., supplementing traditional hand drawings with properties such as dynamic views and animations). The use of mixed graphic media to narrate graphic stories is the main factor which brought me to the University of Notre Dame. Likewise, my teaching method revolves around those ideas—guiding students in expressing their own ideas through these very same tools and media to understand where their individuality as an architect lay, and to tell their own story through their graphic skills only.

The application of these principles in a classroom setting happens in different moments throughout the school curriculum: foundational for freshmen; advanced for junior and senior students. The overlaying teaching structure, however, remains constant. Students acquire basic skills for drawing, drafting, and rendering buildings in their own individual style. Each phase in the learning process introduces methods according to the leading literature on the topic. It then proceeds to personalized applications and then modifications to better suit the specific goals of each assignment. Students' applications of these notions are designed in two separate steps: at first students approach a specific technique or application by testing it on a technical assignment; the application is then applied to an actual subject (which can be a solid or an organic shape) where the same technique is filtered by their own sensibility—allowing them to build up an individual and personal style.[2]

This last step is the most important to focus on because it represents the stage where students can build future experience on their own by referring to the example method of learning followed in class. The final goal I aim for students to reach is not necessarily an execution "by the book," but to use the architectural lexicon as an expression of their own individuality.[3] To my eyes, architecture has always been a tale narrated by graphical and physical artifacts instead of by a written text. I still remember the words of one of my professors when I was in college back home in Italy: "Architecture is not a tale that can be told but it is an experience that needs to be lived." These words sounded airy to me at the time; but the more I study architecture, the more I understand them to be true.

Looking back at the work of brilliant architects shining in the firmament of architectural history, the work

Study on Light and Shade on a Corinthian (Incantada). Completed by Nayun Hong for Graphics I. Professor Giuseppe Mazzone, 2017.

of each and every one of them is always recognizable not just by their design innovations but also by the graphics accompanying their artistic expressions. Frank Lloyd Wright, Palladio, Le Corbusier: their graphics are an integral trademark of their works. Acquiring such refinement is not an easy task, of course. The creation of a personal style is a lifetime process extending beyond the boundaries of one's college education. Like playing sports or a musical instrument, drawing and drafting are disciplines requiring dedication, self-criticism, and a genuine wish to constantly improve our own work.

Led by these principles, the trajectory students follow to build their graphics skills proceed outside the boundaries of a single class, spreading throughout the whole undergraduate program. When first approaching architecture studies, students are introduced to basic skills for spatial representations on volumetric solids. Quick sketching sessions train the eye to recognize key features, translating three-dimensional objects to freehand drawings. At the same time, basic geometric constructions show how three-dimensional solids can be rendered on two-dimensional media. The assignments start from the rendition of flat surfaces and proceed toward curved surfaces and rotational solids. Principles in light reflection, shades, and shadows supply the illusion of depth and are approached in both a monochromatic setting (graphite powder) and colored one (watercolor). The instruction starts with step-by-step directions in the first assignments, to progressive advancement, and then to liberty of subject choice and execution techniques.

Promoting variety in graphic media, in fact, is an important factor for architectural education. The different time frames required for execution of preliminary designs, analysis, and other studio content are benefited by media flexibility. With most of the instruction in school based on traditional drafting, this second, advanced stage in architectural education promotes the introduction of computer applications and CAD. These media are introduced in junior and senior year after students acquire a solid foundation in hand-drafting. At this stage of their education, students' designs tend to increase in complexity, exploring elaborate geometrical configurations. The use of CAD becomes therefore a strategic tool to enable students to meet studio deadlines but without simplification in their original vision.

The principles of stylistic individualization expressed in traditional media acquire an even more important role in digital ones. Most CAD software, in fact, tends to use photo-realistic renders as preferred graphic output. The constant advancement of digital media saw the introduction of *normal maps* and *bump maps* for enhancing surface rendition, with light effects promoting textured and coarse surfaces without the need for actual three-dimensional modeling. A further push in this direction combines these skills with the traditional applications previously learned. Textures can be easily custom made in watercolor (or any other output) both traditional and digital. Digitally scanned, such content may be directly applied on the surfaces of a 3D model; this maintains graphic qualities of traditional drafting with the dynamic advantages of digital 3D models. Similar applications are particularly beneficial when dealing with specific joints in a project such as lintels or arches. The peculiarity of these nodes requires an accurate alignment of the materials interacting on a facade which, in a three-dimensional model, needs to be appropriately reflected by texture placement. The result produces a stark contrast between the representation of a coherent design against the composition of a volumetric mass simulating a proposed intervention.

Guiding students in achieving these goals is the core of the formation promoted by the University of Notre Dame School of Architecture. Our curriculum emphasizes traditional techniques in order to guide our students in mastering the architectural graphic language in a variety of expressions and media. Upon these bases, students are encouraged to build their own individuality as architects, scholars, and artists capable of selecting the media they consider the most appropriate for the work at hand. Contemporary applications are not left on the side but implemented as further advancements of traditional methodologies. These foundations establish a working mindset taking into account the evolution of architectural theory and practice from its dawn to the present time.

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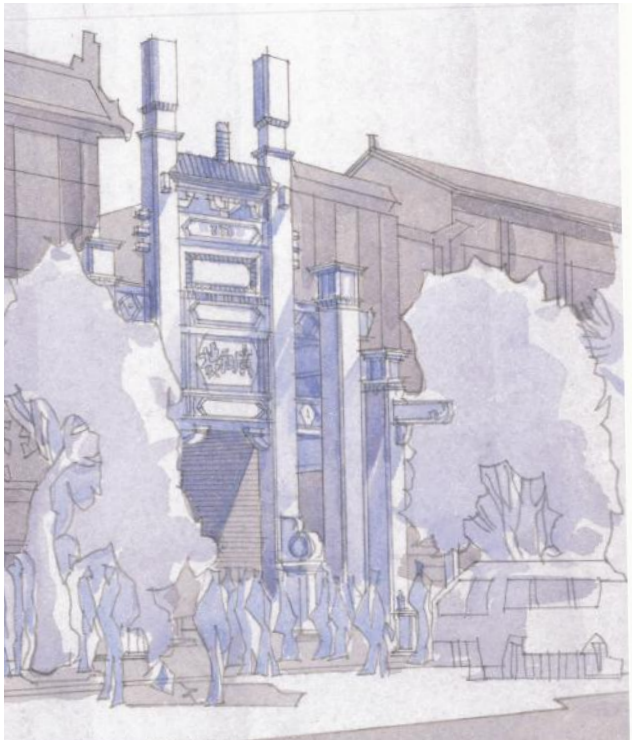
1 Texts on drafting methods, such as Francis D. K. Ching's *Architectural Graphics* (Hoboken, NJ: John Wiley & Sons, 2009) offer valuable references for traditional applications, but there is a gap when dealing with conic sections and perspective representations of curved surfaces and rotational solids.

2 Betty Edwards's *Drawing on the Right Side of the Brain: A Course in Enhancing Creativity and Artistic Confidence* (New York: Jeremy P. Tarcher/Penguin, 2012) and *Drawing on the Artist Within: An Inspirational and Practical Guide to Increasing Your Creative Powers* (New York: Simon & Schuster, 1987) present interesting tips which, however, maintain their focus on a more general artistic approach instead of an architectural one.

3 The reference I consider the most appropriate on this matter is Wassily Kandinsky's *Point and Line to Plane* (Mansfield Centre, CT: Martino Publishing, 2013). Especially the third part of the book (which is dedicated to the Plane) contains several notions about compositions and layouts students may build upon to translate their work into a graphic narrative.

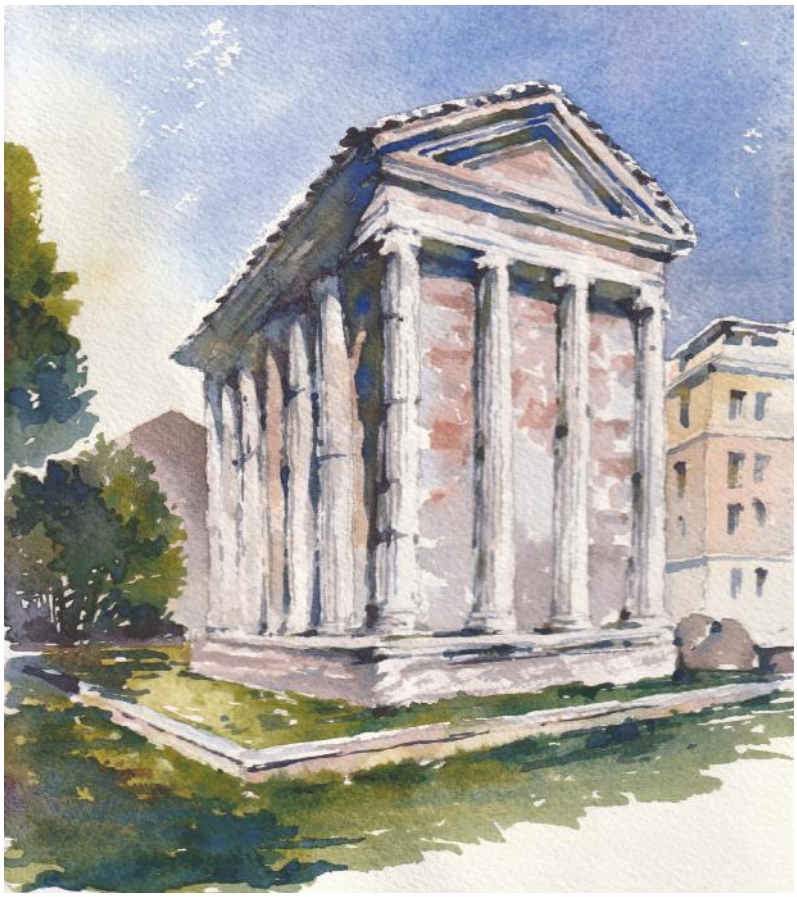
Top: Study on Light and Shade on the Parthenon Frieze for Graphics I. From left to right: Joan Ngai, Rayna Reeves, Jenna Rame, Noah Panos, Berkeley Perdido, Alexandra Peyton, Jonathan Roberts. Professor Giuseppe Mazzone, 2018. Middle: Study on Light and Shade on the Parthenon Frieze for Graphics I. From left to right: Sean Tennant, Suleiman Hope Hajir Mohamed, Talia Steinwald, Timothy Tighe, Nathan Walz, Ashley Straub (2019), Joyce Tipe. Professor Giuseppe Mazzone, 2018. Bottom: Study on Light and Shade on the Parthenon Frieze for Graphics I. From left to right: Gregorio Sanz de Santamaria, Ivan Skvaril, Claire Russell, Meenu Selva, Nicholas Sanchez, Leopoldo Forero, Johnathan Sloan. Professor Giuseppe Mazzone, 2018.

Student Sketchbook Drawings by Madeline Fairman, 2018.



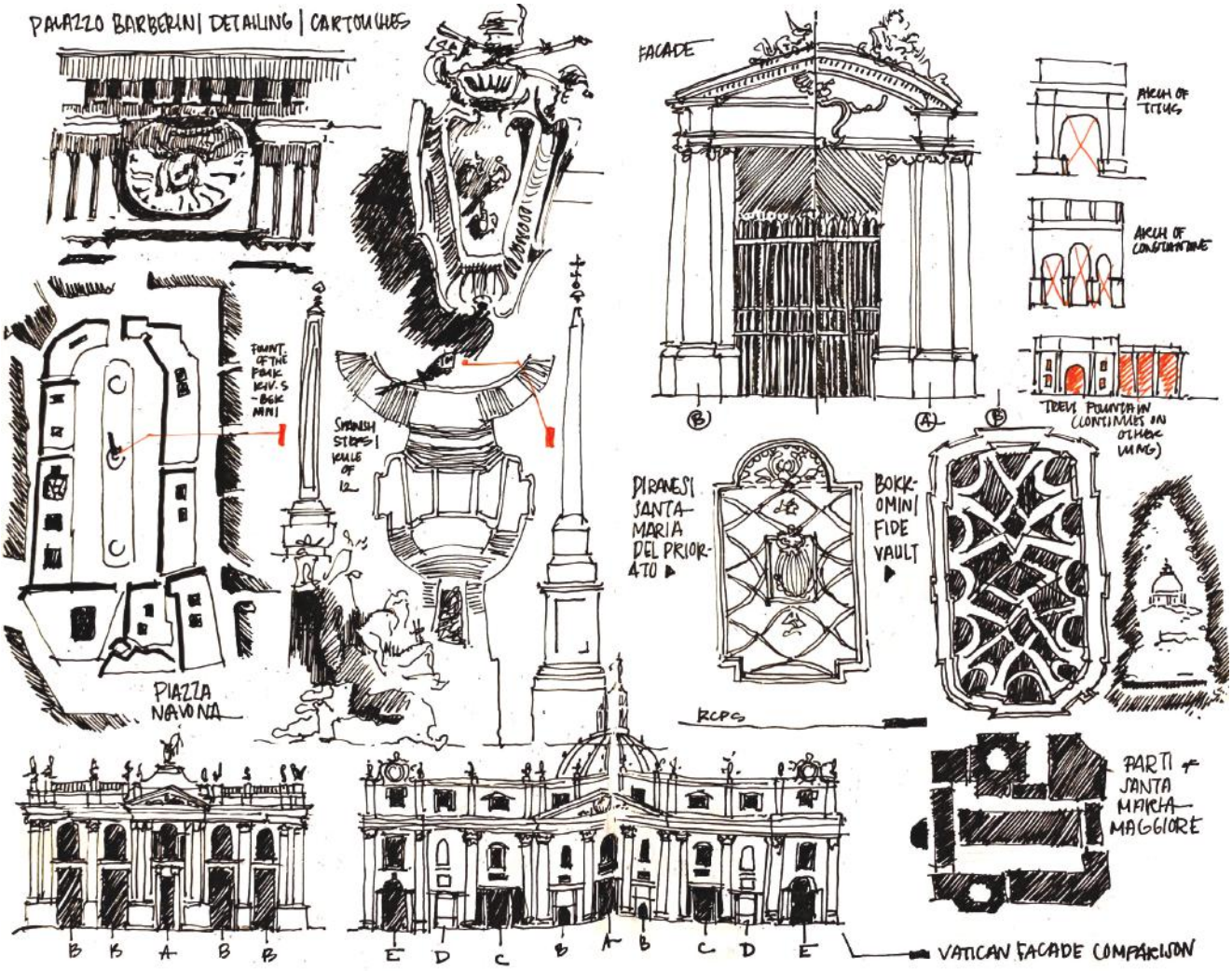
Opposite page: Analytique of the Temple of Castor and Pollux, Rome. Completed by Kai Hu, 2004. Featued on the cover of Professor John Stamper's book, *The Architecture of Roman Temples: The Republic to the Middle Empire*.

This page: Proposed Guang He Lou Theater Complex, Beijing. Bottom left: Perspective of the gateway. Bottom right: Perspective of proposed alternative gateway. Completed by Kai Hu. Professor Norman Crowe, 2008.



Opposite page: Temple of Athena, Paestum, Italy (top) and Temple of Portunus, Rome, Italy. Completed by Nikolai Grigorevskii for Advanced Graphics: Watercolor. Professor Kelly Medford, Spring 2023.

Above: Scuola Grande di S. Marco in Campo Santi Giovanni e Paolo, Venice, Italy. Completed by Nikolai Grigorevskii for Advanced Graphics Watercolor. Professor Kelly Medford, Spring 2023.


PALAZZO BARBERINI | DETAILING | CARTOUCHES
FACADE
ARCH OF TRIUMPH
ARCH OF CONSTANTINE
TREVI FOUNTAIN (CONTINUES ON OTHER WING)
FRONT OF THE FOUR RIV.S - BACK MINI
SPANISH STEPS | FLIGHT OF 12
PIRANESI SANTA-MARIA DEL PRIOR-ATO
BORR-OMINI FIDE VAULT
PIAZZA NAVONA
PARTI of SANTA MARIA MAGGIORE
B B A B B
E D C B A B C D E
VATICAN FACADE COMPARISON


URBANISM
G. OF
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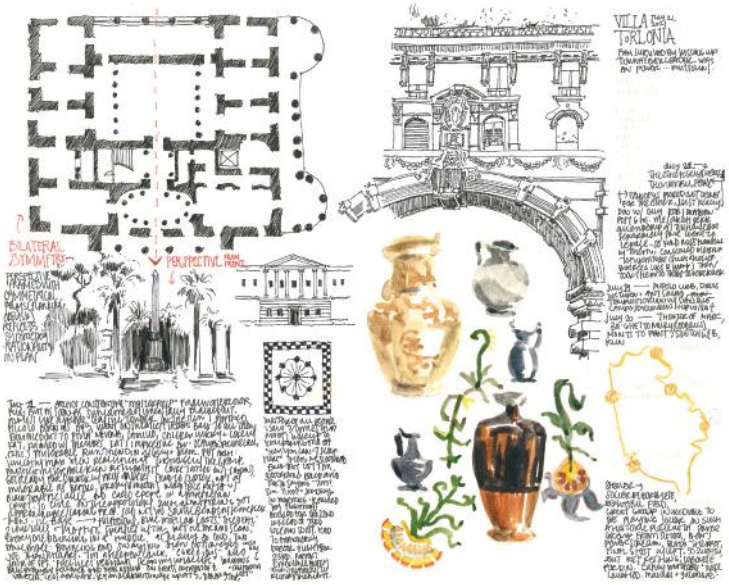
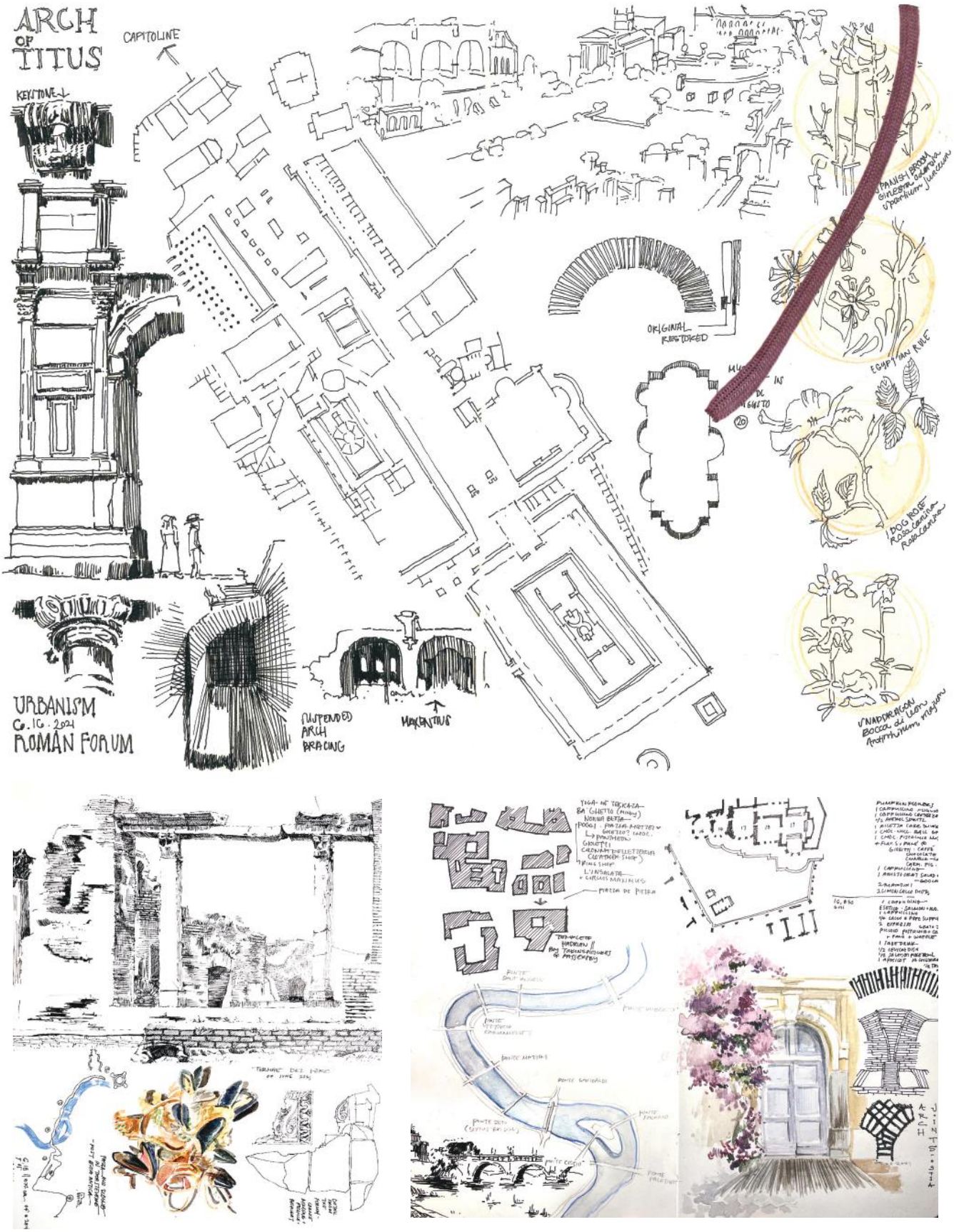
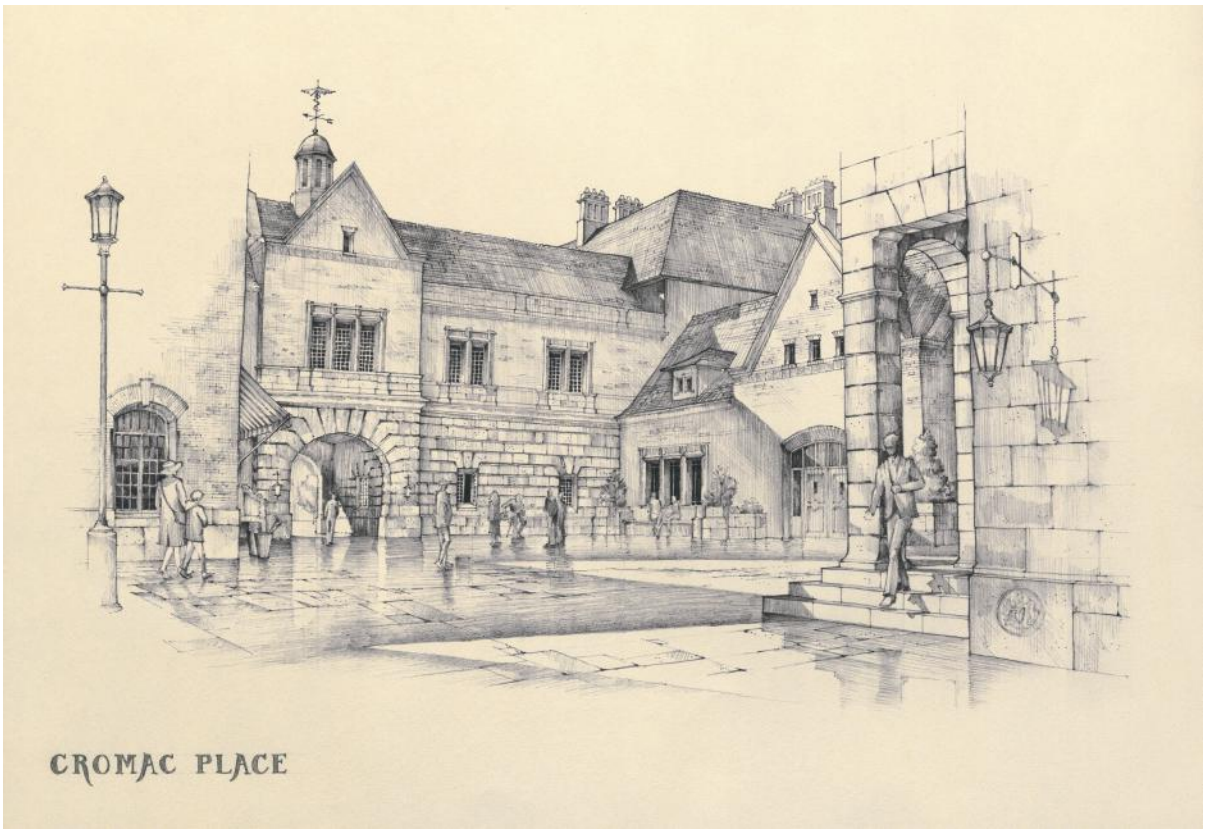

BILATERAL SYMMETRY
PERSPECTIVE
VILLA TORLONIA

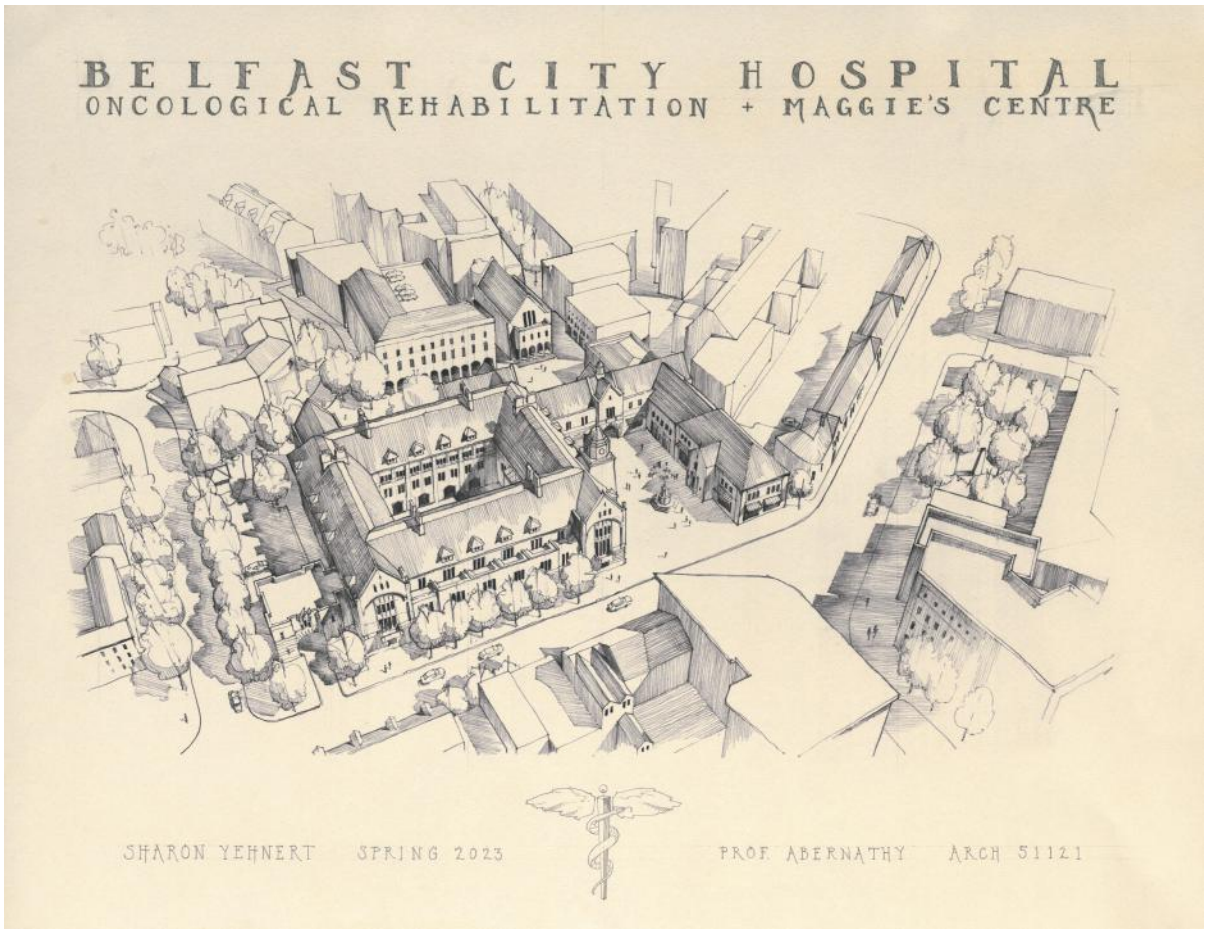


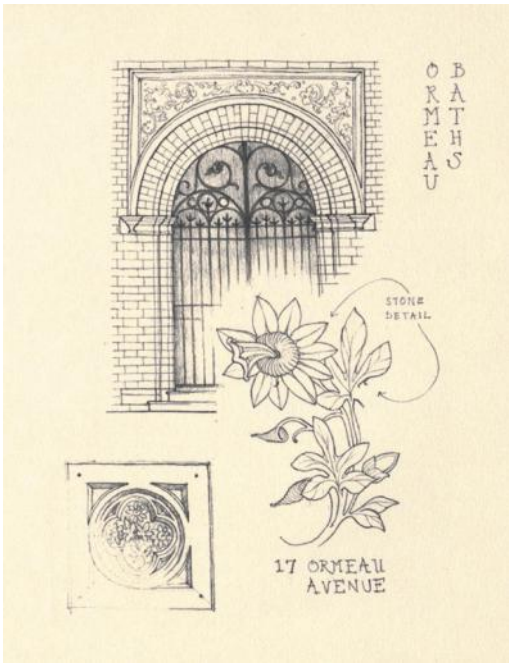
Student Sketchbook Drawings by Frances Barrera, 2023.



CROMAC PLACE

KESWICK SQUARE





Perspective Drawings of Belfast City Hospital Oncological Rehabilitation and Maggie's Center.
Completed by Sharon Yehnert. Professor Tiffany E. U. Abernathy, 2023.

Urban Regeneration of the Site of Piazza Celimontana. Detail of a larger project completed by Alexander Athenson, Anbreen Basher, Michael DeMaagd Rodriguez, Sam Fischer, Ian Griffey, Lauren Sommerville, Madeline Speicher, Metaya Tilahun, and Ashlen Zapara for the Graduate Program in Urban Design. Professor Ettore Maria Mazzola, Spring 2019.

THE EXPERIENCE OF ROME AS A MODEL FOR TWENTY-FIRST CENTURY PEDAGOGY

ETTORE MARIA MAZZOLA | POINT 11

When halfway through the journey of our life
I found that I was in a gloomy wood,
because the path which led aright was lost.
And ah, how hard it is to say just what
this wild and rough and stubborn woodland was,
the very thought of which renews my fear!

—Dante, *The Divine Comedy*

The passage from the sophomore to the third year is the most delicate experience for a student of architecture. Metaphorically, we can compare this passage to the journey of life described in Dante's *Divine Comedy.*[1]

Between student life and professional practice, the role of a professor becomes extremely delicate; students trust their professors, and nothing could be worse than ideologically abusing their trust. The experience of Rome, for an American student, becomes extremely important to the formation of their own personality and, at the same time, it teaches respect for the built, anthropized world.

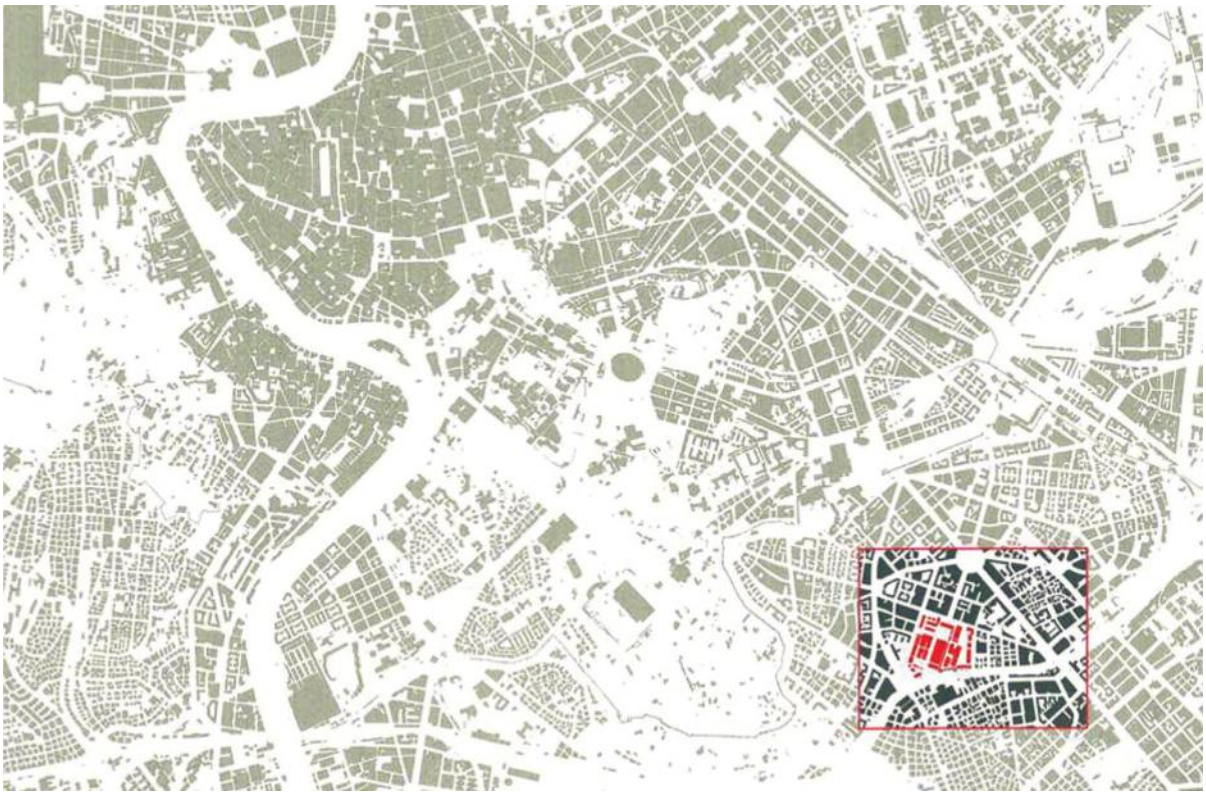
During the academic year in Rome, our students are so exposed—in some cases for the first time—to a completely different world than the one they have known. A world that is not only Rome, but also, thanks to the field trips and private journeys, the one of the old civilized world in Italy and Europe. This is not only the ancient world—that someone could consider anachronistic—but also a more recent world that has grown for centuries in continuity with its traditions and coherently anchored local habits, needs, and so on. For as Edmund Burke wrote, "A healthy civilization is one that keeps the relations with the present, the future, and the past intact. When the past nourishes and sustains the present and future, an advanced society is involved!"[2]

With this purpose in mind, our duty as professors of architecture and urbanism is to share with the students our knowledge, not by teaching them a "style," but a methodology that allows a universal approach to design, one that is based on respect for places rather than on our own ego. As a matter of fact, a simplistic interpretation of freedom in teaching architecture and art has led to self-referential design projects over the last eighty years that are far from the consensus of the people who are now scared of architects.

Aiming for a better world, our duty as mentors is to clarify that we can and we must exercise our freedom, but always while respecting the freedom of others. We teach the way of looking at places with a critical eye: through analysis. Indeed, students learn those *dynamics of traditional development* that made places beloved and unique. Manzoni's statement regarding a given mistake can be applied to tradition. It is "an obstacle tripping up anyone who proceeds blindly, but for those who pick up their feet, it becomes a step."[3]

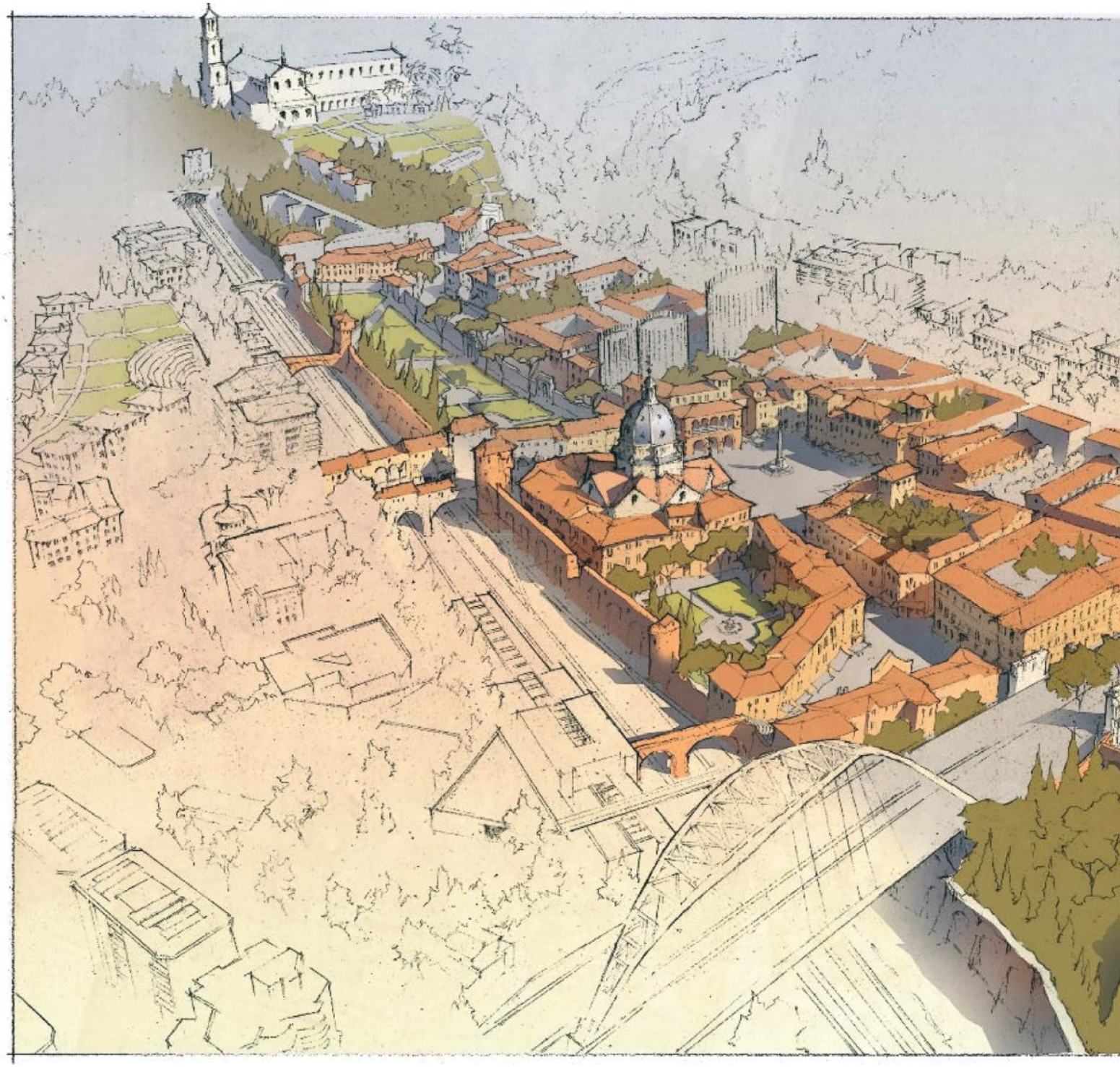
We do not need to reinvent the wheel. Indeed, reading the urban structures of cities we have inherited, we can understand what made them either successful or unsuccessful; this means the knowledge of the dynamics of urban development, as well as the understanding of the urban tools and strategies adopted by our wise predecessors, can help generate new livable cities and show ways to reorganize the suburbs.

The analysis of the urbanism of different parts of Rome —compact urbanism of the historical center; urban grid of the post Unitarian; courtyard city of earliest

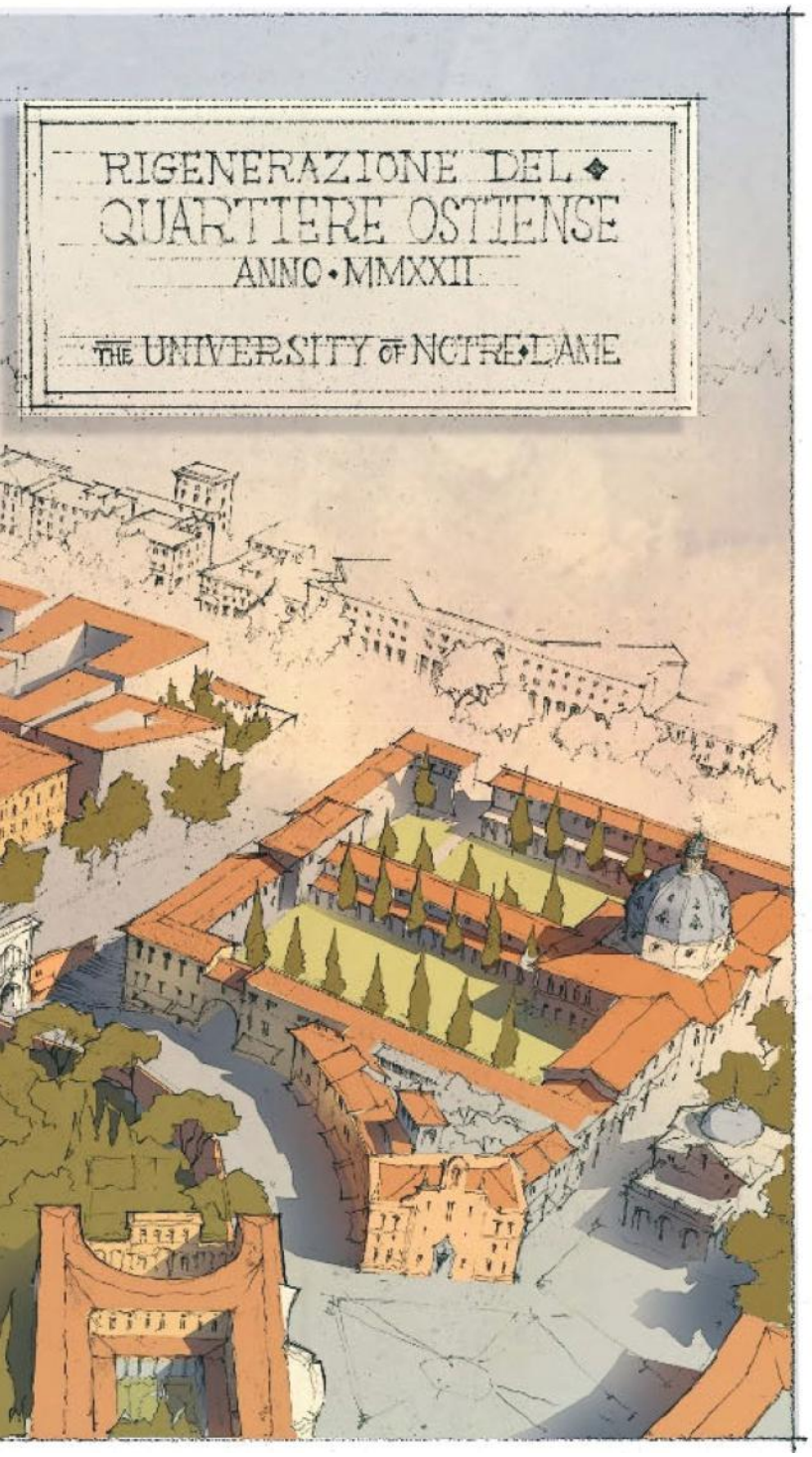


Images from a Project for the Urban Development of the area of the former Military Zignani Barrack in Rome. Completed by Abigail Courtney, Brandon Clear, Caroline Swinehart, Jingwen Zaho for the Graduate Program in Urban Design. Professor Ettore Maria Mazzola, Spring 2014.


BAR



Urban Regeneration of the Former Ostiense Marconi Industrial District. Completed by Mashkur Abdullahi, Claire Andrew, Patrick Beck, Samuel Flanders, Daniel Hwang, Mary Leihy, Shauni Priyam Sikder, Fernando Ilidio De I. Silva, Benedict Smyth, Nathan Thomas, and Samuel Usle for the Graduate Program in Urban Design. Professor Ettore Maria Mazzola, Fall 2022.

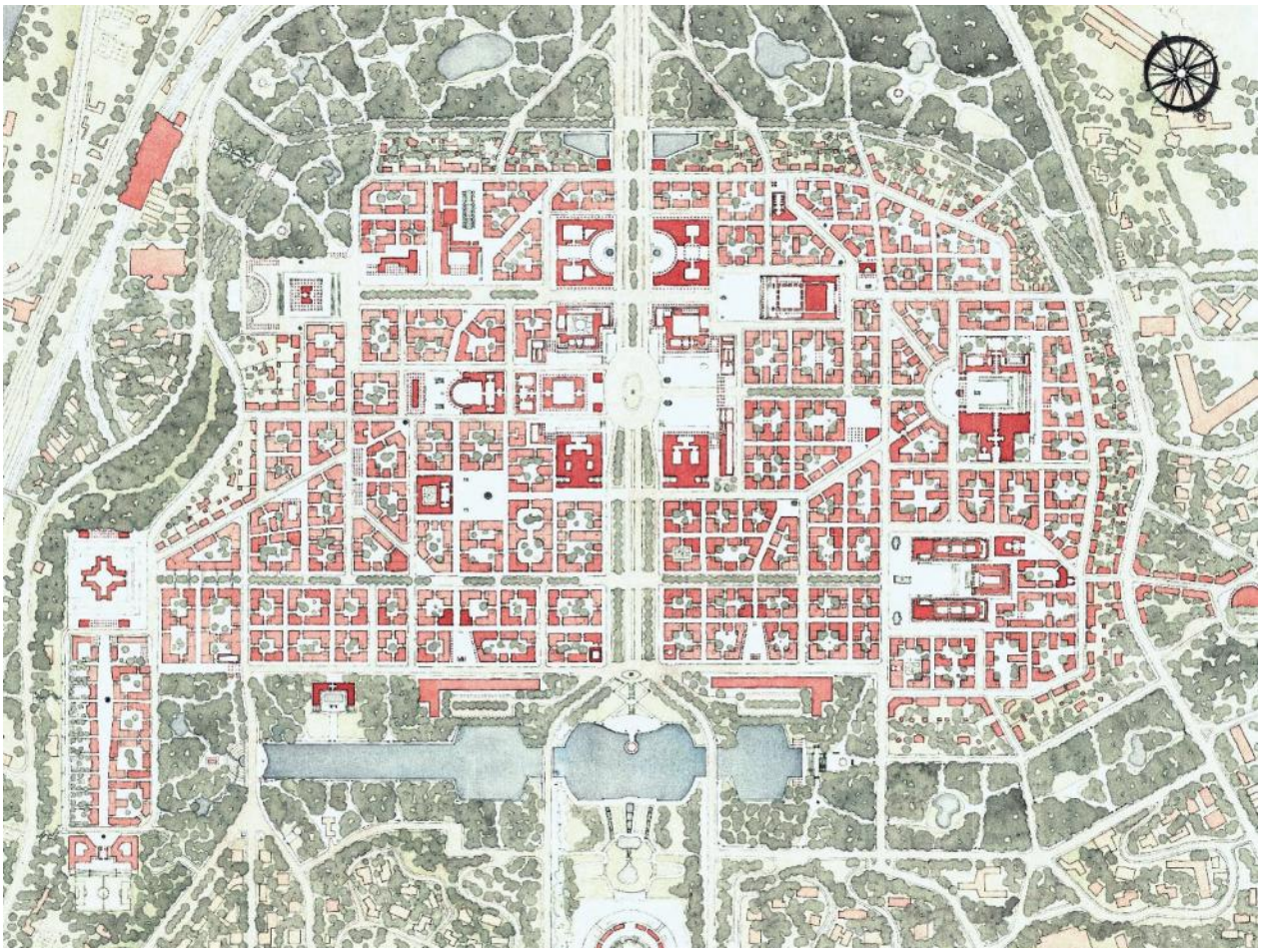


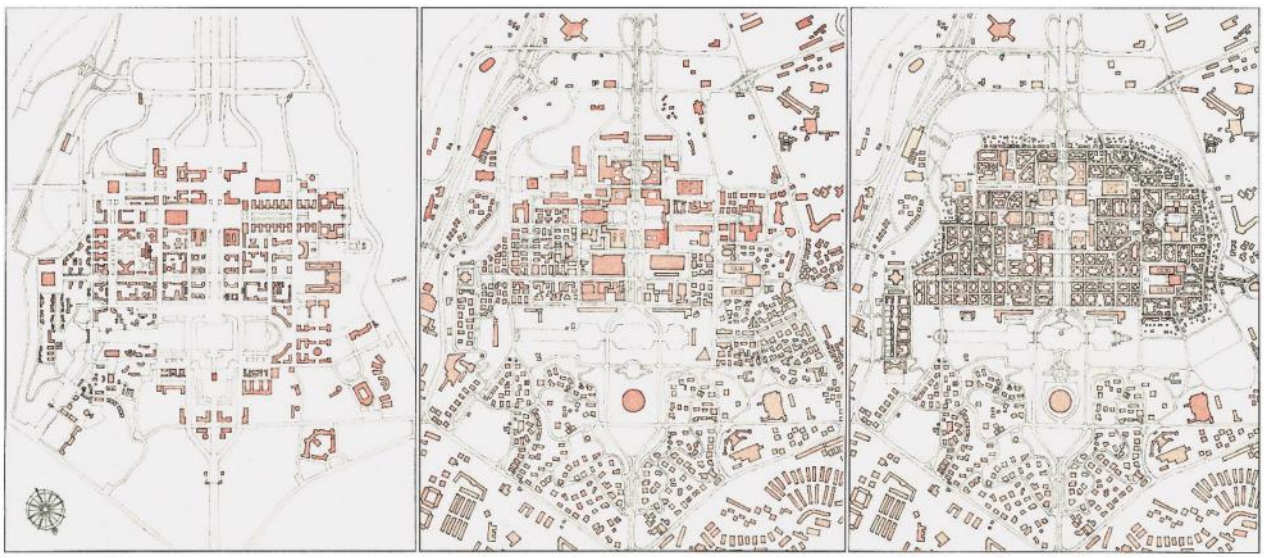
twentieth century; scattered city of the post-World War II development; visionary city of the EUR—becomes a method to conceive appropriate projects all around the world. Through the analytical method of the *abaco* our students learn the elaboration of a pattern book for a local architectural lexicon. It becomes an extremely useful tool to understand a way of designing that respects all local traditions. From the very beginning of the academic year in Italy, our students work on analytical projects that involve many urban sequences of different parts of Rome.

A few years ago, James Howard Kunstler[4] railed against the limits of urban sprawl and said, "The absence of decent public areas; the extreme separation of functions; the disadvantages for children and senior citizens who do not drive, etc." And denounced: "The least natural and legal residential layout is uncontrolled expansion, originating in the United States, which began in the twentieth century with huge, domestic oil reserves. [. . .] The age of sprawling expansion as a credible alternative is coming to an end." Due to this undeniable premise, we must recognize the urgent need of a process for re-compacting our cities. With this purpose in mind, a possible way could be to study the structure of different city quarters, both inside the historical center and outside of it. This kind of analysis might actually give us the right suggestions for a possible re-configuration of our cities.

Thanks to the analytical experience of Rome, our students understand the importance in urbanism of aspects like the surprise effect, the reference points (or landmarks), the piazzas, and all the typical elements of historical cities; we define the network of such elements as urban sequences. Moreover, the study of different districts of Rome, especially those of the early twentieth century, allows our students to understand the importance of many other disciplines intimately related to the matter, such as urban sociology, economical politics, aetiology, real estate, landscape design, and so on. All these disciplines need to be taken into account by a designer.

Students also learn how to subdivide those urban sequences into a hierarchy consisting of main urban sequences—those along which we find the main streets and piazzas—and secondary urban sequences—those used as pedestrian shortcuts and simple smaller piazzas or





This page: Urban Completion of the E.U.R. District in Rome (E.U.R. Interrotta). Completed by Matthew McCourt, Jennifer Moutsatson, Nicholas Rolinski, Alexander Sanderson, and Elizabeth Slaski for the Graduate Program in Urban Design. Professors Ettore Maria Mazzola and Léon Krier, Spring 2016.

Opposite page: Images from the Project for Urban Regeneration of the former Ostiense Marconi Industrial District. Completed by Mashkur Abdullahi, Claire Andrew, Patrick Beck, Samuel Flanders, Daniel Hwang, Mary Leihy, Shauni Priyam Sikder, Fernando Ilidio De I. Silva, Benedict Smyth, Nathan Thomas, and Samuel Usle for the Graduate Program in Urban Design. Professor Ettore Maria Mazzola, Fall 2022.

courtyards. Both these kinds of urban sequences always use public spaces and landmarks as hinges to attract and re-direct walking people. Those hinges punctuate the rhythm of our stroll.

These sequences make the city pleasant and varied. The possibility to choose among the different pedestrian connections, together with the presence of many different activities, invites people to walk through the center without the need for cars. The understanding of these aspects suggests that the value of continuity in buildings, streets, and piazzas needs to be reaffirmed in order to generate new places where both private daily life and extended relations live together. The new districts, as well as the existing ones to be renewed, should be conceived of as composite spaces in which both simple and monumental buildings, as well as piazzas, are components of the urban composition that satisfies gathering and fosters social relationships.

Knowing the structures of historical cities gives us the ability to plan new cities as pleasant as the historical ones. Understanding this system of streets and piazzas, the mix of functions and of incomes, the building variety and all those elements that make urban spaces pleasant becomes crucial in helping us to retrofit the more recent dystopic districts.

This pedagogy allows our students to learn a methodology of design that, once tested on projects for Rome, becomes part of their "genetic code," giving them the opportunity to make designs always respectful of local needs anywhere in the world.

The validity of this pedagogy has been proven. For instance, my students and I were asked by Rob Krier in 2007 to design a demonstrative project to improve the development of the new town of Brandevoort in the Netherlands. In those days, Krier was very concerned that both the residents and developers were unhappy with the bad quality of buildings designed by local architects involved in the development, and he recognized that this was a consequence of their inexperience with traditional architecture and urbanism.

Krier invited us because he wanted us to bring our design methodology, or rather our pedagogy, based on the analysis of urbanism, architecture, and character of places. Thanks to an enlightened contractor, Margot Van Niele, we traveled through the Brabantine region, documenting the abaco of genuine local architecture and urbanism. Then, upon their return to Rome, the students designed two urban blocks. Members of the city council as well as the developers and inhabitants fell in love with the eighty-four buildings that the students designed. Ultimately, everything was realized as it was designed. Thus, the great real-estate success brought both the projects and the abaco to become the template to complete the city.

Historically an academy's pedagogy and service for communities were interconnected. I found this experience to be a modern example of that.

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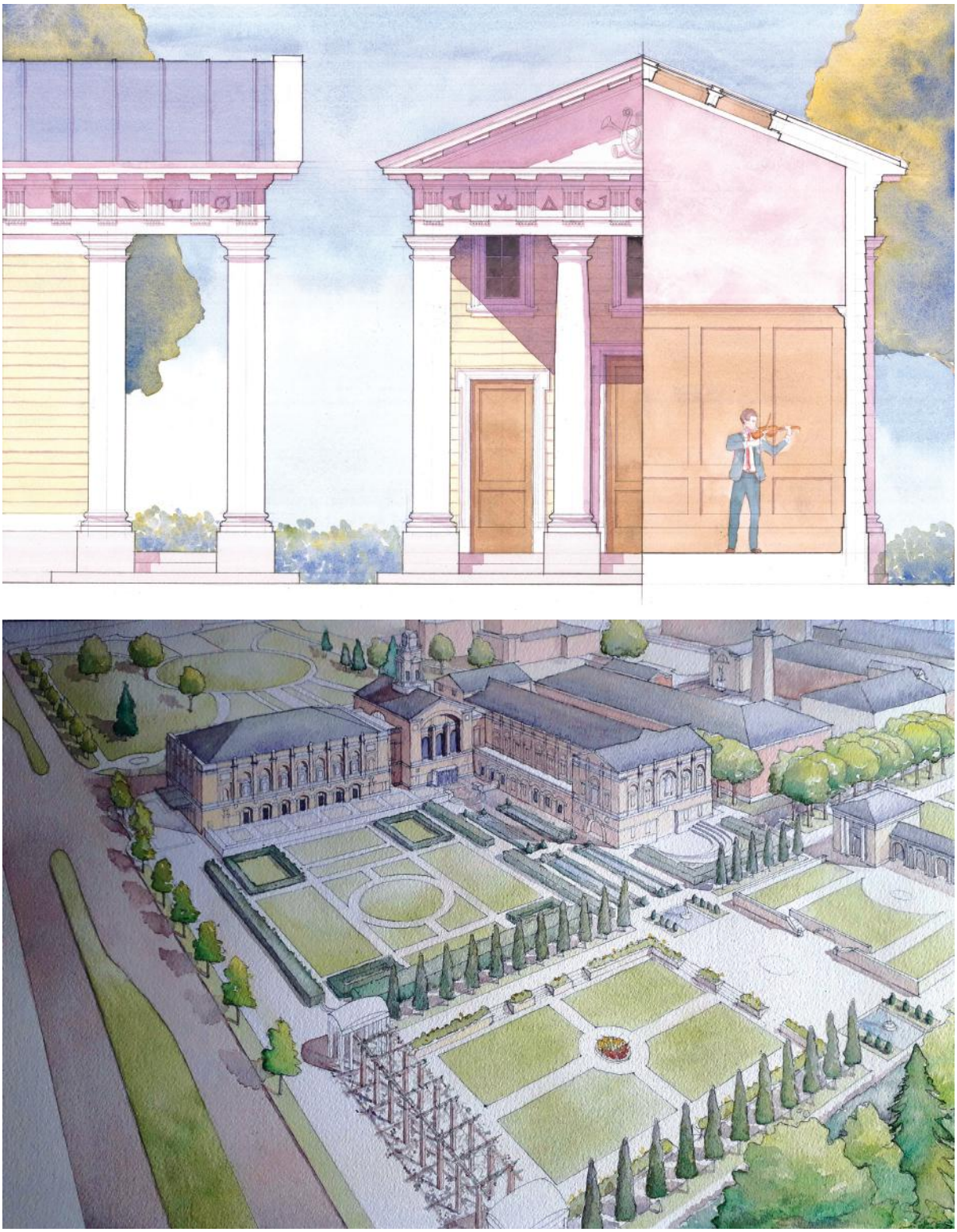
1 *The Divine Comedy of Dante Alighieri. The Italian Text with a Translation in English Blank Verse and a Commentary by Courtney Langdon, vol. 1 (Inferno)* (Cambridge, MA: Harvard University Press, 1918).

2 Paul Langford, *The Writings and Speeches of Edmund Burke* (Oxford, NY: Clarendon Press, 1981).

3 Maria Ponti Pasolini, *Il Giardino Italiano* (Rome: Ermanno Loesher, 1915), 4.

4 *The Geography of Nowhere* (1993), *The City in Mind* (2001) and *The Long Emergency* (2005).



Top: A Doric Pavilion for a Music Center, an exercise in the study of the classical orders. Completed by Elena Ezzo in the Traditional Design Studio, Master of Science in Historic Preservation. Professor Steven Semes, Fall 2022. Bottom: A Counter-Proposal for the Raclin-Murphy Museum of Art at the University of Notre Dame, Notre Dame, Indiana. Aerial perspective view of museum and sculpture gardens. Completed by Julian David Murphy for graduate design studio. Professor Steven Semes, Fall 2019.

THE CLASSICAL: A CASE STUDY OF TRADITIONAL ARCHITECTURE

STEVEN W. SEMES | POINTS 3, 5 & 11

As defined by Howard Davis in his book, a building culture is a "coordinated system of knowledge, rules, procedures, and habit that surrounds the building process in a given place and time."[1] We see a great variety of building cultures around the world and all claim our respect, from the monumental works of ancient Greece and Rome to vernacular building traditions of Asia, Africa, and the Americas. Their number and variety, however, precludes deep knowledge of more than a few of them, requiring the student or practitioner to choose among them. The choice of building cultures to identify as one's own (or simply as one's subject of study) need not imply any lesser respect for those not chosen.

The need to choose offers three options: First, in a kind of eclecticism, one might seek to operate in relation to one or more building cultures with which one has little or no personal connection but only a superficial acquaintance. Second, one might seek a building culture claiming to be global, suitable for application wherever the architect happens to be. Third, one might choose to study in some depth building cultures with which one has ties of community, history, culture, or simple artistic or intellectual interest. The first approach, to the extent the chosen building culture is truly "other," risks a superficial understanding, a questionable cultural appropriation, or even neo-colonialism. The second, which is the approach of international architectural practice today, can impose alien values and threaten local identity and traditions. The third approach allows a focus on a limited range of building cultures which one might, in a lifetime of study, come to embrace as one's own. With care, humility, and respect, one can come to know reasonably well building cultures that are quite different from what one may have grown up with. Only the third option offers the possibility of mastery, which takes time. It also might facilitate understanding of unchosen building cultures to the extent that one's deeper knowledge of one example might illuminate parallels and continuities with others. For example, a serious study of Western classicism might foster greater appreciation for traditional Chinese architecture, and vice versa. (My experience teaching students from China bears this out.)

Over the last several decades, I have chosen to study, practice, and teach what is broadly referred to as classical architecture and urbanism, but this choice was certainly not arbitrary. The building cultures that evolved over two-and-a-half millennia from origins in ancient Greece and Rome have, like it or not, predominated in the modern world until just a century ago and still loom large throughout our cities and landscapes. But this propagation has not been monolithic; what we call "classical" is not a single tradition or culture but an interweaving of diverse threads that have proliferated in response to circumstances of place and time. In the Italian language, one can speak of architecture in the plural—as "architectures"—recognizing that different building cultures can co-exist in a given time or place. The classical is a set of architectures related by their common origins and aspirations and differentiated by their evolution in different locations, times, scales, and characters. This multiplicity has not always been acknowledged, even by proponents of the classical, though I view it as a great strength.

Choosing to investigate a set of architectures does not mean uncritical acceptance of all their manifestations, approval of the motives of those who commissioned them, or disrespect for unchosen alternatives. The questions one should ask are: Does this architecture comprise a coherent and repeatable language capable of responding

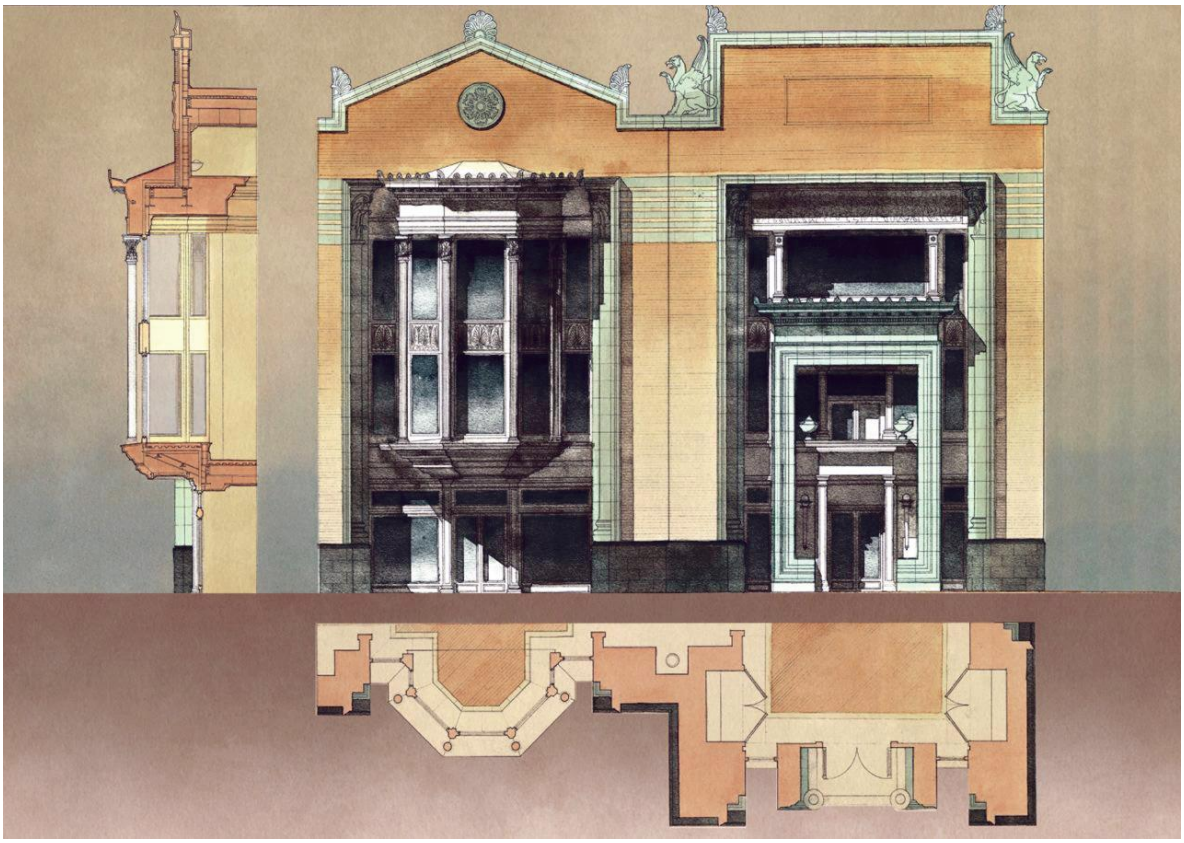
to the needs of accommodation, sustainability, and beauty? What kind of city can one make from this architecture? What aspirations or hopes does this architecture appear to inspire? The varied strands of the classical answer these queries with coherence and beauty and, in the process, appropriately address the "Twelve Points of a Twenty-first-century Pedagogy." A broad conception of the classical has been the pedagogical centerline of the University of Notre Dame School of Architecture for a quarter century. While the word "classical" does not appear in the "Twelve Points" text, the processes for teaching and learning defined there are foundational for the pursuit of the classical, as it is for any building culture that has matured over time.

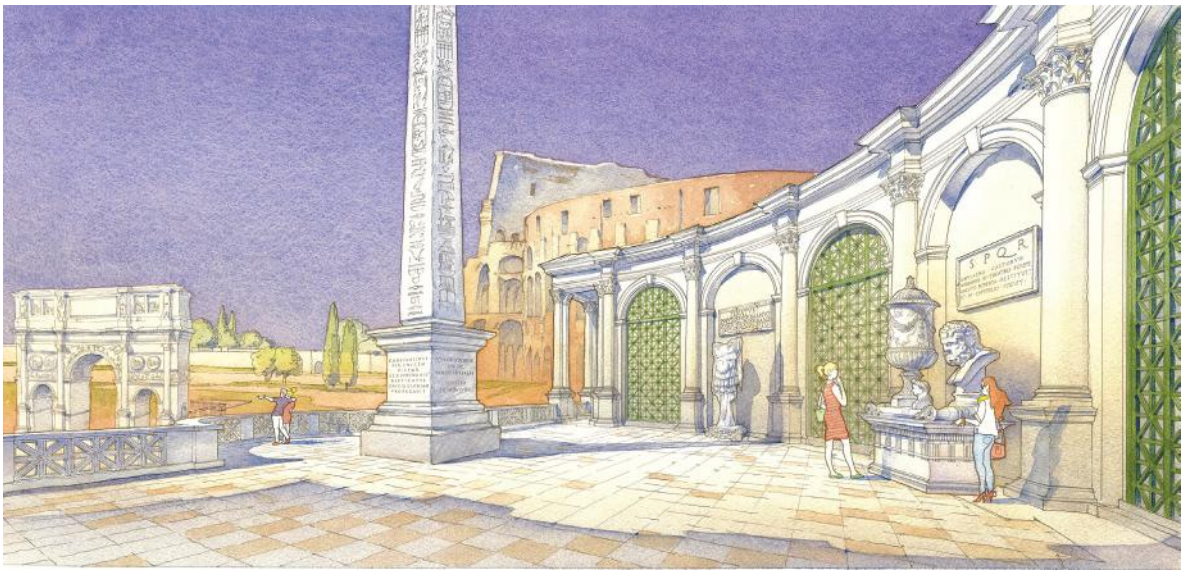
The classical traditions are valuable as a large-scale case study. Learning the formal language, construction systems, urbanism, and building typologies of the classical traditions offers opportunities to recognize parallels and continuities with others, including vernacular traditions derived from them. Because the classical language operates on generally agreed-upon concepts, types, models, and precedents, it can be learned. For example, most cultures work with the concept of "type." Asking students to design a building based on the type of the Renaissance palazzo does not mean we expect them to design princely residences after graduation but, rather, that they should understand the way the palazzo type has persisted through many centuries, continually adapted and transformed according to use, time, and place. The best way to understand how this adaptive process works is to enter it oneself, designing a building of that type and probing its many variants.

Similarly, we study the classical orders—those emblems of the classical tradition that have too often been viewed as fixed Platonic ideas instead of the fluid linguistic forms that they were in the hands of the most revered practitioners. Vitruvius, in the sole surviving treatise on architecture from Roman antiquity, tells us, "The order is designed for the building" and individual applications will, therefore, be different in response to circumstances. The orders are not the whole of classical architecture but a conspicuous instance of it, representing another case study of how architecture is composed, proportions established, and ornament judiciously applied. Even when the orders do not appear explicitly, they can regulate proportion and ornament of even the most modest buildings. "The classical vernacular," as Sir Roger Scruton pointed out, adapts the formalities of the classical to the prosaic needs of everyday life. The architectures that maintain a connection to the ancient formal language have not been exhausted but live in the imaginations and built work of new generations of architects.

This is why our students spend a year of study in Rome: Not because every building or public space in the city is perfect, not because other cities are not admirable or do not offer similar possibilities for teaching, but because it is unfailingly inspiring and displays most clearly the different threads composing the classical fabric at the different scales at which classical thought has been applied. The lessons of Rome inform our design through a process of reasoning and an application of artistry that cultivates coherence in a wide variety of contexts. We also learn there how people have lived together for centuries in a city that is constantly rebuilding itself, often incorporating the past concretely into the present. It is also a place in which the values of Judeo-Christian-Islamic Humanism compose a vision of the city as a suitable setting for the conduct of civilized human life. As the historic center of the Catholic Church, Rome today remains preeminent as a place of spiritual as well as cultural significance and this, too, informs our architectural pedagogy.

Today, we face unprecedented challenges from a changing climate and other threats that require us to alter the way we build and inhabit cities and landscapes. We need an architecture and an urbanism that respects our connection to the natural world, that builds with an economy of resources and for the long term, and that minimizes our dependence on fossil fuels. But such an architecture and urbanism already exist in the form of buildings and cities created before industrialization and petroleum dependence. Most traditional building cultures are inherently sustainable and resilient or can readily be made so, and we can learn from them how to build wisely once again. Conservation and new design must now enter a forward-looking partnership: Paraphrasing the French writer Francoise Choay, we restore in order to learn how to build new buildings and cities embodying the values of beauty, sustainability, and justice.





This page, top: School of Decorative Arts, Chicago, detail of the façade in elevation, plan and section. Completed by Gerald Bauer for the Upper Level Graduate Studio. Professor Steven Semes, Fall 2016. Bottom: A New Home for the Antiquarium on the Celio Hill overlooking the Colosseum, Rome, perspective view from the terrace. Completed by Nikolai Grigorevskii for the Rome Graduate Studio. Professor Steven Semes, Spring 2023.

School of Culinary Arts completed by Emily Fuchs for Design IV. Professor Selena Anders, Spring 2023.

NOTRE DAME IN THE WORLD

SELENA ANDERS | POINT 12

You take delight, not in a city's seven or seventy wonders,

but in the answer it gives to a question of yours.

—Italo Calvino, Invisible Cities

The primary objective of the University of Notre Dame School of Architecture travel programs, international fourth-year design studios, and global research endeavors is to familiarize students with the architectural and urban traditions that exist worldwide and how they have evolved throughout history. International travel offers our students the ability to study design issues at a historically significant moment for our planet. During their journeys, students gain on-site experience of the ways cities, their architecture, and urban form contribute to pressing issues of our time, including climate change, sustainability, and the overall health and wellbeing of their inhabitants.

While abroad, students have a variety of opportunities to develop their academic and professional skills. They work and study with local professionals, world heritage organizations, and universities on urban design projects, historic preservation endeavors, and independent academic research projects. Students in the School of Architecture are engaged in extensive travel and on-site documentation throughout their five-year professional degree program. They learn about the salient factors that make a place unique during their journeys. Simultaneously, their study of typological principles of traditional architecture and urban form of the diverse geographic locations and local cultures they encounter illustrates the continuities that exist among different places throughout the world. Our students are not passive consumers during their travels but active participants in local communities, engaging in research, documentation, and design development in the places they visit. These experiences contribute to a global perspective that students acquire before graduation. As they enter the professional world, they are ready and able to work in diverse locations with respect for local traditions.

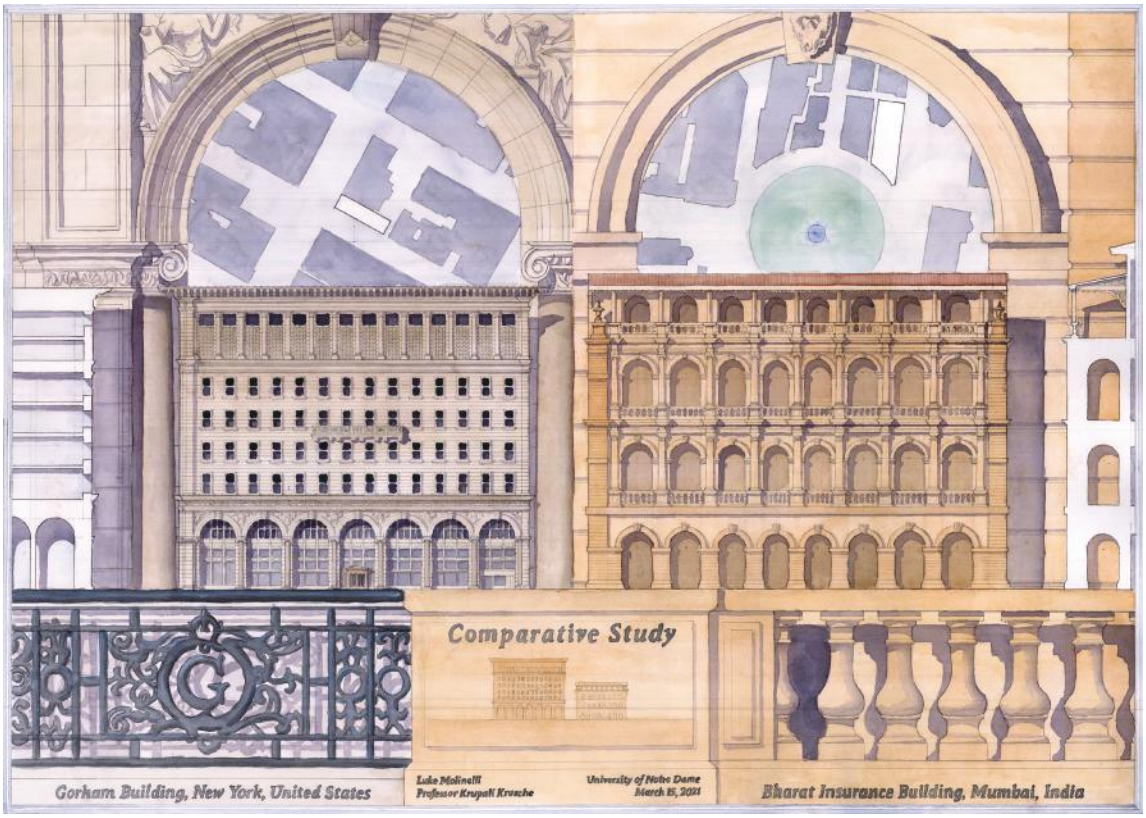
Rome Studies Program

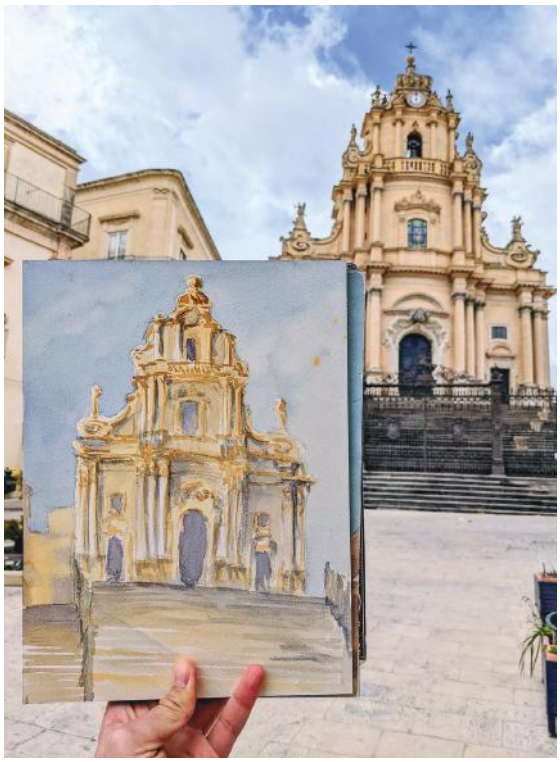
Students in the School of Architecture have several ways of exploring architecture abroad. Both third-year and graduate students partake in the compulsory Rome Studies Program. During their stay in the Eternal City, our students travel to diverse parts of the country, including Tuscany, the Veneto, and Sicily. Moreover, before returning to the USA, they have a weeklong visit to Paris. Graduate students also have the option to study in Athens. During their stay, they participate in an entire course of studies and work in the studio on design projects, architectural competitions, and community service. They study the evolution of architecture and urban form since the earliest known human constructions.

China Summer Program

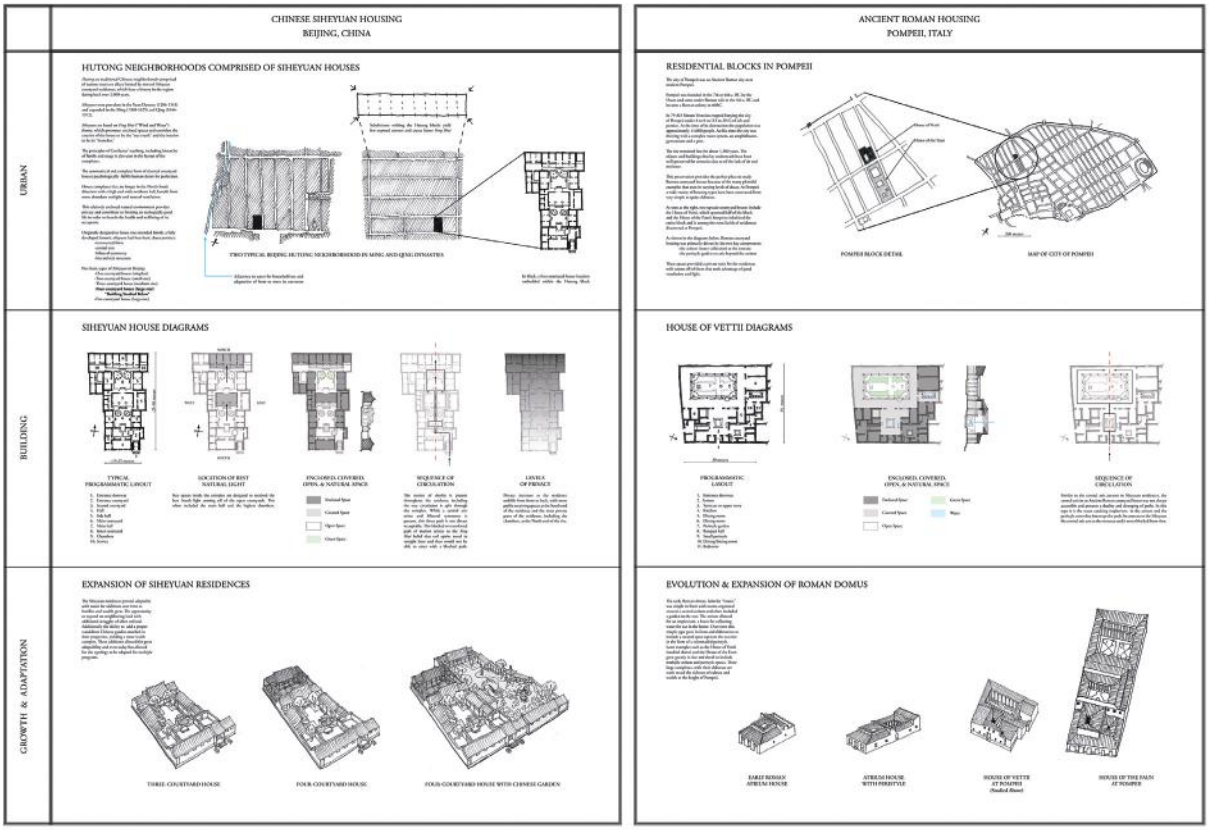
In recent years, students participated in the China Summer Program, which offered participants the opportunity to immerse themselves in Chinese culture and tradition(s) through extensive travel to several regions and various sites. The program partnered with professors and students at the University of Nanjing, where students studied with local professionals and learned about traditional construction methods. Students traveled to Hong Kong, Macau, Shanghai, Suzhou, Tongli, Nanjing, Pingyao, and Beijing during the three-week program. They experienced both ancient and contemporary architecture and urban design. They learned about the cross-cultural connections between China and Europe throughout history. During their visit to the Classical Gardens of Suzhou, they read reflections on the city left by the thirteenth-century explorer and merchant Marco Polo, who was fascinated by the city that reminded him of his home, Venice. He found Suzhou captivating for its beauty and technological innovations.

A Comparative Study of the Taj Mahal and St. Peter's Basilica. Completed by Brennan Kelly for Design VI. Professor Krupali Krusche, Spring 2023.





Top: A Comparative Study of the Gorham Building, New York City, and Bharat Insurance Building, Mumbai. Completed by Luke Molinelli for Design VI. Professor Krupali Krusche, Spring 2021. Bottom Left: Scuola Grande di S. Marco in Campo Santi Giovanni e Paolo, Venice, Italy, completed by Nathan Walz for Advanced Graphics: Watercolor. Professor Richard Piccolo, Spring 2022. Bottom Right: Duomo di San Giorgio, in Piazza Duomo, Ragusa, Sicily, Italy. Completed by Nathan Walz for Advanced Graphics: Watercolor. Professor Richard Piccolo, Spring 2022.



A Comparative Study of Chinese and Roman Courtyard Housing Typologies, by Marie Acalin for Chinese Architecture & Urbanism. Professors Michael Lykoudis and Selena Anders, Fall 2017.

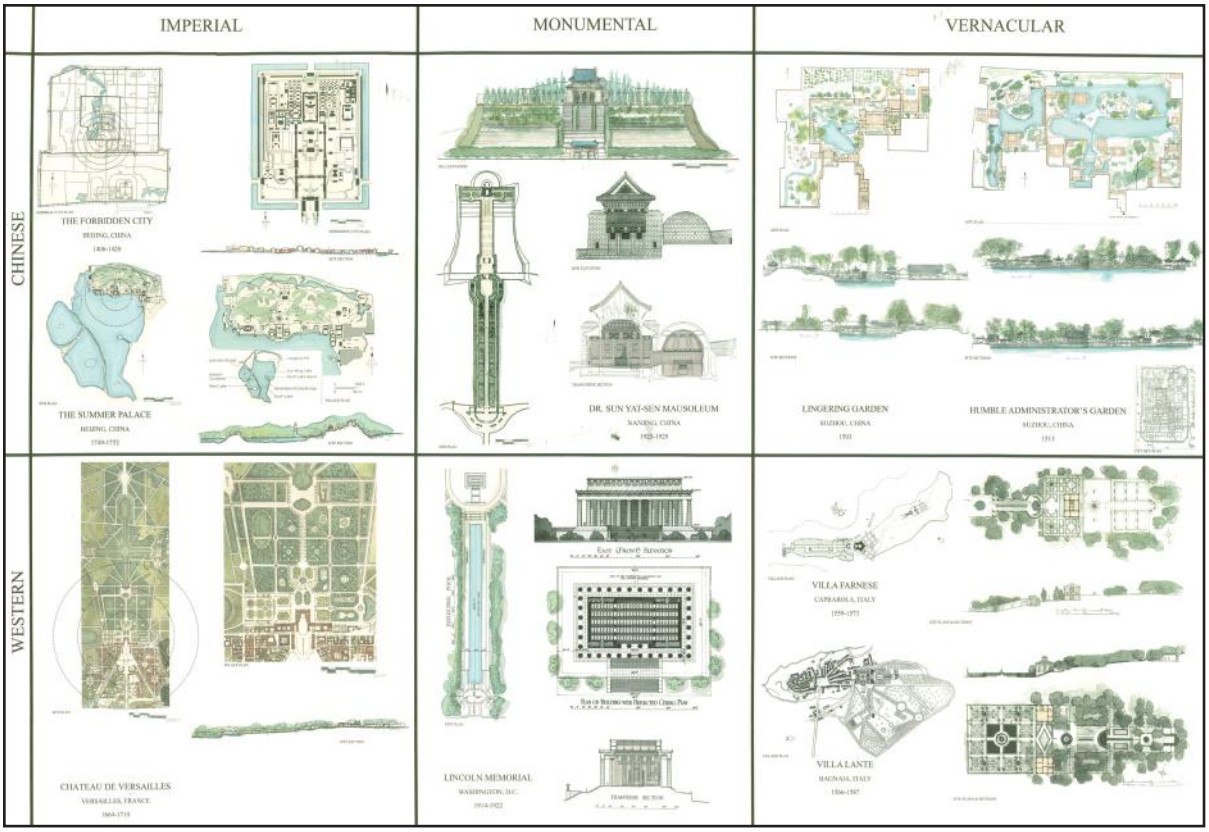
Design Studio Travel

In the spring semester of the fourth year of the design studio, our students focus on learning from and contributing to various cultural heritages throughout the world. Many of these projects include on-site documentation and work with local community organizations to develop architectural and urban proposals that respect and celebrate local building traditions.

Over the last five years, our students have traveled to and designed for various locations, from India to Greece, Guatemala, Peru, and Cuba. Executing these projects has been an essential component of the design studio; they exposed students to different construction methods and cultures of building from around the globe.

In the spring semester of 2020, for instance, Krupali Krusche led fourth-year students to Mumbai, India, to design a new township and housing solutions; the group traveled in January. In Fall 2019, Michael Lykoudis led fifth-year students to Mati, Attica, Greece, to develop a master plan that would contribute to the visualization of Mati's renewal following wildfires in summer 2018. The group traveled to Mati in August and over Fall Break. Samir Younés has led a fall-semester design studio course on urbanism and architecture in Central and South America for fifth year and graduate students. The group travels to Cayalà and Antigua, Guatemala, and Cusco and Machu Picchu, Peru, where they navigate ancient Mayan, Incan, and Spanish colonial architectural heritage for lessons in contextual urban and building design.

Douglas Duany, Jorge Trelles, Luis Trelles, and Samir Younés have also run a fall-semester studio focusing on Havana and Trinidad, Cuba, for fifth-year and graduate students. This studio seeks to train participants in planning and programming as a precursor for the thesis. The new input of development students will plan to advance the needs of area schools, markets, and perhaps governance institutions. Travel to Cuba is included.



Chinese & Western Classical Architecture, by Andrew Califano for Chinese Architecture & Urbanism. Professors Michael Lykoudis and Selena Anders, Fall 2014.

Independent Research

The early exposure to travel in our student's academic study stimulates their passion for continued exploration, independent research, and international professional development. Our students receive generous grant support from several campus organizations for their endeavors abroad, cultivating a lifelong passion for travel and contribution to the architectural profession through research and design. The School of Architecture itself awards Fagan Grants to support travel research for thesis projects (see next page).

Many of our students have won national fellowships to enhance their professional and research experience abroad. For instance, in 2021, Mary Rzepczynski was a Fulbright Semi-Finalist to study medieval and post-medieval churches in Nessebar, Bulgaria—specifically, to document and analyze the column capitals and other decorative stone elements to separate and understand local and regional influences from overarching commonalities and patterns of Byzantine decorative architecture. In 2020, Stephanie Kubus was awarded a Fulbright US Student Program grant to conduct independent research in Munich, Germany. In 2015, Matthew Cook was named a Luce Scholar and spent fourteen months working at IBUKU, a bespoke bamboo design-build firm in Bali, Indonesia. A nationally competitive fellowship program, the Luce Scholars Program aims to enhance understanding of Asia among American society's future leaders. It provides stipends, language training, and individualized professional placement in Asia for fifteen to eighteen Luce scholars each year.

Fellowships and Grants

Additional funding awards have allowed many students to pursue international research. Tia Williams received the 2020 David M. Schwarz Internship and Traveling Fellowship Award; she intended to explore the living

Top: New Theatre Havana by Megan Reineccius. Professor Samir Younés, 2015. Bottom: Plaza Carrillo, Trinidad de Cuba. Completed by Andrea Rodriguez, Matt Hayes, Sarah Gumenik, Phillip Smith. Professor Samir Younés, 2018.

tradition exhibited in the marae (meeting grounds) of the Maori people of New Zealand. Williams planned to study marae's spatial character in Rotorua, Auckland, and Waitangi through photo documentation and measured drawings. She hoped that this opportunity would inform her understanding of her own Hawaiian culture and its architecture and provide a foundation for her thesis design project. Although Covid derailed her travel plans, she did documentary research and connected with scholars at the University of Auckland. She hopes to travel in the future.

Amali Wijesekera received the 2019 Liu Institute for Asia and Asian Studies Grant (and Fagan Memorial Grant), which allowed her to visit Theravada Buddhist temple sites in Sri Lanka for two weeks. She researched how the built environment contributes to peaceful spaces by documenting key architectural design attributes, observing customary practices of temple visitors, and examining sensory experiences invoked by temple location and design. The research was conducted at architectural and archeological temple sites in Colombo, Kandy, Dumbulla, Sigiriya, Anuradhapura, and Polonnaruwa. This research informed her thesis project for a West Coast Theravada Buddhist meditation center.

In 2019 Kangxin Wu received the David M. Schwarz Internship and Traveling Fellowship Award, allowing her to visit classical and contemporary gardens throughout Japan to study their evolution through time and their relationships with buildings on site. Metaya Tilahun also received the David M. Schwarz Internship and Traveling Fellowship Award that year, allowing her to travel to Addis Ababa, Bahir Dar, and Gondar in Ethiopia to study civic spaces such as squares and churches. Tilahun also traveled to London to view Sir Patrick Abercrombie's 1956 masterplan for Addis Ababa, whose three rings and radial streets share structural similarities to his 1944 masterplan for Greater London.

In 2017 Caitlin Chartier received the David M. Schwarz Internship and Traveling Fellowship Award, allowing her to travel to Norway to study wooden church architecture. Spencer Esplin also received this award that year, allowing him to travel to Northern India to explore the fusion of Hindu and Islamic cultures that manifests in the region's architecture. Also in 2017, AJ Derouin received a Kellogg Grant to support his capstone project, "The State of Architecture Education in Uganda: Its Implications for the Future of Sustainable Development in Uganda" (see https://kellogg.nd.edu/grants/10231).

Fagan Memorial Fund Grants

In 2019, Fagan Grants were awarded for travel to the following locations:

ALEXANDRIA, EGYPT, to study Alexandrian Bilingualism Revival at the New Great Library of Alexandria

THE AZORES, to study Azorean Portuguese architecture

PUEBLA, MEXICO, to study stylistic precedent for the architectural language for an immigration center in El Paso, Texas

HONDURAS, to study libraries as community centers

SOUTHEAST CHINA, including Yuyao, Hangzhou, and Wuzhen, and Xi'an in Northern China, for a revitalization project for Hemudu Town and design of a cultural center complex

SHENZHEN, CHINA, to trace the historical fabric of the nearby Nantou Ancient City

ROMANIA, in preparation for the design of an orphanage in Botosani that would replace a barracks-style building with a plan following a traditional Romanian village or hamlet

GYEONGJU, SOUTH KOREA, to prepare for the design of an international boarding school with a heavy emphasis on multicultural exchange and integration

NAGASAKI, JAPAN, to prepare for design to replace Nishizaka Park and the Twenty-Six Martyrs Museum and Monument with a larger museum complex and square

NORWAY, to prepare for design development of a Passenger Maritime Terminal in Oslo

PETÉN, GUATEMALA, to prepare for design of Mayan Biosphere Research Center for the recovery and preservation of the tropical dry forest biome in the town of El Remate, Petén

GONDAR, ETHIOPIA, to do space syntactic analysis & urban morphological analysis in preparation for the design of an Academy of Architecture and Building Craft

Top: Masterplan for a New Neighborhood in Seville. Completed by Madeline Fairman and Andrew Seago. Recipient of the CNU Urban Guild Award. Professor Julio Cesar Perez-Hernandez, 2023. Bottom: Langalbandh Pilgrimage Waterfront Elevation, Bangladesh. Completed by Shauni Priyam Sikder. Graduate Thesis. Professor Julio Cesar Perez-Hernandez, Spring 2023.

THE SCHOOL OF ARCHITECTURE AND THE WORLD

JULIO CESAR PEREZ-HERNANDEZ | POINT 12

...but education, when combined with intelligence, never fails, but abides steadily on to the very end of life.

—**Vitruvius, *The Ten Books on Architecture***

The School of Architecture's mission, principles, and core values are aligned with the University of Notre Dame's Catholic intellectual tradition aimed at creating a better world. The School of Architecture prepares students for life. We believe that we can make a great contribution to the world through faith, shared knowledge, committed leadership, hard work, and collaboration. Thus, our pedagogy is based on a holistic teaching method that transcends mere professional training and aims instead to educate students to become sensitive human beings as well as practitioners with a sense of aesthetics and social justice.

Our school is distinct not only because of its curriculum and the way it is taught, but also in the way that it reinforces the idea that a humanist education is essential to contend with the multiple challenges of the twenty-first century. The pedagogical consistency and continuity of the School of Architecture stresses the importance of studying and understanding world history, cultures, and tradition as the true foundation for a solid knowledge of architecture and urbanism.

Our courses in architecture and urbanism cover a wide range of built examples from around the world—examples that demonstrate how both the public and private realms benefit from enduring construction techniques, well-designed public and private gardens, and successful civic infrastructure. Faculty emphasize how the exemplary nature of these places have contributed to the rich world heritage that we should not only admire but should learn from and preserve.

The students' exposure to living classical ideals allows them to understand the universal principles that draw humankind to progress and find inspiration for their own designs in these ideals. The school's curriculum combines the teaching of different design studios with lecture courses on theory, history, environmental and technological systems, and social justice. Students also learn traditional drawing and rendering techniques together with digital ones in a way that emphasizes the analytical and the hands-on.

While we can find fine examples of traditional cities and buildings around the world that stand the pass of time—in Rome and Florence, Seville and Cordoba, Toledo and Madrid, Havana and Kyoto, to mention but a few places—the world we inhabit today is plagued by the syndromes of a dystopian urbanization characterized by sprawl and the construction of high-rises and the absolute neglect of the sense of place, civic art, and cultural identity. The contemporary urban realm denies history and its many lessons from antiquity through the Renaissance and up to the Enlightenment. Additionally, it has embraced an anonymous aesthetic based on questionable technological progress that is characterized by the lack of conscious planning.

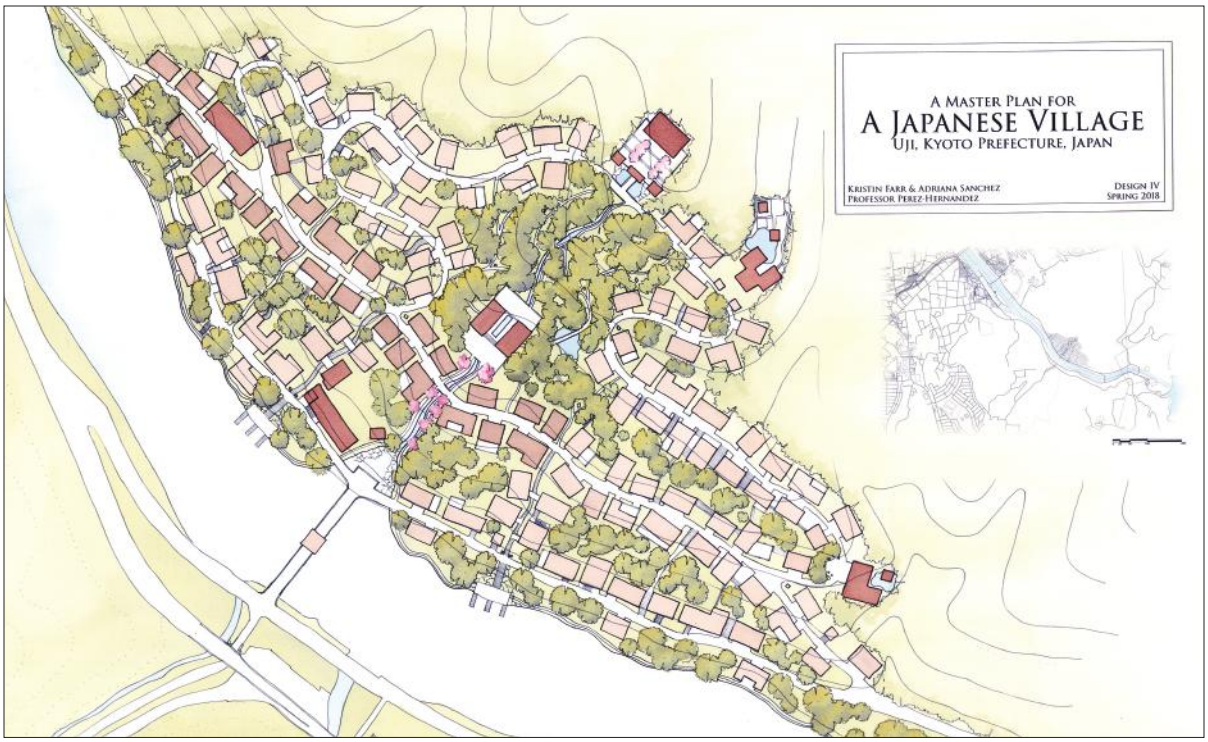
At our school we are committed to mitigate this and, in time, reverse it. Since good urbanism demands good architecture, our school encourages students to study the best historic precedents to learn how to make a more humane, sustainable, and beautiful built environment rooted in the geography and the history of a place and in the idiosyncrasies and communal aspirations of its people.

And yet, we also understand and address the need to tackle issues related to eventual sea level rise due to climate change and increasing investment in the social infrastructure of cities—all while adhering to the Vitruvian triad of *firmitatis*, *utilitatis*, *venustatis* (stability, utility, beauty).

We are aware that we live on an increasingly urban planet, and that this phenomenon has multiple implications, from the environmental to the economic. We also rec-

This page: Perspectives of Langalbandh, Bangladesh. Completed by Shauni Priyam Sikder. Graduate Thesis. Professor Julio Cesar Perez-Hernandez, Spring 2023.

Opposite page: A Masterplan for a Japanese Village in Uji, Kyoto Prefecture, Japan. Completed by Kristin Farr and Adriana Sanchez for Design IV. Professor Julio Cesar Perez-Hernandez, Spring 2018.



ognize that humanity is living in a time of unprecedented crises. That makes us think critically about the present and future of traditional and classical architectural and planning education, given its validity and vitality.

The School of Architecture also acknowledges concerns about contemporary challenges and opportunities of our urban world. Technology has advanced so quickly, and some aspire to harness that power to reshape the world and make it better. Modern media disseminates so much imagery, and most countries assimilate this visual content as just another good to import and absorb. Our students are encouraged to discern between material richness and cultural richness; material richness leads to visual chaos and causes places and people to lose their cultural identity, while cultural richness comprises significant values that are worth preserving and learning from.

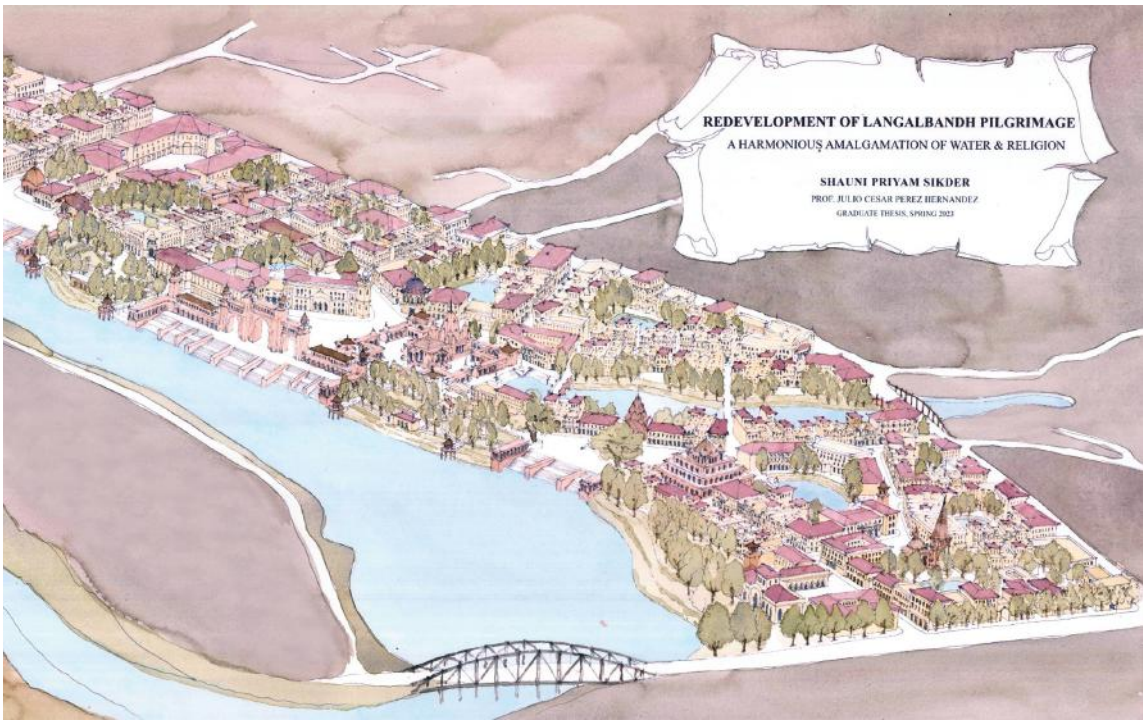
Our students are also taught how nature and culture should be considered as complements and not opposites. They learn about the need to reconcile human aspirations for development with ecological imperatives as the foundation of sustainability. In this regard, the school considers the preservation of the natural and the built environment of the utmost importance and instills in students a sense of urgent personal responsibility to study and safeguard both nature and the city. Students are encouraged to love nature and the cities like they love themselves.

Among other important ideas, the school's curriculum reinforces the requirement to learn from the past and to face the world's current needs and challenges from a historical perspective. This perspective helps students and faculty be more aware of how they can make the world a better place.

Students are also taught the importance of the sense of a place (*genius loci*), as well as the rich legacy represented by a variety of cities that have developed over time, from antiquity to the twentieth century—cities that grant continuity to the world's best urbanism. We believe that human identity includes the identity of place, since identification gives people a sense of belonging and existential foothold. We are committed to an architecture of place.

We insist on teaching students to become humanists, to make the study of Architecture their passion and a sense of life, their joy, and their happiness. We insist on teaching students the timeless values of tradition and the absolute worthiness of urban environments that respect nature and the public realm that serve as backdrops for the essential human activity. We insist on optimism about a durable and beautiful future that students, as future leaders, can envision and make happen.

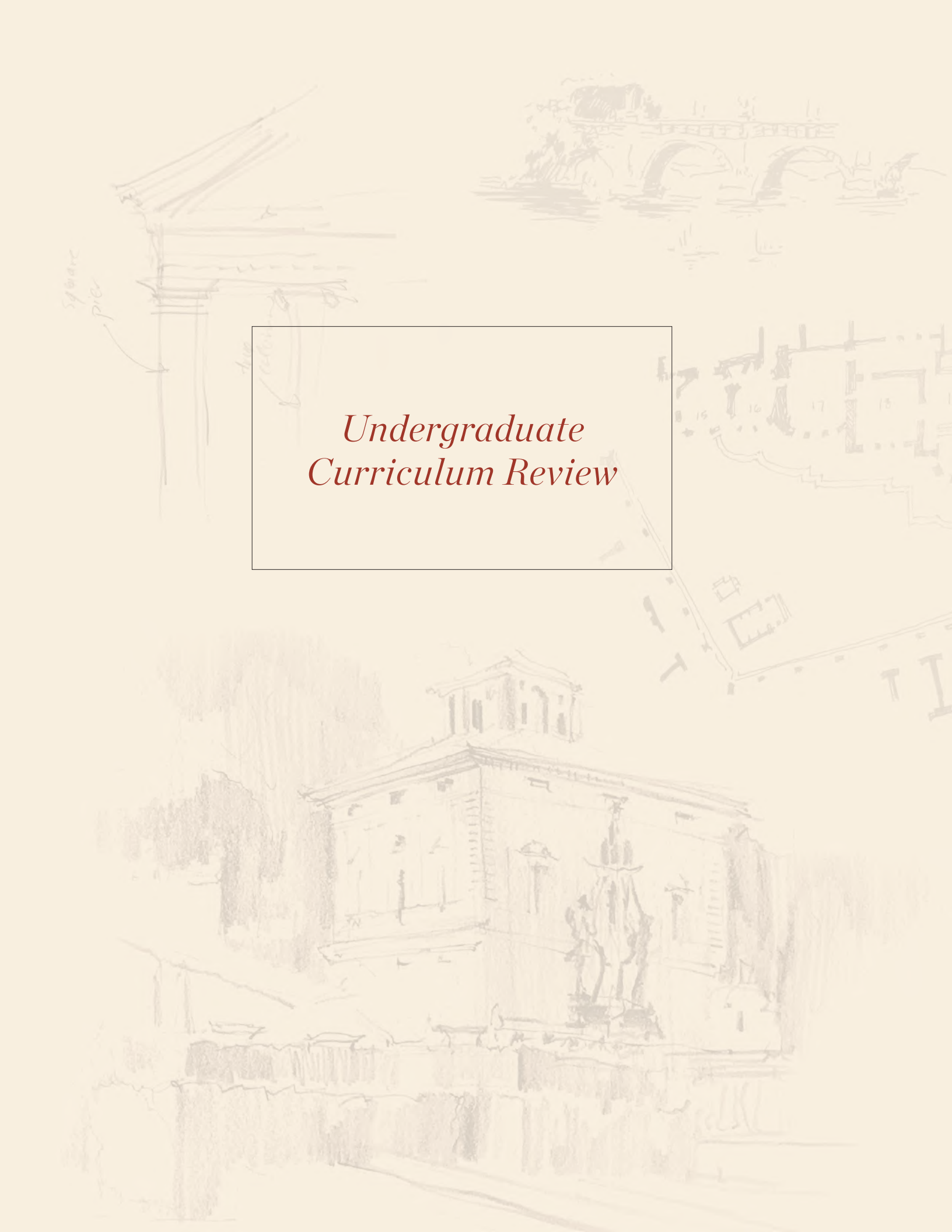

MASTERPLAN
FOR THE HARBOR OF
HAVANA, CUBA
PROF. JULIO C. PEREZ
ARCH 4112I - DESIGN VI



Opposite page, top: Section for a New Village in Kyoto Prefecture, Japan. Completed by Rebekah Hall and Valeria Hasbun. Professor Julio Cesar Perez-Hernandez, Spring 2018. Bottom: Masterplan for the Harbor of Havana, Cuba. Completed by Isabella Botello, Andrew Carroll, Juan Gui Daw, Kyle Dellenbaugh, Solomon Duane, Elise Maletta, Anselma Panic, Lucas Scheider-Galiñanes, Audrey Slaga, and Isaiah Thummel for Design IV. Professor Julio Cesar Perez-Hernandez, Fall 2022.

This page, top: A Masterplan for the Recovery of La Cartuja in Seville, Spain. Completed by Javier Ballesteros Marquez. Professor Julio Cesar Perez-Hernandez, Spring 2019. Bottom: Axonometric Drawing of Langalbandh Pilgrimage Waterfront. Completed by Shauni Priyam Sikder. Graduate Thesis. Professor Julio Cesar Perez-Hernandez, Spring 2023.

Undergraduate Curriculum Review



CURRICULUM REVIEW OF THE UNDERGRADUATE PROGRAM

MARIANNE CUSATO

At the University of Notre Dame, we educate the architectural leaders of tomorrow to address critical issues facing the world through the study of classical and traditional architecture and urbanism. Human flourishing necessitates sustainable development patterns that stand the test of time, facilitate a strong social infrastructure, provide a platform for general prosperity, and leave a better world for future generations. We believe these aspirations are best achieved by the design of adaptable, beautiful, and durable buildings and places. We draw precedent from traditional architectural, landscape and urban forms that embody a human scale, respond to varied contexts, are calibrated for local climates, and relate to the material and spiritual needs of the varied societies of the world in a form specific to their culture.

—School of Architecture Statement of Purpose

The following pages outline the School of Architecture's curriculum. While this curriculum fulfills the technical requirements necessary to provide degrees to our students and prepare them for licensure as architects, our ultimate goal in the design of our curriculum is to educate whole people who are capable of critical thinking. We cannot teach everything our students need to know in five years, but if we are successful, our graduates will have learned how to learn, and they will possess a strong foundation for future growth as they journey forward to shape a better built world. This review analyzes our curriculum by dividing it into six component parts: Mindset/Soft Skills, Graphics, History & Theory, Library Skills, Technology, and Design Studio. All six components are essential to an education in architecture and should be integrated in the conception and production of beautiful, useful, and durable projects. This education sets the foundational ability to produce architectural, urban, and landscape design projects at a range of scales.

We've studied these component parts through two lenses. The first lens follows the progression of each focus area over the five-year program to ensure course materials provide continued growth. The second lens looks at the content by year to ensure that courses dovetail together to enrich each other. Each year has a defined purpose that is supported by each of the component parts. This purpose progresses through the five years, from "setting a foundation for learning" in the first year to the "culmination and integration of the architectural education" in the fifth year.

Our goal is to educate adaptable leaders of tomorrow, armed with the ability to draw on thousands of years of precedent, to meet the evolving needs of society through the creation of a built world that is resilient, equitable, attainable, beautiful, and that stands the test of time.

About the Curriculum Review

This content was prepared by the Curriculum Review Working Group. This report represents input and feedback from twenty-nine members of the faculty/administration (approximately two-thirds of the faculty at the time of the report) over the course of two academic years, from Fall 2021 through Fall 2022.

Goals of This Report

Create a document to articulate the undergraduate curriculum to:

- Engage with prospective students.
- Explain our pedagogy and teaching methodology within the University and to potential new faculty.
- Share our process with other academic institutions that are establishing a similar program.

Identify and articulate critical milestones throughout the program to:

- Coordinate content between individual courses to enhance learning outcomes.
- Clarify expectations for the stages of student development so we can identify if students are falling behind.
- Ground the learning experience for the students so they can understand the steps of the process. (What you are learning now builds on what came before and leads to where you are going).

Identify gaps, missing subject matter, and blind spots: Improvement is always possible. The exercise of producing this report presents an opportunity to identify areas where our results are not aligning with our aspirations, and where new methods are needed to adapt to changing times.

Explore how elements beyond existing curricular verticals (design, history/theory, tech, and graphics) meaningfully integrate into the five-year program.

This includes defining a key purpose for each year, identifying mindset and individual growth milestones throughout the program, and determining how issues such as climate change, social justice, and affordable housing are integrated into existing courses.

Curriculum Review Process

The process for creating this document started with an initial questionnaire issued to the entire faculty asking for feedback. This was followed by targeted emails to faculty currently teaching required undergraduate courses. In these targeted emails, we asked two questions: what skills and knowledge do students need when they arrive in your classroom? What skills and knowledge do students have after they successfully complete your course?

Drawing from faculty input, the Working Group met weekly/bi-weekly to develop an outline detailing the milestones for each year of study and identify blind spots and missing content in the curriculum.

The Working Group's first task was to identify aspirational goals of the school's curriculum; this is the content provided here. The next task is to assess whether we are meeting our goals. If we are not, where are we falling short, and what adjustments are necessary to improve our educational outcomes? This process started immediately upon the completion of the report and is ongoing.

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CURRICULUM MATRIX

In addition to the written document, we have created a matrix to illustrate the flow of course content by topic and by year. The matrix shows the progression of proficiency expectations through time and indicates whether the content is learned in a dedicated course within the required curriculum (beige background) or indirectly through incorporation into another course within the required curriculum (white background).

Purpose	**First Year** **SETTING THE FOUNDATION FOR LEARNING**	**Second Year** **ESTABLISHING STUDIO CULTURE & TIME MANAGEMENT SKILLS**
Graphics	**INTRODUCTION to GRAPHICS:** Foundational introduction to architectural graphics skills leading to a basic understanding of hand drawing, technical drawing, presentation drawing, and graphic integration. No graphic skills are necessary when entering this sequence.	**BASIC UNDERSTANDING of GRAPHICS:** Ability to use graphic skills as part of the design process to develop concepts as well as to graphically represent design intent. Content provided as part of Design Studio.
History & Theory	**INTRODUCTION to ARCHITECTURAL HISTORY:** Foundational introduction to the global history of architecture and urbanism, from prehistoric times to today. Ability to understand major historical trends, regional traditions, and critical ideas, as well as mastery of basic architectural terminology and formal languages.	**BASIC VISUAL & TEXTUAL ANALYSIS:** Deepen familiarity with global history and theory of architecture and urbanism from antiquity to late Middle Ages. Ability to analyze and critique primary sources and secondary scholarship. Growing understanding of the relationship between the history of form and the history of ideas.
Library Skills	**INTRODUCTION to RESEACH SKILLS:** Create basic familiarity with the library collections and makerspace; introduce research skills.	**BASIC RESEARCH SKILLS:** Ability to navigate the library and online resources to research a topic, find precedent, and correctly cite sources. Content provided as part of Design Studio.
Technology		**INTRODUCTION to BUILDING TECH & STRUCTURES:** Introduction to materials and methods and how they translate into built form as well as basic understanding of how forces act on structures.
Design Studio		**INTRODUCTION to DESIGN:** Introduction to the language of architecture and urbanism with a focus on building composition, fluency in the steps of the design process, and ability to design in plan, section, and elevation.

Notes about the content

- The description that follows assumes the continued development of skills and abilities addressed in previous years.
- Milestones included in each section are the assumed level of understanding each student will possess upon the successful completion of the noted year.

Colored boxes indicate direct learning in dedicated courses offered on the topic. White boxes indicate content is provided indirectly as part of another course, excluding electives. Gray boxes indicate material not covered in this year.

Third Year **RAPID MATURITY THROUGH INTERNATIONAL IMMERSION**	**Fourth Year** **NAVIGATING COMPLEX DESIGN PROBLEMS & FINDING ONE'S VOICE**	**Fifth Year** **CULMINATION& INTEGRATION OF ARCHITECTURAL EDUCATION**
PROFICIENCY in GRAPHICS: Advancing ability to communicate graphically as part of the design process and in the representation of design concepts. Special emphasis on use of sketchbook for analysis and drawing in situ. Content provided as part of Design Studio and dedicated courses.	**ADVANCED PROFICIENCY in GRAPHICS:** Highly proficient overall graphic skills and advancing ability to integrate between hand and computer graphics. Content provided as part of Design Studio and dedicated courses.	**HIGH PROFICIENCY in GRAPHICS:** High proficiency in graphic skills and full integration between hand and digital media. Content provided as part of Design Studio.
HISTORY & THEORY in CONTEXT: On-site study in Rome and other sites in Italy to develop an understanding of the history of architecture and urbanism from the Renaissance to the twentieth century. Advanced visual and formal analysis and historical criticism. Starting to connect history/ theory coursework with Design Studio work.	**ADVANCED RESEARCH & ANALYSIS:** Develop a nuanced understanding of the history of American architecture (1700–present) and urbanism and current debates shaping the profession. Ability to independently carry out substantial historical research on a topic of choice. Content provided as part of Design Studio and Thesis.	**HIGH PROFICIENCY in the APPLICATION of IDEAS & CONCEPTS:** Demonstrate the internalization of formal and theoretical precedents. Ability to discuss thesis projects in relation to history. Content provided as part of Design Studio and Thesis.
PROFICIENCY in RESEARCH SKILLS: Use of library/online resources to research history and precedent. Content provided as part of Design Studio.	**ADVANCED RESEARCH SKILLS:** Confidently approaching the process of finding precedent and researching for design projects, as well as learning to explore complex topics and finding images in articles. Content provided as part of Design Studio.	**HIGH PROFICIENCY IN RESEARCH SKILLS:** Ability to conduct independent targeted research specifically in support of thesis project. Content provided as part of Design Studio.
PROFICIENCY in TECHNICAL ABILITIES: Basic ability to recognize relationship between structure and building form, enhanced ability to draw a building assembly, and continued understanding of building codes. Content provided as part of Design Studio.	**ADVANCED TECHNICAL ABILITIES:** Exploration of site analysis, foundations, and contemporary material and methods; advanced understanding of how forces act on structures with a focus on timber, steel, and reinforced concrete; and basic environmental systems.	**INTEGRATED TECHNICAL DESIGN:** Integration of building technologies, structural mechanics, and environmental systems into a comprehensive design project.
DESIGN IN CONTEXT: Immersion in Rome to develop a nuanced understanding of variables and complexities of the language of classical architecture, a focus on the elements of urbanism, and an introduction to designing in relation to landscape.	**APPLIED DESIGN:** Application of the classical language in US and world contexts; application of user and regulatory requirements; expansion of pre-design abilities with intro to programming; introduction to independent learning.	**DESIGN SYNTHESIS:** Focus on transition from the academy to the profession with an emphasis on independent learning, synthesis of everything learned to date, and an elevated expectation of professionalism.

MINDSET & SOFT SKILLS

What you gain from an experience depends on what you invest in the process. In an academic setting, this investment starts with the Mindset and the Soft Skills you employ in pursuit of knowledge. Our students are conditioned to succeed at very high levels, which can lead to a fear of failure. They first must recognize that the skills that got them here, like standardized test taking, aren't the same skills that will allow them to thrive in our program. Success in an architectural education depends on the ability to be comfortable with being uncomfortable, stretching abilities with the possibility of failing, being empathetic to multiple points of view, seeing nuance, and learning to articulate one's own unique voice.

First Year: Setting the Foundation for Learning

MINDSET: Open mind, curious for knowledge, and able to shed a "learn for the test" mentality.

STUDIO CULTURE: Basic introduction to the rigor of studio culture and the profession (should happen more gradually starting in the first year).

STEWARDSHIP: Recognize the relationship of architecture in caring for others and pursuit of the common good.

Second Year: Learning Studio Culture & Time Management

MINDSET: Move past seeking the "right" answer; ability to grow from "failing forward" and learn from trying when success is not guaranteed.

STUDIO CULTURE: Ability to set milestones/pacing, receive and incorporate critiques, know what to prioritize when and how to manage time accordingly.

PRESENTATION SKILLS: Ability to provide a verbal (or written) argument/narrative for a design project.

STEWARDSHIP: Beginning understanding of architecture's role in contemporary society, addressing issues of economics, inclusion, and the environment.

Third Year: Rapid Maturity Through International Immersion

MINDSET: Be comfortable being uncomfortable. Ability to embrace getting lost, making mistakes, and not always knowing the answer in the pursuit of personal and academic growth.

STUDIO CULTURE: Ability to work in groups on design problems, especially at the urban scale; ability to work effectively in the communal studio setting; ability to complete work by assigned deadlines; ability to balance studio work with work from other courses both within and outside of the School of Architecture.

PRESENTATION SKILLS: Ability to create effective verbal presentations to accompany visual presentations; ability to defend work clearly and articulately to a jury of critics.

STEWARDSHIP: Thinking of diverse historic, cultural, and social contexts and backgrounds.

Fourth Year: Navigating Complex Design Problems & Finding One's Own Voice

MINDSET: Adopting the mindset needed as an architect; feeling comfortable in the process, understanding that the design process is about trying ideas, changing things, constantly adapting to the needs of the client, site, culture, etc. (not being afraid to make changes; being adaptable and flexible when problem solving). Beginning to develop a personal "thesis" of architecture that guides their design decisions and will be explored through their fifth-year thesis project.

STUDIO CULTURE: Knowing one's own personal design process and preferred way to work, yet still being adaptable within projects to work collaboratively with others, work in a way suggested by their professors or peers (i.e., remaining flexible and engaged in learning while beginning to pin down how they like to work through the design process).

PRESENTATION SKILLS: Ability to effectively present design ideas, individually and as part of a group, to a jury of critics through a variety of presentation media; presentations begin to be more about narrative than solely design choices.

STEWARDSHIP: Ability to discuss larger ideas about the role of architecture in the world, engaging not just in design abstractly, but beginning to think about what our responsibility as architects entails.

Fifth Year: Culmination & Integration of Architectural Education

MINDSET: Exploration and development of a personal thesis of architecture that guides design decisions. Conversion of the academic mindset into a professional mindset.

STUDIO CULTURE: Draw from a range of sources (ability to apply the lessons learned outside of studio to their creative design projects. This includes lessons from other classes, studio travel, and their own individual experiences) and provide critical assessment of own work (ability to critique and review one's own work to identify necessary adjustments).

PRESENTATION SKILLS: Advanced ability to effectively present design ideas and respond to critique, both individually and in groups, to a jury of critics through a variety of presentation media. Presentations contain a strong narrative.

STEWARDSHIP: Understanding one's own role as a global and local citizen, both personally and professionally.

GRAPHIC SKILLS

First the architect learns to draw, then they draw to learn. The graphics sequence in our curriculum places an emphasis on hand drawings and watercolor renderings. Hand drawing allows students to align the level of detail they are resolving to the project stage. For instance, designing by hand allows early schematic drawings to focus on composition and programming without worrying about detailing cornices or exact sizes of elements. Additionally, physically drawing a line on a piece of paper forces the architect to be intentional about every decision. Hand drawing skills enhance the student's ability to fully utilize digital tools in the later years of the program.

First Year: Introduction to Graphics

Foundational introduction to architectural graphic skills leading to a basic understanding of hand drawing, technical drawing, presentation drawing, and graphic integration. No graphic skills are necessary when entering this sequence.

HAND DRAWING SKILLS

- **Line Weight:** How to use line weight effectively.
- **Sketching:** Intro to site sketching/measured drawing—how to use a sketchbook (mostly for the creation of plans/sections and basic massing in perspective).

TECHNICAL DRAWING SKILLS

- **Descriptive Geometry:** Construction of basic descriptive geometry.
- **Orthographic Drawing:** How to draw a plan, section, elevation, and roof plan.
- **Measured Drawings:** Introduction to measuring basic objects and translating to a scaled drawing.

PRESENTATION DRAWING SKILLS

- **Three-Dimensional Representation:** Experience with 3-D drawing, sketched and drafted, in axon and perspective.
- **Shade & Shadow:** How to construct shades/shadows (Notes: Shadow casting—the relentless 45—understand application to simple forms and how a combination of simple forms creates the complex construction; understand how a 45-degree ray light from a window in section represents neither a shade nor a shadow).
- **Color:** Understand basic color theory, color mixing, and tones.
- **Rendering:** Basic principles of watercolor rendering, as well as other mediums; free-form and formal rendering with mono ink wash and limited and full palettes.
- **Presentation Composition:** Introduction to arrangement of plates, including basic lettering, borders, and composition of image(s) on the page.

Second Year: Basic Understanding of Graphics

Ability to use graphic skills as part of the design process to develop concepts as well as to graphically represent design intent. Content provided as part of Design Studio.

HAND DRAWING SKILLS

- **Sketching:** Use of sketchbook for studying and recording architectural elements and spaces.
- **Process Drawing:** Ability to produce quick study sketches and analytical drawings of precedent and design concepts.

TECHNICAL DRAWING SKILLS

- **Orthographic Drawing:** Proficiency at drawing a plan, section, elevation, roof plan, site plan, wall section, bay study, and urban plan.
- **Measured Drawings:** Advanced measuring of objects and translating to a scaled drawing.
- **Digital Skills:** Basic ability to scale and print site plans and base materials, as well as the basic ability to scan drawings; basic understanding of the appropriate uses for different programs such as SketchUp and Photoshop.

PRESENTATION DRAWING SKILLS

- **Three-Dimensional Representation:** Able to construct axonometric drawings, as well as one-point and two-point perspectives.
- **Shade & Shadow:** Basic understanding of the process of shade and shadow-casting.
- **Presentation Drawings:** Basic proficiency in watercolor rendering, pencil sketching, shades/shadows, color theory, and lettering, as well as the composition of presentation. Basic digital graphic skills (scanning, scaling, printing, and presenting).
- **Presentation Composition:** Basic proficiency in the arrangement of plates, including basic lettering, borders, and arrangement of images on the page.

GRAPHIC INTEGRATION: Basic ability to navigate the balance between hand and computer graphics.

Third Year: Proficiency in Graphics

Advancing ability to communicate graphically as part of the design process and in the representation of design concepts, with special emphasis on use of sketchbook for analysis and drawing in situ. Content provided as part of Design Studio and dedicated courses.

HAND DRAWING SKILLS

- **Sketching:** Competent in freehand drawing to scale, sketching, and drafting; discipline of the sketchbook as part of the architect's mode of study.
- **Process Drawing:** Advanced ability to produce quick study sketches and analytical drawings of precedent and design concepts.
- **Watercolor:** Watercolor painting, particularly in situ.

TECHNICAL DRAWING SKILLS

- **Orthographic Drawing:** Students should know how to accurately read and create a plan, section, and elevation of a site, building, or other design element so that each drawing complements the others. This skill should be mastered at this point.
- **Measured Drawings:** Advanced measuring of in situ places and translating to a scaled drawing.
- **Digital Skills:** Intermediate ability to scale and print site plans and base materials, as well as intermediate ability to scan drawings; increased understanding of appropriate uses of graphics tools.

PRESENTATION DRAWING SKILLS

- **Three-Dimensional Representation:** Students should be familiar with the process of constructing a perspective drawing of a site, building, or other design element. Mastery is not expected at this point.
- **Shade & Shadow:** Intermediate proficiency in the process of shade and shadow-casting.
- **Presentation Drawings:** Ability to create presentation-quality drawings with pencil and watercolor. While mastery of this skill is not expected, students should have achieved a basic level of competence with this skill so that they can clearly illustrate their original design concepts. Intermediate digital graphic skills (scanning, scaling, printing, and presenting).
- **Presentation Composition:** Proficiency in the arrangement of plates, including basic lettering, borders, and arrangement of images on the page.

GRAPHIC INTEGRATION: Intermediate ability to navigate the balance between hand and computer graphics.

Fourth Year: Advanced Proficiency in Graphics

Highly proficient overall graphic skills with advancing ability to integrate between hand and computer graphics. Content provided as part of Design Studio and dedicated courses.

HAND DRAWING SKILLS

- **Sketching:** Confident in freehand drawing to scale, sketching, and drafting, particularly as a design tool.
- **Process Drawing:** Highest proficiency in producing quick study sketches and analytical drawings of precedent and design concepts.

TECHNICAL DRAWING SKILLS

- **Orthographic Drawing & Measured Drawings:** Mastery expected.
- **Digital Skills:** Students should have a solid understanding of the digital means of conveying graphics information. Mastery of these is not expected, but students are encouraged to explore these tools for design development.

PRESENTATION DRAWING SKILLS

- **Three-Dimensional Representation:** Sketch and construct perspective as a design tool with a high degree of skill. Introduction to model making as a study tool and a means of presentation.
- **Shade & Shadow:** Advanced understanding of the process of shade and shadow-casting is expected by the end of the fourth year.
- **Presentation Drawings:** By the end of the fourth year, students should be able to create a graphic presentation of their work that accurately, completely, and compellingly illustrates their design concepts.
- **Presentation Composition:** Advanced proficiency in graphic composition of work, including coordination between plates, especially when mixing hand and computer graphics.

GRAPHIC INTEGRATION: Advanced ability to navigate the balance between hand and computer graphics.

Fifth Year: High Proficiency in Graphics

High proficiency in graphic skills with full integration between hand and digital media.

HAND DRAWING SKILLS

- **Sketching:** Mastery in freehand drawing to scale, sketching, and drafting. Sketching as a design tool is expected.
- **Process Drawing:** Mastery in producing quick study sketches and analytical drawings of precedent and design concepts. Sketch analysis includes both micro and macro scale.

TECHNICAL DRAWING SKILLS

- **Orthographic Drawing & Measured Drawings:** Mastery expected.
- **Digital Skills:** Mastery of digital skills at least on a 2-D level. Introduction of digital skills for studio work may depend on the visual goals chosen by each student for their thesis. 3-D modeling of details and topographic maps is expected.

PRESENTATION DRAWING SKILLS

- **Three-Dimensional Representation:** Sketch and construct perspective as a design tool with a mastery degree of skill. Drafting of perspectives and sectional perspectives is expected. Introduction to model making as a study tool and a means of presentation. The approach applies for both physical and digital model making (such as 3-D printing and/or laser cutting).
- **Shade & Shadow:** Mastery in casting shades and shadows on 2-D and 3-D drawings.
- **Presentation Drawings:** Full integration between traditional and digital presentations. Regardless of the graphics students may choose for their thesis, they need to have at least basic knowledge in the composition of digital presentations (2-D and 3-D animations, digital renders).

GRAPHIC INTEGRATION: Advanced ability to navigate the balance between hand and computer graphics.

HISTORY & THEORY

History informs our future. Theory informs our reality. Our curriculum is distinctive in that history and theory are taught not as isolated courses that only look back in time. Rather, this sequence of courses studies what has come before in order to draw inspiration for how to build a better future. The history and theory courses offered in our program are directly referenced in Design Studio.

First Year: Introduction to Global Architectural History & Theory

Foundational introduction to the global history of architecture and urbanism, from prehistoric times to the present day. Ability to understand major historical trends, regional traditions, and critical ideas, as well as mastery of basic architectural terminology and formal languages. The course title is Global Architectural History and Theory.

HISTORY

- Broad overview of the history of architecture and urbanism throughout the world from antiquity to the present day.
- Verbal articulation of the primary sources, explicitly understand words as the translation of primary visual sources; ability to read visual information and translate that information into words in order to lead one's own work (Satisfactorily responding to the request, "Explain to me how this works").

THEORY

- Examples, through the whole history of architecture and urbanism, of ways that builders of the past solved the problem of construction in response human needs and the environment, according to the very different places of the world.
- Distinguish between methodology and theory.

Second Year: Basic Understanding of Visual & Textual Analysis

Cultivating deeper familiarity with the global history and theory of architecture and urbanism from antiquity to the later Middle Ages. Basic understanding of primary sources and select secondary scholarship. Acquiring a nuanced understanding of the relationship between the history of form and the history of ideas. Courses include History of Architecture I & II: Ancient Architecture through the Global Middle Ages.

HISTORY

- From Prehistory to the Fall of Rome: Understanding of the notions of Prehistoric Mediterranean architecture (Egyptian, Mycenaean). Knowledge of the development of Greek, Etruscan, and Roman architecture and urbanism. Introduction to architecture of the Early Christian, Byzantine, Romanesque, Early Gothic, High Gothic and Rayonnant, Carolingian and Viking periods.
- Introduction to the Italian Renaissance (Fall of Rome to 1400/1500): Introduction to architecture of the Early Christian, Byzantine, Romanesque, Early Gothic, High Gothic and Rayonnant, Carolingian and Viking periods.

THEORY (TAUGHT WITHIN HISTORY COURSES)

- From Prehistory to the Fall of Rome: Concentrated theory section on Vitruvius. Introduction to the foundations of classical architectural theory and design methodology through ancient writings (Euclidean optics and optical refinements; Hippodamus, Plato, Aristotle, and Urban organization; Vitruvius's De Architectura and its reception). Introduction to a range of theories of urbanism and architecture.

- Introduction to the Italian Renaissance (Fall of Rome to 1400/1500): Concentrated theory section on Alberti. Studies of urban sociology through history.

Third Year: Proficiency in Understanding History & Theory in Context

Develop a contextual understanding of the history of architecture and urbanism with an emphasis on site study in Italy and a European context. Advanced visual and formal analysis coupled with advanced historical criticism. Develop the connections between the history/theory curriculum and design studio work.

HISTORY OF ARCHITECTURE III & IV: ROMAN ARCHITECTURE 1400–TODAY

- History: The history of the architecture of Rome from the Renaissance to present, with an emphasis on the early nineteenth century.
- Theory (taught within history courses): Introduction to key primary textual sources in conjunction with on-site study.
- Roman Urbanism & Architecture I & II

HISTORY/THEORY

- Urban development of Rome from the beginning through late antiquity, and from the Middle Ages to the present.
- History of urbanism from the Renaissance to the present.
- Understanding architecture, typology, and building methods in ancient Greece and Rome.
- Understanding the holistic history of the buildings and districts of modern Rome, including building techniques, real estate, urban sociology, economy, history of the policies of development, sustainability, etc.

Fourth Year: Advanced Proficiency in Research & Analysis

Develop a nuanced understanding of the history of American architecture and urbanism, and current debates shaping the profession. Ability to independently carry out substantial historical research on a topic of choice. Content provided through Design Studio in current sequence and, eventually, perhaps in a new Theory course.

HISTORY

- History of the origins of American architecture and urbanism explored through Design Studio.

THEORY

- Explore creating a new required Advanced Architectural Theory course in the spring of the fourth year. Ideally offer three options so students can pursue areas of interest. Space would be made for this course by removing one semester of Italian from second year and shifting a University philosophy requirement (currently in the second semester of the fourth year) into the first semester of the second year.

Fifth Year: High Proficiency in Research & Analysis

Demonstrate the internalization of formal and theoretical precedents. Ability to discuss thesis project in relation to history. Content provided through Design Studio, Thesis, and Professional Practice.

LIBRARY SKILLS

Research is the cornerstone of a precedent-based architectural education. Our curriculum draws on the extraordinary resources available in the School's Architecture Library to educate students in how to conduct independent research. These skills support academic work throughout the five years of this program and beyond, as students become professionals.

First Year: Introduction to Resources

Introduction to the library collections and makerspace to create basic familiarity with resources and introduction to research skills. Content provided as part of the proposed new Introduction to Architecture Course or new History course.

Second Year: Basic Research Skills

Ability to navigate the library and online resources to research a topic, find precedent, and correctly cite sources. Content provided as part of Design Studio.

Third Year: Intermediate Research Skills

Use of library and online resources to research history and precedent. Content provided as part of Design Studio.

Fourth Year: Advanced Research Skills

Confidently approaching the process of finding precedent, researching for design projects, and learning to explore complex topics and finding images in articles. Content provided as part of Design Studio.

Fifth Year: High Proficiency in Research Skills

Ability to conduct independent targeted research specifically in support of thesis project. Content provided as part of Pre-Design and Design Studio.

TECHNOLOGY

Without a technical literacy, architectural design would be unbuildable art. Instead, our curriculum emphasizes educating students to understand new and time-tested materials and methods, the relationship between structure and built form, and how a range of practical requirements integrate with design vision to create to well-rounded projects.

Second Year: Introduction to Building Tech & Structures

Introduction to materials and methods and how they translate into built form, as well as basic understanding of how forces act on structures.

BUILDING TECHNOLOGY

- **Foundational Knowledge:** Recognize the connection between traditional materials (stone, brick, wood, metal) and architectural forms. Recognize the typical components of a building's structural system. Understand principles and rules of thumb that guide their use in architectural design.
- **Abilities:** Draw in plan, section, and elevation prototypical examples of building elements for walls, roofs, openings, and related details as made from traditional materials. Conceptualize and draw a wall section and corresponding bay elevation. Make informed decisions regarding the selection, design, and representation of materials and architectural forms in design studio projects.

STRUCTURAL MECHANICS & SYSTEMS

- **Structural Systems:** Basic understanding of how forces act on structural systems, including: ability to evaluate statically determinate systems using equations of equilibrium; ability to determine shear and moment diagrams for bending members; ability to determine compression and tension forces for truss members.
- **Structural Member Behavior:** Basic understanding of influence of geometric properties (e.g., cross-sectional area, section modulus, moment of inertia) on stress, strain, and deflection for axial and bending members. Basic understanding of influence of material properties (e.g., elastic, plastic, yielding, rupture, modulus of elasticity) on stress, strain, and deflection for axial and bending members.
- **Introduction to Structural Loads:** Understanding common sources of structural loads (both gravity and lateral loads). Recognizing load paths within a structural system for various structural elements (e.g., beams, columns, trusses, frames, arches, vaults, domes, and connections).

Third Year: Proficiency in Technical Abilities

Basic ability to recognize the relationship between structure and building form, enhanced ability to draw a building assembly, and continued understanding of building codes. Content provided as part of Design Studio.

Fourth Year: Advanced Technical Abilities

Exploration of site analysis, foundations, and contemporary material and methods; advanced understanding of how forces act on structures with a focus on timber, steel, and reinforced concrete; and basic environmental systems.

BUILDING TECHNOLOGY

Advanced exploration of materials and methods and how they translate into built form.

- **Foundational Knowledge:** Exploration of soils, site topography, and foundations, as well as contemporary material and methods; understand the detailed requirements of design and construction of concrete, masonry, wood, and steel structures. understand how parts of a building envelope system interact in structural frames and curtain walls; understand the principles and practices of thermal and moisture protection; understand the basics of fire-resistive construction and interior finish materials; familiarity with the organization of architectural product specification.
- **Skills:** Ability to communicate with land surveyors, soil and foundation engineers, and building officials; ability to understand and produce basic construction illustrations; ability to integrate various building systems into a completed building; ability to communicate intelligently with engineers, construction personnel, and building code officials.

STRUCTURAL MECHANICS & SYSTEMS

- **Structural Loads & Load Paths:** Advanced understanding. Ability to determine structural loads using ASCE-7 (both gravity and lateral loads), ability to develop structural layouts for buildings that includes the determination of preliminary size and locations for all structural members (e.g., beams, girders, columns, walls, slabs).
- **Structural Design for Wood Structures:** Design and analysis of flexural members for bending, shear, and deflection; design and analysis of axial members for compression and tension; design and analysis of simple bolted and nailed connections.
- **Structural Design for Steel Structures:** Design and analysis of flexural members for bending, shear, and deflection; design and analysis of axial members for compression and tension; design and analysis of simple bolted and welded connections.
- **Structural Design for Reinforced Concrete Structures:** Ability to recognize elements of the concrete production process, including concrete ingredients, mix design, casting, and material testing; design and analysis of flexural members for bending, shear, and deflection; design and analysis of axial members for compression; determination of reinforcement detailing requirements for structural members.

ENVIRONMENTAL SYSTEMS

- **Relationship between Climate and Design—Sustainable Design Process:** Apply environmental systems thinking to architectural design process. Integration of building systems in building design and construction.
- **Design of Active and Passive Systems for Buildings—Thermal Control:** Building system design and service planning; heat loss and gain, solar energy, heat, conduction, and psychrometrics; air exchange effects and air quality; heat loss and gain analysis; HVAC systems, including air flow, duct layout, equipment, and system configuration.

- **Water, Waste, and Fire Protection—Egress and Accessibility:** Plumbing utilities, water supply, drainage, and waste; fire safety, egress, and accessibility.

Fifth Year: Integrated Technical Design

Integration of building technologies, structural mechanics, and environmental systems into a comprehensive design project.

ENVIRONMENTAL SYSTEMS: Understanding of and ability to integrate acoustics, illumination, electrical, and specialized building systems.

- **Acoustics:** Understanding of the physics and physiology of acoustics as it relates to architectural settings. Integration of acoustic space design and sound isolation between spaces.
- **Illumination:** Introduction to the psychology and neurophysiology of human vision. Understanding the principles of illumination measurement and lighting parameters, including color, contrast, efficacy, and miscellaneous considerations.
- **Electrical:** Understanding the principles of electricity and electric installations in urban and architectural environments. Integration of electrical infrastructure in communities and buildings.
- **Specialized Building Systems:** Introduction to the details of alternate solar, wind, and power storage systems; introduction to signal and communication systems; integration of vertical and horizontal transportation systems in buildings.

INTEGRATED DESIGN: Integration of building technologies, structural mechanics, and environmental systems into a comprehensive design project.

DESIGN STUDIO

Design Studio is the heart of our program. All components of the curriculum—graphic skills, history/theory, library skills, and technology—integrate in this course. The sequence starts by teaching both the language of architecture as well as the fundamentals of the design process. Each project throughout the five years builds in complexity as students explore how to develop a design vision that balances context, scale, and composition with technical requirements as well as an awareness of how their work will contribute to society. Studio projects include architectural, urban, and landscape design projects at a range of scales that are designed to meet the needs of today while adapting to the challenges of tomorrow.

Second Year: Introduction to Design

Introduction to the language of architecture and urbanism with a focus on building composition, fluency in the steps of the design process, and ability to design in plan, section, and elevation.

PURPOSE

- Study of buildings and cities, with a focus on buildings.
- Understand the role of architects in shaping an enduring, just, sustainable, and economically viable world for future generations.
- Ability to develop an appropriate response to physical and social contexts.

LANGUAGE—KNOWLEDGE

- **Vocabulary:** Introduction to the language of architecture, specifically the language of classical architecture, as an aesthetic and tectonic system. This includes an introduction to a spectrum of expression from classical to vernacular; understanding of building types; understanding of basic architectural forms (such as vaults and domes) and materials from a graphic, volumetric, and basic tectonic standpoint; introduction to the elements of urbanism.
- **Grammar:** Introduction to the language, principles, and techniques of architectural and urban composition (e.g., unity, hierarchy, emphasis, scale, character, decorum, symmetry, rhythm).
- **Precedent:** Understanding how the study of historic precedent influences contemporary design.

COMPOSITION—SKILLS

- **Design Abilities:** Basic ability to visualize and design a building in plan, section, and elevation.
- **Design Strategies:** Basic understanding of the fundamental strategies/techniques for composing a building in plan, section, and elevation (e.g. axial alignment, use of poche).

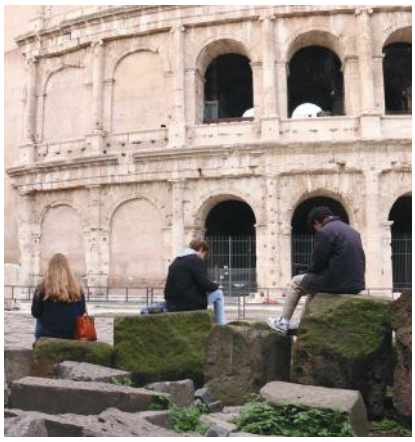
TECHNOLOGY

- **Building Materials:** Basic ability to recognize relationship and rules of thumb between structure and building form, with particular emphasis on spans and roof structure and hierarchy of walls (structural vs nonstructural).
- **Technical Drawing:** Ability to draw a building assembly (basic wall section). Knowledge of roof terminology and the principles of designing a simple roof system and its relation to the form of the floor plan.
- **Life Safety:** Introduction to the existence of building codes: accessibility, emergency egress, and vertical circulation (rise and run, landing depth and frequency, and how to visually depict a stair properly in plan).

PROCESS

- **Design Process:** Complete understanding of and ability to engage in all steps of the design process, including Pre-design (site analysis, precedent study, program, with a focus on precedent [ability to identify and attribute appropriate precedent sites/buildings for creative design work]; analysis [ability to identify and illustrate graphically the basic design principles that underlie their precedent sites/buildings: symmetry, rhythm, order, scale, sequence, etc.]; and the interface between Nature & the Man-Made World [knowledge of site and site conditions, and how environmental and climatic factors influence design]); Esquisse (initial parti, schematic design); Design development; and Final presentation.
- **Verbal Presentation Skills:** Ability to articulate and defend design solutions.
- **Typical Deliverables:** Site/urban plan, building plan, section, elevation, roof plan, bay study, wall section, and three-dimensional representation. Inclusion of context in elevations and first floor plans is encouraged.





Third Year: Design in Context

An immersive experience in Rome aims to develop a nuanced understanding of the variables and complexities of the language of classical architecture, focus on the elements of urbanism, and introduce designing in relation to landscape.

PURPOSE

- Experience a city/country whose history spans millennia and includes exemplars of most major periods of Western architectural history.
- Experience firsthand buildings, places, and techniques that otherwise would be learned secondhand.
- Experience living within a traditional city.

LANGUAGE—KNOWLEDGE

- **Vocabulary & Grammar:** Develop a nuanced understanding of the language of classical architecture, urban form, and their variables and complexities. This includes Reading Buildings (basic ability to read a building to understand the relationship between a building, its context, hierarchy of architectural elements, and composition; a conception and experience with the vernacular as well as the more formal architectural); Figure-Ground (understand a building's appropriate figural presence ranging from foreground to background; figure-ground studies and program diagramming); Elements of Urbanism (understanding streets, blocks, and squares; urban sequences and armature); Reading Cities (basic ability to read cities to design sensitively within different urban and rural contexts); Landscape: (introduction to designing architecture in relation to landscape); and Precedent (application of historic precedent for contemporary design, particularly through typology).

COMPOSITION—SKILLS

- **Design Ability:** Advancing ability to visualize and design a building in plan, section, and elevation.
- **Design Strategies:** Understanding of layered building composition, designing within context, hierarchy, and scale; deeper understanding of the building and urban parti—understanding what a parti is, how to create a parti, and how to use the parti as a reference point throughout the design process; understanding of hierarchy of space within an architectural volume; understanding of hierarchy of individual buildings within an urban environment.

TECHNOLOGY

- **Building Materials:** Basic ability to recognize relationship between structure and building form with particular emphasis on masonry and timber construction and vaulting.
- **Technical Drawings:** Enhanced ability to draw a building assembly—three-dimensional or cutaway wall assembly.
- **Life Safety:** Continued understanding of building codes, with exploration of the differences between Italian and US codes: passive heating and cooling; accessibility; emergency egress; vertical circulation (rise and run, landing depth and frequency).

PROCESS

- **Design Process:** Continued understanding and ability to engage all steps of the design process with specific emphasis on Pre-Design: Use of Precedent (ability to understand precedent not as images to copy but as ideas to incorporate into creative work); Pre-Design: Site/Precedent Analysis (ability to perform onsite documentation of a place, site, and context and apply an urban design project; design decisions based on analysis of site and compositional principles; and Interface between Nature & Man-Made World (integration of environmental and climatic factors into the design process.
- **Verbal Presentation Skills:** Enhanced ability to articulate and defend design solutions
- **Typical Deliverables:** Site/urban plan, building plan, section, elevation, roof plan, bay study, wall section, and three-dimensional representation. Inclusion of context in elevations and first floor plans is expected.

Fourth Year: Applied Design

Application of the classical language in multiple contexts—throughout the world and in the United States, application of user and regulatory requirements, expansion of pre-design abilities with an introduction to programming and an introduction to independent learning.

PURPOSE

- Application of classical and traditional languages in multiple contexts, throughout the world and in regions across the United States.
- Real-world design problems focusing on contemporary needs of critical and practical relevance.

LANGUAGE—KNOWLEDGE

- **Vocabulary & Grammar:** Advanced understanding of the language of classical architecture as applied in a range of settings: Non-Western Building Cultures (understanding of traditional languages in other building cultures); Modern Applications of Classical Architecture (application of classical and traditional architecture into contemporary building programs, uses, and technologies, across regional variations); Advanced Understanding of Classical Architecture (understanding key relationships, alignments, and profiles of the classical and traditional languages); Elements of Urbanism (continued exploration of the elements of urbanism and landscape); Precedent (continued application of historic precedent for contemporary design, particularly through typology and context).

COMPOSITION—SKILLS

- **Design Abilities:** Ability to create a unique design solution from a complex urban or architectural program.
- **Design Strategies:** Application of previously learned compositional skills for complex architectural programs and urban contexts. Sophisticated understanding of scale & massing, materials, & urban & architectural character, as well as the public realm and its relationship to buildings.

- **Site, Context & Culture:** Ability to create a design solution that is sympathetic to its context and inclusive of regional traditions, culture, materiality, etc., even if student has not personally visited the site under consideration. Understanding of diverse cultural and social contexts. Advanced understanding of the relationship between a building and its context. Understand the effects of a site and culture on architectural and urban compositions and be able to undertake a site analysis leading to design synthesis.

TECHNOLOGY

- **Building Materials:** Advanced understanding and application of contemporary building structural and envelope systems.
- **Technical Drawings:** Advanced ability to draw a wall section. Advanced ability to draw a complex roof plan and understand the relationship between roof plan, floor plan, and volume of the building.
- **Life Safety:** Advanced understanding, application, and ability to research user and regulatory requirements for building and zoning codes.
- **Integrated Design:** Introduction to the integration of sustainable systems and practices into buildings and communities.

PROCESS

- **Design Process:** Continued understanding of and ability to engage all steps of the design process, with introduction to programming (spring semester of fourth year). This includes Parti Studies (ability to do several architectural [spatial] partis at 1/8th scale, organized with a feel for the several types of poche—note the emphasis of several); Precedent (thorough knowledge of how to select, analyze, and apply appropriate precedent for sites/buildings; ability to identify significant architects worldwide by the end of the fourth year); and Interface between Nature & Man-Made World (introduction to measurable environmental impact of design decisions and the measurable outcome of building performance).
- **Verbal Presentation Skills:** Enhanced ability to articulate and defend design solutions—and develop one's own conception of architecture.

- **Typical Deliverables:** Students determine the drawings necessary to completely communicate their own projects, including but not limited to site/urban plan, building plan, section, elevation, roof plan, bay study, wall section, and three-dimensional representation. Inclusion of diagrams, precedent, and process as part of all presentations. Bay detail used as a design tool for elevations, included at the mid review. Inclusion of context in elevations and first floor plans is expected. Inclusion of digital slide presentations.

Fifth Year: Design Synthesis

Focus on transition from the academy to the profession with an emphasis on independent learning, synthesis of everything learned to date, and an elevated expectation of professionalism.

PURPOSE

- Integrative design, including all scales of design and technical aspects.
- Develop a personal point of view and explore individual learning.
- Final preparation to practice architecture professionally.

LANGUAGE AND COMPOSITION

- Ability to innovate within architectural and urban languages to solve contemporary building programs and uses.

TECHNOLOGY

- **Building Materials:** Advanced application of contemporary building structural and envelope systems.
- **Technical Drawings:** Advanced ability to draw a wall section. Advanced ability to draw a complex roof plan and understand the relationship between roof plan, floor plan, and volume of the building.
- **Life Safety:** Advanced application and ability to research user and regulatory requirements of building and zoning codes.
- **Integrated Design:** Integration of sustainable systems and practices into buildings and communities.

PROCESS

- **Design Process:** Advanced ability to engage all steps of the design process for the programming and completion of an architectural thesis. This includes a focus on the Interface between Nature & Man-Made World (ability to demonstrate measurable environmental impact of design decisions as well as the measurable outcome of building performance).
- **Verbal Presentation Skills:** Advanced ability to articulate and defend design solutions—and develop one's own conception of architecture.
- **Typical Deliverables:** Students determine the drawings necessary to completely communicate their own projects, including but not limited to site/urban plan, building plan, section, elevation, roof plan, bay study, wall section, and three-dimensional representation. Inclusion of diagrams, precedent, and process as part of all presentations. Bay detail used as a design tool for elevations, included at the mid review. Inclusion of context in elevations and first floor plans is expected. Inclusion of digital slide presentations. Illustration of integrated design.

NOTES FOR FIRST SEMESTER OF FIFTH YEAR

- Assign one semester-long project in preparation for thesis.
- Project choice and ability to develop complex project program is important in fall semester to prepare for spring thesis.

THE FURNITURE DESIGN PROGRAM

ROBERT BRANDT

In 1991, Thomas Gordon Smith, then chair of the architecture program at the University of Notre Dame, envisioned offering furniture design courses as electives with the hopes that one day furniture design would become a thriving part of the School of Architecture. He understood the rich traditions and parallels between the practice of architecture and furniture design, so he felt it essential that the two should be offered in tandem.

By 1997, the University recognized the Furniture Design Program as an official concentration: a four-semester sequence of courses that encourages students to practice the design and drawing skills they learned in their first two years of their programs, along with specialized skills required to build their designs.

The experience of designing an original object and then building that object enhances a student's ability to think three-dimensionally while drawing two-dimensionally. Today, the Ryan Companies Furniture Design Studio includes a fully functional workshop and state-of-the-art machine shop that allows students to engage in the lessons and concepts shared as common goals with the School of Architecture. Our curriculum reinforces the exploration of design theory and challenges students to solve the dilemmas associated with utilitarian aesthetics. As with successful works of architecture, furniture design addresses human scale, functional parameters, ergonomics, material, construction process, and elements of composition. All of these considerations must be developed and coordinated to result in a harmonious object of the highest integrity which meets a prescribed function.

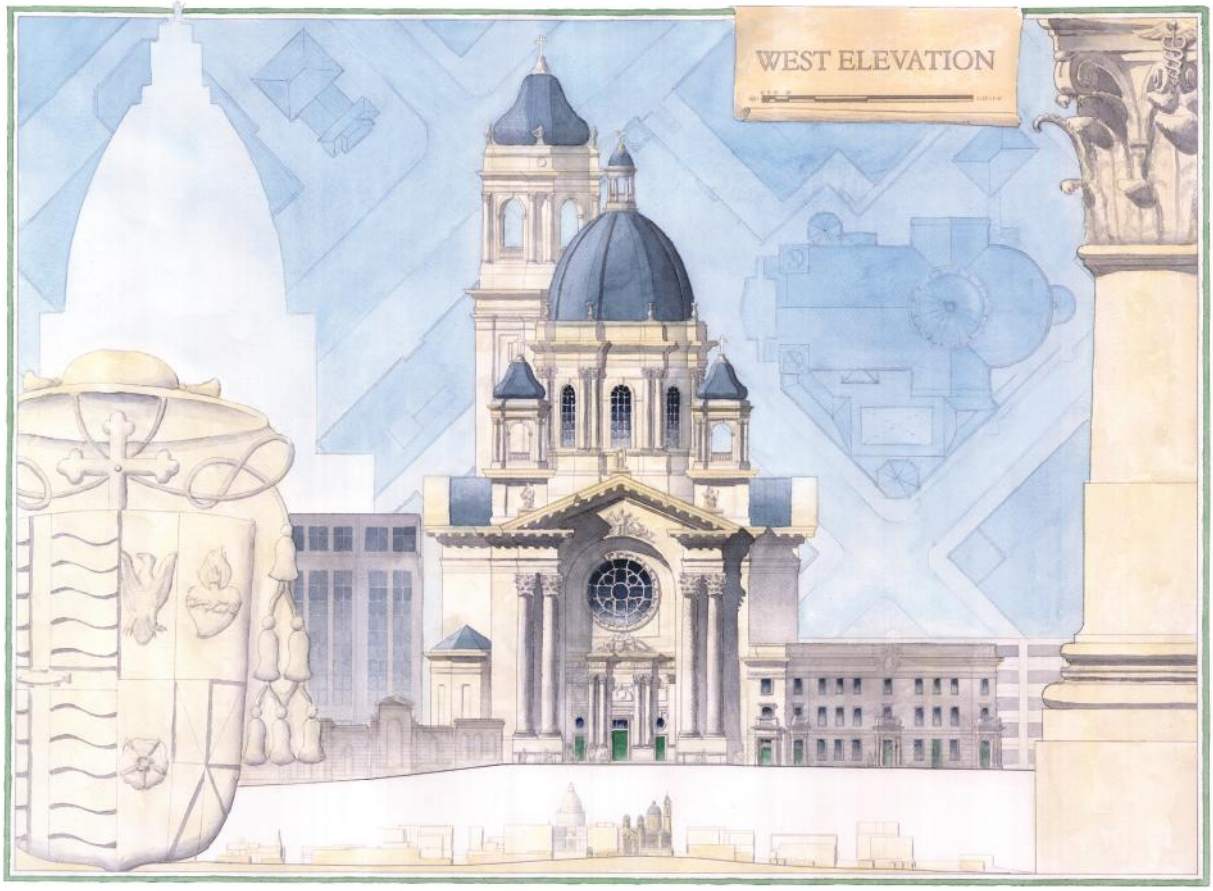
During the last 30 years, the work of many dedicated students has built the concentration into a top-tier program and one that is unique to the University of Notre Dame. Together, alumni and current students have created a unique institution with far-reaching contributions. The excellence exhibited each semester indicates the ability of our graduates to extend their mastery of furniture design and construction to the design of rooms, buildings, and the city as a whole.

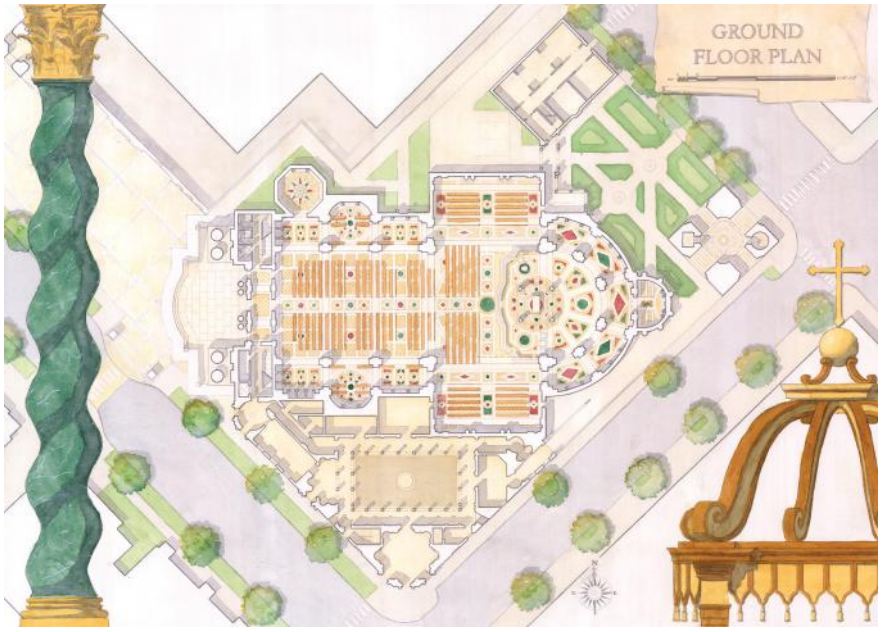
The Furniture Design Program continues to move forward with an ever-present determination toward exploration and improvement. It also continues to enhance the design experiences and the architecture education of the students at the Notre Dame School of Architecture.

Top, from left: Guy Crowley, Spring 2023; Johnny Maas, Spring 2002; Austin Proehl, Fall 2019.
Bottom: Jack Adams, Fall 2019; Jonathan Roberts, Fall 2022; Becky Sigman, Spring 2008; Sarah Ponko, Fall 2003.

Notable Undergraduate Student Work

Each academic year, faculty members and guest reviewers select the most outstanding student work to receive awards. At a ceremony at the end of the year, the dean presents the awards, all of which honor excellence within the program, from second-year through graduate level.

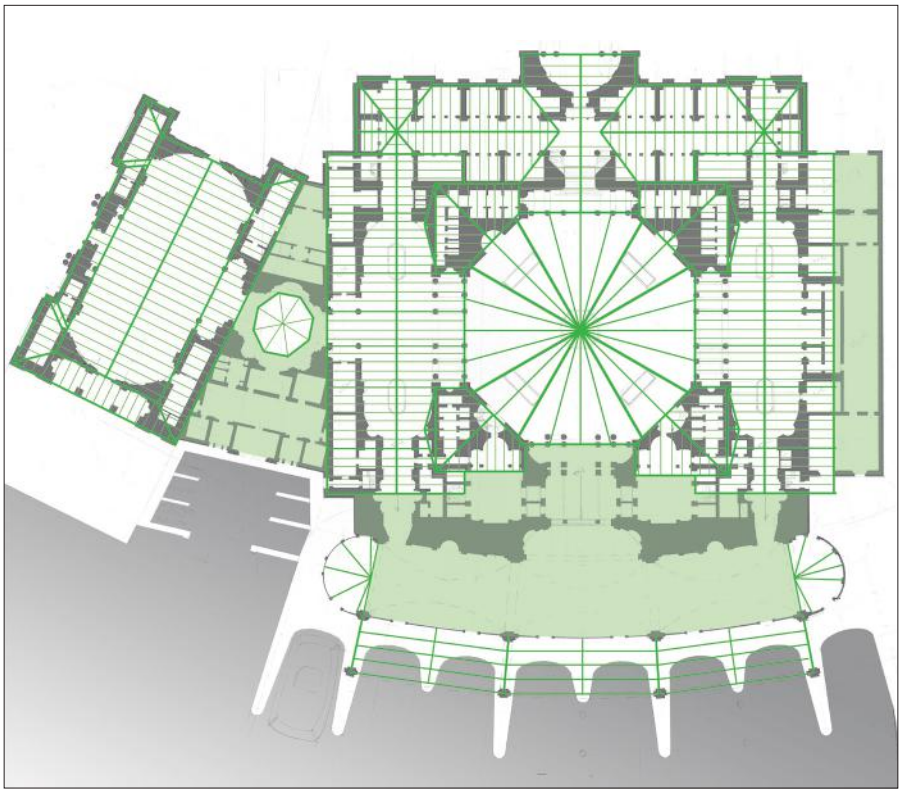




MICHAEL BURSCH

Ferguson & Shamamian Undergraduate Prize; Rambusch Prize, Undergraduate

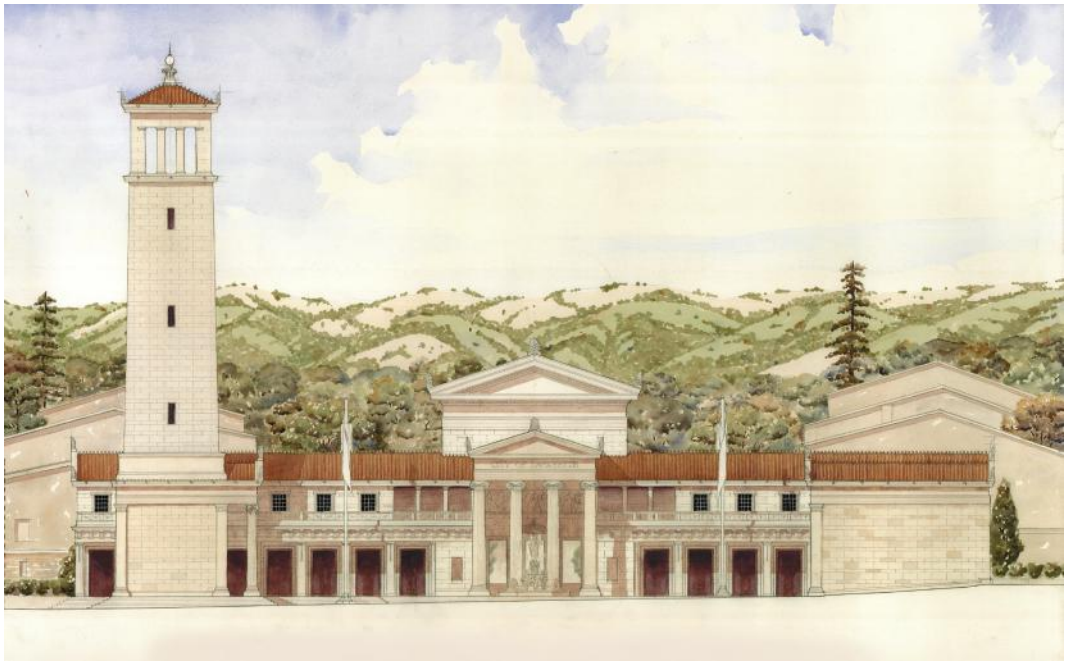
St. Raphael's Cathedral, Madison, Wisconsin
Professor Tiffany E. U. Abernathy. Spring 2022

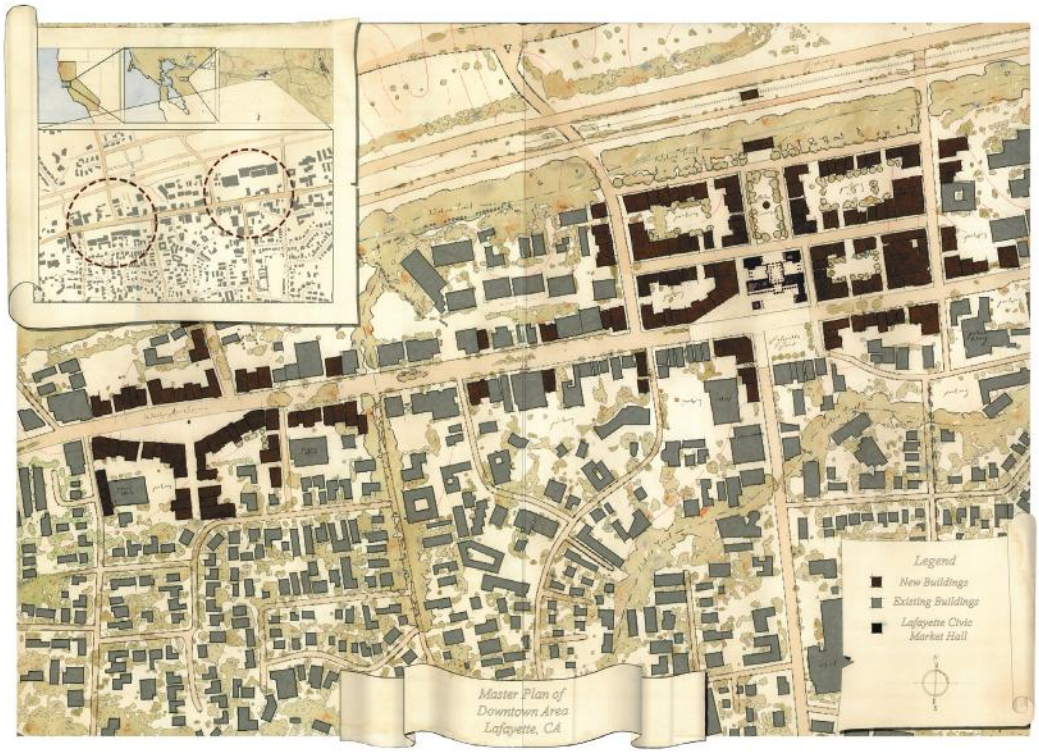


JOSEPH FACCIBENE

Paris, Rome, Athens Prize

The Battery Maritime Terminal, The Battery, New York City, 2021

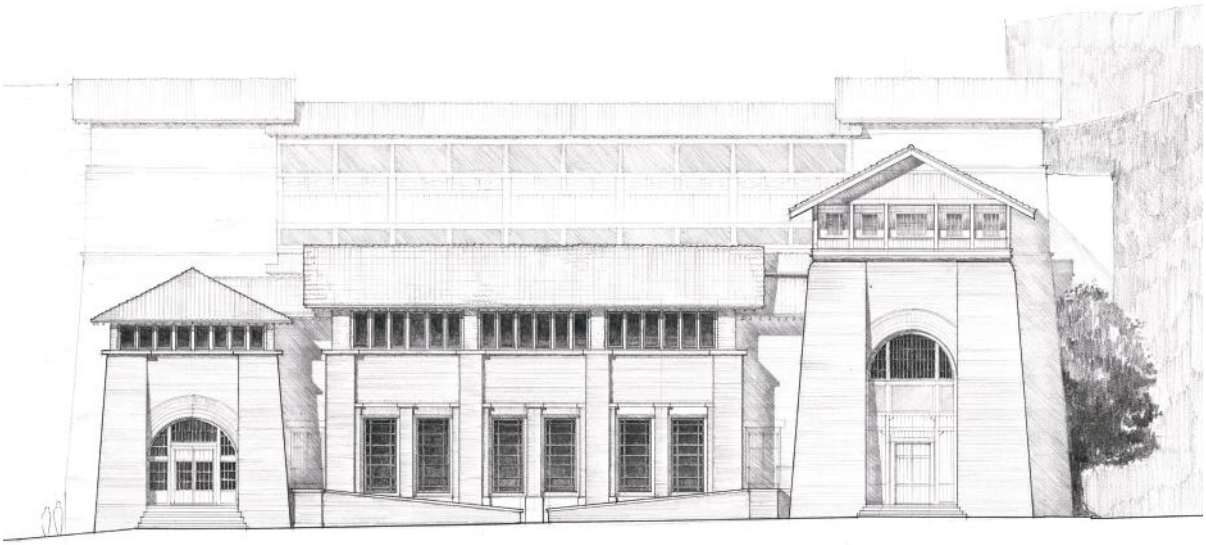




ALEXANDER PREUDHOMME

Andrew F. Kervick Award for Drawing; ICAA Chicago-Midwest Acanthus Award; Noel Blank Design Awards

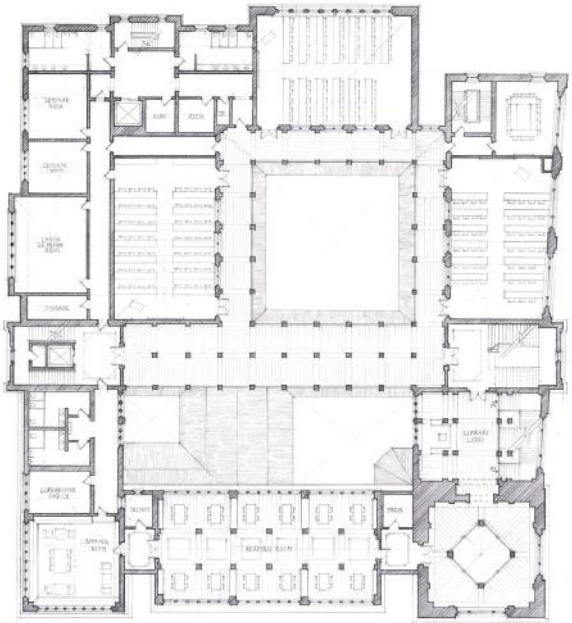
Masterplan for Lafayette Civic Market Hall, California, 2018

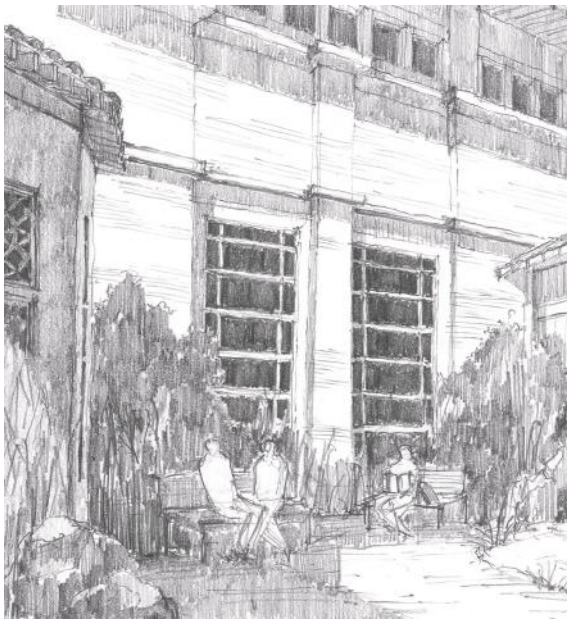


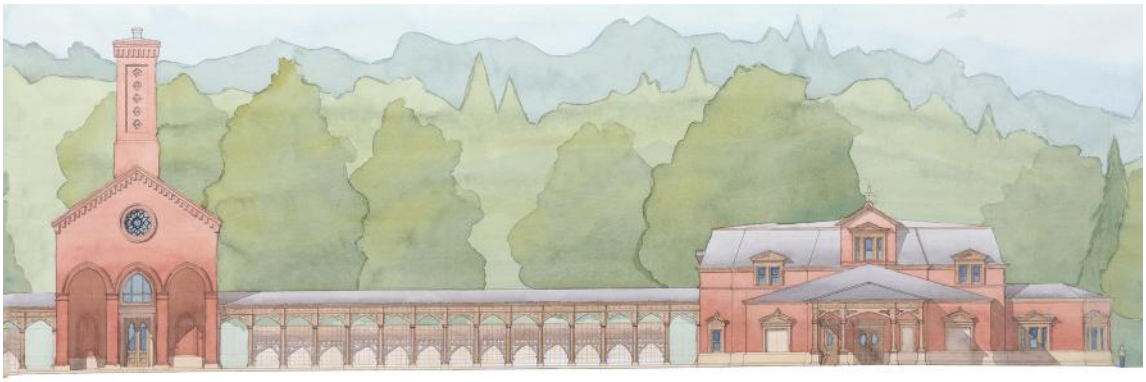
NAYUN HONG

Michael and Julie Hanahan Architecture Prize; Noel Blank Design Awards; Tau Sigma Delta Bronze Medal

Asian American Research and Resource Center at the
University of California, Berkeley. Professor Tiffany E. U. Abernathy, 2022







STEPHANIE KUBUS

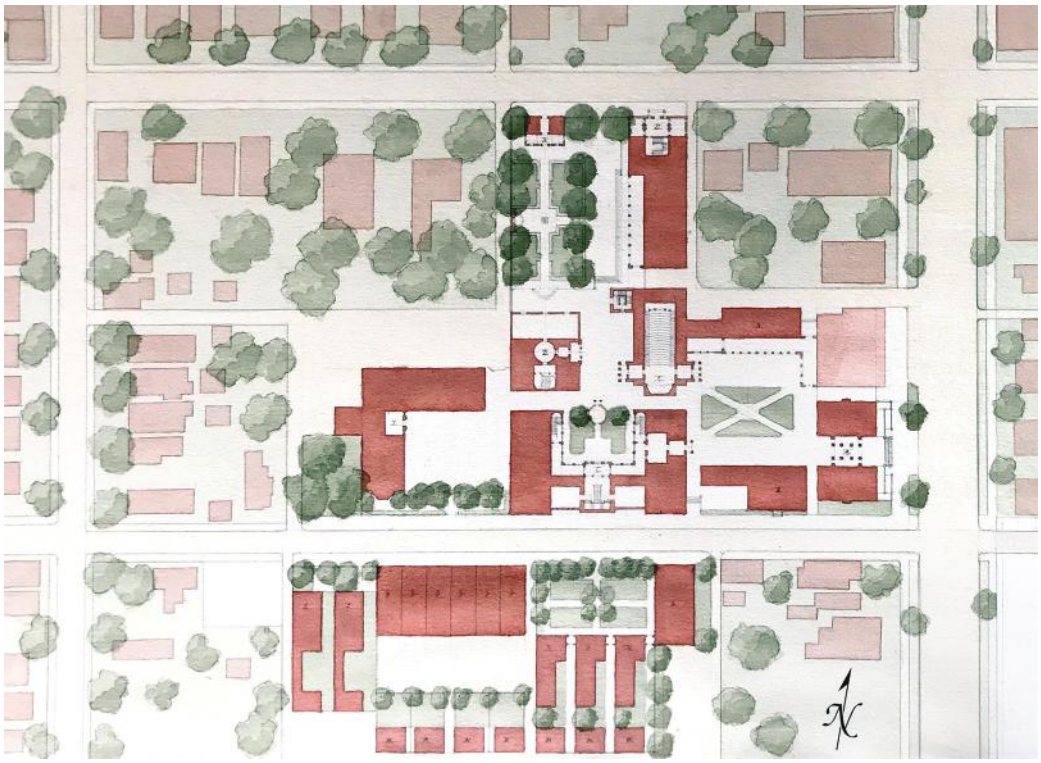
Henry Adams for Undergraduates Award; Honorable Mention Award for Design Excellence in Architecture, Jury's Choice (Undergraduate); the Rambusch Prize

Latrobe Funerary Complex in Labtrobe, Pennsylvania, Professor Samir Younés, 2020

JUAN ESTEBAN SALAZAR

Dean's Undergraduate Award for Design Excellence in Architecture

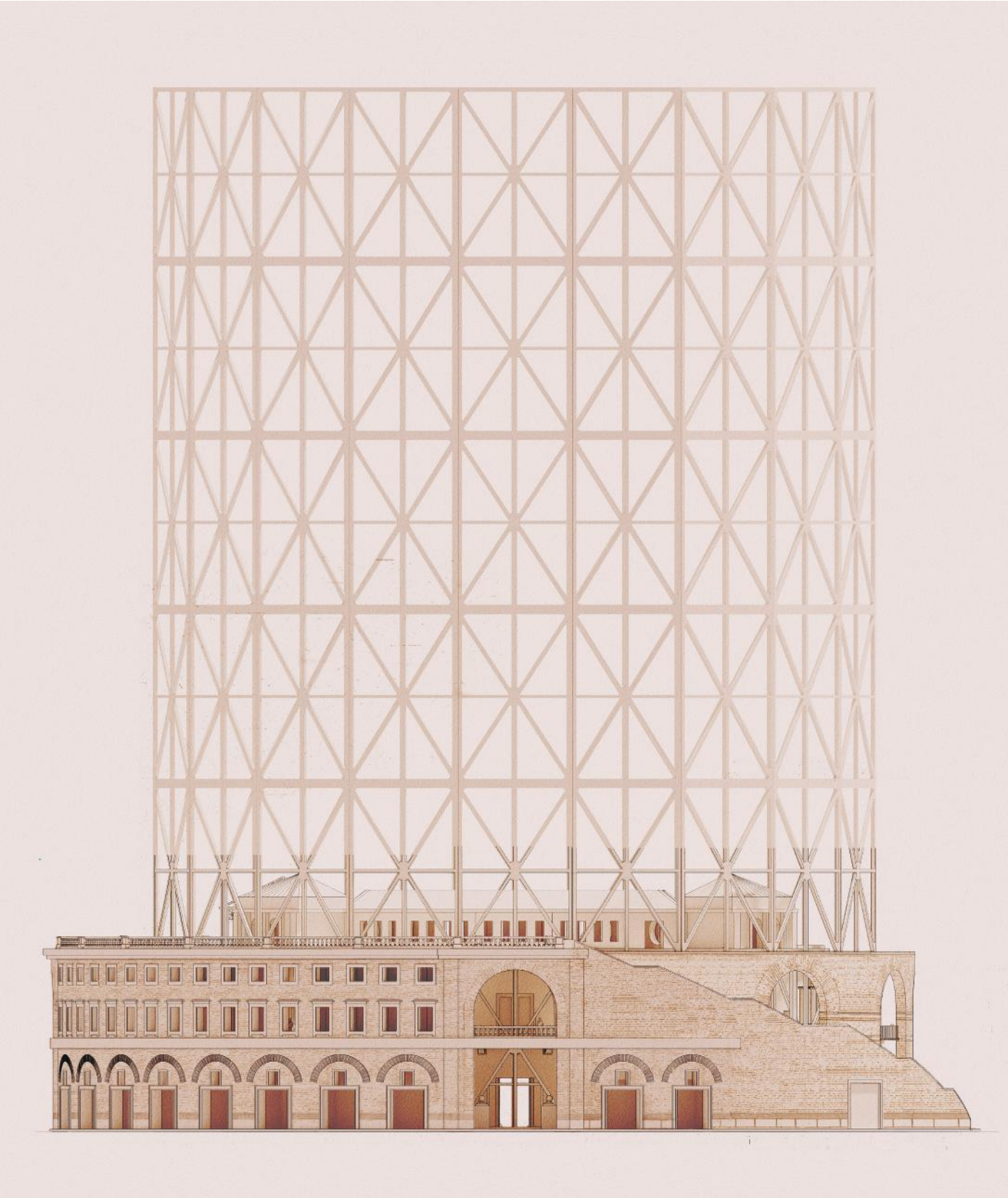
New England Coastal Hotel, Mystic, Connecticut
Professor Duncan Stroik, 2021

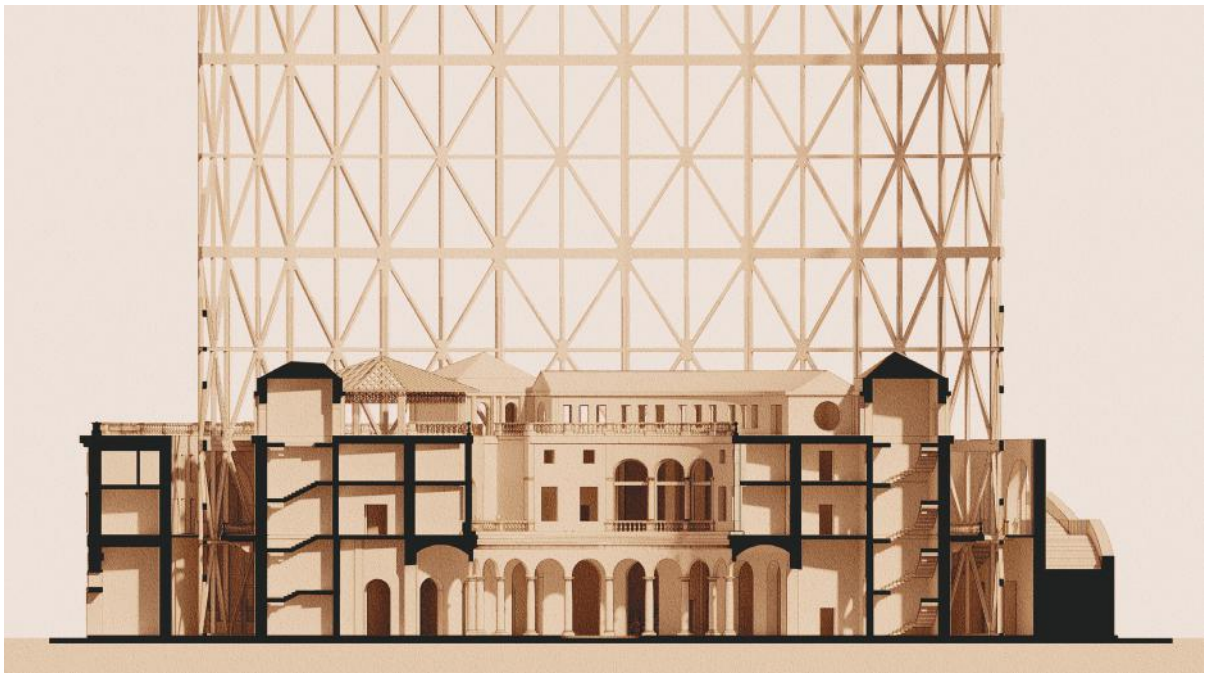


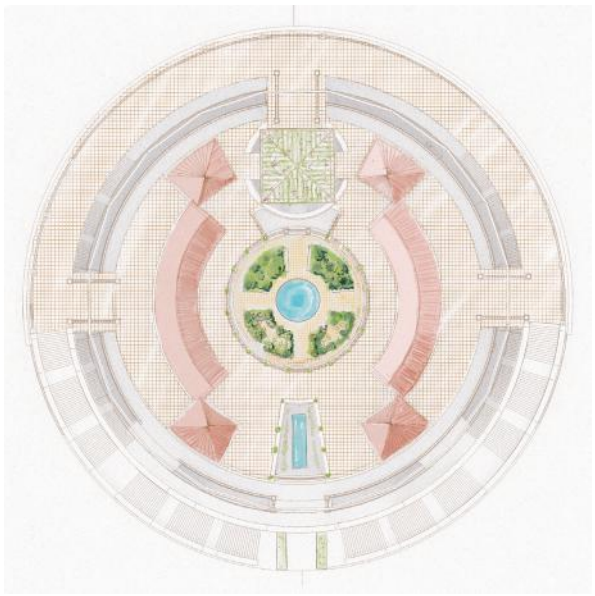
AUSTIN PROEHL

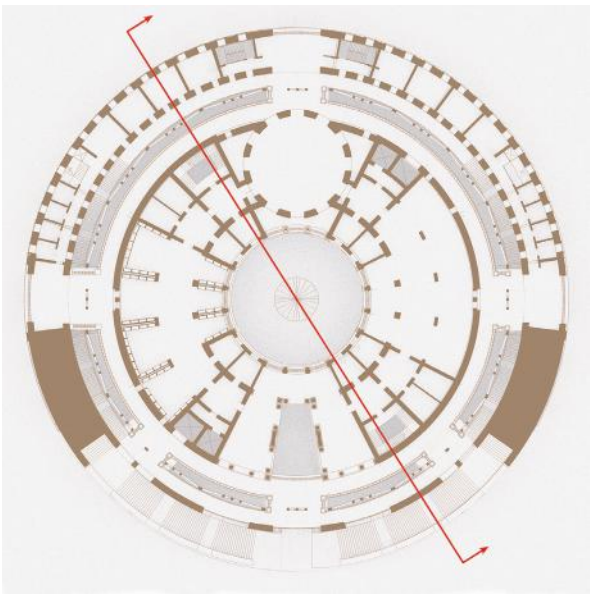
Ferguson & Shamamian Undergraduate Prize; Noel Blank Design Awards

Chillicothe Academy of Building Arts, Chillicothe, Ohio
Professor Samir Younes, 2020









SAMANTA (XIAOYUN) ZHUANG

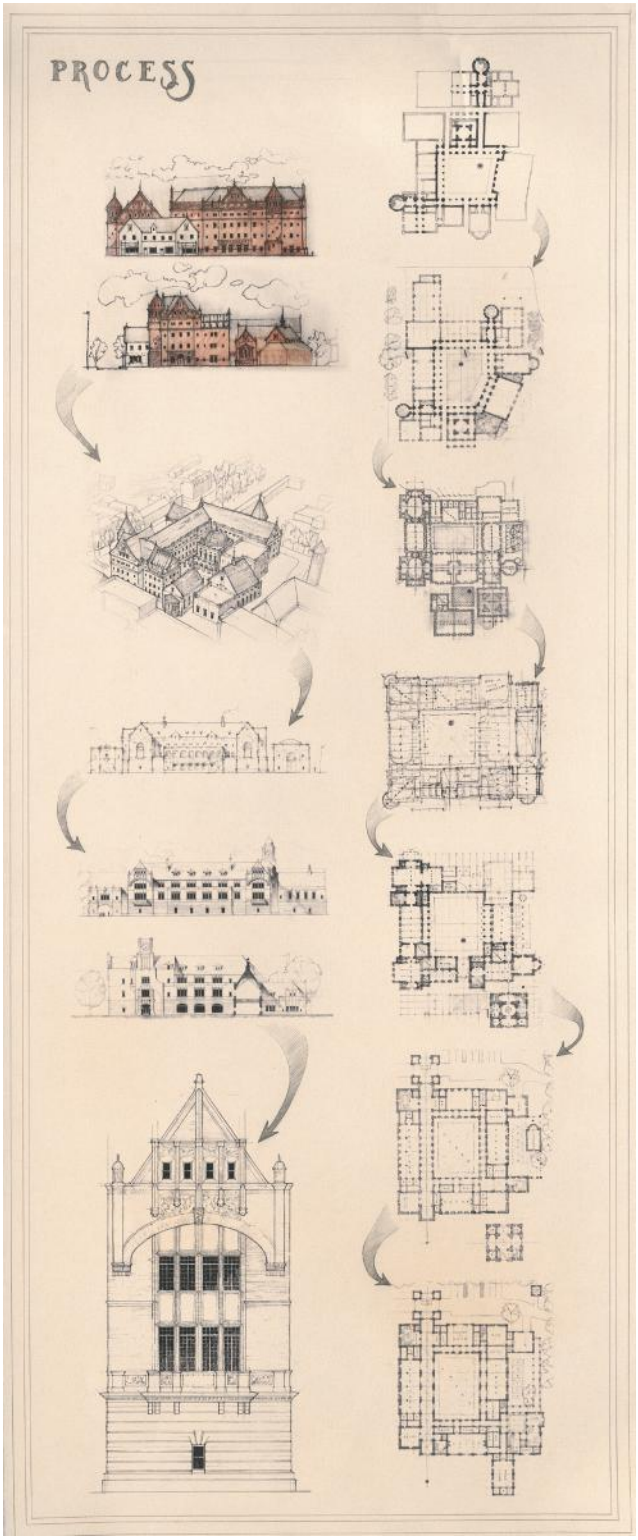
Alpha Rho Chi Medal; Ralph Thomas Sollitt Award

L'Accademia Gazometro dell'Arte Gastronomica
Professor Duncan Stroik, 2021

SHARON YEHNERT

Andrew F. Kervick Award for Drawing; Michael and Julie Hanahan Architecture Prize; Noel Blank Design Awards; Tau Sigma Delta Bronze Medal

Belfast City Hospital Oncological Rehabilitation, Maggie's Center
Professor Tiffany E. U. Abernathy, 2023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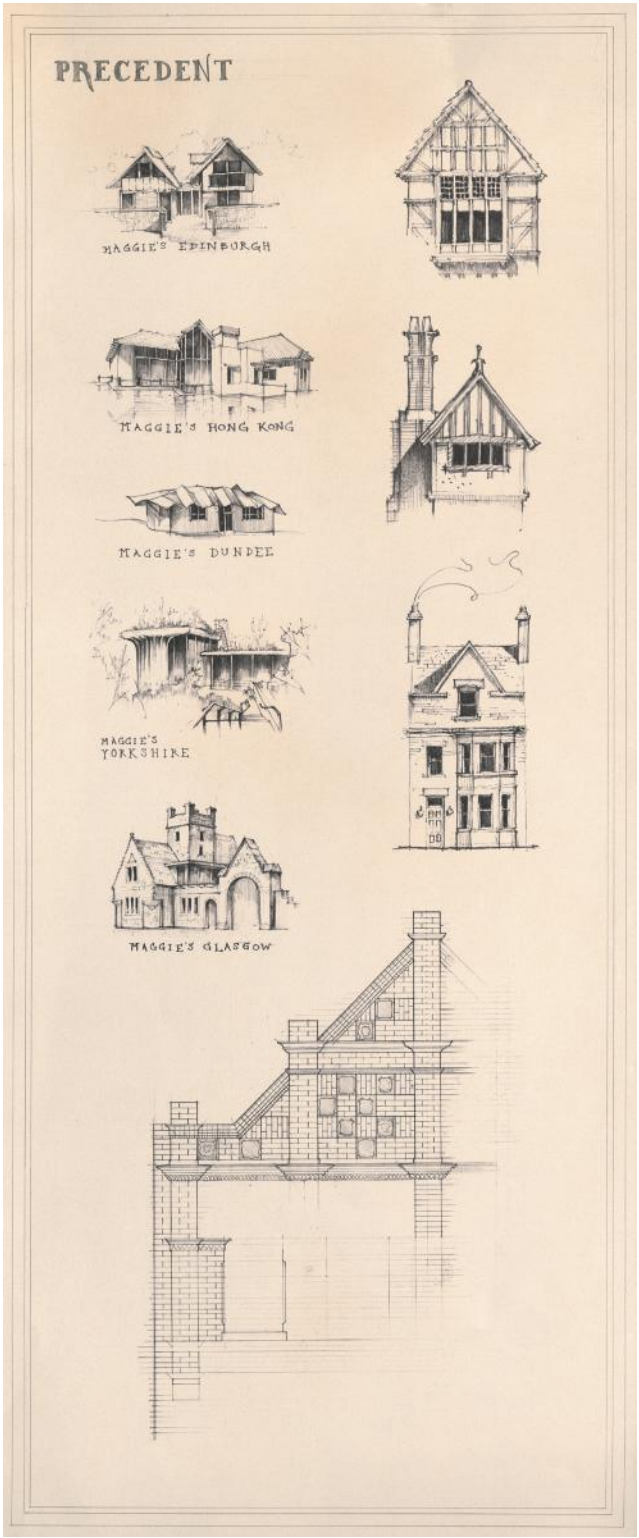
PRECEDENT
MAGGIE'S EDINBURGH
MAGGIE'S HONG KONG
MAGGIE'S DUNDEE
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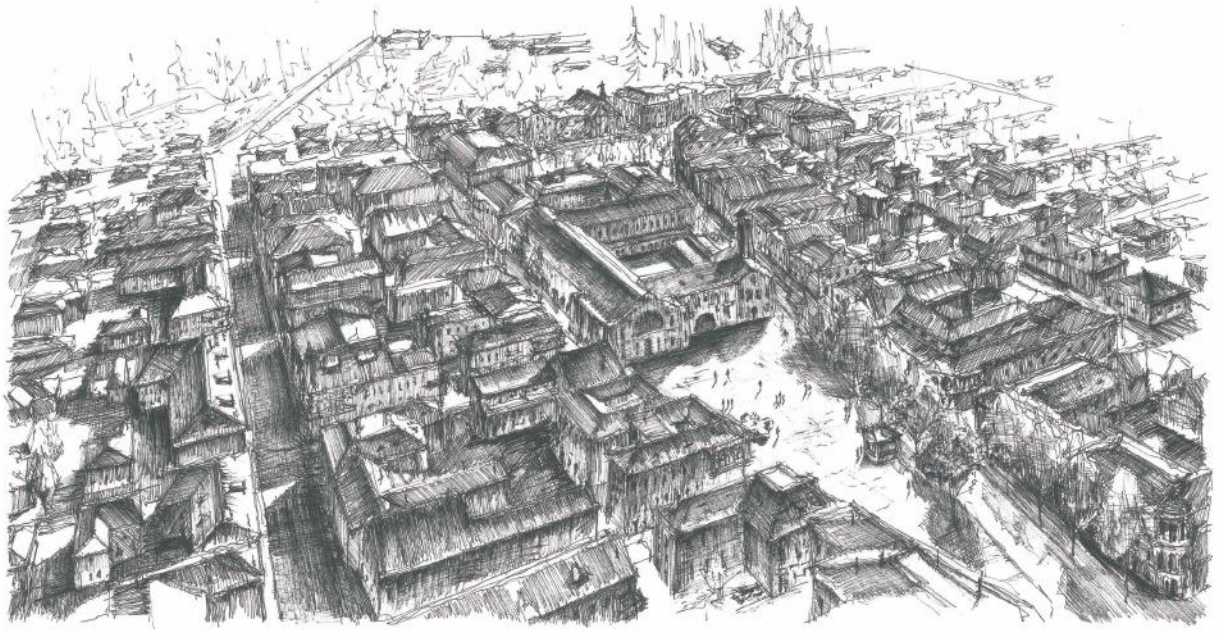
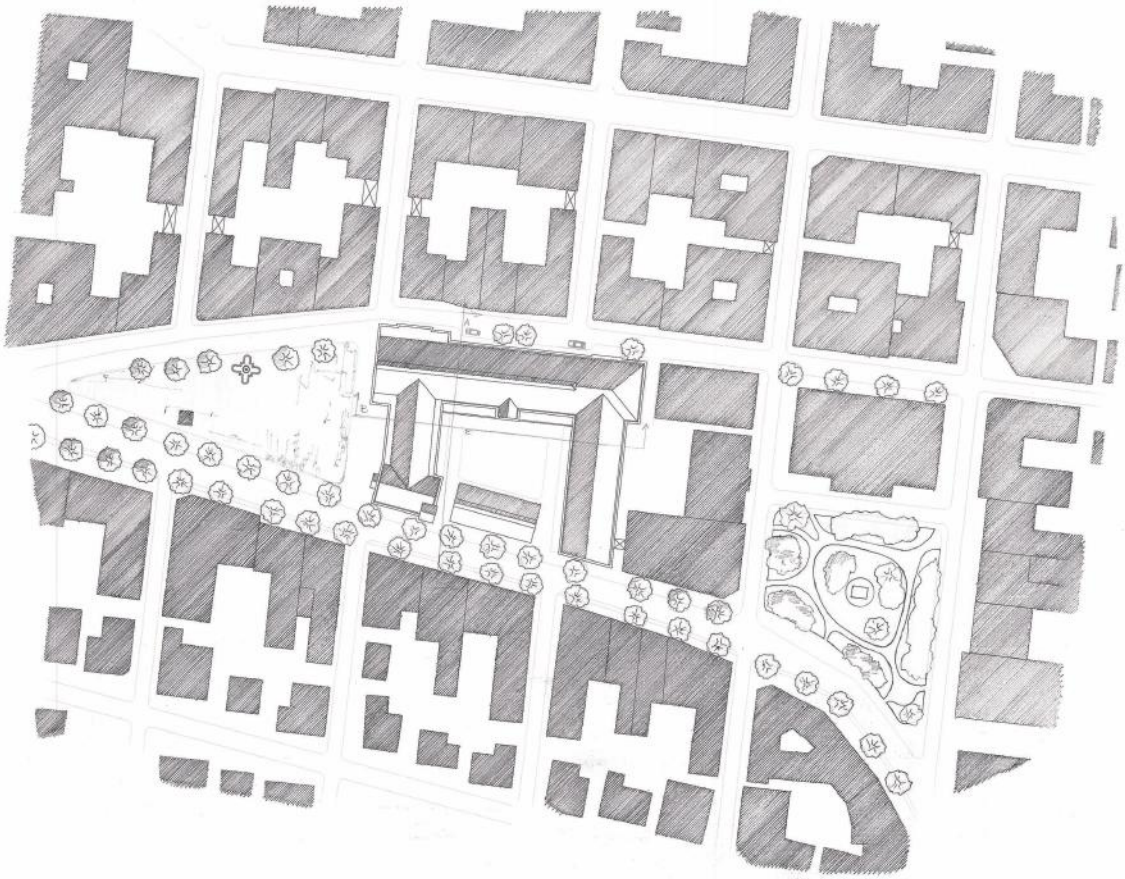
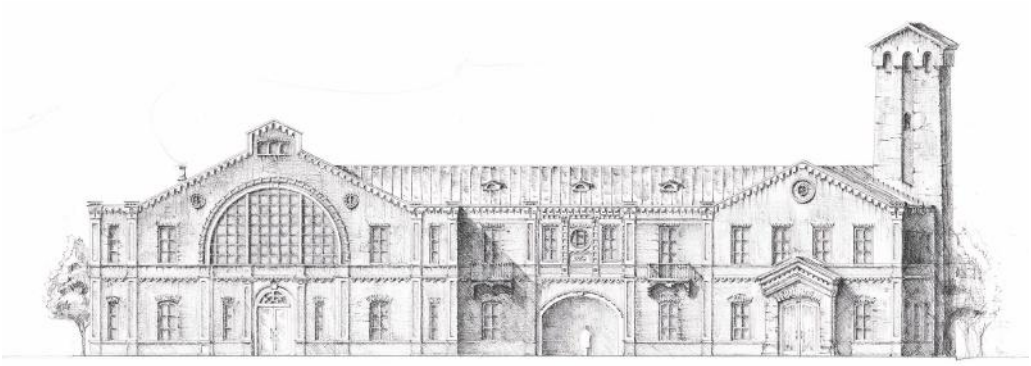
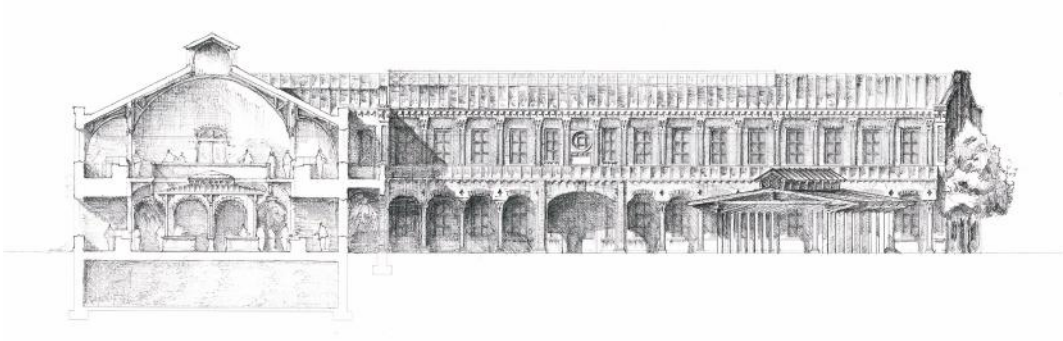
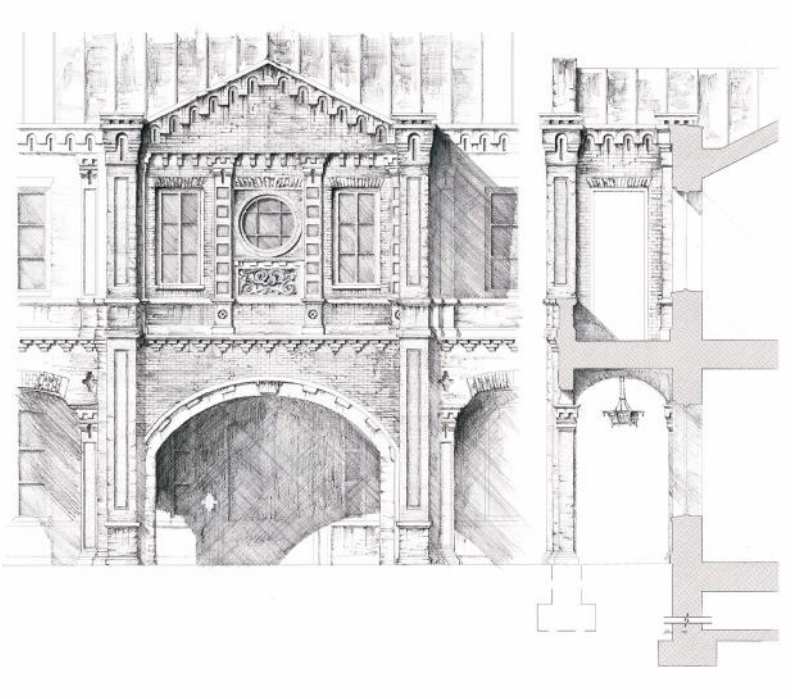
MAGGIE'S GLASGOW









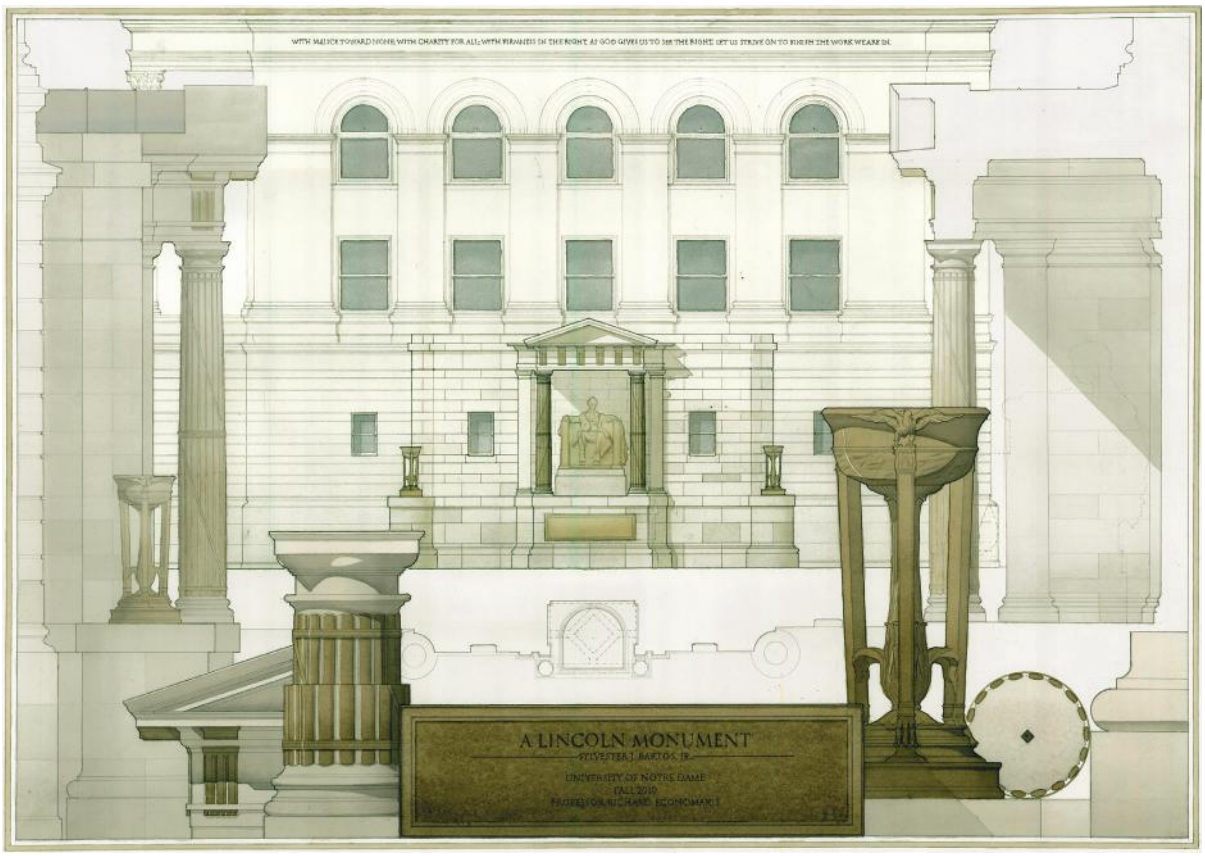


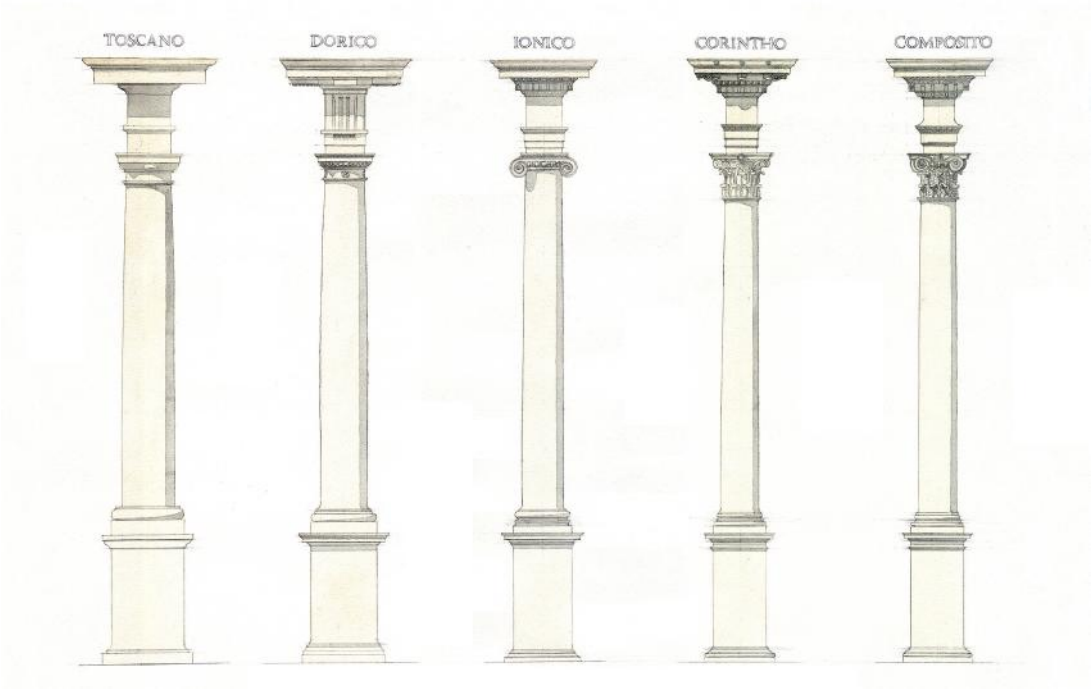
GUY CROWLEY

Dean's Award for Design Excellence in Architecture

The Aragvi Market Complex and Town Centre
Professor Julia Treese, 2023

PART II
Graduate Programs





Top: A Lincoln Monument: an aedicule in Chicago. Completed by Sylvester J. Bartos Jr. for Graduate Design Studio I. Professor Richard Economakis, Fall 2010. Bottom: Parallel of the Orders, According to Vignola, in the Manner of William Chambers. Completed by Charles Shafer for Graduate Design Studio I. Professor Richard Economakis, Fall 2016.

GRADUATE STUDIOS

RICHARD ECONOMAKIS

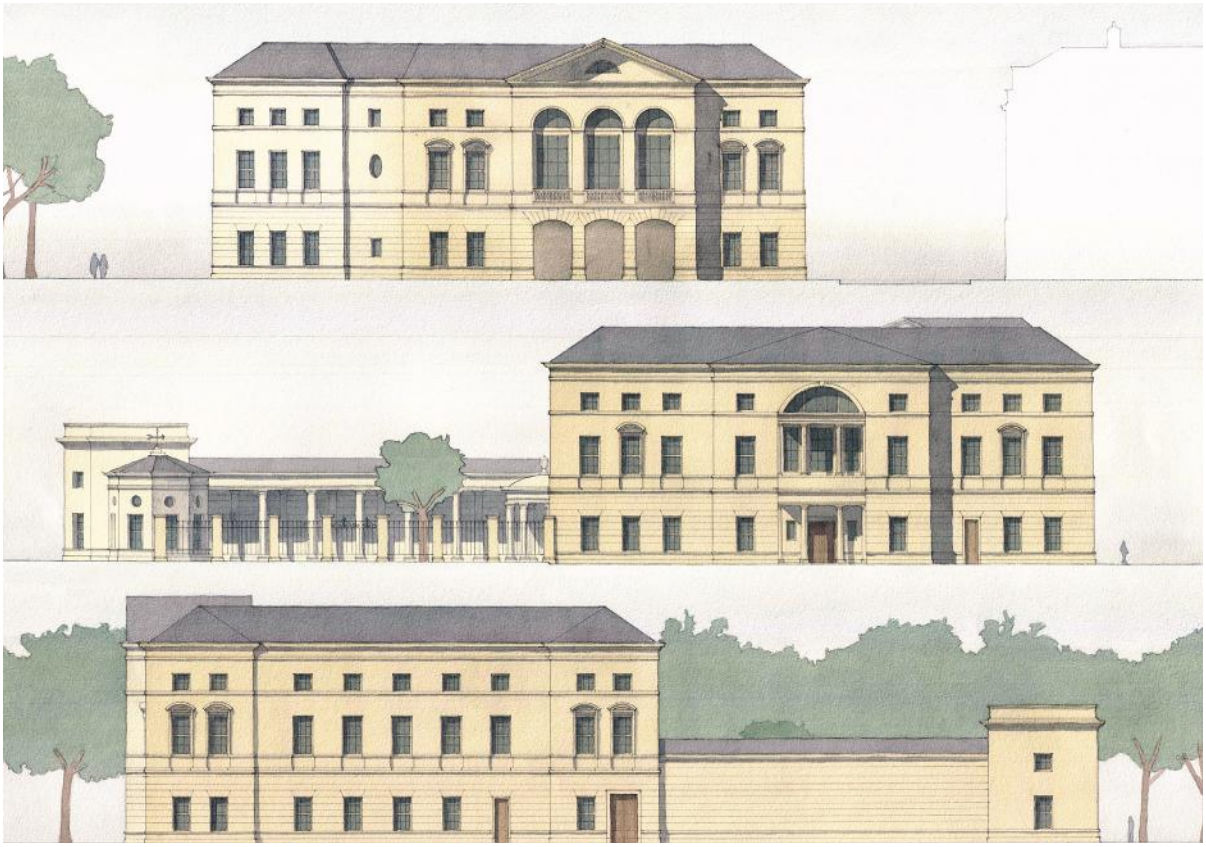
Instruction in Notre Dame's graduate architecture program is informed by the same fundamental understanding of architecture and urbanism as that which is promoted in the undergraduate curriculum. At the heart of the School of Architecture's mission is a commitment to the making of beautiful, livable, and enduring buildings, neighborhoods, and cities. The graduate program builds on the proposition that healthy cities comprise buildings that seek, individually and in combination, to enhance the physical, intellectual, and spiritual wellbeing of citizens while fostering social interaction and beneficial governance. It emphasizes the interdependence of architectural form, building typology, and urban placemaking.

Students joining the graduate program who are unaware of the extent of present-day urban and ecological problems soon recognize that post-World War II zoning policies promoting separation of residential, commercial, and civic functions have caused an unprecedented disintegration of the built and natural environments, and increasingly isolate the individual. They see that by contrast, traditional cities integrate these functions and place them within walking distance of each other, minimizing the impact on the environment and fostering a strong sense of community. Furthermore, Notre Dame students learn that the edifices of which traditional cities are comprised reflexively assume degrees of articulation in accordance with their civic importance, ranging from simple but dignified expressions for buildings that occupy the lower end of the civic spectrum ("fabric" or "background" buildings), to classical compositions for edifices that serve the public realm ("foreground" buildings).

At Notre Dame, classical architecture is presented not as an irrelevant historical formal repertoire—as it tends to be portrayed in other schools of architecture—but as a refined system of forms that are imbued with tectonic meaning, the purpose of which is to rescue straightforward construction out of the mundane and elevate it to an art. The graduate program underscores the universal nature of classical principles, which manifest in different ways from culture to culture, depending on regional building traditions. Students are introduced to the Greco-Roman/Renaissance canon that prevailed in the United States and are encouraged to learn about non-Western formal traditions. Because these traditions have a proven capacity to adapt to an evolving social, economic, and technological context, the graduate program promotes the exploration of their contemporary applications.

Toward these ends, the graduate program takes a holistic approach to design education. It promotes both intellectual endeavor and the practical teaching of craft so that students embark on their careers with clarity of vision, an understanding of current problems and issues, and the necessary skills to effect positive change in the built environment. They are encouraged to embrace the study of historic precedent for the formal, tectonic, and typological lessons that great buildings and places impart, and to apply these lessons in the making of new buildings and cities. In design studio, the graduate program underscores the inseparability of architecture and urbanism. The emphasis on placemaking is in stark contrast to most other schools of architecture, which set individualistic expression above all other concerns. At Notre Dame, architectural design is understood to promote the making of durable, useful, and beautiful buildings that can support strong communities and contribute to the delineation of a graceful, enduring public realm.

The graduate program offers three degrees: a two-year post-professional Master of Architectural Design and Urbanism (M.ADU), a two- or three-year professional Master of Architecture (M.Arch), and a Master of Science



Narrow Quay Masterplan Proposal, Bath, Museum of Science and Industry. Elevations. Completed by Kate Chambers for Graduate Design Studio II. Professor Richard Economakis, Spring 2015.

in Historic Preservation (MSHP), which is described elsewhere in this publication. The graduate program seeks to educate designers, scholars, preservationists, and advocates for the built environment while instilling in them an appreciation of sustainable building and regional traditions and encouraging them to play a leading role in their chosen profession.

As a prerequisite, entering students take a three-week summer course in architectural drawing and rendering, which introduces them to manual techniques and helps to instill in them an understanding of the rigor associated with their studio courses. The course is required even of M.ADU students with undergraduate architecture degrees, as most other schools do not offer proper instruction in manual drawing. Students learn to draft, render in watercolor, cast shades and shadows, and construct perspectives and axonometric drawings.

In all the degree sequences, the first semester courses are foundational in nature. Design studios begin with lectures on classical principles and forms, with an emphasis on their tectonic aspects, and are followed by exercises requiring their application in the resolution of simple building briefs, often in urban settings. Also in the first semester, students take foundational history, theory, and technology courses. For entering three-year M.Arch students, who typically have little, if any, architectural experience, the second semester is a continuation of the first one and is therefore also foundational in nature. The focus of design studio now shifts from formal to compositional principles, which students are asked to apply in the design of increasingly complex buildings, set in urban contexts requiring improvement.

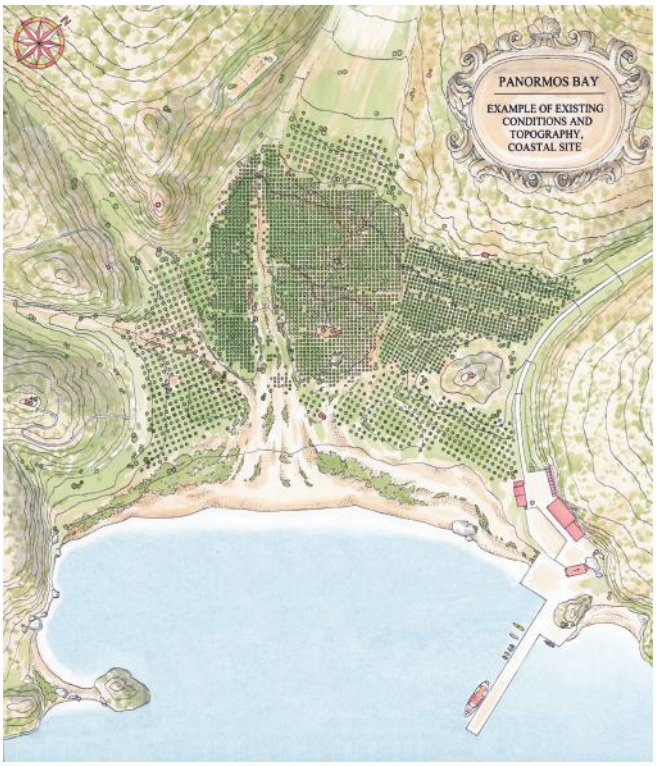
In their second year of studies, three-year M.Arch students prepare for a semester at the Rome Studies Center by taking a dedicated course on the history of Rome.

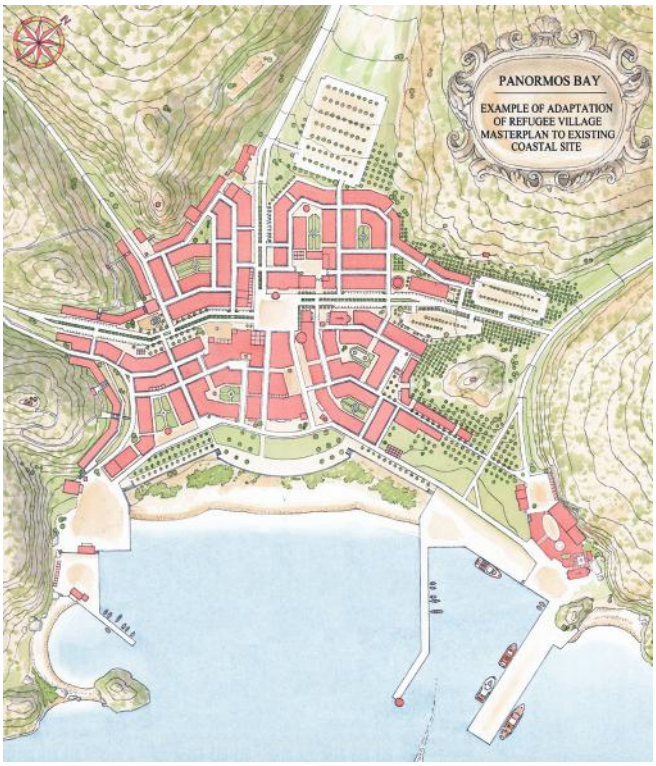
Narrow Quay Masterplan Proposal, Bath, Museum of Science and Industry. Floor Plans. Completed by Kate Chambers for Graduate Design Studio II. Professor Richard Economakis, Spring 2015.

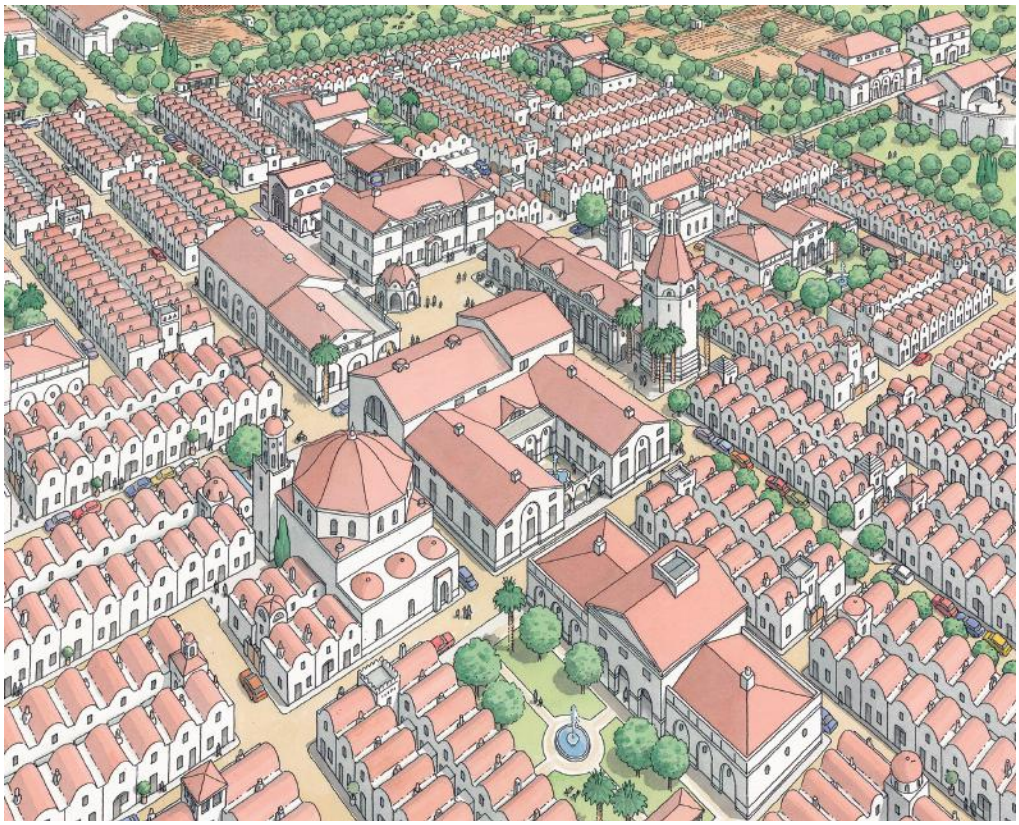
They also take a course in environmental systems, and advanced structures. This brings them to the same level as the beginning two-year M.Arch students, who have non-professional architecture degrees, and the two classes merge as they continue in their studies. Students proceed to the Rome Studies Center either in the Spring or the subsequent Fall semester.

While in Rome, graduate students take courses in Roman architectural and urban history and theory, field drawing and watercolor rendering, and an upper-level design studio. The design course is carefully structured to introduce them to Roman building and urban types, and architectural expressions. The semester begins with sketching tours of the historic center, where the students analyze urban spaces and sequences and develop an "abacus" or pattern-book of characteristically Roman architectural details. They then turn to an assigned area in the city requiring urban and architectural improvement and produce a masterplan that sensibly and creatively extends the fabric of the historic center. The semester concludes with the design of an individual building that is informed by the students' study of Roman architectural forms and building types.

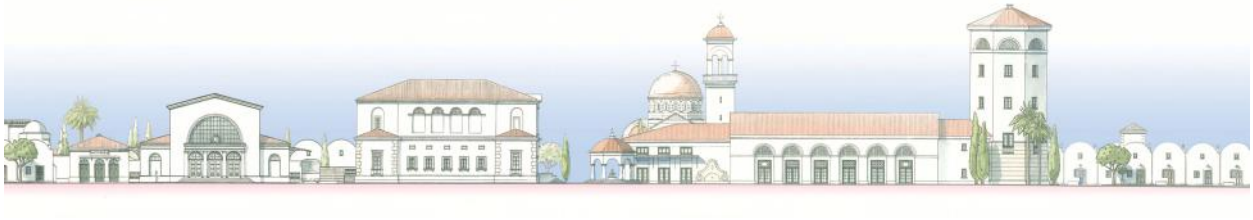
Upon returning to the Notre Dame campus in Indiana, graduate students are encouraged to apply the lessons of Rome in their next upper-level design studio. They also take an upper-level theory course, a professional practice course, and a design preparation course to help them plan for Thesis studio, which occurs in the final semester. Several elective options are available to them, many of which are theory or urbanism courses. These are usually also of interest to M.ADU students, who tend to pursue urban design to supplement their undergraduate architecture degrees.



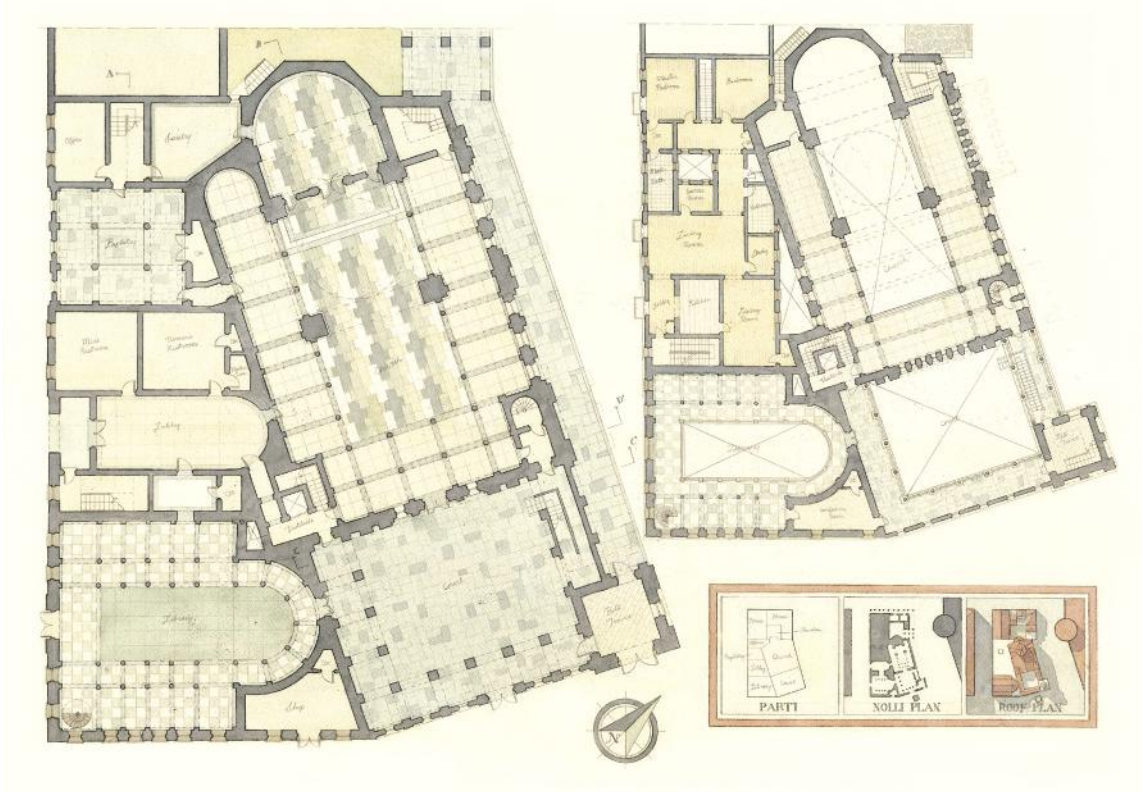




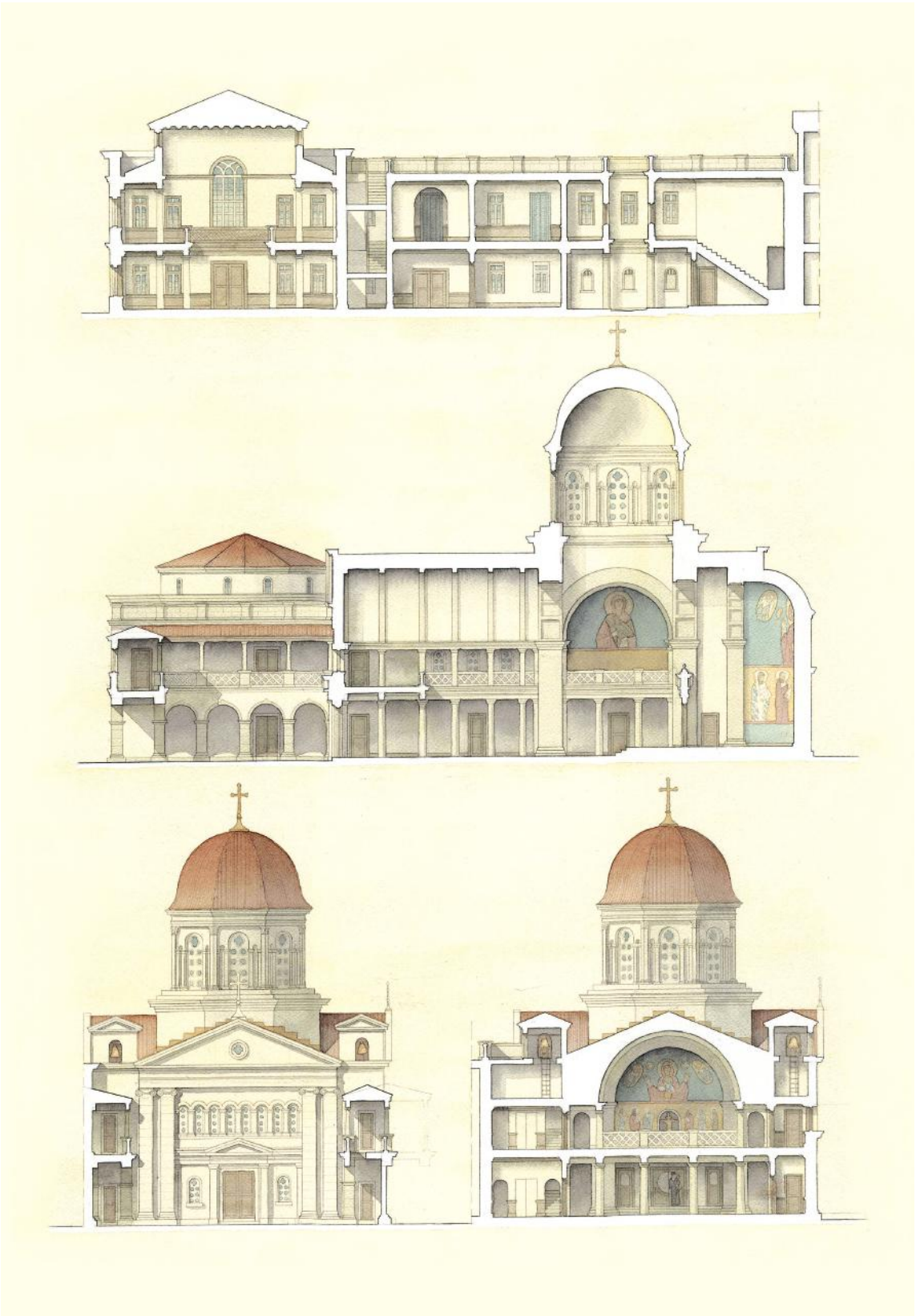
Top: Refugee Village, Panormos, Chios. On left, existing topography (fictive) and on right, example of adaptation of original gridded masterplan to real (fictive) site. Bottom: Refugee Village Masterplan, Aerial View. Completed by Studio Team (Callie Beal, Thomas Dougherty, Richard Economakis, Spencer Esplin, Keat Foong, Paul Langford, Shuxin Lin, Coltan Severson, John Parker Wilmeth) for Graduate Design Studio II. Professor Richard Economakis, Spring 2016.



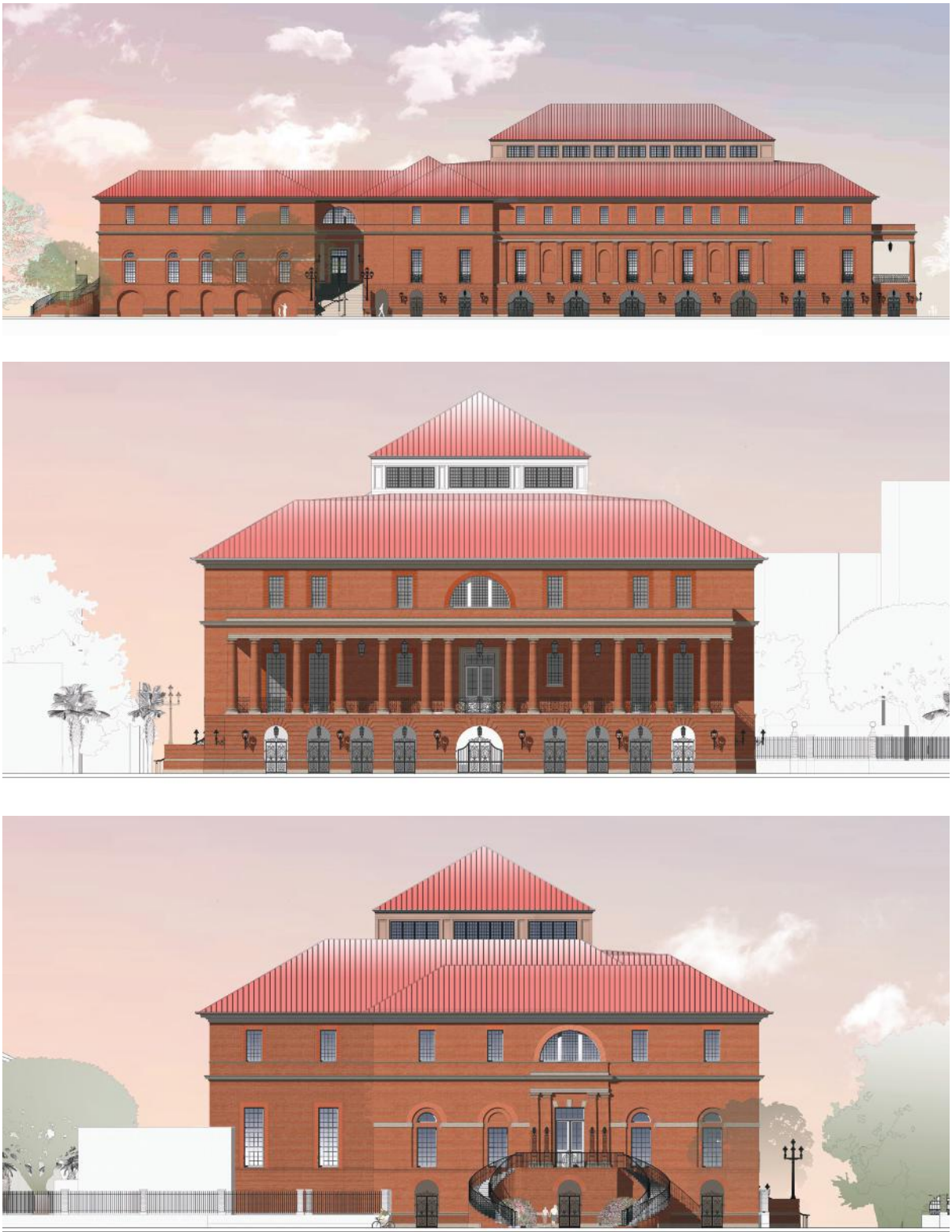
Top: Refugee Village Street Elevations. Public Building Design Team: Callie Beal, Thomas Dougherty, Spencer Esplin, Keat Foong, Paul Langford, Shuxin Lin, Coltan Severson, John Parker Wilmeth. Completed by Graduate Design Studio II. Professor Richard Economakis, Spring 2016. Bottom: Refugee Village/European Temporary Asylum Housing. Loft Level Plan and Ground Floor Plan (left) and Cutaway Isometric View (right). Richard Economakis, Summer 2015.



Refugee Village Parish Center, Panormos, Chios (top), and Plans of the Parish Center (bottom).
Completed by Benjamin Felix for Graduate Design Studio II. Professor Richard Economakis, Spring 2017.



Elevations and Section of the Parish Center. Completed by Benjamin Felix
for Graduate Design Studio II. Professor Richard Economakis, Spring 2017.



A Counterproposal to the International African American Museum in Charleston, South Carolina. Top: South Elevation. Middle: East Elevation. Bottom: West Elevation. Completed by Phillip Smith for Thesis Studio—Professional. Professor John Mellor, advisor; Spring 2019.

GRADUATE THESIS PEDAGOGY

SAMANTHA L. SALDEN TEACH

Design at both the urban and building scale has a powerful role to play in addressing the most pressing issues of our world—social, economic, and environmental. The graduate thesis is an important opportunity for students to explore specifically what that role is and what those solutions might look like.

Thesis research and design is often discussed as a capstone, a culmination of one's studies. It can also be a launching point where students connect with particular locations, architectural languages, and building types that hold interest for them in their upcoming professional lives. More importantly, though, it is an opportunity to foster students' independent thought and exploration.

In this effort, faculty necessarily step back from the leadership role and instead serve as a sounding board for a student's self-directed effort. With a relatively modest set of parameters, such as a minimum square footage for those with building-focused projects and a set structure of reviews and deadlines, students are free to take initiative in selecting their project type and program, location, and priorities. Students use a design project to explore a particular issue that is of interest to them.

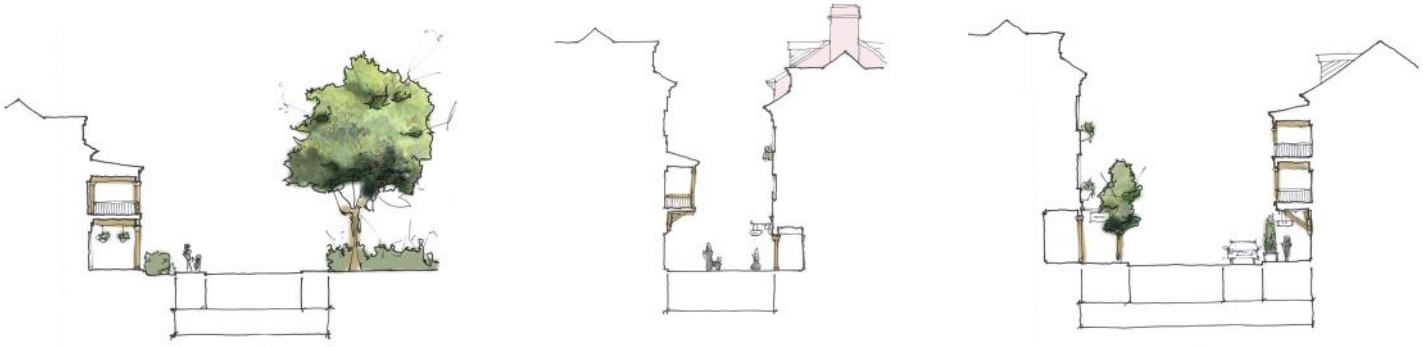
In thesis, students enter a part of the professional conversation which is selling ideas. Professionals must develop the ability to craft an argument and a narrative to share with clients or whole communities. Students likewise must justify the reasoning behind their choices. This is not completely foreign to students, of course. From their earliest days of design studio, they explain why they might have selected a particular precedent or employed a specific element, but most previous studio work is done within the context of an instructor-selected site, a prescribed building program, and even a material palette—the foundational reasoning for the work is largely pre-packaged. By contrast, thesis is a platform from which they might test their own ideas and where they must provide their own justifications for every aspect of the project.

At Notre Dame, the justifications must be grounded in a real place and a real set of parameters. The majority of students increasingly engage a critical topic relevant across disciplines and widely varied communities. Recent thesis topics have included the nature of the corrections system in the United States, the economic and environmental impacts of building and maintaining transportation infrastructure, and the civic character appropriate to a place that remembers and honors a portion of society that endured America's greatest shame and has contributed immensely to American culture.

In May 2022 Margaret Jones presented her work offering a counterproposal to Rikers Island, the New York jail which is expected to close in 2027.[1] Jones located her project within the urban fabric of Brooklyn. She sought to employ a more humane architecture for both the internal spaces of this secure facility, as well as its location. By placing the jail within the community, it is more accessible to lawyers and family members, and it allows those who are awaiting hearings—sometimes for lengthy periods of time—to maintain relationships more effectively with their loved ones, a concern not often addressed in discussions of jails in the United States.

In 2021 Tyler Milam explored the massive construction and maintenance costs of a proposed new Chesapeake Bay bridge, as well as the environmental impacts that the bridge would have on this particularly fragile ecosystem.[2] He found that the proposed bridge would not effectively solve the issues of so many commuters, leaving them with long drive times and little access to the east side of the Bay. Instead, Tyler proposed a reinstatement of the Chesapeake Bay ferry system. This would require drastically lower economic investment; be far more flexible as ridership, technology, and other needs changed; and, with small scale urban development on the eastern shore, allow further development for increasing population demands that could be done sympathetically and gently.

Another thought-provoking project, this one completed in 2019 by Phillip Smith, offered a counterproposal to the African American Museum then under discussion for the east side of the Charleston peninsula.[3] The pro-



Magnolia Landing: A Proposal for Environmentally and Socially Conscious Development and Transit on the Chesapeake Bay. Opposite page: Aerial and Sections. Above: Figure Ground. Completed by Tyler Milam for Thesis Studio. Professor Samantha L. Salden Teach, advisor; Spring 2021.

posed—and now constructed—museum houses an important collection, but the building itself has little connection to the city and the African American experience there. Smith, who did his undergraduate work in Charleston and is himself a proud South Carolinian, was eager to change the singular narrative of classical architecture in the South, reclaiming it as a product of the black craftsmen and designers in the local community, free and enslaved. He argued that civic architecture should be connected to its place; hold an elevated place within the community based on its ornament, form, and location; and that it can be used to celebrate community's continuity and evolution rather than act solely as a symbol of oppression.

In all of these cases, students tackled complex topics. They took into account historical and contemporary concerns, local and far-reaching. They dealt with precedents that allowed them to design spaces and structures very much identifiable as being from their place, but that were richly adapted to see the spaces they contained and defined through an entirely new lens. And they showed how integrally linked design is—and must be—to a wide variety of current discussions.

Thesis work is powerful in itself for the students involved, pushing them to be intentional in their analysis, research, design process, and presentation choices. It pushes them to be holistic in their thinking, taking in a wide variety of information and making their own decisions, which must then be defended against a panel of critics, both in-house and external. It is specifically structured to expose students to other points of view and methods of working, as well as to see how a seemingly incongruous and completely unrelated project might inform their own work. It inspires conversation and projects within the School as the community within continues to evolve. And thesis work is an opportunity to reach out to the broader campus community and beyond. Thesis is a testing ground, a challenge, a think tank, and a celebration—a critical step in the journey of every student.

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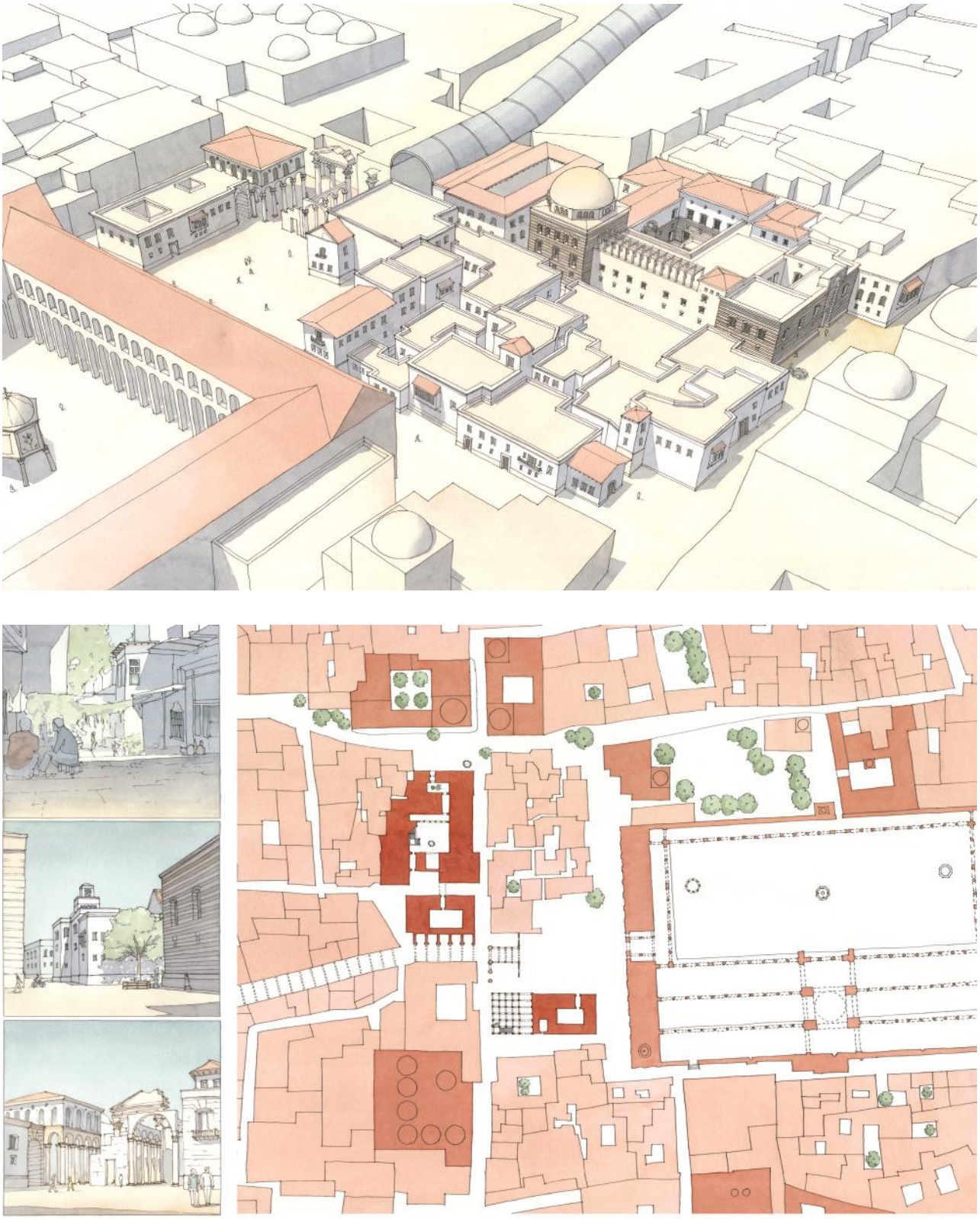
1 Margaret Jones, "Restoring Human Dignity in the U.S. Correctional System: An Alternative to Rikers Island" (thesis, University of Notre Dame, 2022). Advisor: Sean Patrick Nohelty.

2 Tyler Milam, "Magnolia Landing: A Proposal for Environmentally and Socially Conscious Development and Transit on the Chesapeake Bay" (thesis, University of Notre Dame, 2021). Advisor: Samantha L. Salden Teach.

3 Phillip Smith, "A counterproposal to the International African American Museum in Charleston, South Carolina" (thesis, University of Notre Dame, 2019). Advisor: John Mellor.

Opposite page: Magnolia Landing: A Proposal for Environmentally and Socially Conscious Development and Transit on the Chesapeake Bay. Top: Axonometric of Ferry Station; Middle left: Axonometric of Church; Middle right: Axonometric of Cottage Court; Bottom left: Axonometric of Hamlet; Bottom right: Axonometric of Town Hall.

This page: West Elevation; North Elevation. Completed by Tyler Milam for Thesis Studio. Professor Samantha L. Salden Teach, advisor; Spring 2021.



Damascus Centre for Peace and Religion Studies, Syria. Overall Perspective (top) and Site Plan (bottom). Completed by Kate Chambers. Professor Samir Younés, 2017.

HISTORY AND THEORY IN THE GRADUATE PROGRAMS

SAMIR YOUNÉS

The teaching of architectural history and theory in the graduate program ranges from general introductory surveys to more advanced seminars. The teaching covers the principles of making cities; it examines the central themes that have animated architectural thought in multiple periods, as well as the history and theory of preservation.

Whereas each of these seminars addresses an array of topics, there is a general agreement among the faculty that a well-rounded architectural education includes assessing the ways in which architectural thought has been framed and elaborated by previous architects.

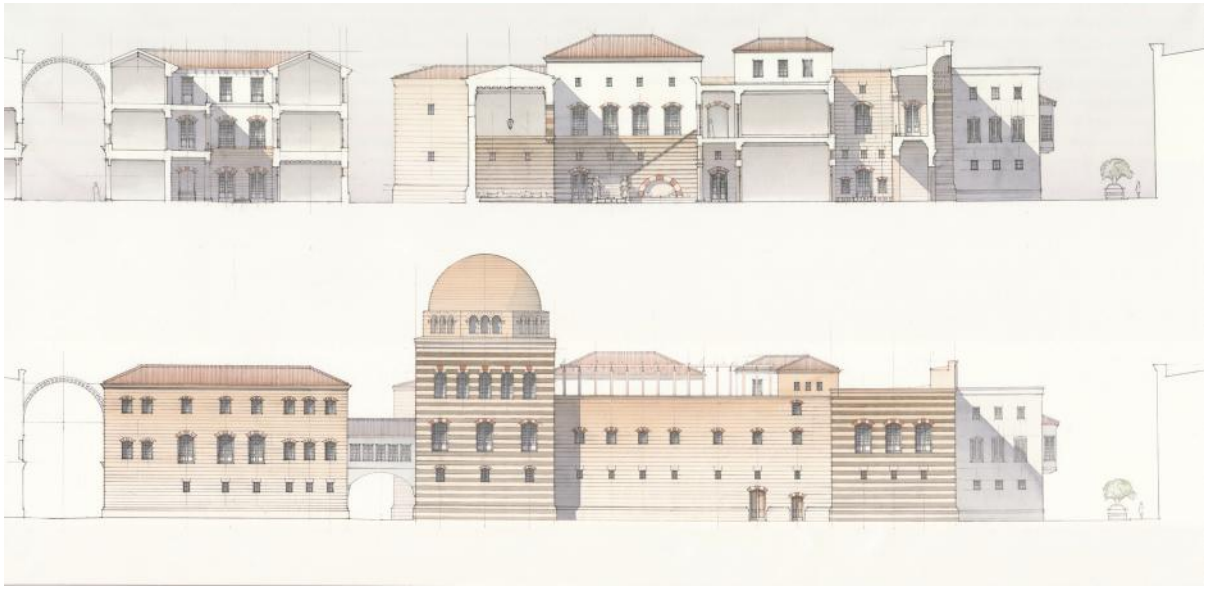
This is important for justifying one's own architectural convictions in reasoned comparison with the convictions held by others, whether in agreement or in opposition. In other words, students learn to justify their own work by examining the arguments with which architects have justified their forms throughout history, by studying how these arguments were interlaced and deployed, and by evaluating whether the forms and their justifications derived from solid judgments or from spurious ones. This implies a thorough familiarity with the principles upon which the City and her architectures (e.g., the urban and architectural typologies, the vernacular and the classical or civic, architectural composition, tectonics, *technique* and technology) have been built in relation to various cultural discourses that influence architecture from the outside (e.g., philosophies of history, and cultural theories of modernity, architecture, and politics). This implies pursuing both history and theory as one single endeavor and not two divergent approaches. This also entails using historical and theoretical knowledge in the design studio as a set of *operative antecedents*, reasoning where they were successful or unsuccessful in comparison to the problem at hand. In a broad sense, history and theory, here, designate the experience of building minds and building hands in multiple regional traditions throughout the world, and the wisdom that derives from this experience. The accumulation of historical information serves knowledge, and knowledge in turn serves wisdom—the wisdom to avoid previous failures, the wisdom to dwell wisely within Nature, the City, and her architectures.

Collectively, the graduate teaching of architectural history and theory covers an entwined set of propositions. We briefly discuss three of them:

First, that architectural design and architectural history form one single endeavor, and they can be studied integrally. The concerns of architects and those of historians can converge, and this integral project can potentially reform architectural education and practice at once. Another history is possible, a history that is intended for architects who wish to put to use the durable, successful lessons of historical experience, who intend on improving these lessons in practice, and who pass along to future generations the lessons of their own experience. This is the true value of tradition.

Second, that knowledge of the theoretical frameworks in which various architectural history narratives have been cast is essential to such a study. Explaining, assessing, critiquing, and debating such theoretical frameworks are fundamental for architectural judgment because architectural judgment is significantly shaped by the philosophical concerns which are frequently woven into the fabric of the historical narrative, or survey. Some of these underlying theories are historicism and incident concepts that were later attached to it, e.g., the association of teleology with progress, periodization and stylistic ruptures, the *zeitgeist(en)* and the *Weltanschauung(en)*, technological determinants, etc. When such concepts were made to converge, a deterministic view of architecture took hold, one in which one single architectural expression (modernism) became the privileged appearance of a world that could only have

Damascus Centre for Peace and Religion Studies, Syria. Transverse Section and North Elevation (above) and Site Selection and East Elevation (opposite page). Completed by Kate Chambers. Professor Samir Younés, 2017.



developed in this way. Often, such philosophical concerns are encased within the historical narrative, and architectural students, in fact many architects, are not always acquainted with them. Later, many such concerns, whether well-examined or not, become part of the beliefs held by architects.

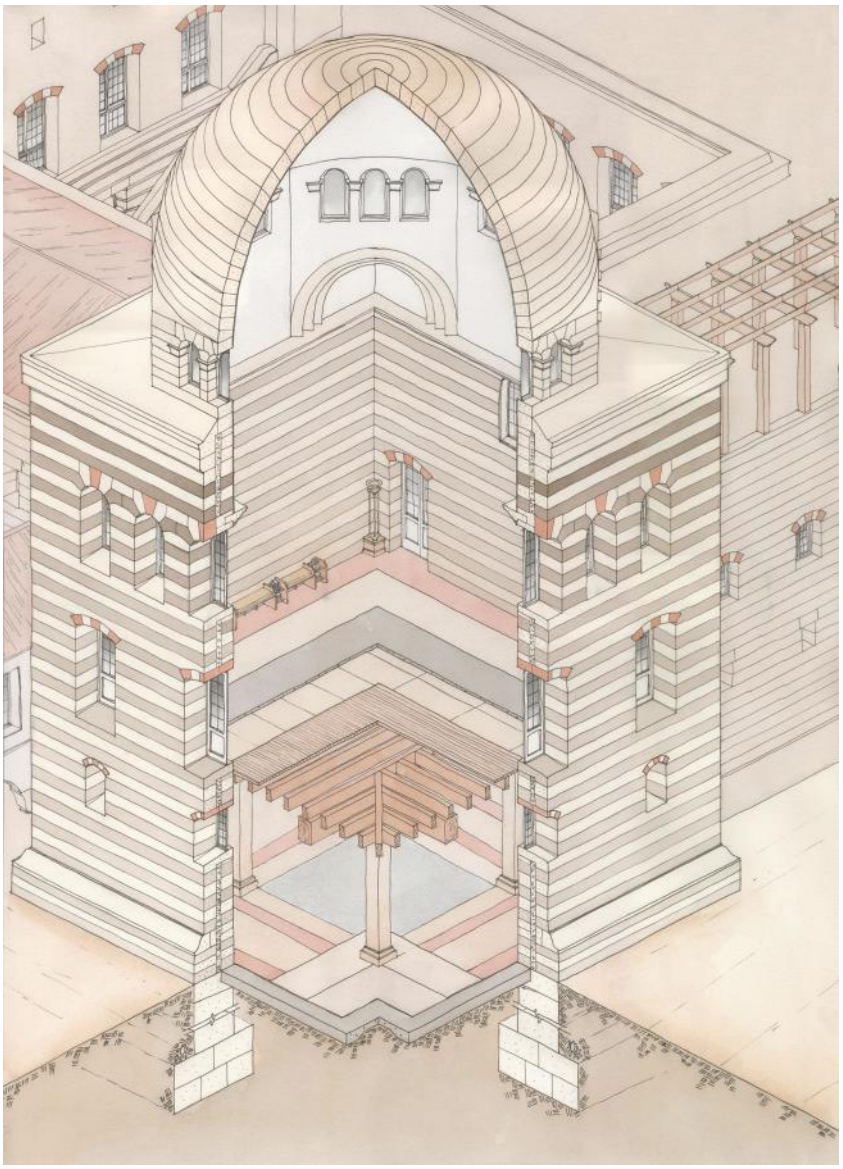
Many, perhaps most, narratives of architectural history describe buildings as embodiments of various cultural productions, including architectural and artistic movements and ethical, political, economic, and technological factors. But these narratives do not stop at simple history telling; they speculate on the direction that history might be taking, evident in statements such as "time has an arrow," or "history has a direction." One example of such narratives is the teleological thinking that animates many a history survey, leading invariably to an apotheosis of present practices and the exclusion of previous experience. Some historians also extend their conjectures in order to assert that historical events happened, or will happen, as if *by necessity*. They write histories that tow behind them a selected sequence of architectural developments that purportedly illustrate this necessity, alternately emphasizing rupture or continuity where one or the other is needed.

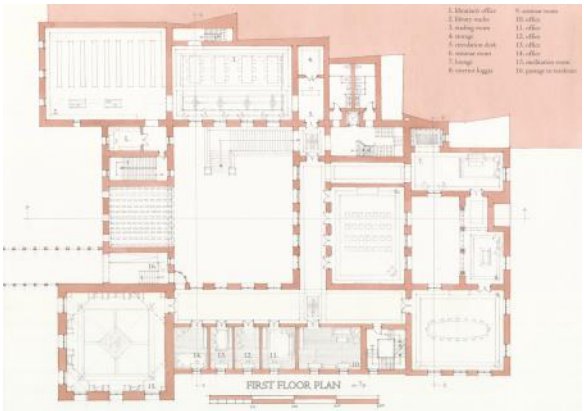
By reducing much of architectural history to a stylistic classification, and by slicing time into periods that correspond to these classifications, historians harmed architectural judgment as many architects came to understand architectural history under one dominant concept: that of style. As a hasty reaction, other architects wished to dismiss style altogether.

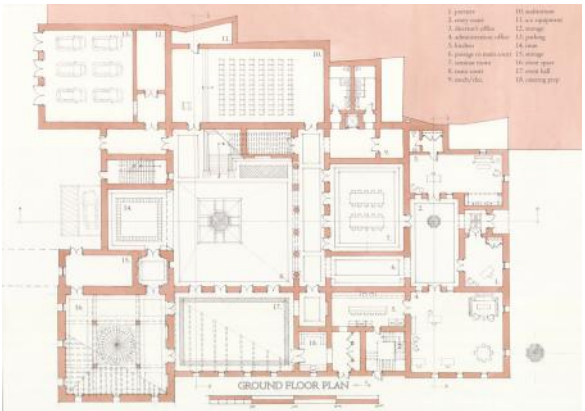
Contrary to the prevailing teaching of architectural history as a succession of styles—one style effecting a rupture from a previous style and inexorably replacing it—architectural history and theory, here, include both the ruptures and the continuities. It is unreasonable to present a history of architecture as a history of ruptures, and it is equally unreasonable to present a history of architecture as a history of continuities. Both have made indelible marks on architectural thought and forms. Nonetheless, a clear intellectual assessment of the building experience shows that there are fewer ruptures and more continuities that many historians would like to admit.

Third, that the concepts of *type* and *character* serve as an alternative to some of the problematical conclusions encountered in extant narratives of architectural history. In mapping the vast architectural territories called history, historians paid relatively less attention to urban and architectural types, while rarely distinguishing between character and style. These two overarching concepts of type and character offer an additional approach to studying and applying the paradigmatic lessons of history. Type configures the ontological essence of architecture, character articulates its distinctive physiognomy, while style delineates its common compositional elements. Types are generative of architectural forms; and they are common to various traditions. Characters are expressive of architectural forms, they concern the propriety of expression of architectural scales from individual buildings to streets, to squares, to urban quarters, to entire cities, to regional and national levels. Additively, architectural characters, when properly balanced, produce the ever-desired sense of place.

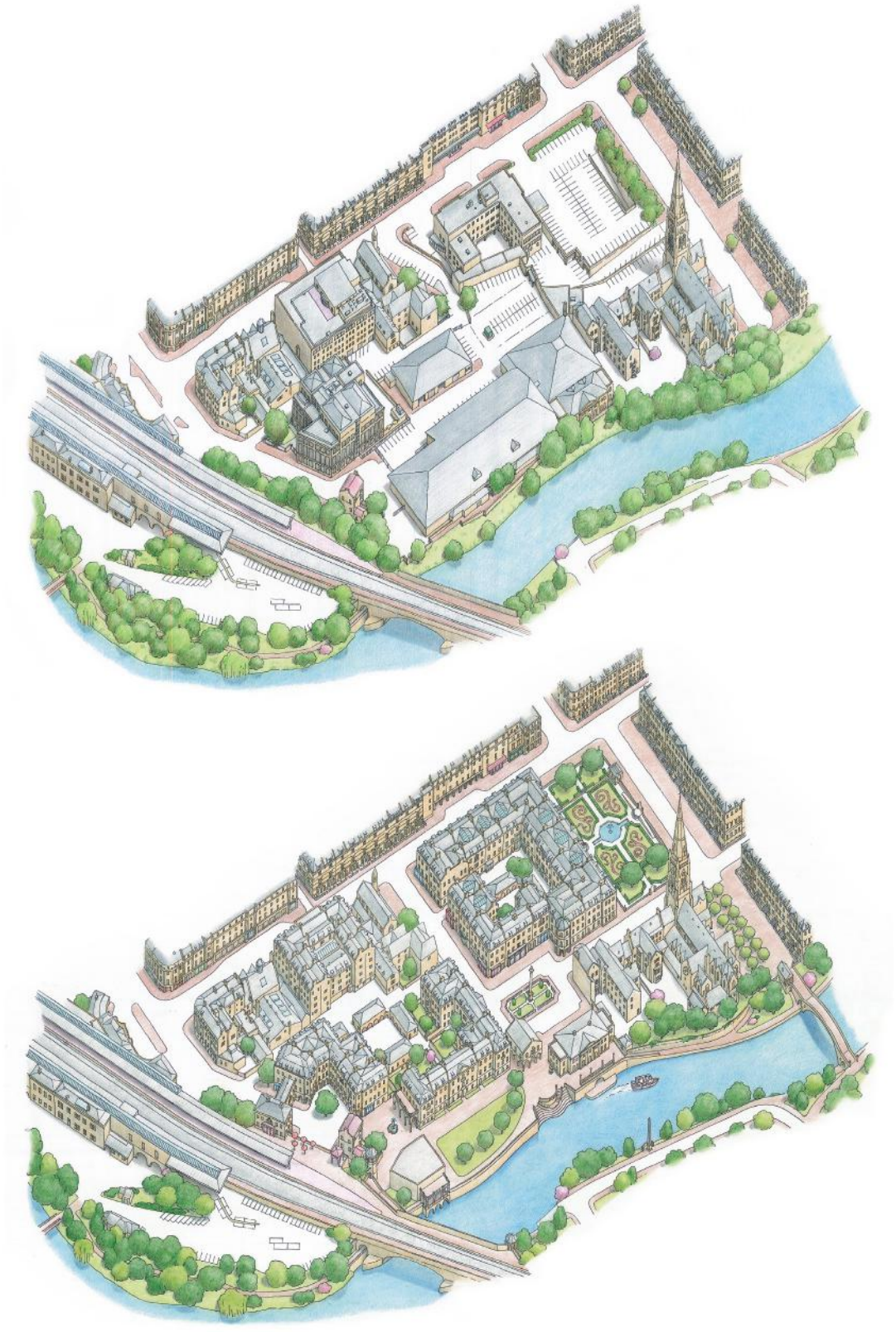
Damascus Centre for Peace and Religion Studies, Syria. Top: Roof Perspective.
Bottom: Loggia Perspective. Completed by Kate Chambers. Professor Samir Younés, 2017.







Top: Tectonics. Bottom: First Floor Plan (left) and Ground Floor Plan (right). Completed by Kate Chambers. Professor Samir Younés, 2017.



Top: Manvers Street Masterplan, Bath. Aerial View of Existing Site. Bottom: Manvers Street Masterplan, Bath, Aerial View of Masterplan. Completed by Patrick Alles, Mary Bland, Taksit Dhanagom, Ricardo Gonzalez, Cameron Henry, Kelsie Hoke, Jacques Levet, Caroline Swinehart, Katherine Torvinen, Daniel Witt, Jingwen Zhao for Graduate Design Studio. Professor Richard Economakis, 2013.

TECHNOLOGY IN THE GRADUATE PROGRAMS

ALESSANDRO PIERATTINI

In the School of Architecture at the University of Notre Dame, the pedagogy of technical courses plays a pivotal role in shaping future architects. One cornerstone of this education is ARCH 60411, Building Technology I—Basics of Traditional Building Technology: Masonry and Timber. This course introduces students to the fundamentals of masonry and timber construction, and it serves as

as a bridge between historical design exploration in the Design Studio and the practical understanding of construction materials. Questions of aesthetics, the relevance of traditional methods today, and the ecological impact of building technology are central to this exploration. Students examine traditional building techniques, questioning how construction affects architectural aesthetics and learning the principles and regulations of using masonry and timber. The course prompts students to reflect on the longevity of structures, the interplay between built environments and natural resources, and the impact of building technology on ecological sustainability and user well-being.

This foundation seamlessly leads into ARCH 60421, Building Technology II, which addresses contemporary construction. This course covers a range of topics, from soils and foundations to exterior walls, metals, and interior finishes.

The journey continues with ARCH 60511, Structures I, where students delve into structural principles, analyzing beams, columns, arches, vaults, and various structural systems. This course lays the groundwork for understanding the engineering aspects of buildings, aligning with the school's goal of instilling structural knowledge in future architects.

Following this, ARCH 60521, Structures II—Concrete, refines students' understanding of concrete structural elements. From material properties and mix design to structural layout and design, this course emphasizes the architect's role in making informed design decisions.

Environmental considerations take center stage in ARCH 70411, Environmental Systems I—Systems Integration. This course addresses building codes, HVAC systems, plumbing, fire suppression, life safety systems, and sustainable design. With a focus on safety, it underscores the architect's role in protecting the health, welfare, and safety of the public.

ARCH 70419, Environmental Systems II—Acoustics & Illumination, delves into acoustics, illumination, electrical, signal systems, and vertical transportation. The course emphasizes the importance of sound and lighting in architectural design, aligning with the school's commitment to creating spaces that cater to both functionality and sensory experience.

The structural journey reaches its pinnacle with ARCH 70531, Structures III—Wood and Steel Design. This course equips future architects with the expertise to design and analyze structural steel and wood elements. From load determination to design principles of wood and steel, the course ensures students are adept at making sound design decisions.

Finally, ARCH 73421, Historical Construction and Preservation, explores the materials, methods, and resources used by architects and builders throughout history. This distinctive course aligns with the school's commitment to cultural understanding, ensuring that students grasp the intricacies of preserving historical structures for future generations.

In this comprehensive journey through technical courses, the University of Notre Dame School of Architecture not only imparts practical knowledge but also nurtures a deep appreciation for the interplay between architectural design, construction techniques, and the cultural and historical context in which they evolve. The result is a holistic education that prepares graduates to be thoughtful, skilled architects capable of navigating the complex intersection of tradition, innovation, and sustainability in the field of architecture.

Manvers Street Masterplan, Bath, Manvers Street Elevation. Opposite page, top: St. John's Square. From left: South Parade, Bridge Pavilion, Old Taxi Office, Hotel. Middle: Railway Place. Middle: Baptist Church; Office/Mixed Use; Bayntun's Booksellers, Royal Hotel. Bottom: Riverview Elevation Looking West. From left: St. James Railway Bridge, Civic Hall, Riverview Terrace, Market Pavilion and Porta Ripeta, Civic Building/Old Post Office. Completed by Patrick Alles, Mary Bland, Taksit Dhanagom, Ricardo Gonzalez, Cameron Henry, Kelsie Hoke, Jacques Levet, Caroline Swinehart, Katherine Torvinen, Daniel Witt, Jingwen Zhao for Graduate Design Studio. Professor Richard Economakis, 2013.

This page: Bath Hall Elevations. Top: Platform Elevation; Middle: Park Elevation and Padmore Square Elevation; Bottom: River Elevation. Completed by Katherine Torvinen for Graduate Design Studio. Professor Richard Economakis, 2013.

MASTER OF SCIENCE IN HISTORIC PRESERVATION

The MSHP program at Notre Dame's School of Architecture is distinguished from other programs in heritage preservation by the understanding that historic buildings include valuable information that can be retrieved in current practice to meet the goals of sustainability and resilience in architecture.

Conservation of heritage and new sustainable architecture are discussed in the program as two partners pursuing the common goal of reducing the effects of climate change and renewing the millennial tradition of making architecture by using the experience of the past.

Vernacular architecture and, more generally, historic architecture are the result of acquired knowledge and a balanced approach to Nature. They show how local resources can be used thoughtfully and rationally in new construction. They can inspire low-energy solutions necessary to address the current climate crisis. Conservation projects, in turn, allow us to analyze the fabric of heritage, to understand which materials were used, how they were transformed and assembled, and how they offered the best response to the needs of use, wellness, and resistance to the elements and natural hazards.

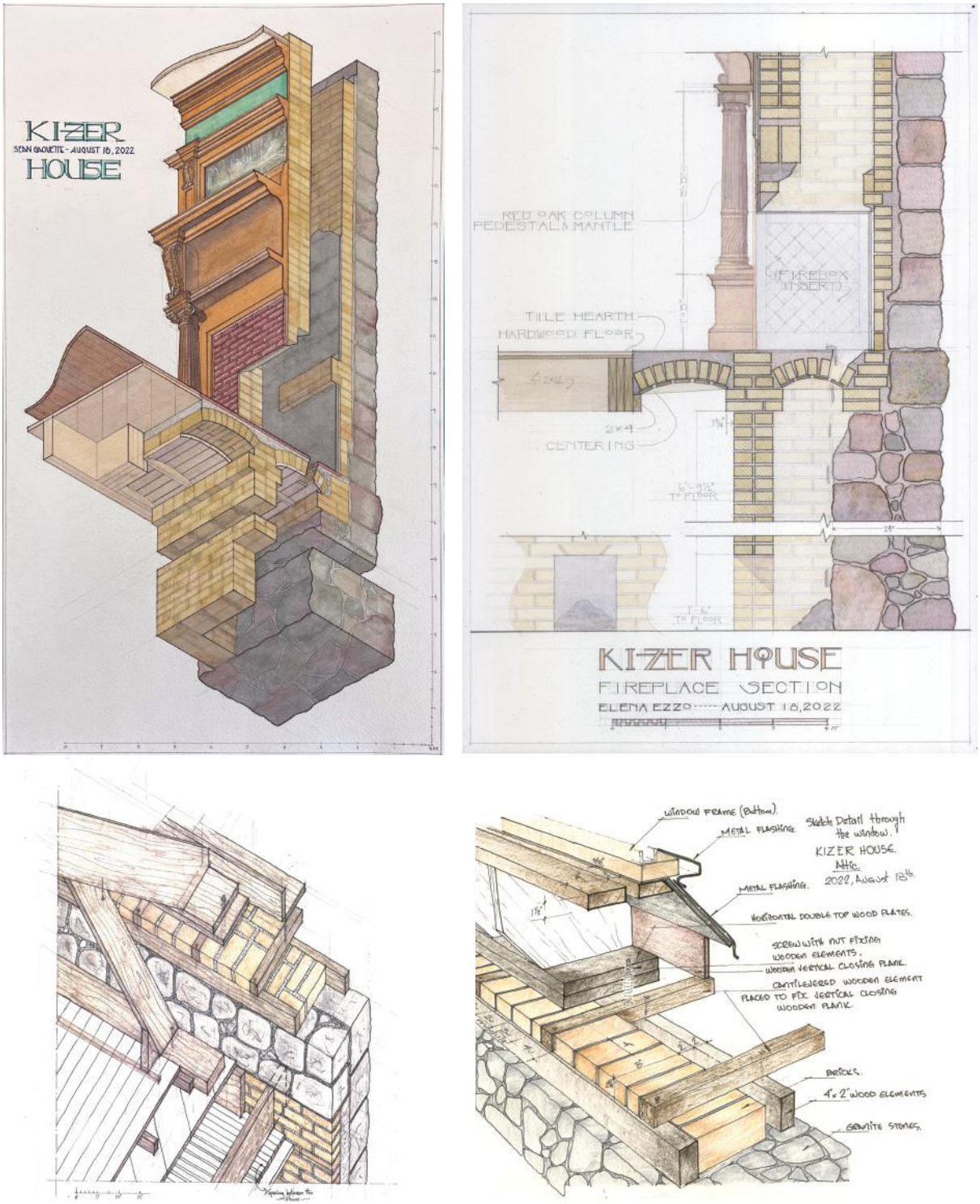
The program educates students on analyzing historical construction and understanding architecture through a methodology in which in-depth documentation and study are used to comprehend the complexity of the fabric of a building and the processes which generated it. Through studying and interpreting the evidence, and analyzing available sources, students investigate the building as the result of continuous transformation informed by new knowledge and needs. Through this lens, we acknowledge the importance of looking at heritage as something to learn from and protect. We also see heritage as a value for the community; this value is expressed through the continued use of historic buildings that connect with their past, to use them, and, if needed, transform them without altering its significance. Historic buildings are actually the result of "healthy building cultures," the result of processes that all the stakeholders and users understand. Reactivating similar processes can promote a return to a more participative building culture. For this reason, our course emphasizes traditional crafts and trades and how they can be actively used in new buildings.

Core courses in historic preservation, such as theory and history, center the MSHP's wide focus, which ranges from monuments and vernacular buildings to the environment and urban settings.

The four-semester curriculum includes one semester in Rome. During each of these semesters, history and theory are combined with design studios emphasizing on-site work. Summer internships provide further hands-on learning for students; these opportunities allow students to build their capacity in practice.

The use of digital tools, particularly in *digital heritage*, is combined with traditional hand drawing. Digital technologies allow synthesis and communication, while hand drawing enhances depth in analysis and critical thinking. The blending of digital and traditional ways to record and analyze historic buildings is strengthened during the Rome semester, when students spend two weeks on-site to document and analyze the building selected for the preservation studio. Under the tutorage of the instructors, students collect information needed to develop a comprehensive preservation proposal, including, but not limited to, the building phasing, the construction, the behavior of different types of masonry, and the study of materials, materiality, and structural decay.

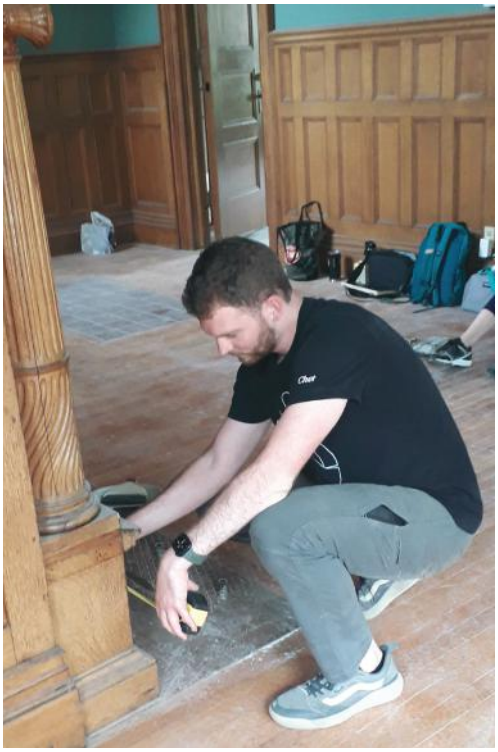
To develop technical expertise and approach the wider policies on heritage preservation, students visit ongoing or exemplary restoration works, such as the Acropolis of Athens or heritage of central Italy hit by the 2009 earthquake. Visits to conservation laboratories and discussions on the restoration of movable artifacts is also an important part of the curriculum. Lecture classes precede most visits to enhance the learning experience during on-site explorations.



Kizer House in South Bend. Top left: Watercolor Axonometric of the fireplace at the entrance hall. Completed by Sean Gaoutte for Orientation to the Master in Historic Preservation. Professor Paolo Vitti, 2022. Top right: Watercolor Section of the fireplace at the entrance hall. Completed by Elena Ezzo for Orientation to the Master in Historic Preservation. Professor Paolo Vitti, 2022. Bottom left: Diagram of the joint between roof and supporting masonry (2023). Completed by Charles Ghati. Professor Paolo Vitti, 2022. Bottom right: Diagram of the joint between roof and supporting masonry. Completed by Joel Estévez González for Orientation to the Master in Historic Preservation. Professor Paolo Vitti, 2022.

Our perspective on preservation is vast, starting from the United States and expanding to Europe and other continents. We explore the ways different cultures value historic buildings. Due to the urgent need to address the climate emergency, adaptive reuse and retrofitting for energy efficiency is coupled with the understanding of how historic buildings can inform new architecture. The nexus between preservation and sustainable architecture is further explored in courses centered on measuring the carbon footprint and climate comfort.

In the last semester, the thesis advances students' research skills based on topics that strengthen the lessons of the MSHP curriculum.




Van
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FOOD MART

THE MICHAEL CHRISTOPHER DUDA CENTER

for Preservation, Resilience, and Sustainability

A new component of the School of Architecture's pedagogy is a research and resource center dedicated to the twin objectives of historic preservation and environmental sustainability. The Michael Christopher Duda Center for Preservation, Resilience, and Sustainability was established in October 2021 to offer students and faculty new and expanded opportunities to advance the school's mission, especially in the protection and conservation of "our common home," as Pope Francis wrote in *Laudato si'*. The center, while housed in the School of Architecture, is a hub for University-wide work related to the center's objectives: supporting the school's curriculum in traditional architecture and urbanism; providing funding to expand the faculty; sponsoring national and international conferences; and administering financial assistance to graduate students enrolled in the Master of Science in Historic Preservation (MSHP) degree program.

The center is dedicated to the preservation of historic places not only because they are valuable in themselves, but because they are essential components of a future built environment that is beautiful, sustainable, and just. The center promotes restoration or adaptation of heritage sites and the application of their lessons for new places that respond to the challenges of human well-being, climate change, and social justice.

- **Preservation** is conservation of cultural heritage in the form of buildings, cities, and landscapes, including both tangible and intangible heritage.
- **Resilience** is the capacity to adapt to unknown future conditions.
- **Sustainability** means the use of resources in a way that does not deprive future generations of the same opportunities for quality of life as we enjoy.

The pedagogy of the MSHP degree program supported by the center is dedicated to preparing students for professional practice that embraces conservation of built heritage, expertise in resilience and sustainability, and design of harmonious new development. In pursuit of these themes the center provides resources that support the academic program. It also underwrites educational activities such as student design charrettes, class travel, public lectures by leaders in the field, conferences, exhibitions, workshops, and demonstrations offering opportunities for hands-on learning by students.

In addition to this support, the center sponsors essential research to promote conservation of cultural heritage (both tangible and intangible) and inspire new sustainable development at the architectural and urban scales. This research focuses on such topics as the recovery of historic building cultures, renewable and nonpolluting materials and methods, revival of historic trades and crafts, urban planning and land use that reduces dependence on fossil fuels, reform of building codes to facilitate historic preservation, international charters and guidance on heritage conservation, and the protection of cultural landscapes and natural resources.

This research program is enhanced by a network of allies and collaborators, including individuals, organizations, and institutions with which the School of Architecture has existing connections and those with which we seek new relationships. One example is the current agreement with the Folklife Center at the Smithsonian Institution in Washington, DC, to establish a registry of individuals and groups engaged in the practice of and training for traditional building trades and crafts. In another collaboration, the Duda Center joined with the Texas Historical Foundation and the Folsom Real Estate Program at Southern Methodist University to produce a conference on Historic Preservation and Sustainable New Development in Dallas, Texas. The conference brought together professionals, developers, and advocates who promote the adaptive reuse of existing buildings and conservation of historic urban neighborhoods. Many other colloquia, lectures, and collaborations are available to students and faculty members through this unique center.

THE HOUSING AND COMMUNITY REGENERATION INITIATIVE

The University of Notre Dame School of Architecture's Housing and Community Regeneration Initiative is a "Think-and-Do Tank" that provides assistance to municipalities and nonprofit organizations to improve economic development by reimagining the built environment.

This work targets immediate local impact as well as national and global influence through case studies, design studies, and research. Three interrelated activities form the framework for the Housing and Community Regeneration Initiative: community-based design charrettes, education, and research and policy.

Areas of Focus:

- Solutions for disinvested communities
- Community regeneration without gentrification and displacement
- Creating human-scale walkable communities
- Repairing abandoned, vacant, and underutilized properties
- Reducing critical housing shortages
- Addressing inequalities that have resulted from housing and transportation legacy policies
- Mitigating the impact of climate change through sustainable development patterns of growth
- Study of productive growth vs. unproductive growth

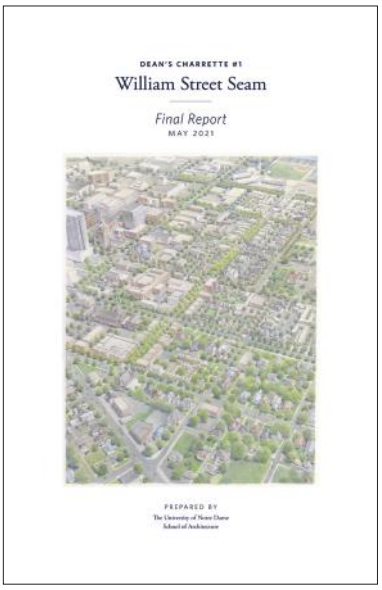
The work undertaken within this initiative is based on the principles of New Urbanism, which strive to create human scale, walkable communities that stand the test of time. The principles are based on the belief that we are stewards of our built environment and are called to leave a better world for future generations.

Located in South Bend, in the heart of the Rust Belt, the faculty and students at Notre Dame have firsthand knowledge of the critical issues facing disinvested cities today. These cities very often have the political will to enact positive changes but don't know where to start.

The goal of this initiative is to physically, socially, and economically renew communities left behind by time, and therefore improve the quality of life of those who inhabit them today. Realizing this vision requires investment in underinvested neighborhoods that support existing residents and a reevaluation of long-held patterns of development that have become intertwined with American identity. Notre Dame's commitment to sustainability and social justice shines through the goals of this initiative and the cities that it services.

A central pillar of this work are the Dean's Charrettes. A charrette is a method of design collaboration that assembles an interdisciplinary team of experts and stakeholders to participate in an intense workshop setting that generates a continuous loop of design collaboration and immediate feedback. Dean's Charrettes are educational charrettes—a unique variation of the typical process. While the work and findings are professionally led, we employ this forum to educate the students who are working side by side with faculty and visiting industry guests, as colleagues. Throughout the process, students are exposed to the dynamics of a real-world project; they employ skills learned in the classroom and have one-on-one tutorials with practicing experts in the field.

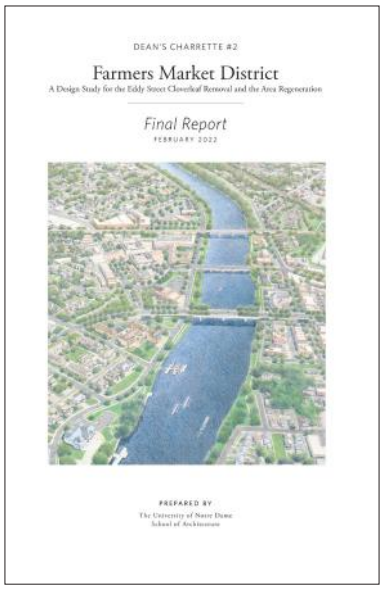
Top: Aerial View of Proposed Masterplan looking north, Dean's Charrette for the South Bend Farmers Market District.
Bottom: View of the Proposed Market Hall, South Bend Farmers Market.



Dean's Charrette #1:
William Street Seam

A Design Study for Urban Edge of Downtown South Bend, IN

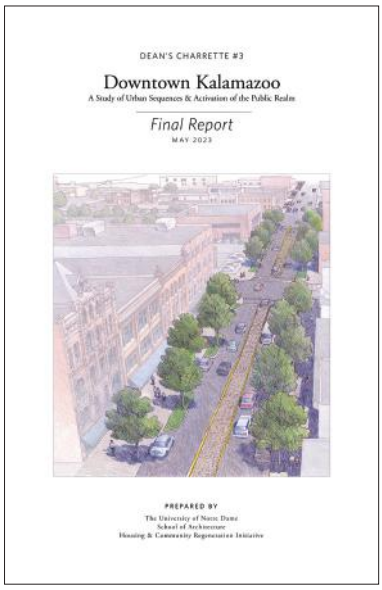
JANUARY 2021



Dean's Charrette #2:
Farmers Market District

A Design Study for the Eddy Street Cloverleaf Removal and the Area Regeneration, South Bend, IN

OCTOBER 2021



Dean's Charrette #3:
Downtown Kalamazoo, MI

A Study of Urban Sequences & Activation of the Public Realm

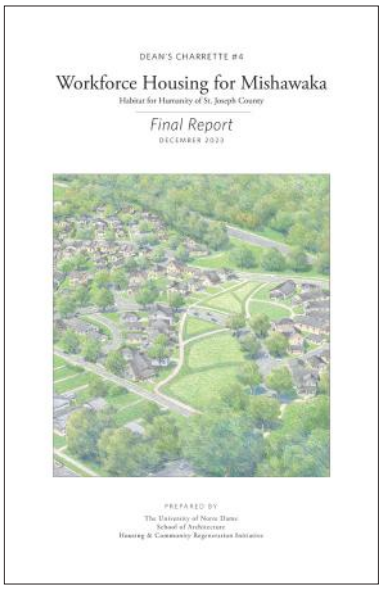
AUGUST 2022

The initiative has ongoing work in three states: Indiana, Michigan, and Illinois. The growing list of project locations includes Elkhart, Gary, La Porte, Mishawaka, and South Bend, Indiana; Kalamazoo, Michigan; and Chicago, Illinois. The findings from the studies developed with these municipalities and nonprofits form the foundation for a new body of research that seeks to offer solutions to overcome a legacy of disinvestment and the loss of a culture of generating productive growth.

The 100-Mile Coalition

Cities throughout the United States are currently struggling to address critical housing shortages, maintain a crumbling infrastructure, and reckon with the social inequity resulting from a legacy of shortsighted federal and state housing and transportation policies. These issues are especially acute in the post-industrial Midwest —the Rust Belt—where most cities have been in sharp decline since the Urban Renewal period of the 1960s. Deindustrialization, the resulting economic distress and population loss in these communities, has resulted in severe urban decay and a decrease in the quality of life and opportunity there.

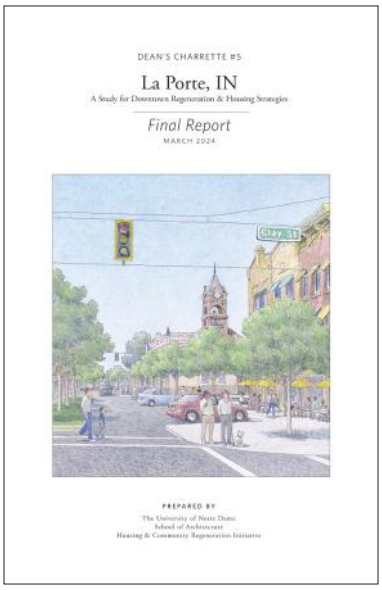
The typical current state of deterioration in the built environment of Rust Belt cities is rampant sprawl, underperforming downtowns, vacant properties, outdated infrastructure, poorly maintained parks and public spaces, and a decline of walkable neighborhoods. Communities are in dire need of regeneration but generally lack the financial and human resources to do so. The future economic viability of a municipality depends on its ability to attract and maintain a skilled workforce. Today's workforce is resoundingly choosing to move



Dean's Charrette #4:
Workforce Housing for Mishawaka, IN

Habitat for Humanity of St. Joseph County

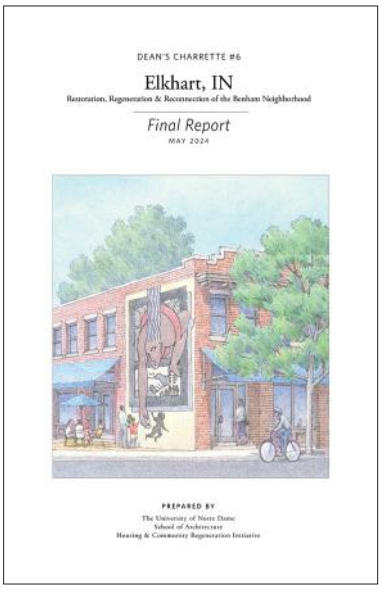
OCTOBER 2022



Dean's Charrette #5:
Downtown La Porte, IN

A Study for Downtown Regeneration & Housing Strategies

MAY 2023



Dean's Charrette #6: Elkhart, IN

Restoration, Regeneration & Reconnection of the Benham Neighborhood

AUGUST 2023

to cities that prioritize placemaking by investing in a walkable downtown core.

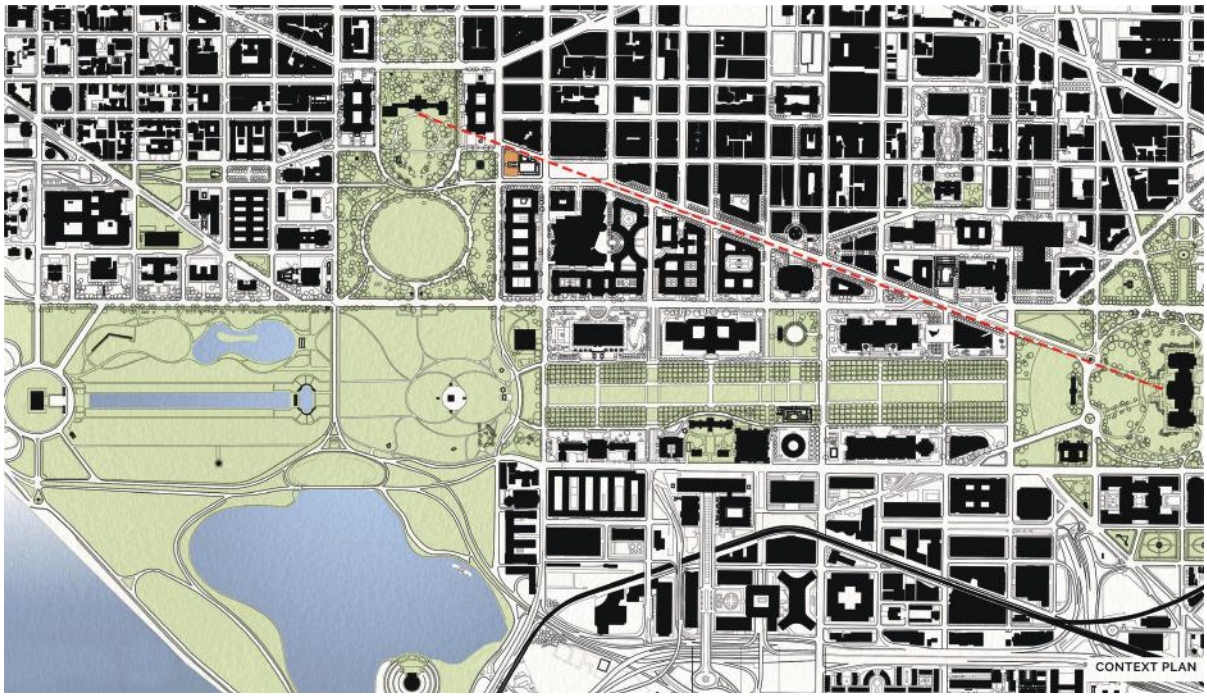
After extensive engagement on projects throughout northern Indiana and southwest Michigan, the Housing and Community Regeneration Initiative launched the "100-Mile Coalition." This coalition brings together a group of cities and nonprofits within a 100-mile radius of the University of Notre Dame who are working to address shared issues relating to housing shortages, disinvested communities, failed infrastructure, stagnant economic growth, talent and workforce retention, and accessibility to technology. This coalition has formed a network that shares knowledge and solutions for common issues. The case studies and research generated from this coalition offers support for communities both nationally and globally.

A Vision for a Better Tomorrow

The mission, values, and pedagogy of the Notre Dame School of Architecture make it the ideal catalyst for change in the built environment. With a combination of faith and knowledge, the faculty brings theory and practice to the community outreach process. Our teaching, research, and design practice is guided by a similar vision to generate more humane, durable, useful, and beautiful cities. Through our campus connections as well as national and international networks, we bring a variety of associated and relevant disciplines to the work of the initiative. Faculty, students, and invited professionals from a wide range of relevant fields all participate in the initiative to design a fiscally sound, socially just, and environmentally sustainable future for American cities.

Notable Graduate Student Work

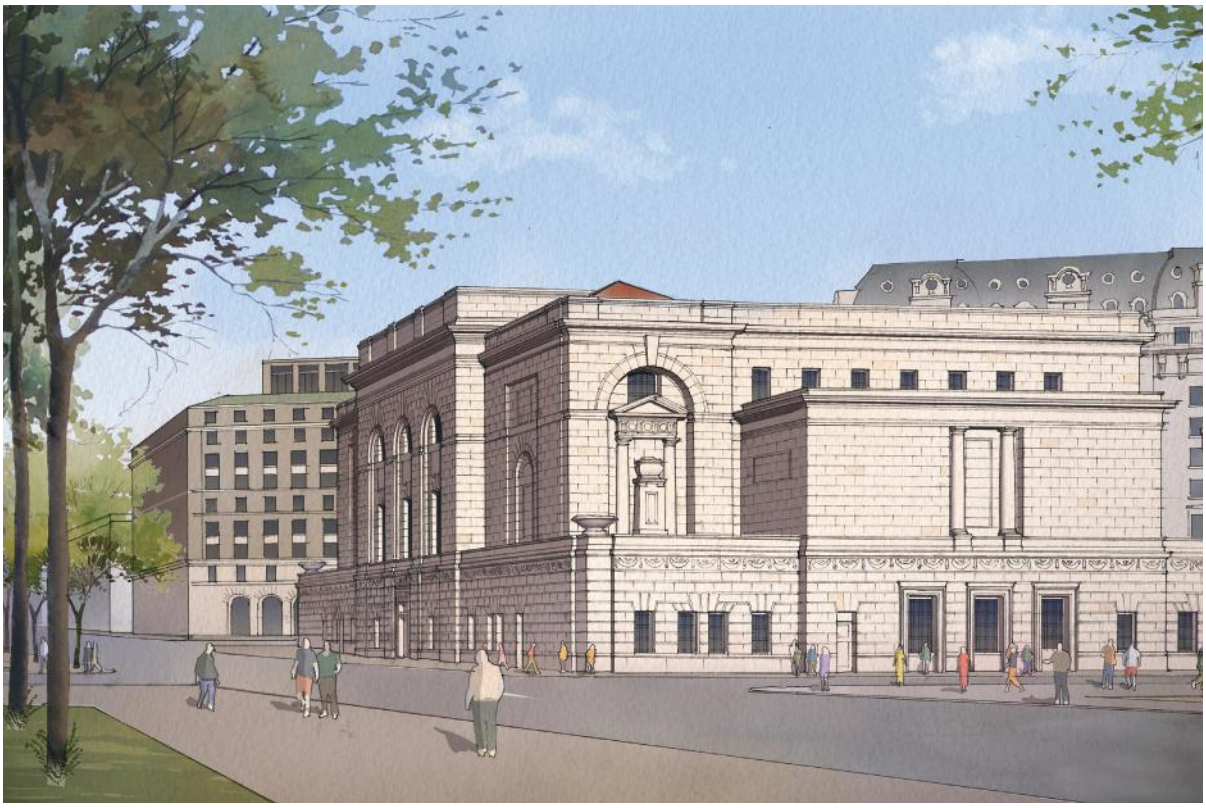
Each academic year, faculty members and guest reviewers select the most outstanding student work to receive awards. At a ceremony at the end of the year, the dean presents the awards, all of which honor excellence within the program, from second-year through graduate level.

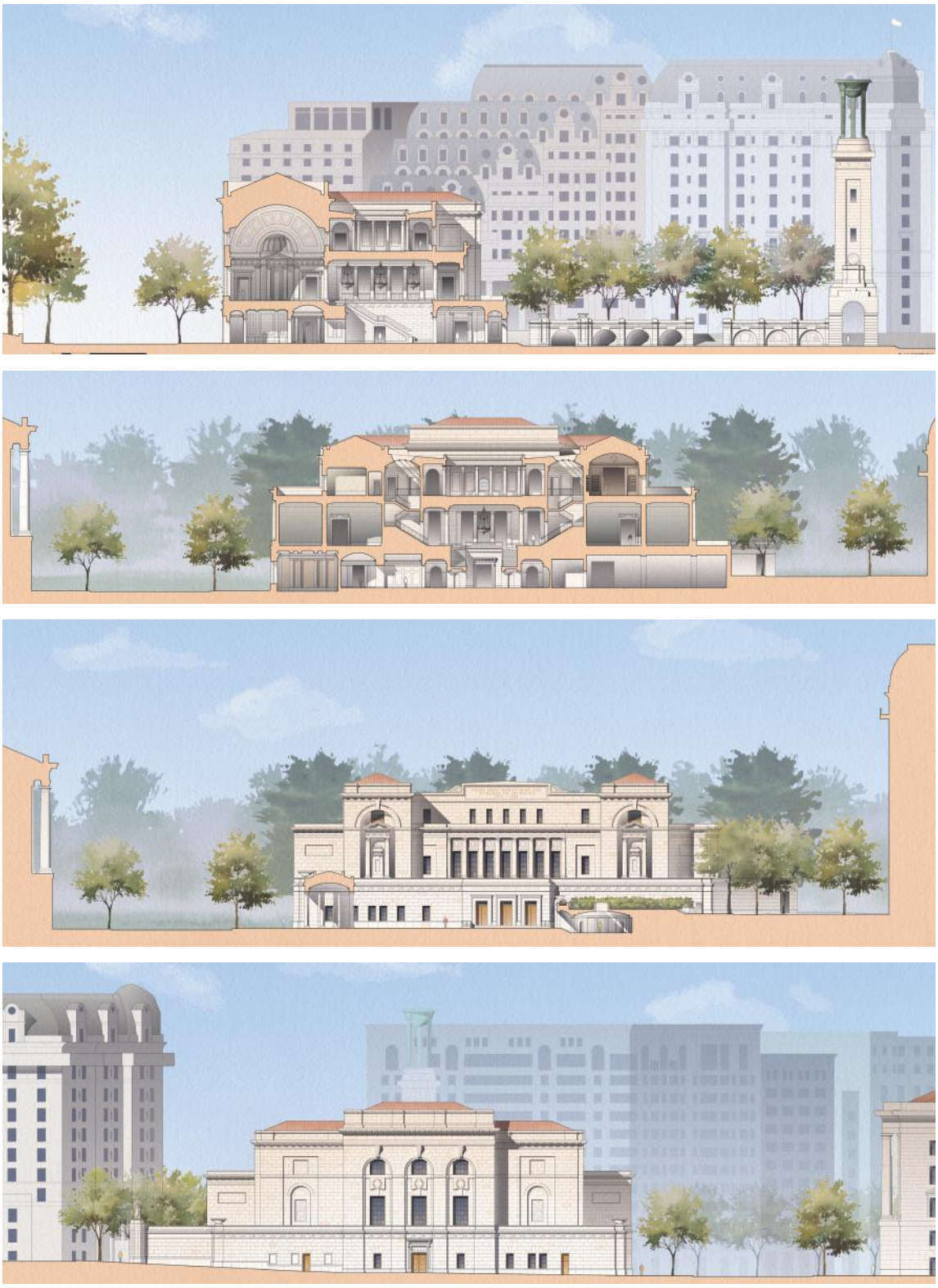


JULIAN DAVID MURPHY

Ferguson & Shamamian Graduate Prize; Leon Battista Alberti Award

World War I Memorial Counterproject, Washington, DC
Professor Samir Younés, 2020





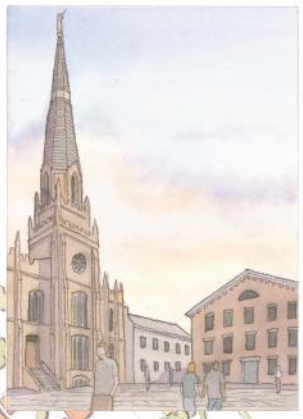
Julian David Murphy, World War I Memorial Counterproject, Washington, DC

BENJAMIN FELIX

Dean's Graduate Award for
Design Excellence in Architecture

A New Urban Core for the City of Layton
and the Layton Temple, Utah
Professor Samir Younés, 2019

VIEW 1



VIEW 2

VIEW 3

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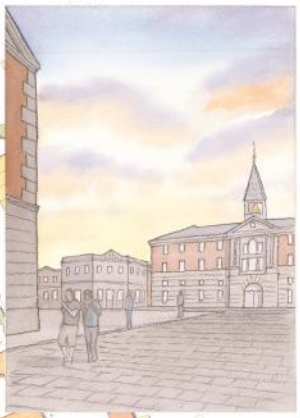

VIEW 5

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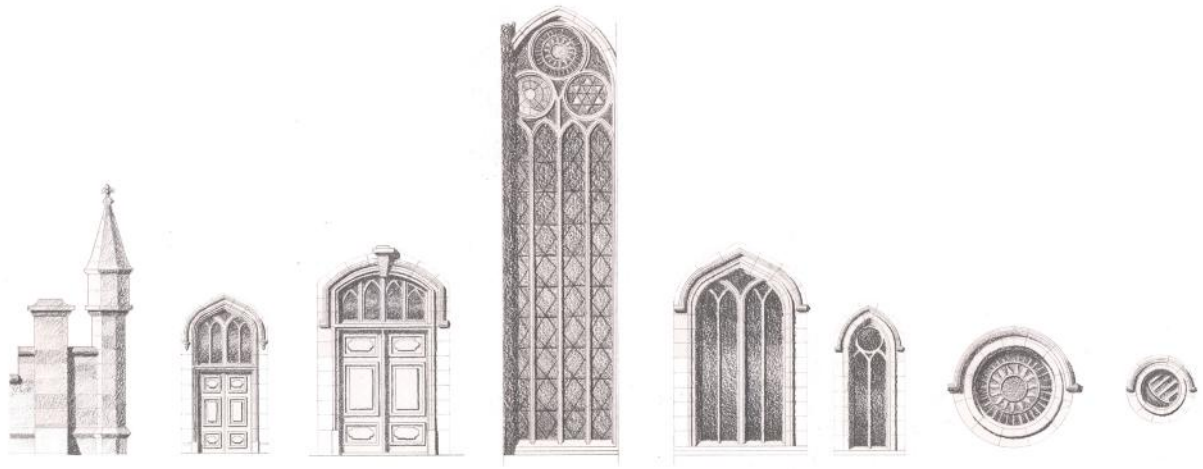
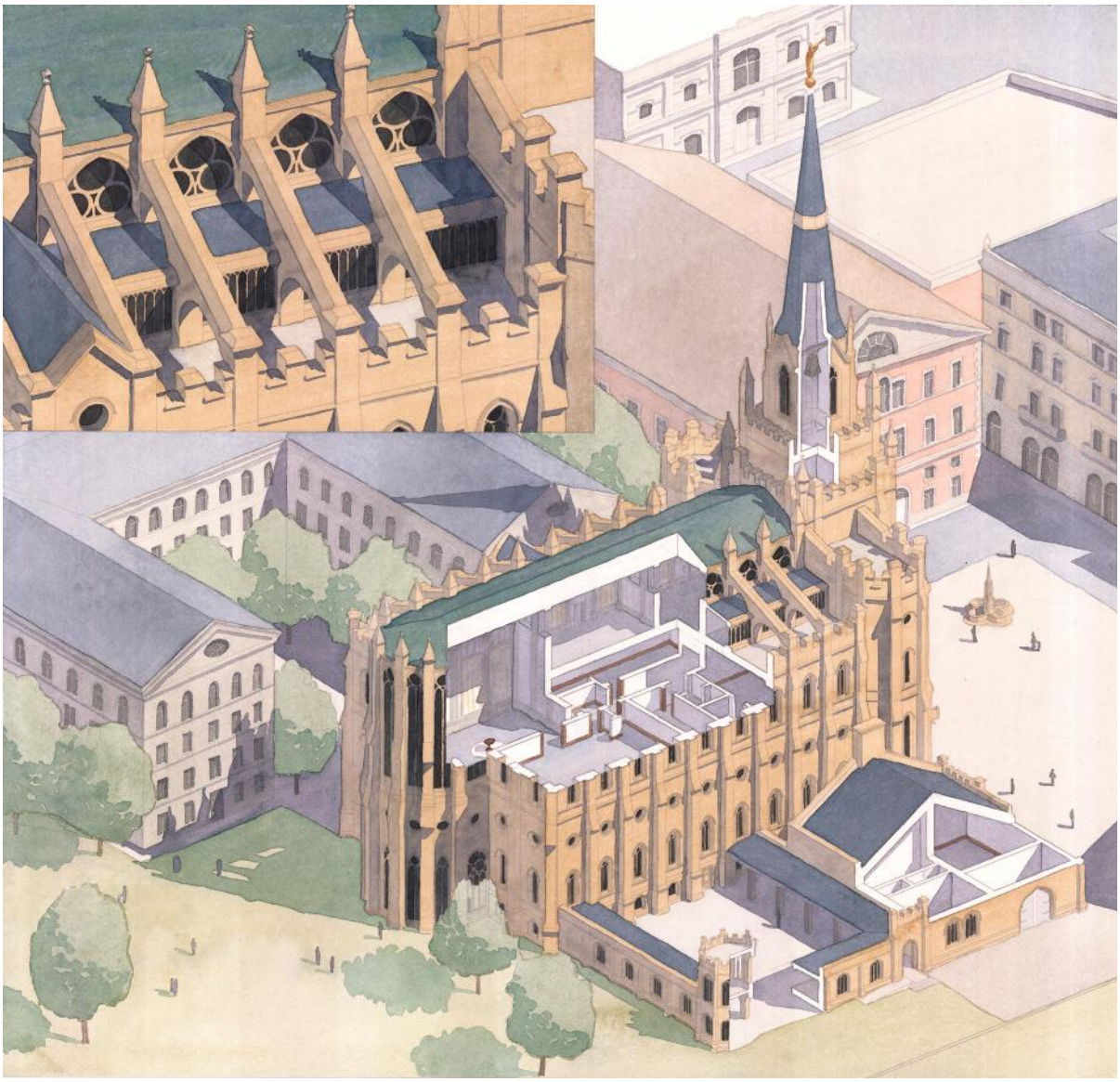




Benjamin Felix, A New Urban Core for the City of Layton and the Layton Temple, Utah

PATRICK BECK

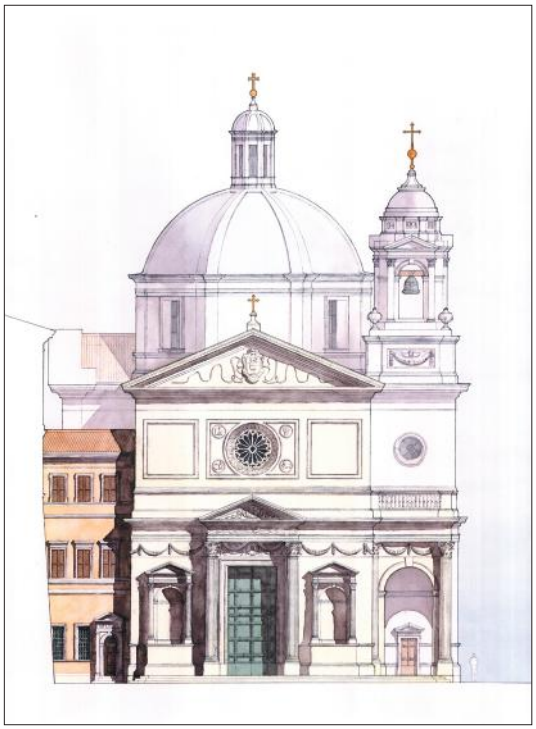
ICAA Shutze Award; Association of Licensed Architects Student Merit Award, Graduate; Honorable Mention Award for Design Excellence in Architecture (Graduate)

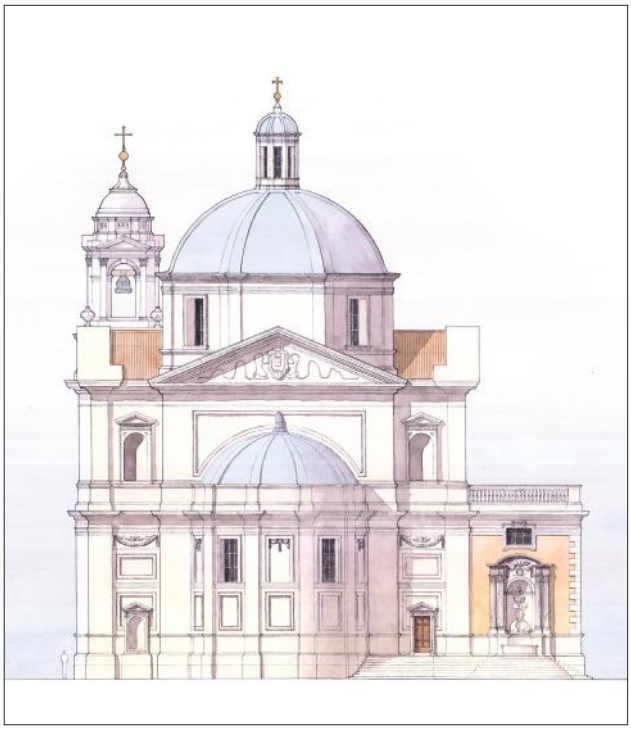
Jane's Court, Davidson, North Carolina, Professor Sebastian Treese, 2023

ANTHONY LOUIS FERRARO

Ferguson & Shamamian Graduate Prize; Henry Adams Medal, Graduate

Church and Monastery of San Benedetto, Norcia, Italy
Professor Samir Younés, 2022



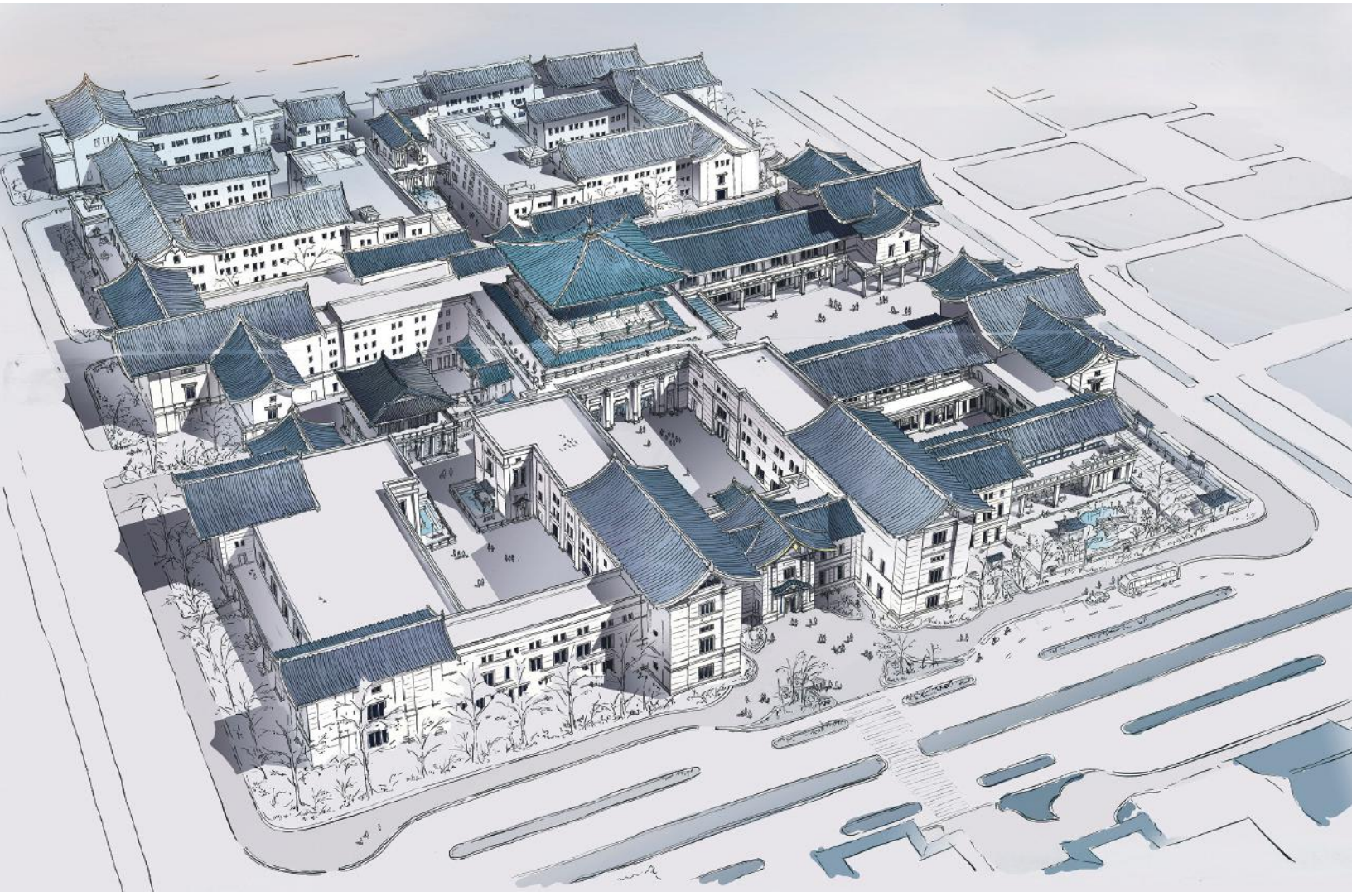


BENJAMIN SHELTON

Dean's Graduate Award for Design Excellence in Architecture

Westchester Market Station in West Chester, Pennsylvania, Professor Sean Nohltey, 2021

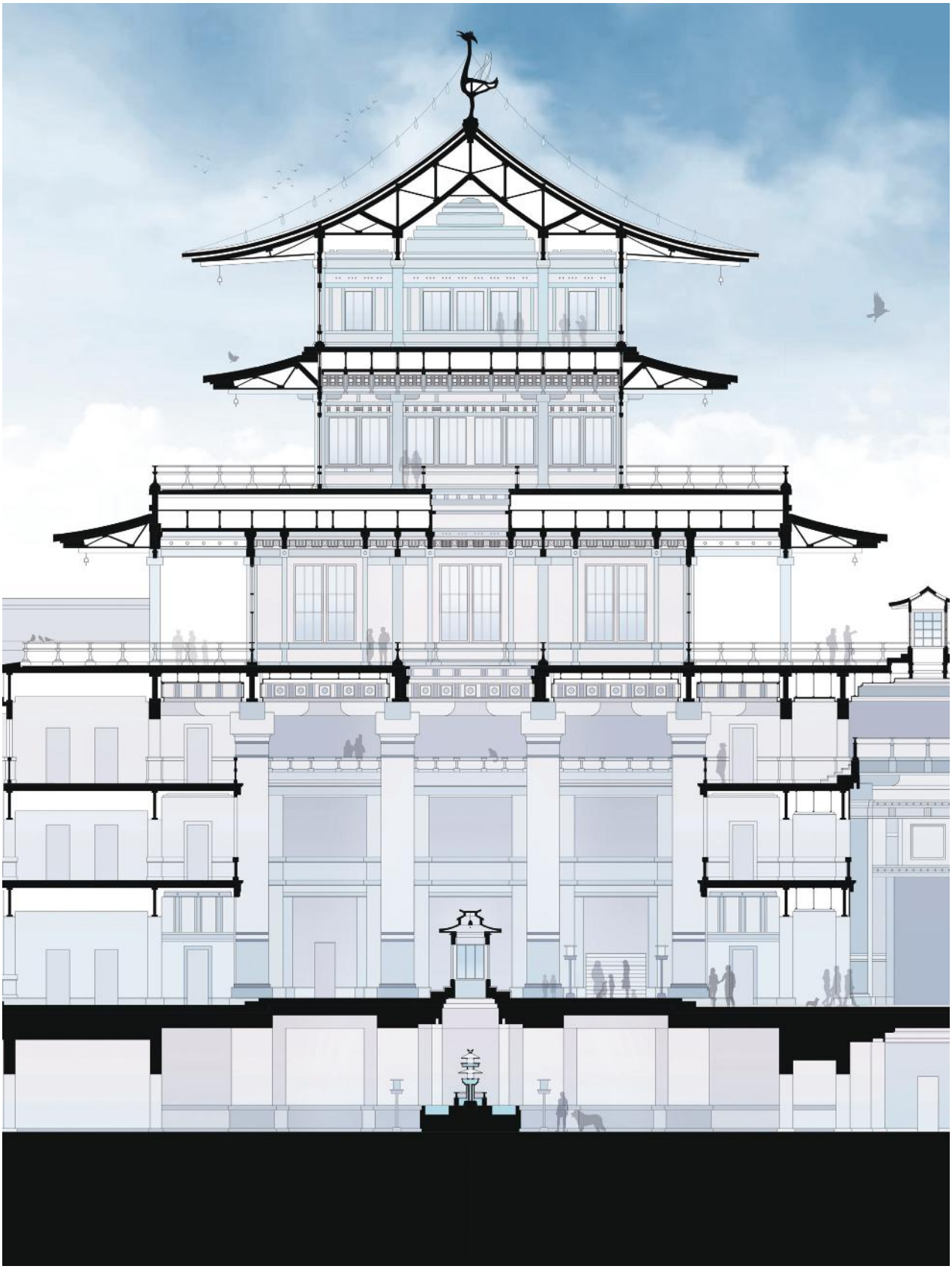

PATTON AVE
EAST GAY STREET
TO PARKING
RETAIL/RESIDENCES
NORTH MATLACK STREET
MIDDLE ALLEY
PARKING DECK
(2/3 FLOORS, 330' W)
RESIDENCES
RETAIL/RESIDENCES
EAST MARKET STREET
STATION LANE
ROWHOUSES (?)
CEDAR
ALLEY
SERVICE COURT
MARKET HALL
MARKET SQUARE
120'X260'
MARKET COURT
CEDAR ALLEY
ROWHOUSES (10)
MARKET GREEN
EAST MINER STREET
SOUTH FRANKLIN STREET
SOUTH MATLACK STREET
STATION
DROP OFF & ACCESS PARKING
TRACK 1
TRACK 2
INBOUND PLATFORM
FRANKLIN PARK
LOCUST ALLEY
LOCUST COURT
EAST BARNARD STREET
BARNARD ST PAVILION
DANA DRIVE
SPRUCE ALLEY
MECHANICS ALLEY
URBAN PLAN

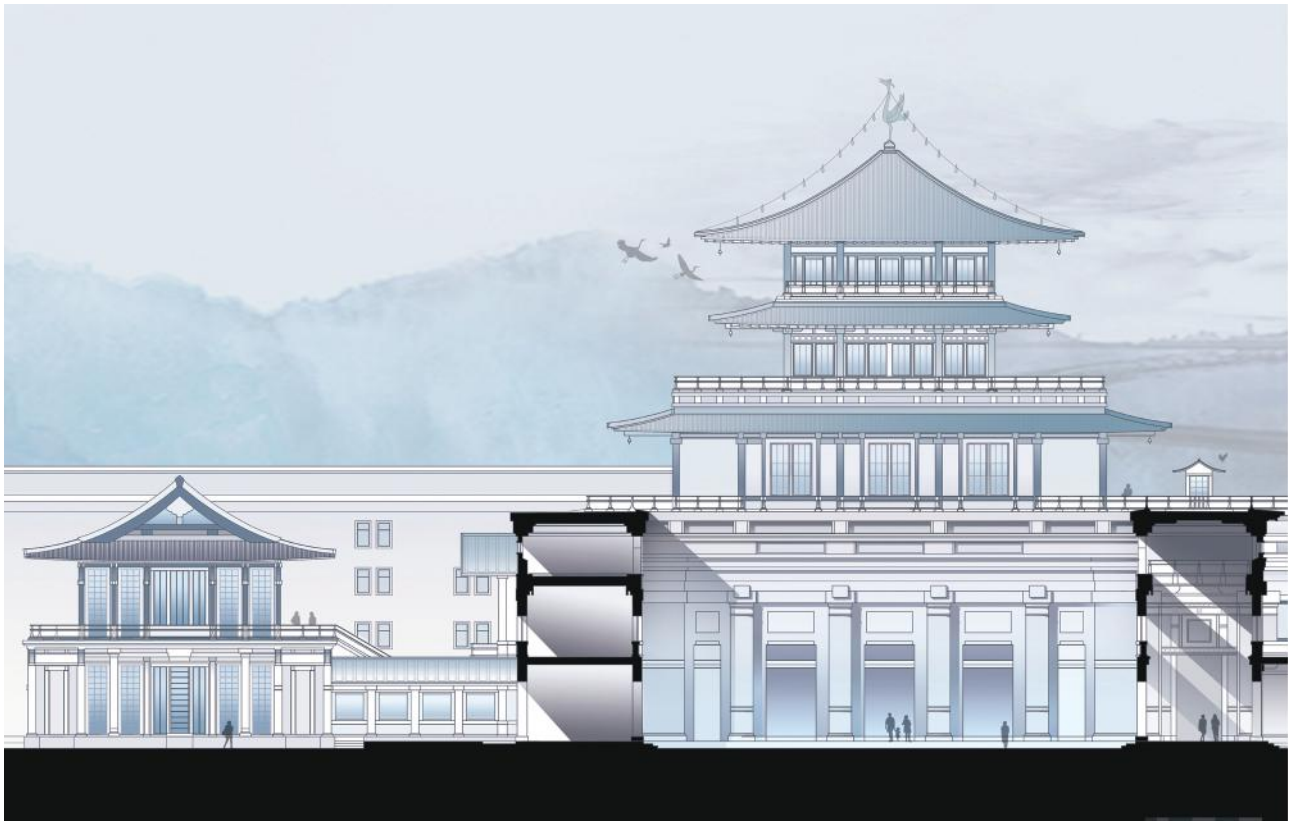


MARGARET (XIAOYUN) ZHANG

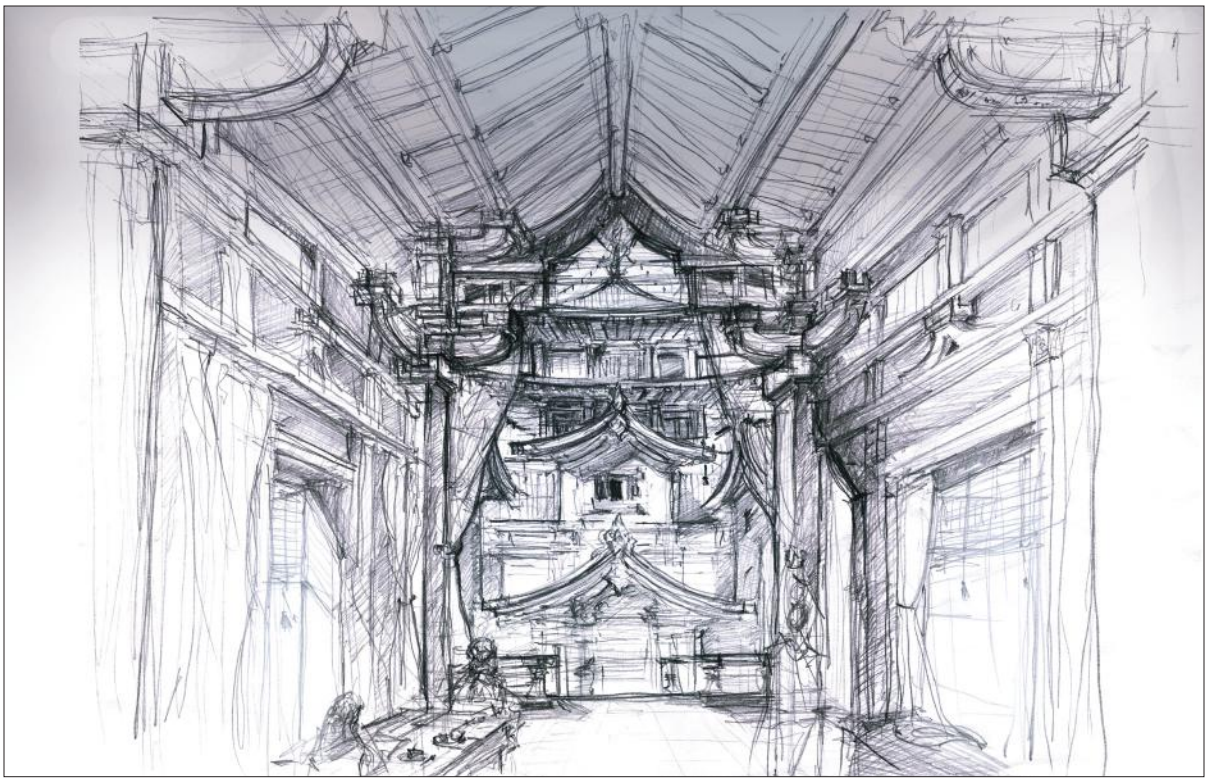
Ferguson & Shamamian Graduate Prize; Leon Battista Alberti Award

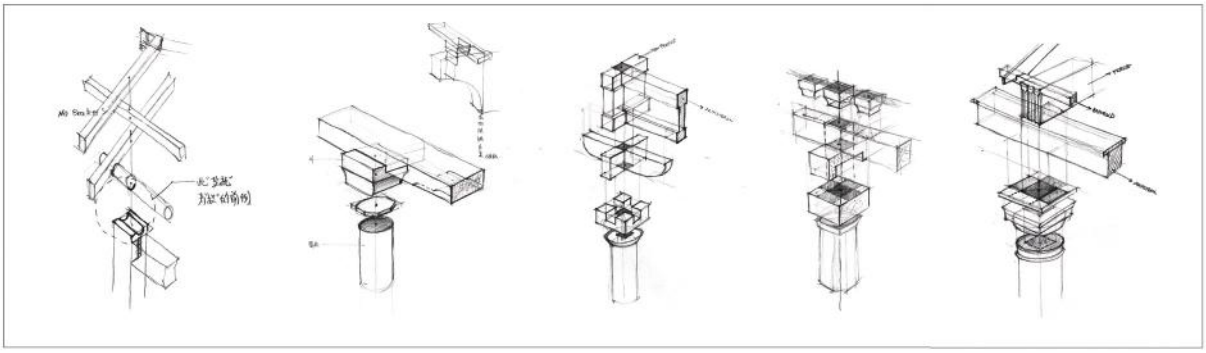
Institute of Dunhuang Arts, Beijing
Professor Michael Lykoudis, 2019

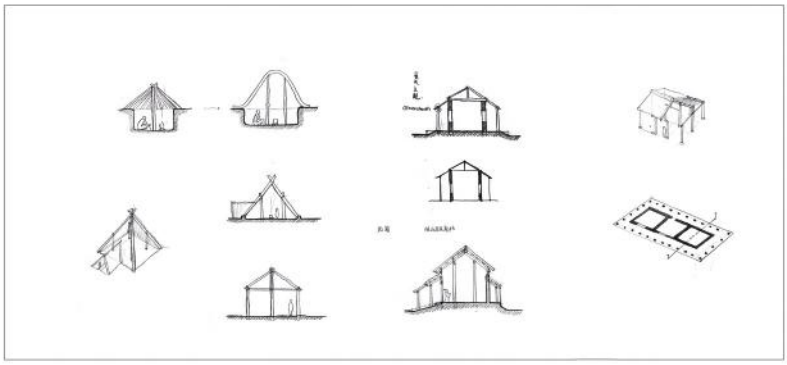


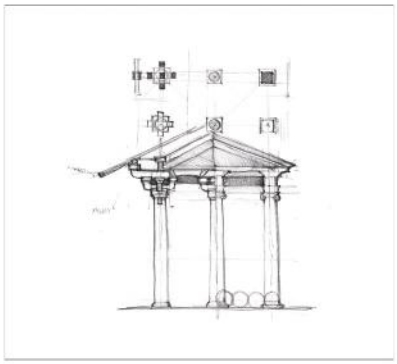


Margaret (Xiaoyun) Zhang, Institute of Dunhuang Arts, Beijing





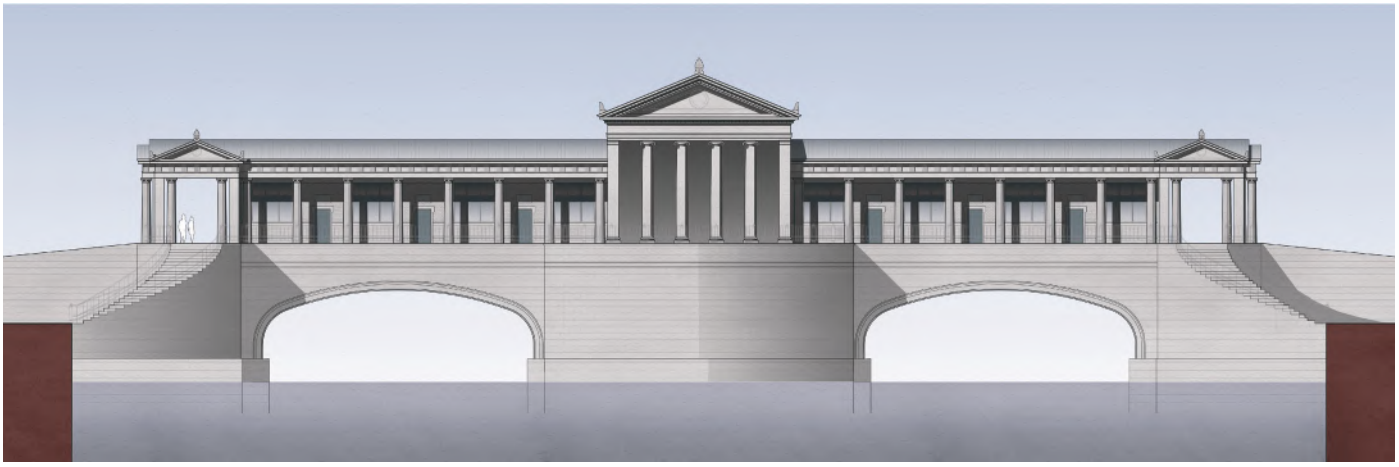


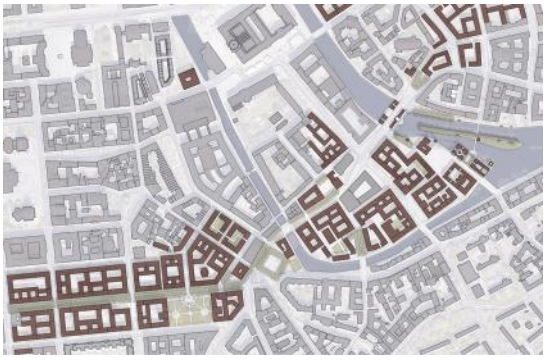


NATHAN THOMAS

Ferguson & Shamamian Graduate Prize

Union Pier Redevelopment, Charleston, South Carolina
Professor Stefanos Polyzoides, 2023

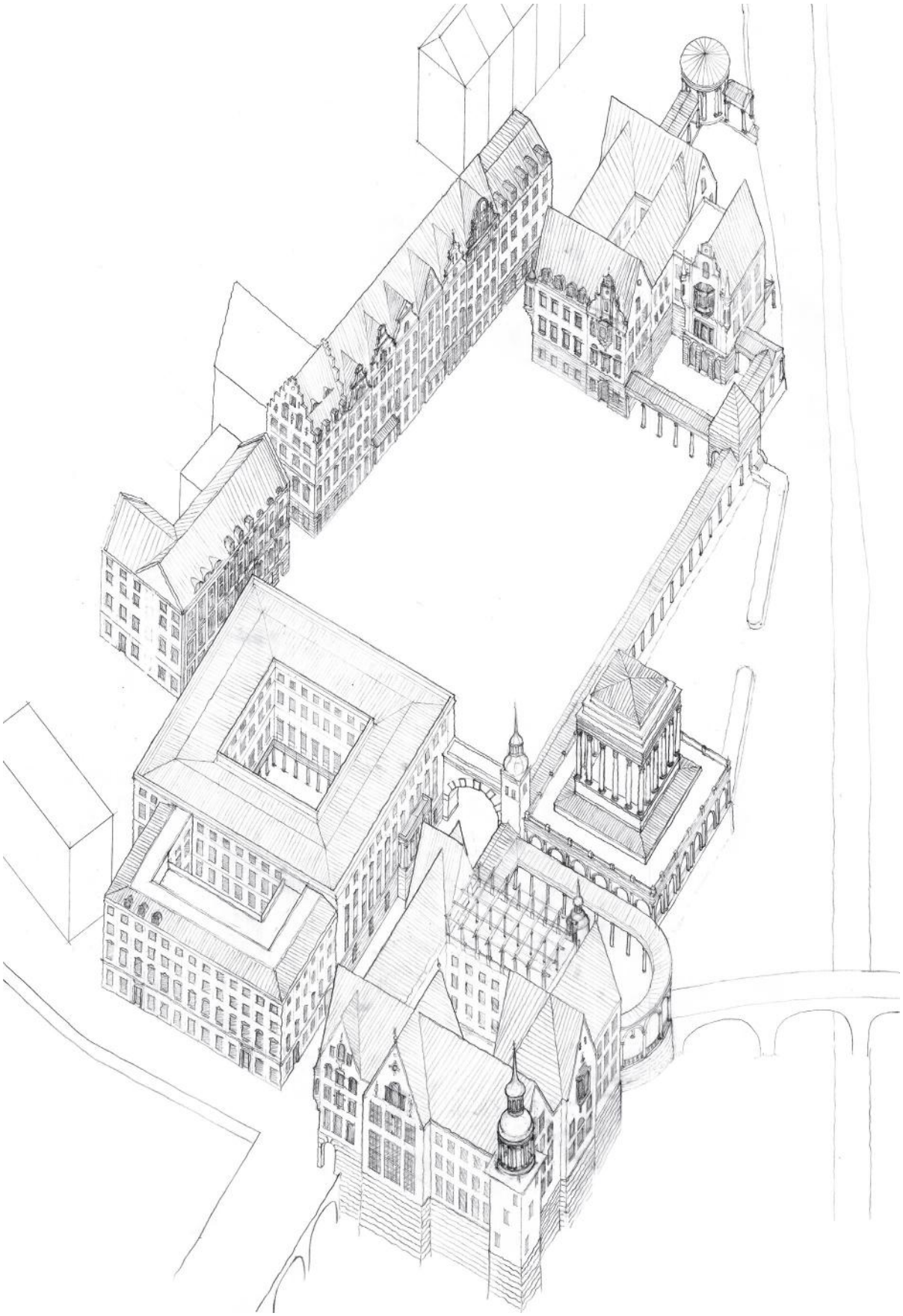


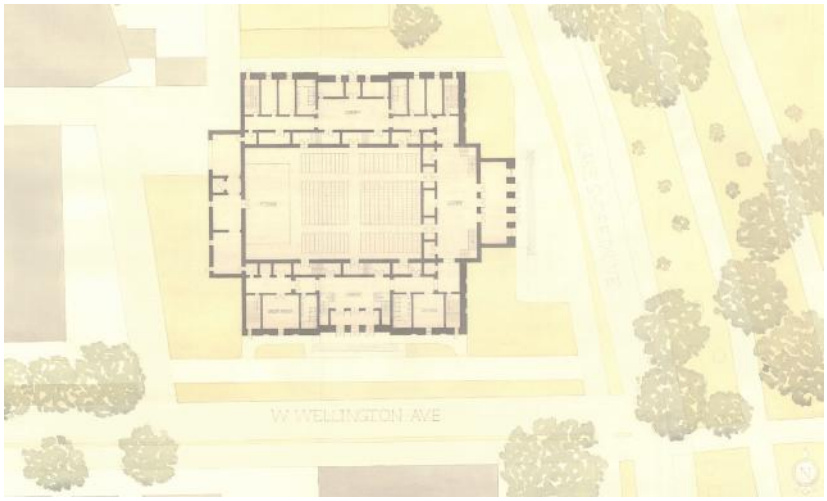


JAMES LENGEN

Ferguson & Shamamian Graduate Prize; Leon Battista Alberti Award

Urban Redevelopment of Fischerinsel, Berlin, Germany
Professor Douglas Duany, 2021





JACK EDWARDS

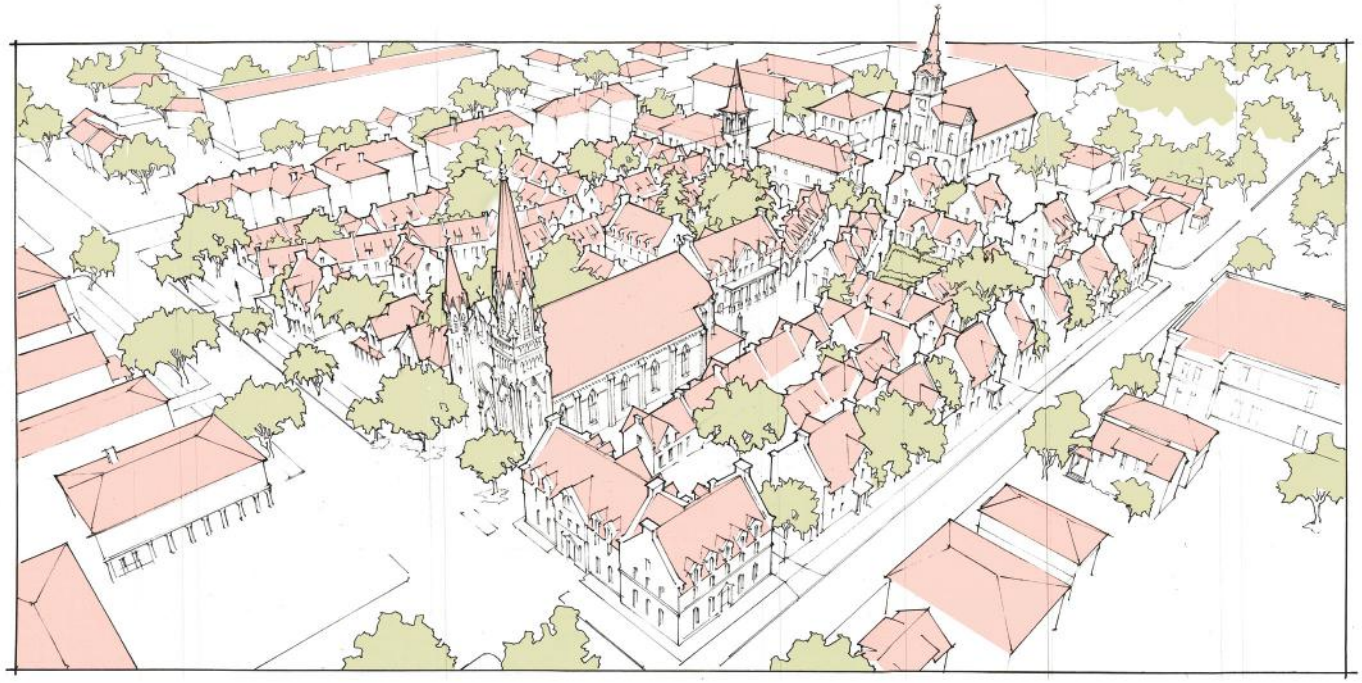
Symphony Hall

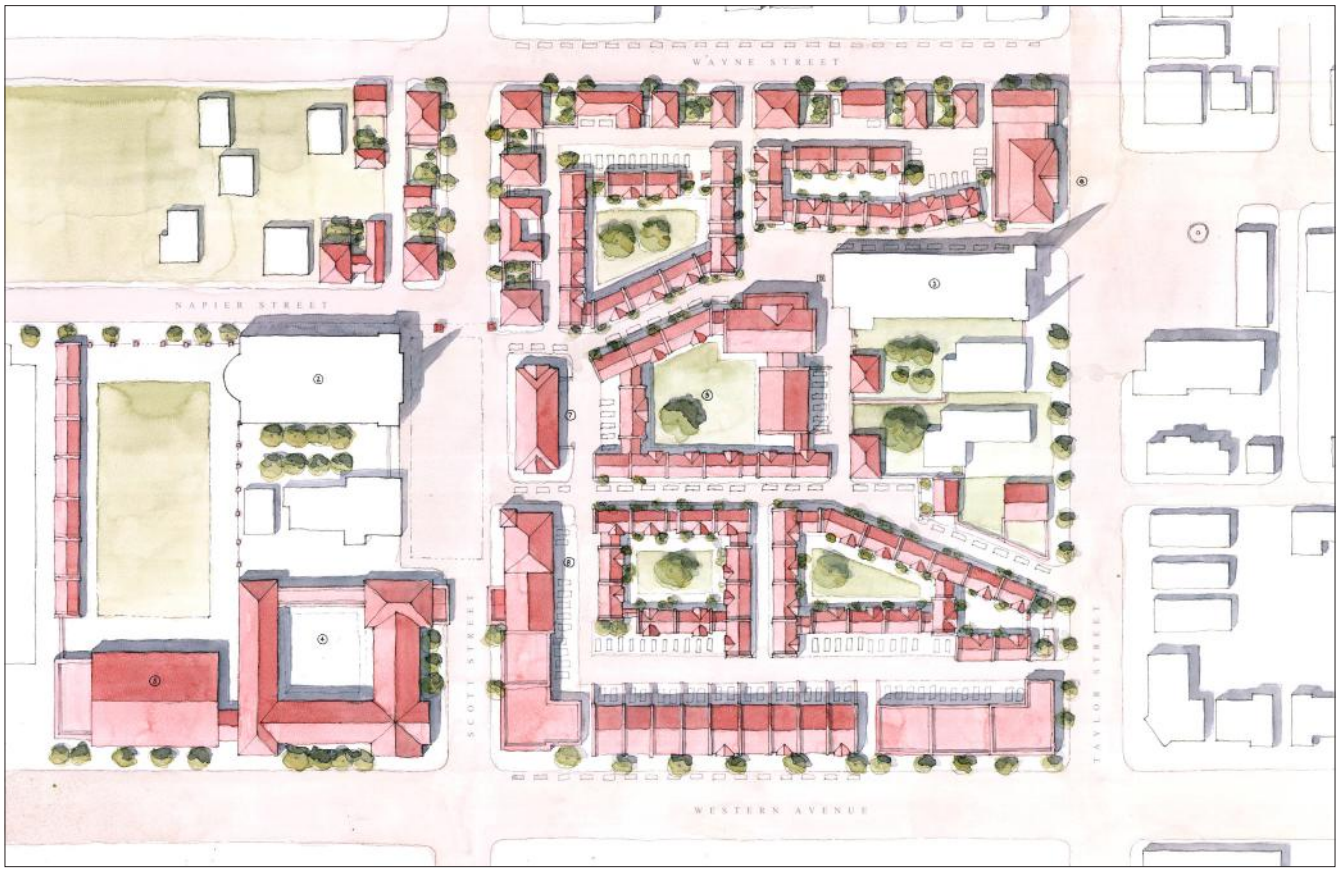
Lincoln Park, Chicago
Professor Duncan Stroik, 2023

CHRISTIAN JOHNSON

Honorable Mention Award for Design Excellence in Architecture

A Bridge and River Market for Luang Prabang, Luang Prabang, Laos
Professor Philip Bess, 2021




WAYNE STREET
NAPIER STREET
SCOTT STREET
TAYLOR STREET
WESTERN AVENUE

PATRICK BECK, SHAUNI PRIYAM SIKDER, SAM USLE

St. Patrick and St. Hedwig Parishes: A Neighborhood Revival

South Bend, Indiana, Professor Philip Bess, Spring 2022


ARCHITECTVRE

THE ARCHITECTURE LIBRARY

JENNIFER PARKER

The Architecture Library, housed within the Matthew and Joyce Walsh Family Hall of Architecture, is home to more than 36,000 volumes on Architecture, Architectural History, Landscape Architecture, Urban Design, Urban Theory, Historic Preservation, Furniture Design, Planning, and other related fields.

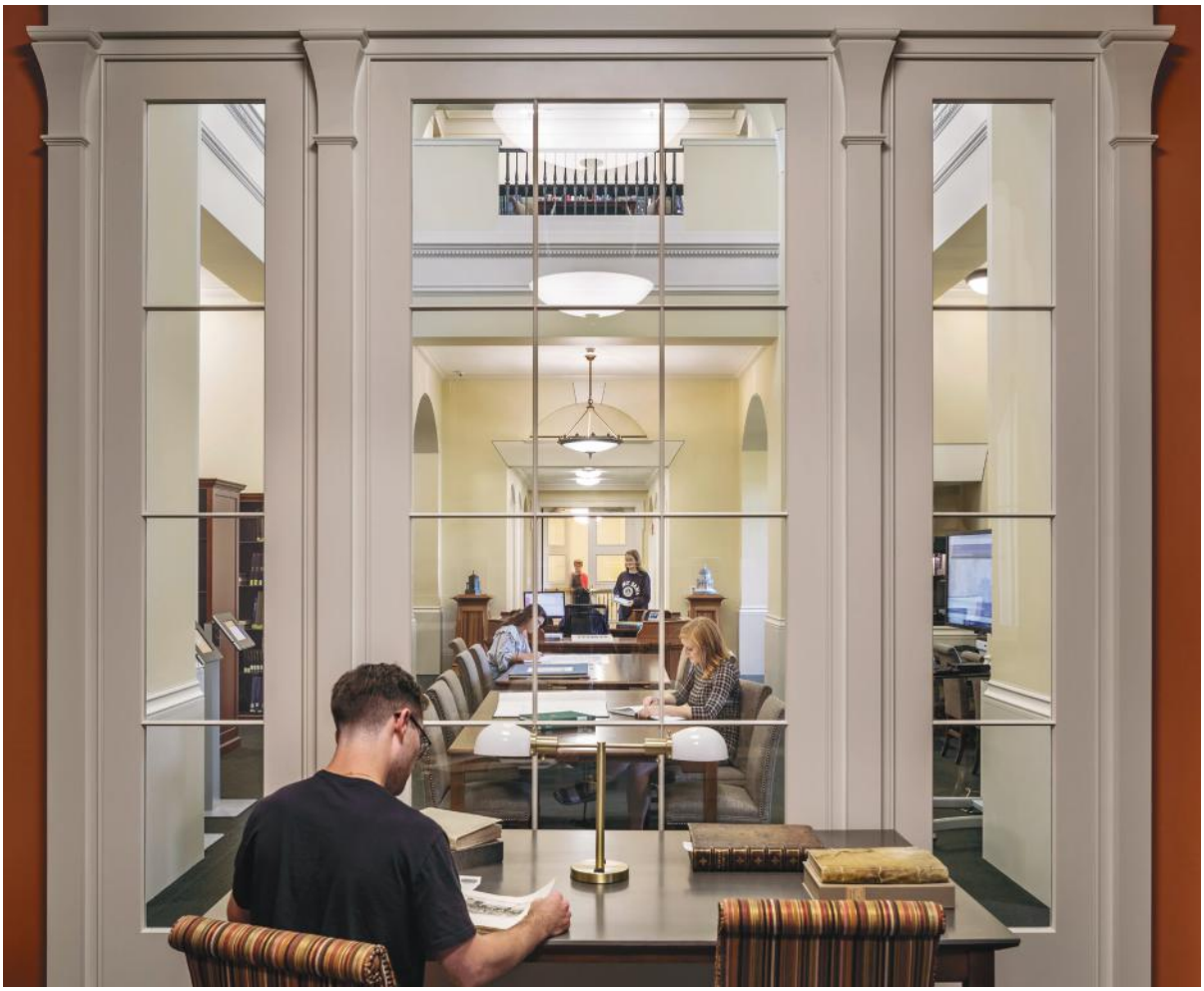
The collection began in the early 1900s as part of the larger "art and architecture collection" Notre Dame's Administration Building contained, and where the fledgling Architecture program also lived. It remained there until 1931 when the Department of Architecture moved into its own building, now Crowley Hall. There, the collection grew to more than 800 volumes.

The Department of Architecture took over the Lemonnier Library in 1964 after the construction of the Hesburgh Library. The Lemonnier Library was renovated by Professor Frank Montana to suit the needs of the growing school. In the 1990s Lemonnier was renovated again by then chair Thomas Gordon Smith and the library was relocated to the center of the newly named Bond Hall. The Department became the School of Architecture and the library grew to more than 30,000 volumes. The library added a small rare book collection at that time. The School and Library remained in Bond Hall until the construction of their new home, the Matthew and Joyce Walsh Family Hall of Architecture, was completed in 2019.

In addition to the collection in Walsh Family Hall, architecture students are supported in Rome through Notre Dame Global by a 4,000 volume collection of architecture source materials and e-books.

Students

The Architecture Library was designed with students in mind. Each of the three floors provides a different user experience with the focus on meeting the diverse needs of the student body. It is a place of learning, rather than a study hall. There is ample space for individual and group study, along with smart meeting rooms that include digital conference room technology, pinup space, as well as public computers and scanners.



Collections in the library are built for and by the students. The librarians work with the students to purchase every request a student makes. These items become part of the circulating collection and will support student and faculty needs for years to come. The faculty and staff of the Architecture Library regularly work with teaching faculty to incorporate library research and resources that enhance the curriculum. The goal is to create lifelong learners and architects immersed in precedent study and the history of their profession. The success of this practice is evident in the extensive use of the collections. The Architecture Library contains just 1 percent of the total holding in the Hesburgh Libraries of the University of Notre Dame but accounts for more than 4 percent of the circulation.

Ryan Rare Book Room and Collections

The highlight of the Architecture Library is the rare book collections housed in the library's state-of-the-art storage facility and utilized in the Ryan Rare Book Room (RRBR). These extensive collections of early architectural publications include first editions of some of the most important treatises on architecture. The collections began by donations. The first of these was the Ryan Family Collection of the Park List. The Ryan family supported the acquisition of more than 65 titles from the Helen Park list of architecture books known to have been in the country prior to the American Revolution. The reading room was named in honor of Jim Ryan after his passing in 2009 to recognize his commitment and contributions to educating architects.

The Architecture Library now possesses the largest known collection of titles from the Helen Park List, along with selections from Henry Russell Hitchcock's "American Architectural Books: A list of Books, Portfolios, and Pamphlets on Architecture and Related Subjects Published in America Before 1895." This collection, supported by notable alumni Gwen and John Burgee and Mary O'Shaughnessey, includes nearly 400 titles published between 1775 and 1895. These generous donations directed the focus of the RRBR on the history of the study and practice of architecture in the United States and the study of classical and traditional architecture.

Other collections housed in the RRBR include Architectural Treatises, French Architecture, Greek Architecture, Roman Vedute, and Rome Outside of Rome. Notable holdings include the first published architecture book, Alberti's De Re Aedificatoria (1485), the first illustrated architecture book, the Fra Giocondo Vitruvius (1511), and the first full architectural treatise in English, Five bookes of architecture: translated out of Italian into Dutch and out of Dutch into English, by Sebastiano Serlio (1611). Acquisitions include early editions of treatises by Palladio, Vitruvius, Serlio, Scamozzi, and many notable Roman vedute including works by Piranesi, Vasi, and Falda.

The University of Notre Dame's Hesburgh Libraries, the School of Architecture, and generous donors continue to grow the collections in the RRBR. New titles are added to the collections regularly. The Architecture Library's Ryan Rare Book Room is a resource open to students and scholars interested in the history of the study and practice of architecture in the United States, and the history of architectural study and design.

Archives

The architectural archive collections housed within the Architecture Library support the research and curricular needs of the faculty, students, and guests of the School of Architecture. The collections provide access to historical documentation of significant New Traditional and New Urbanist architects and firms, architects and their related firms who have won the Richard H. Driehaus Prize at the University of Notre Dame, a retrospective collection of student work, rare and exceptional materials, and documentation related to the study of classical and traditional architecture and urbanism. These collections are appraised for their enduring historical, evidentiary, and legal value following best practices for collection development and they represent a unique assemblage of contemporary materials that are impactful and inspirational research resources.

Highlights of the Architecture Archive include the Leon Krier Collection, the Seaside, Florida Records and Seaside Research Portal, and archives of the Driehaus Laureates including the Robert Adam Collection and Allan Greenberg Collection. Collections include sketches, preliminary designs, technical drawings, prints, slides, notebooks, correspondence, and architectural models. Items within these collections can be used to learn more about a specific architect or their style, to research individual buildings, to study the built, and unbuilt, environment, and to understand urban planning. Access to the Architecture Archive's collections is open to everyone through appointment with the Architecture Archivist.

Makerspace

The Library's 3D Makerspace has grown exponentially over the last several years. It began with one 3D printer and self-taught staff. It has become one of the busiest spaces in the library with multiple large and small format printers running almost non-stop to fulfill the printing needs of the students and faculty. Today, it is staffed by a full-time specialist who teaches modeling and printing workshops and guides students on their design and plans.

ORIGINAL
RESTORED

APPENDIX

序言

翻译胡明

在2020年初春，经历了二十年的学术生涯和作为MOULE & POLYZOIDES合伙人的二十五年实践之后，我同意从2020年7月1日起担任圣母大学建筑学院的下一任院长。在那一年的三月和四月，我有机会通过与学院各级别教师成员进行ZOOM通话，熟悉学校的现状。在这些通话中，我发现大多数教师成员都有个人对教授新古典主义和传统建筑的承诺。然而，他们对同事的确切意识形态立场，或者教师对课程的总体看法，却不甚清楚。结果显示，在过去数十年中，学院已经积极发展了三十年的教学理念，但这些理念并没有在同事间详尽分享，也没有被正式记录下来。

五月中旬，当我正准备从加利福尼亚搬迁至印第安纳时，我请求当时的院长迈克尔·利库迪斯与我合作，以书面形式描述我们学院教学的基本要点。他的接受以及随后的富有成效的交流，最终产出了本书所讨论的概要文件。我们的合作基于两个不同的视角进行：他的是基于领导学院十八年的经验之上的纪实视角，我的则是基于对未来课程逐步进步的期望。自那以后，编写这份教学法概要的好处是多方面的：

这份文件帮助我们向大学和顾问委员会解释我们的课程性质。它作为一个平台，向国内外的建筑学同行和院长介绍我们的学院。它帮助我们加强了教师团队的团结，并增强了学生的智力追求。最重要的是，它使教师能够在进行他们的工作室和课程时保持觉知、开放和合作。我们对这十二个原则的集体理解和支持，使学院成为了一个更加外向的社区。一个可以根据批评的性质来捍卫和调整其立场的社区。有了这份文件，我们成为了更好、更有助益的同事，也成为了一个更加自信的学校。

在接下来详细展开的部分中，这些原则被分为两个部分组织：在第一部分，个别教师成员负责一个或有时是多个原则，并就它们作为建筑教育重要组成部分的重要性提出了论证性声明。在第二部分，首先描述了每个工作室和课程的目标，然后协调它们，作为技能和知识模块的顺序概要，这些模块需要逐步传授给学生。知识传递的一个组成部分，就是期待学生能够展示他们已经吸收了这些教训，并已将其融入他们作为年轻建筑师不断发展的能力中。

在建筑、城市规划和景观设计方面的综合教育，其教学和学习的意图性不亚于此。

STEFANOS POLYZOIDES
Professor of Architecture
Francis and Kathleen Rooney Dean
University of Notre Dame

21世纪建筑教育的十二要点

引言

在圣母大学，我们将建筑学作为一个综合性学科和职业进行教授，包括了对以下传统学科的同步指导：设计工作室、历史与理论、建筑和环境技术、绘图、实践以及其他相关的边缘学科。我们认为这些学科同等重要，对学生来说是不可或缺的，并且我们将它们以相互结合的方式最大程度地教授给学生。

以下是学校教授给学生们的基础原则，学生们需要持续地关注这些原则并掌握它们，无论是在校园内学习期间还是在他们未来的职业生活中：

1. 建筑与自然：我们认识到，几个世纪以来，建筑一直是为人们、他们的企业和机构提供庇护的手段。我们的课程基于这样一个前提：建筑是不断与自然和谐发展的人类栖息地的基础。″

2. 知识的保存与传承： 我们坚信，建筑学的教育不仅要传授当代的技术和实践，也要深入探索历史知识和传统技艺，因为这些是未来创新的基石。

3. 多样性与适应性： 我们致力于这样一种学习理念：基于保护并拓展我们所拥有的建筑、城市规划和景观设计的深厚理论、历史和实践知识。将新项目与地区形态的传统特性相结合，最好的办法是通过研究相关的先例来实现。

4. 实践与实现：我们鼓励我们的学生思考他们对建成环境和自然环境的设计增添，将其视为对人类生活的高贵和维系，以对地球的敬畏之心行事，并激发对世界多元文化长远前景的承诺。

5. 建筑与保护：我们教学的兴趣在于资源保护和长期性。我们支持建立一个基于人力和高技能传统手艺实践的建筑经济体系。我们关注的是生产持久的物品和场所，而不仅仅是暂时的消费和浪费流。

6. 建筑与正义：我们致力于服务于社区和社会和平与正义的事业，并支持所有人的生活质量，而不仅仅是少数特权阶层。

7. 建筑与城市：我们认识到，在整个历史中，建筑师最高的责任一直是提升城市；也就是说，增强那些使城市成为个人机会领域和为所有人提供丰富、支持和保护环境的事物。我们鼓励我们的学生继续走这条文化连续性的道路。

8. 建筑与大学：我们坚定地认为，建筑是一门积极的、有意图的学科和实践，而不仅仅是一门自主的、难以理解的纯艺术。我们倡导与大学及其他相关学科建立合作关系，包括艺术、人文学科、科学、工程、商业和法律.

9. 建立观察和判断的技能：我们相信，通过观看和体验建筑、城市主义和时间、地点与美的景观，可以揭示超越肉眼可见或有形的社会潜在价值和韧性。最终使学生认识到需要为他们的设计选择和行动负责。

10. 设计、表现和实现：我们知道建筑源于思想，并通过图纸和模型转化为物理存在。所有的图形表现手段，从古代到现代，都具有内在的价值，对我们有用。我们从它们的成功和失败中学习。

11. 圣母在罗马：我们将在罗马学习的一年视为学校教学法的基石。罗马展现了2500年历史上最完整的项目光谱：家庭和纪念性建筑、公共与私人花园以及市政基础设施。鼓励学生将这些视为活生生的先例，并在他们的公共和私人领域设计中辨识其重要性。

12. 圣母在世界：我们鼓励学生在世界各国学习，以确保他们发展出多元的国际视角，理解建筑及其服务的文化。在这里，学生体验到繁荣、复杂且人性化规模的城市环境。建筑和场所响应当地资源和气候，提供与现代生活相关的丰富设计教训。

结论：

当前，我们在一个前所未有的世界危机背景中进行教育：在所有大陆，城市及其自然环境正因缺乏基础规划和行政控制、政治停滞、交易型经济关系、泛用设计和非持久建筑而遭受严重破坏。坚定的未来似乎日益遥不可及。在其形成期的教育经历中，未来的建筑师、城市规划师和景观设计师暴露于对那些将世界城市和自然环境推至边缘的过程和方法的批判之中。我们不只是单纯反对这些趋势，我们积极参与并提供切实可行的替代方案。

面对这一紧急状态，我们培养学生成为将世界恢复到宜居与繁荣平衡状态的未来领袖。作为天主教知识传统的一部分，我们支持知识统一的原则，将我们的学科与大学的其他学科联系起来。我们传达一种紧迫和乐观的感觉，相信通过信仰、知识、承诺、合作、关怀和辛勤工作，我们所知的世界能够得到更新。这种伦理是我们项目的核心价值，它鼓励我们的学生担负起他们未来的深远专业责任——审美的、公民的、生态的，这些都是未来的挑战。

Dean Michael Lykoudis (2002–2020) & Dean Stefanos Polyzoides (as of January 7, 2020)
19 May 2020

PREFAZIONE

TRADUZIONE DI PAOLO VITTI E LORENZO FEI.

All'inizio della primavera del 2020, dopo vent'anni di attività accademica seguiti da venticinque anni di attività professionale come partner di Moule & Polyzoides, ho accettato di ricoprire, a partire dal 1° luglio 2020, il ruolo di preside della Scuola di Architettura dell'University of Notre Dame. Nei mesi precedenti al mio arrivo all'Università ho avuto l'opportunità di familiarizzare con la Scuola attraverso incontri su zoom con tutti i membri della facoltà, a tutti i livelli. Nel corso di questi incontri ho scoperto che la maggior parte dei docenti si impegnava in prima persona nell'insegnamento di una nuova Architettura Classica e Tradizionale. Tuttavia, le diverse posizioni ideologiche o l'insieme delle prospettive della facoltà sul l'offerta formativa non erano chiare. È emerso che, nel corso dei decenni, la posizione pedagogica trentennale della Scuola si era sviluppata attivamente, ma era mancata una adeguata e dettagliata condivisione tra colleghi, tanto meno essa era stata formalizzata in modo definitivo.

A metà maggio, mentre mi preparavo a trasferirmi dalla California all'Indiana, chiesi all'allora preside Michael Lykoudis di impegnarsi con me nel tentativo di descrivere per iscritto i punti essenziali della pedagogia della nostra scuola. Il suo consenso e i fruttuosi scambi che ne seguirono produssero alla fine il documento di sintesi che è l'oggetto di questo libro. Abbiamo affrontato la nostra collaborazione da due prospettive diverse. Lui da una prospettiva documentaria, basata sulla sua straordinaria esperienza di diciotto anni alla guida della Scuola. E io da una prospettiva di ambizione, anticipando possibili futuri progressi curricolari. Da allora, i vantaggi di aver prodotto questa sintesi della nostra pedagogia sono stati molteplici:

Il documento ci ha aiutato a spiegare la natura dei nostri programmi all'Università e al nostro Consiglio consultivo. È servito come piattaforma per descrivere la scuola ai colleghi architetti e ai rettori negli Stati Uniti e all'estero. Ci ha aiutato a rafforzare il senso di solidarietà tra i nostri docenti e a consolidare le ambizioni intellettuali dei nostri studenti. Soprattutto, ha permesso ai docenti di rimanere consapevoli, aperti e collaborativi tra loro mentre frequentavano i loro corsi e durante gli studi. La comprensione e il sostegno collettivo di questi dodici principi ha consentito alla scuola di diventare una comunità più estroversa. Una comunità in grado di difendere e modificare le proprie posizioni a seconda della natura delle critiche ricevute. Grazie a questo documento siamo diventati colleghi migliori e più disponibili e una Scuola più sicura di sé.

Nella forma ampliata che segue, i Principi sono organizzati in due parti: Nella prima parte, i singoli membri della facoltà si sono occupati di un singolo principio, o talvolta di più di uno, e hanno scritto dichiarazioni che corroborano la loro importanza quali componenti vitali di un processo formativo in architettura. Nella seconda parte, gli obiettivi di ogni corso e progettazione vengono prima descritti e poi messi in relazione tra loro, come una sequenza di abilità e moduli conoscitivi da trasmettere gradualmente agli studenti. Parte integrante di questo trasferimento di conoscenze è l'aspettativa che gli studenti siano in grado di dimostrare di aver ricevuto queste lezioni e di averle assimilate nella loro capacità di pensare e agire come giovani architetti.

Una formazione integrata in architettura, urbanistica e progettazione del paesaggio richiede un grado di intenzionalità nell'insegnamento e nell'apprendimento non inferiore a quanto qui definito.

STEFANOS POLYZOIDES
Professor of Architecture
Francis and Kathleen Rooney Dean
University of Notre Dame

DODICI PRINCIPI PER UNA PEDAGOGIA ARCHITETTONICA

INTRODUZIONE

A Notre Dame l'architettura viene insegnata come disciplina e professione integrata che comprende l'insegnamento simultaneo di un insieme discreto di materie tradizionali: progettazione, storia e teoria, tecnologia edilizia e ambientale, disegno, pratica professionale e pertinenti argomenti relativi a varie discipline periferiche. Queste materie sono intese come fondamentali ed equivalenti e in larga parte vengono offerte agli studenti puntando alla più ampia combinazione fra di esse.

I principi fondamentali su cui gli studenti della scuola sono indirizzati a concentrarsi e a padroneggiare continuamente, sia durante gli studi nel Campus sia nella loro vita professionale, sono i seguenti:

1. **ARCHITETTURA E NATURA:** Sappiamo che nel corso dei secoli l'architettura è servita a dare un ricovero alle persone, alle loro attività e alle loro istituzioni, fornendo stabilità, bellezza e valore alle comunità, consentendo loro di godere delle ricchezze della natura. Il nostro programma si basa sulla premessa che l'architettura è la base di un habitat umano in continua evoluzione, che deve sempre svilupparsi in armonia con la natura.

2. **RICERCA E CONSERVAZIONE DELLA CONOSCENZA:** Siamo fedeli all'idea che un apprendimento è basato sulla difesa e sull'ampliamento di una profonda conoscenza teorica, storica e pratica dell'Architettura, dell'Urbanistica e della Progettazione del Paesaggio. Il collegamento dei nuovi progetti alle forme locali può essere realizzato al meglio attraverso lo studio di pertinenti esempi precedenti.

3. **DIVERSITÀ E UNITÀ DELL'AMBIENTE COSTRUITO:** Siamo studenti di tutte le tradizioni costruttive locali e regionali del mondo, senza eccezioni. La loro diversità di significati e soluzioni al clima e alla cultura locale ha prodotto esempi di eccellenza estetica e di prestazioni ambientali senza pari. Questi esempi dovrebbero essere emulati in futuro per una questione di identità, sostenibilità e diletto.

4. **PRATICA E GESTIONE DELL'AMBIENTE:** Incoraggiamo i nostri studenti a pensare che ogni aggiunta all'ambiente costruito e naturale debba nobilitare e sostenere la vita umana, agendo nel rispetto del pianeta e ispirando un impegno verso le diverse culture del mondo con pratiche durature.

5. **ARCHITETTURA E CONSERVAZIONE:** Insegniamo nell'ottica della conservazione delle risorse e degli investimenti a lungo termine. Sosteniamo l'idea di un'economia edilizia basata sul lavoro umano e su un'elevata competenza nella pratica dei mestieri tradizionali. Siamo focalizzati sulla produzione di manufatti e luoghi duraturi, e non tanto di processi consumistici che producono rifiuti.

6. **ARCHITETTURA E GIUSTIZIA:** Orientiamo i nostri sforzi verso la causa della pace e della giustizia comunitaria e sociale, a sostegno della qualità della vita di tutte le persone attraverso l'intera scala demografica, non solo per pochi privilegiati.

7. **ARCHITETTURA E CITTÀ:** Riconosciamo che, nel corso della storia, la responsabilità più alta dell'architetto è stata la valorizzazione della città; vale a dire, il rafforzamento di quegli elementi che la rendono un campo di opportunità per gli individui e un ambiente arricchente, solidale e protettivo per tutti. Incoraggiamo i nostri studenti a seguire questo percorso di continuità culturale.

8. **ARCHITETTURA E UNIVERSITÀ:** Siamo convinti che l'architettura sia una disciplina e una pratica professionale impegnata e intenzionale, non un'arte autonoma e incomprensibile. Siamo favorevoli a un rapporto di collaborazione con molte altre discipline universitarie e non solo. Queste includono le arti, le discipline umanistiche, le scienze, l'ingegneria, le tecnologie, le attività produttive e il diritto.

9. **COSTRUIRE LE CAPACITÀ DI OSSERVAZIONE E DI GIUDIZIO:** siamo convinti che imparare osservando e vivendo un'architettura, un'urbanistica e un paesaggio legati al tempo, ai luoghi e alla bellezza guidi oltre il mero visibile o tangibile, consentendo agli studenti di divenire responsabili delle loro scelte e azioni progettuali.

10. **PROGETTAZIONE, RAPPRESENTAZIONE ED ESECUZIONE:** Sappiamo che l'architettura nasce dalle idee e viene poi tradotta attraverso disegni e modelli in una presenza fisica. Tutti i mezzi di rappresentazione grafica, da quelli tradizionali analogici a quelli contemporanei digitali, hanno un valore intrinseco e ci sono utili, sia quando impiegati con successo, sia quando l'esito è fallimentare.

11. **NOTRE DAME A ROMA:** L'anno di studio a Roma è la pietra miliare della pedagogia della Scuola. Roma presenta lo spettro più completo di progetti mai costruiti in 2.500 anni di storia: edilizia e monumenti, giardini pubblici e privati e infrastrutture civiche. Gli studenti sono incoraggiati a comprendere questi progetti come precedenti viventi e a discernerne l'importanza nella progettazione dell'ambiente pubblico e privato.

12. **NOTRE DAME NEL MONDO:** Incoraggiamo gli studenti a studiare in molti Paesi del mondo, così che possano sviluppare una visione internazionale e diversificata dell'architettura e delle culture che essa serve. Nella nostra Scuola gli studenti sperimentano ambienti urbani fiorenti, complessi e a misura d'uomo. Edifici e luoghi che rispondono alle risorse e ai climi locali e che presentano ricche lezioni di progettazione importanti per la vita moderna.

CONCLUSIONE

Il nostro insegnamento si inquadra in un momento di una crisi senza precedenti. In tutti i continenti, le città e i contesti naturali sono devastati dall'assenza di pianificazione e di controlli amministrativi di base, dall'inerzia politica, da rapporti economici transazionali, dalla progettazione anonima e dalla costruzione temporanea. La fiducia in un futuro solido sembra essere sempre più fuori dalla nostra portata. Durante le loro esperienze formative, i futuri giovani architetti, urbanisti e paesaggisti ambientalisti sono esposti a una critica dei processi e dei metodi che hanno portato le città del mondo e la natura sul baratro. Non ci opponiamo semplicemente a queste tendenze. Le affrontiamo e offriamo soluzioni alternative praticabili.

Nell'affrontare questo stato critico di cose, formiamo i nostri studenti a essere futuri leader nell'urgente campagna per riportare il mondo a uno stato di equilibrio tra vivibilità e prosperità. Come parte della tradizione intellettuale cattolica, sosteniamo il principio dell'unità del sapere, attraverso il quale colleghiamo la nostra disciplina all'Università. Proiettiamo un senso di urgenza e di ottimismo sulla possibilità di rigenerare il mondo come lo conosciamo, attraverso la fede, la conoscenza, l'impegno, la cooperazione, la cura e il duro lavoro. Questa etica è il valore centrale del nostro programma, poiché incoraggia i nostri studenti ad assumersi le profonde responsabilità professionali, estetiche, civiche ed ecologiche, che li attendono.

Dean Michael Lykoudis (2002–2020) & Dean Stefanos Polyzoides (dal 7 gennaio 2020)
19 maggio 2020

PRÉFACE

TRADUCTION DE SAMIR YOUNÉS

Au début du printemps 2020, après vingt ans de carrière universitaire et vingt-cinq ans de pratique en tant que partenaire de l'agence Moule & Polyzoides, j'ai accepté d'être le prochain doyen de l'école d'architecture de l'Université de Notre Dame, à compter du 1er juillet 2020. Au cours des mois de mars et d'avril de cette année-là, j'ai eu l'occasion de connaître l'école en effectuant des appels de zoom avec chacun des membres de son corps professoral à tous les niveaux. Au cours de ces appels, j'ai découvert que la plupart des membres du corps enseignant s'étaient personnellement engagés à enseigner une nouvelle architecture classique et traditionnelle. Cependant, les positions idéologiques précises de leurs collègues, ou le point de vue global de la faculté sur le programme d'études, n'étaient pas clairs pour eux. Il s'est avéré qu'au fil des décennies, la position pédagogique de l'école, vieille de trente ans, avait été activement développée, mais n'avait pas été suffisamment partagée entre les collègues, ni consignée sous une forme définitive.

À la mi-mai, alors que je m'apprêtais à quitter la Californie pour l'Indiana, j'ai demandé au doyen de l'époque, Michael Lykoudis, de collaborer avec moi sur une description des principes essentiels de la pédagogie de notre école. Il a accepté, et à la suite de certains engagements assez fructueux, nous avons abouti au document de synthèse qui fait l'objet de ce livre. Nous avons abordé notre collaboration sous deux optiques différentes. La sienne d'un point de vue documentaire, basée sur son extraordinaire expérience de dix-huit ans comme doyen de l'école. La mienne était plutôt aspirationnelle en anticipation des progrès incrémentaux du programme d'études. Depuis lors, les avantages d'avoir produit ce résumé de notre pédagogie ont été multiples:

Ce document nous a aidés à expliquer la nature de nos programmes soit à l'Université et soit à notre Conseil consultatif. Il a servi de plate-forme pour décrire l'école aux collègues architectes et aux doyens, içi et à l'étranger. Il nous a aidés à renforcer le sens de la solidarité au sein de notre faculté tout en fortifiant les ambitions intellectuelles de nos étudiants. Plus important encore, il a permis aux enseignants de rester conscients, ouverts et de collaborer les uns avec les autres dans le cadre de leurs ateliers et de leurs cours. Notre compréhension et notre soutien collectifs de ces douze principes ont permis à l'école de devenir une communauté plus extravertie. Une communauté qui peut à la fois défendre et modifier ses positions en fonction de la nature des critiques qu'elle reçoit. Grâce à ce document, nous sommes devenus plus serviables comme collègues, et notre école encore plus confidante en elle même.

Dans la version plus ample qui suit, ces principes sont organisés en deux parties: Dans la première partie, des membres individuels de la faculté ont traité d'un seul principe, ou parfois plusieurs, et ils ont rédigé des textes validant leur importance en tant qu'éléments vitaux d'une formation architecturale. Dans la seconde partie, les objectifs de chaque atelier et de chaque cours sont d'abord décrits, puis coordonnés entre eux, sous la forme d'un ensemble séquentiel de modules de compétences et de connaissances qui doivent être transmis progressivement aux étudiants. Dans le cadre de ce transfert de connaissances, on attend des étudiants qu'ils soient capables de démontrer qu'ils ont reçu ces leçons et qu'ils les ont intégrées à leur capacité évolutive de penser et d'agir en tant que jeunes architectes.

Une formation intégrée en architecture, en urbanisme et dans l'aménagement du paysage exige un degré d'intentionnalité de l'enseignement et de l'apprentissage tout aussi élevé.

STEFANOS POLYZOIDES
Professor of Architecture
Francis and Kathleen Rooney Dean
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DOUZE PRINCIPES POUR UNE PÉDAGOGIE DE L'ARCHITECTURE

INTRODUCTION:

À L'Université de Notre-Dame, l'architecture est enseignée comme une discipline et une profession intégrées qui comprend un enseignement simultané dans un ensemble de matières traditionnelles: la conception et le dessin, l'histoire et la théorie, la technologie de la construction et de l'environnement, dessin, pratique et sujets pertinents dans diverses disciplines périphériques. Ces matières sont considérées comme essentielles et équivalentes et sont enseignées aux étudiants dans la plus grande mesure possible en combinaison.

Voici les principes fondamentaux sur lesquels les étudiants de l'école sont invités à se concentrer en permanence et à maîtriser, à la fois pendant leurs études au campus et, par la suite, dans leur vies professionnelles:

1. **L'ARCHITECTURE ET LA NATURE:** Au cours des siècles, l'architecture a servi à abriter les personnes, leurs entreprises et leurs institutions. Elle a apporté la stabilité, la beauté et le sens à la vie des communautés humaines, tout en leur permettant d'accéder à la générosité de la nature. Notre programme est fondé sur le principe que l'architecture des bâtiments est à la base d'un habitat humain évolutif qui doit toujours se développer en harmonie avec la nature.

2. **LA RECHERCHE ET LA CONSERVATION DES CONNAISSANCES:** Nous sommes dediés à l'idée d'un apprentissage fondé sur la sauvegarde et l'extension des connaissances théoriques, historiques et pratiques approfondies de l'architecture, de l'urbanisme et de l'aménagement paysager dont nous disposons. L'environnementalisme, la connexion des nouveaux projets à la nature de la forme régionale reçue peuvent être mieux réalisés par l'étude des antecédents pertinents.

3. **LA DIVERSITÉ ET L'UNITÉ DU BÂTI:** Nous étudions toutes les traditions de construction locales, régionales et communes du monde, sans exception. La diversité des moyens et des réponses au climat et à la culture ont produit des exemples d'une excellence esthétique et d'une performance environnementale inégalées. Ces exemples devraient être imités à l'avenir comme une question d'identité, de durabilité et de plaisir.

4. **PRATIQUE ET TUTELAGE DE L'ENVIRONNEMENT:** Nous encourageons nos étudiants à considérer que les ajouts qu'ils apportent au bâti et au naturel ennoblissent et soutiennent la vie humaine, en agissant avec respect pour la planète et en inspirant un engagement envers les perspectives à long terme des diverses cultures du monde.

5. **L'ARCHITECTURE ET LA CONSERVATION:** Nous enseignons dans l'intérêt de la conservation des ressources et de l'investissement à long terme. Nous soutenons l'idée d'une économie de la construction basée sur le travail humain et une grande compétence dans la pratique des métiers traditionnels. Nous nous intéressons à la production d'objets et de lieux durables, et pas seulement à des flux temporaires de consommation et de déchets.

6. **L'ARCHITECTURE ET LA JUSTICE:** Nous orientons nos efforts pour servir la cause de la paix et de la justice communautaires et sociales, et pour soutenir la qualité de vie de toutes les personnes à travers l'échelle démographique, et pas seulement celle de quelques privilégiés.

7. **L'ARCHITECTURE ET LA VILLE:** Nous reconnaissons que, tout au long de l'histoire, la plus grande responsabilité de l'architecte a été d'améliorer la ville, c'est-à-dire de renforcer les éléments qui en font un champ d'opportunités pour les individus et un environnement enrichissant, favorable et protecteur pour tous. Nous encourageons nos étudiants à suivre cette voie de la continuité culturelle.

8. **L'ARCHITECTURE ET L'UNIVERSITÉ:** Nous sommes résolus à considérer l'architecture comme une discipline et une pratique engagée et intentionnelle, et non comme un simple art autonome et inintelligible. Nous plaidons en faveur d'une relation de coopération avec de nombreuses autres disciplines alliées à l'Université et au-delà. Celles-ci comprennent les arts, les sciences humaines, les sciences, l'ingénierie, les technologies, le commerce, les affaires et le droit.

9. **DÉVELOPPER LES CAPACITÉS D'OBSERVATION ET DE JUGEMENT:** Nous pensons qu'apprendre en voyant et en expérimentant une architecture, un urbanisme et un paysage de temps, de lieu et de beauté, expose les valeurs sous-jacentes et la résilience des sociétés au-delà de ce qui est simplement visible ou tangible. Cela finit par faire comprendre aux étudiants la nécessité de devenir responsables de leurs choix et de leurs actions en matière de conception.

10. **LE DESSIN, LA REPRÉSENTATION ET L'ACTUALISATION:** Nous savons que l'architecture naît d'idées et qu'elle est ensuite traduite par des dessins et des maquettes en une présence physique. Tous les moyens de représentation graphique, qu'ils soient anciens ou contemporains, ont une valeur intrinsèque et nous sont utiles. Nous apprenons de leurs succès et de leurs échecs.

11. **NOTRE DAME À ROME:** Nous considérons l'année d'étude à Rome comme la pierre angulaire de la pédagogie de l'école. Rome présente l'éventail le plus complet de projets jamais construits au cours de 2,500 ans d'histoire: bâtiments domestiques et monumentaux, jardins publics et privés et infrastructures civiques. Les étudiants sont encouragés à comprendre qu'il s'agit d'antécédents vivants et à discerner leur importance dans leur conception du domaine public et privé.

12. **NOTRE DAME DANS LE MONDE:** Nous encourageons les étudiants à étudier dans de nombreux pays à travers le monde, afin de s'assurer qu'ils développent une vision diversifiée et internationale de l'architecture et des cultures qu'elle sert. Ici, les étudiants font l'expérience d'environnements urbains prospères, complexes et à échelle humaine. Des bâtiments et des lieux adaptés aux ressources et aux climats locaux, qui présentent de riches leçons de conception pertinentes pour la vie moderne.

CONCLUSION

Nous enseignons actuellement dans le contexte d'une crise mondiale sans précédent: Sur tous les continents, les villes et leur environnement naturel sont dévastés par l'absence de planification de base et de contrôles administratifs, par l'inertie politique, les relations économiques transactionnelles, la conception générique et la construction impermanente. La foi en un avenir solide semble de plus en plus hors de notre portée. Au cours de leurs expériences éducatives formatrices, les futurs jeunes architectes, urbanistes et architectes paysagistes environnementalistes sont exposés à une critique des processus et des méthodes qui ont conduit les villes du monde et la nature au bord du précipice. Nous ne nous contentons pas de nous opposer à ces tendances. Nous nous y engageons et proposons des solutions alternatives viables.

En abordant cette situation critique, nous formons nos étudiants à devenir les futurs leaders de la campagne urgente visant à ramener le monde à un état d'équilibre entre habitabilité et prospérité. Dans le cadre de la tradition intellectuelle catholique, nous soutenons le principe de l'unité de la connaissance, qui nous permet de relier notre discipline à l'université. Nous projetons un sentiment d'urgence et d'optimisme sur le fait que le monde tel que nous le connaissons peut être régénéré, grâce à la foi, au savoir, à l'engagement, à la coopération, à l'attention et au travail acharné. Cette éthique est la valeur fondamentale de notre programme, car elle encourage nos étudiants à assumer leurs profondes responsabilités professionnelles, esthétiques, civiques et écologiques, qui les attendent.

Michael Lykoudis (2002–2020) & Stefanos Polyzoides (Doyen depuis 7 janvier 2020)

ΠΡΟΛΟΓΟΣ

ΜΕΤΑΦΡΑΣΗ ΡΙΧΑΡΔΟΣ ΟΙΚΟΝΟΜΑΚΗΣ

Στις αρχές της άνοιξης του 2020, ύστερα από είκοσι χρόνια στον ακαδημαϊκό χώρο και εικοσιπέντε χρόνια επαγγελματικής σταδιοδρομίας ως συνδιευθυντής στο γραφείο Moule & Polyzoides, συμφώνησα να αναλάβω την θεση του Κοσμήτορα της Σχολής Αρχιτεκτονικής του Πανεπιστημίου Notre Dame στην Indiana, ξεκινώντας την 1η Ιουλίου του 2020. Κατά τους μήνες Μάρτιο και Απρίλιο εκείνου του έτους, είχα την ευκαιρία να εξοικειωθώ με την έκτακτη, εξ'αιτίας του κορωνοϊού, υπάρχουσα κατάσταση στη Σχολή, πραγματοποιώντας κλήσεις zoom με κάθε μέλος του διδακτικού προσωπικού, σε όλες τις βαθμίδες. Κατά τη διάρκεια αυτών των επικοινωνιών, ανακάλυψα ότι τα περισσότερα μέλη είχαν προσωπική δέσμευση και πάθος για τη διδασκαλία μίας νέας Κλασικής και Παραδοσιακής Αρχιτεκτονικής. Ωστόσο, υπήρχε μια ασάφεια σχετικά με το σύνολο των θεωρήσεων των συναδέλφων τους για το πρόγραμμα σπουδών. Προέκυψε ότι, ενώ επί τριάντα χρόνια είχαν γίνει ενέργειες για την ανάπτυξη των παιδαγωγικών θέσεων της Σχολής, οι θέσεις αυτές δεν είχαν κοινοποιηθεί επαρκώς στους συναδέλφους, ούτε είχαν καταγραφεί σε οριστική μορφή.

Στα μέσα Μαΐου, και καθώς ετοιμαζόμουν να μετακομίσω από την California στην Indiana, ζήτησα την συνεργασια του τότε Κοσμήτορα Μιχαήλ Λυκούδη σε μια προσπάθειά μου να περιγράψω γραπτώς τα ουσιαστικά σημεία της παιδαγωγικής μεθοδολογιας της Σχολής μας.

Η αποδοχή του, και οι γόνιμες ανταλλαγές που ακολούθησαν, κατέληξαν στη δημιουργία του περιληπτικού εγγράφου που αποτελεί το θέμα αυτού του βιβλίου. Προσεγγίσαμε τη συνεργασία κάτω από δύο διαφορετικές οπτικές γωνίες. Εκείνος από την γωνία της τεκμηρίωσης, βασισμένος στην εξαιρετική δεκαοκτάχρονη εμπειρία του στην ηγεσία της Σχολής, και εγώ από γωνία του εμπλουτισμου της, προσβλεποντας σε πιθανές σταδιακές προόδους του προγράμματος σπουδών. Τα πλεονεκτήματα και οι καρποί της συνεργασίας μας είναι πολλαπλά:

Το έγγραφο μας βοήθησε να εξηγήσουμε τη φύση των προγραμμάτων μας στην ηγεσία του Πανεπιστημίου και στο Γνωμοδοτικό μας Συμβούλιο. Έχει χρησιμεύσει ως πλατφόρμα για την περιγραφή της Σχολής σε συναδέλφους αρχιτέκτονες, ακαδημαϊκούς και κοσμήτορες εδώ και στο εξωτερικό. Μας βοήθησε να ενισχύσουμε το αίσθημα αλληλεγγύης μεταξύ συναδέλφων καθηγητών, και να ενισχύσουμε τις πνευματικές φιλοδοξίες των φοιτητών μας. Το πιο

σημαντικό, επέτρεψε στους διδάσκοντες να παραμείνουν ενήμεροι, ανοιχτοί και πρόθυμοι σε συνεργασιες κατά την διαρκεια της εκπληρωσης των ακαδημαϊκων τους καθηκόντων. Η συλλογική μας κατανόηση και υποστήριξη των δώδεκα Αρχών που δημοσιεύουμε σε αυτό το βιβλίο επέτρεψε την Σχολή μας να γίνει μία πιο εξωστρεφής κοινότητα, που είναι ικανή να υπερασπιστεί και να τροποποιήσει τις θέσεις της ανάλογα με τη φύση της κριτικής που δέχεται. Χάρη σε αυτό το έγγραφο, έχουμε γίνει καλύτεροι και πιο εξυπηρετικοί συνάδελφοι και μία Σχολή με μεγαλύτερη αυτοπεποίθηση.

Στη διευρυμένη τους μορφή που παρουσιάζουμε στις επόμενες σελίδες, οι δώδεκα Αρχές έχουν οργανωθεί σε δύο μέρη: Στο πρώτο μέρος, μέλη του διδακτικού προσωπικού εξετάζουν μία ή περισσότερες Αρχές, και παρουσιαζουν επικυρωτικές δηλώσεις σχετικά με τη σημασία αυτών των Αρχών ως ζωτικά συστατικά μιας σωστής αρχιτεκτονικής εκπαίδευσης. Στο δεύτερο μέρος, περιγράφονται αρχικά οι στόχοι κάθε εργαστηρίου και μαθήματος, και στη συνέχεια οι στόχοι συντονίζονται μεταξύ τους, έτσι ώστε να δημιουργείται μια διαδοχική περίληψη των δεξιοτήτων και ενοτήτων γνώσης που πρέπει να μεταδοθούν σταδιακά στους φοιτητές. Μέρος αυτής της μεταφοράς γνώσης είναι η προσδοκία ότι οι φοιτητές πρέπει να είναι σε θέση να δείξουν ότι έχουν κατανοήσει αυτά τα μαθήματα και τα έχουν ενσωματώσει στην εξελισσόμενη ικανότητά τους να σκέφτονται και να ενεργούν ως νέοι, ανερχόμενοι αρχιτέκτονες.

Μια ολοκληρωμένη εκπαίδευση στην αρχιτεκτονική, την πολεοδομία και την αρχιτεκτονική τοπίου απαιτεί τουλάχιστον αυτόν τον βαθμό προθέσεων διδασκαλίας και μάθησης.

ΣΤΕΦΑΝΟΣ ΠΟΛΥΖΩΙΔΗΣ
Καθηγητής Αρχιτεκτονικής
Francis and Kathleen Rooney Dean
University of Notre Dame

ΔΩΔΕΚΑ ΑΡΧΕΣ ΓΙΑ ΜΙΑ ΑΡΧΙΤΕΚΤΟΝΙΚΗ ΠΑΙΔΑΓΩΓΙΚΗ

ΕΙΣΑΓΩΓΗ

Στο Πανεπιστήμιο Notre Dame, η Αρχιτεκτονική διδάσκεται ως ολοκληρωμένος κλάδος και επάγγελμα που περιλαμβάνει ταυτόχρονη διδασκαλία σε ένα διακριτικό σύνολο παραδοσιακών θεμάτων: εργαστήριο σχεδιασμού, ιστορία και θεωρία, κτίρια και περιβαλλοντική τεχνολογία, σχέδιο, πρακτική και σχετικά θέματα σε διάφορους περιφερειακούς κλάδους. Τα θέματα αυτά νοούνται ως ουσιαστικά και ισότιμα και παραδίδονται στους μαθητές συνδυαστικά, στο μέγιστο δυνατό βαθμό.

Στην συνέχεια παρουσιάζονται οι βασικές Αρχές στις οποίες καλούνται οι φοιτητές της Σχολής να εστιάζουν συνεχώς την προσοχή τους και να τις εμπεδώνουν, τόσο κατά τη διάρκεια της φοίτησής τους όσο και τελικά στην επαγγελματική τους ζωή.

1. **Αρχιτεκτονική και Φύση:** Στο πέρασμα των αιώνων, η Αρχιτεκτονική χρησίμευσε ως το μέσο προστασίας των ανθρώπων, των επιχειρήσεων και των ιδρυμάτων τους. Έχει προσφέρει σταθερότητα, ομορφιά και νόημα στις ανθρώπινες κοινότητες, ενώ ταυτόχρονα τους επιτρέπει πρόσβαση στην αφθονία της φύσης. Το πρόγραμμά μας βασίζεται στην προϋπόθεση ότι η Αρχιτεκτονική είναι το θεμέλιο ενός εξελισσόμενου ανθρώπινου βιότοπου που πρέπει να αναπτύσσεται πάντα σε αρμονία με τη φύση.

2. **Επιδίωξη και διατήρηση της γνώσης:** Είμαστε αφοσιωμένοι στην ιδέα της μάθησης που βασίζεται στη διαφύλαξη και επέκταση της βαθιάς θεωρητικής, ιστορικής και πρακτικής γνώσης της Αρχιτεκτονικής, της Πολεοδομίας και της Αρχιτεκτονικής Τοπίου που έχουμε στη διάθεσή μας. Η σύνδεση νέων έργων με τη υπάρχουσα φύση των τοπικών αρχιτεκτονικών και άλλων μορφών μπορεί να επιτευχθεί καλύτερα μέσω της μελέτης παρομοίων μορφολογικών παραδειγμάτων.

3. **Ποικιλομορφία και ενότητα του δομημένου περιβάλλοντος:** Είμαστε μελετητές όλων των τοπικών, περιφερειακών και κοινών οικοδομικών παραδόσεων του κόσμου, χωρίς εξαίρεση. Η ποικιλομορφία των μέσων και οι προσαρμογές τους στο κλίμα και τον πολιτισμό έχουν δημιουργήσει παραδείγματα απαράμιλλης αισθητικής αριστείας και περιβαλλοντικών επιδόσεων. Είναι θέμα ταυτότητας, βιωσιμότητας και απολαυσης να τα ακολουθήσουμε στο μέλλον.

4. **Πρακτική και διαχείριση:** Ενθαρρύνουμε τους μαθητές μας να σκεφτούν τις σχεδιαστικές τους προσθήκες στο δομημένο και φυσικό περιβάλλον ως εξευγενισμό και διατήρηση της ανθρώπινης ζωής, ενεργώντας με σεβασμό για τον πλανήτη και εμπνέοντας μια δέσμευση στις μακροπρόθεσμες προοπτικές των ποικιλομόρφων πολιτισμών του κόσμου.

5. **Αρχιτεκτονική και Διατήρηση:** Διδάσκουμε με οδηγό το συμφέρον της διατήρησης των πόρων και της μακροπρόθεσμης επένδυσης. Υποστηρίζουμε την ιδέα μιας οικοδομικής οικονομίας που βασίζεται στην ανθρώπινη εργασία και την υψηλή δεξιότητα στην άσκηση των παραδοσιακών χειροτεχνιών. Αντιμετωπίζουμε την παραγωγή αντικειμένων και χώρων που θα αντέχουν στον χρόνο και όχι μόνο προσωρινών ρευμάτων κατανάλωσης και απορριμμάτων.

6. **Αρχιτεκτονική και Δικαιοσύνη:** Κατευθύνουμε τις προσπάθειές μας προς την εξυπηρέτηση των σκοπών της κοινότητας και της κοινωνικής ειρήνης και δικαιοσύνης, και προς υποστήριξη της ποιότητας ζωής όλων των ανθρώπων σε όλη τη δημογραφική κλίμακα, όχι μόνο των λίγων προνομιούχων.

7. **Αρχιτεκτονική και πόλη:** Αναγνωρίζουμε ότι σε όλη την ιστορία, η ύψιστη ευθύνη του αρχιτέκτονα ήταν η βελτιοποίηση της πόλης. Αυτό σημαίνει, την ενίσχυση εκείνων των πραγμάτων που την καθιστούν πεδίο ευκαιριών για τους πολίτες και ένα εμπλουτιστικό, υποστηρικτικό και προστατευτικό περιβάλλον για όλους. Ενθαρρύνουμε τους φοιτητές μας να ακολουθήσουν αυτό το μονοπάτι της πολιτιστικής συνέχειας.

8. **Αρχιτεκτονική και Πανεπιστήμιο:** Είμαστε αποφασισμένοι ότι η αρχιτεκτονική είναι μια αφοσιωμένη, προσανατολισμενη πειθαρχία και πρακτική, όχι απλώς μια αυτόνομη, ακατανόητη τέχνη. Πρεσβεύουμε μια σχέση συνεργασίας με πολλούς άλλους συμμαχικούς κλάδους στο Πανεπιστήμιο και όχι μόνο. Οι κλάδοι περιλαμβάνουν τις Τέχνες, τις Ανθρωπιστικές Επιστήμες, τη Μηχανική, τις Επιχειρήσεις και το Δίκαιο.

9. **Χτίζοντας τις δεξιότητες παρατήρησης και κρίσης:** Πιστεύουμε ότι η μάθηση, το να κατανοείται και να βιώνεται μια αρχιτεκτονική, πολεοδομία και τοπίο χρόνου, τόπου και ομορφιάς, εκθέτει τις υποκείμενες αξίες και την ανθεκτικότητα των κοινωνιών πέρα από το απλώς ορατό ή απτό. Εντυπώνει στους μαθητές την ανάγκη να γίνουν υπεύθυνοι για τις σχεδιαστικές επιλογές και τις ενέργειές τους.

10. **Σχεδιασμός, αναπαράσταση και πραγματοποίηση:** Γνωρίζουμε ότι η αρχιτεκτονική γεννιέται από ιδέες και στη συνέχεια μεταφράζεται μέσω σχεδίων και μοντέλων . Όλα τα μέσα γραφικής αναπαράστασης, από τα αρχαία έως τα σύγχρονα, έχουν εγγενή αξία και είναι χρήσιμα. Μαθαίνουμε τόσο από τις επιτυχημένες όσο και από τις αποτυχημένες προσαρμογές τους.

11. **Notre Dame στη Ρώμη:** Θεωρούμε το έτος σπουδών στη Ρώμη, τον ακρογωνιαίο λίθο της παιδαγωγικής του σχολείου. Η Ρώμη παρουσιάζει το πιο πλήρες φάσμα έργων που κατασκευάστηκαν ποτέ σε 2.500 χρόνια ιστορίας: οικιακά και μνημειακά κτίρια, δημόσιους και ιδιωτικούς κήπους και αστικές υποδομές. Οι μαθητές ενθαρρύνονται να τα κατανοήσουν ως ζωντανά προηγούμενα και να διακρίνουν τη σημασία τους όταν σχεδιάζουν για τον δημόσιο και ιδιωτικό τομέα.

12. **Το Notre Dame στον Κόσμο:** Ενθαρρύνουμε τους φοιτητές μας να μελετήσουν τις αρχιτεκτονικές εκφράσεις σε όλο τον κόσμο, για να αναπτύξουν μια ποικιλόμορφη, διεθνή άποψη για την αρχιτεκτονική και τους πολιτισμούς που εξυπηρετεί. Είναι ανάγκη οι φοιτητές να βιώσουν ακμάζοντα, πολύπλοκα και ανθρώπινα αστικά περιβάλλοντα -επίσης κτίρια και χώρους που ανταποκρίνονται στους τοπικούς πόρους και το κλίμα, που παρουσιάζουν πλούσια μαθήματα σχεδιασμού σχετικά με τη σύγχρονη ζωή.

ΣΥΜΠΕΡΑΣΜΑ

Αυτή τη στιγμή διδάσκουμε στο πλαίσιο μιας άνευ προηγουμένου παγκόσμιας κρίσης: Σε όλες τις ηπείρους, οι πόλεις και το φυσικό τους περιβάλλον καταστρέφονται από την απουσία βασικού σχεδιασμού και διοικητικών ελέγχων, από την πολιτική αδράνεια, τις συναλλακτικές οικονομικές σχέσεις, τον γενικό σχεδιασμό και τη μη μόνιμη κατασκευή. Η πίστη σε ένα εύρωστο μέλλον μοιάζει να απομακρύνεται ολοένα και περισσότερο. Κατά τη διάρκεια των διαμορφωτικών εκπαιδευτικών τους εμπειριών, οι μελλοντικοί αρχιτέκτονες, πολεοδόμοι και αρχιτέκτονες τοπίου εκτίθενται σε μια κριτική των διαδικασιών και των μεθόδων που έχουν φέρει τις πόλεις του κόσμου και τη φύση στο χείλος του γκρεμού. Δεν εναντιωνόμαστε απλώς σε αυτές τις τάσεις. Τις αντιμετωπίζουμε και προσφέρουμε βιώσιμες εναλλακτικές λύσεις.

Αντιμετωπίζοντας αυτήν την κρίσιμη κατάσταση πραγμάτων, εκπαιδεύουμε τους μαθητές μας να είναι μελλοντικοί ηγέτες στην επείγουσα εκστρατεία για την επιστροφή του κόσμου σε μια κατάσταση ισορροπίας μεταξύ βιωσιμότητας και ευημερίας. Ως μέρος της Καθολικής αλλά και ευρύτερης πνευματικής παράδοσης του Πανεπιστημίου μας, υποστηρίζουμε την αρχή της ενότητας της γνώσης, μέσω της οποίας συνδέουμε την πειθαρχία μας με αυτες. Προβάλλουμε την αίσθηση του επείγοντος και της αισιοδοξίας ότι ο κόσμος όπως τον ξέρουμε μπορεί να αναγεννηθεί, μέσω πίστης, γνώσης, δέσμευσης, συνεργασίας, φροντίδας και σκληρής δουλειάς. Αυτή η ηθική είναι η βασική αξία του προγράμματός μας, καθώς ενθαρρύνει τους μαθητές μας να αναλάβουν τις βαθιές επαγγελματικές τους ευθύνες -αισθητικές, αστικές και οικολογικές- που βρίσκονται μπροστά τους.

Κοσμήτορες Μιχαήλ Λυκούδης (2002–2020) & Στέφανος Πολυζωίδης (από 7 Ιανουάριος 2020)
19 Μαΐου 2020

VORWORT

ÜBERSETZUNG VON JULIA TREESE UND LUCIEN STEIL

Im Frühjahr 2020, nach zwanzig Jahren im akademischen Bereich und fünfundzwanzig Jahren in der Praxis als Partner von Moule & Polyzoides, erklärte ich mich bereit, ab dem 1. Juli 2020 das Amt des nächsten Dekans der School of Architecture an der University of Notre Dame zu übernehmen. Ich hatte dann in den darauffolgenden Monaten März und April die Gelegenheit, mich in Zoom—Gesprächen mit allen Professoren über den Zustand der Schule vertraut zu machen. Es zeigte sich, dass der größte Teil des Lehrpersonals eine persönliche Verpflichtung zur Lehre einer neuen klassischen und traditioneller Architektur empfanden. Die genauen ideologischen Positionen ihrer Kollegen oder die Gesamtperspektive des Lehrkörpers im Hinblick auf den Lehrplan waren ihnen jedoch nicht klar. Es stellte sich heraus, dass die dreißigjährige pädagogische Haltung der Schule im Laufe der Jahrzehnte zwar aktiv entwickelt worden war, aber nicht in angemessener Weise im Detail unter den Kollegen geteilt oder in einer endgültigen Form festgehalten worden war.

Mitte Mai, als ich mich darauf vorbereitete, von Kalifornien nach Indiana umzuziehen, bat ich den damaligen Dekan Michael Lykoudis, mit mir gemeinsam zu versuchen, die wesentlichen Punkte der Pädagogik unserer Schule schriftlich festzuhalten. Seine Zusage und der darauffolgende fruchtbare Austausch führten schließlich zu dem zusammenfassenden Dokument, das Gegenstand dieses Buches ist. Wir sind an unsere Zusammenarbeit aus zwei verschiedenen Blickwinkeln herangegangen.

Er aus einer dokumentarischen Sicht, basierend auf seiner außerordentlichen achtzehnjährigen Erfahrung in der Leitung der Schule. Und ich aus einer aufstrebenden Perspektive, die mögliche künftige schrittweise Fortschritte im Lehrplan voraussieht. Seitdem haben sich die Vorteile dieser Zusammenfassung unserer Pädagogik als sehr vielfältig erwiesen:

Das Dokument hat uns dabei geholfen, der Universität und unserem Beirat die Beschaffenheit unserer Programme zu erläutern. Es hat uns als Plattform gedient, um die Schule gegenüber Architekturkollegen und Dekanen im In- und Ausland zu beschreiben. Es hat uns geholfen, das Gefühl der Verbundenheit unter unseren Dozenten zu stärken und den intellektuellen Ehrgeiz unserer Studenten zu fördern. Vor allem aber hat es den Lehrkräften ermöglicht, bei der Durchführung ihrer Entwurfsprojekte und Kurse bewusst, offen und kooperativ miteinander umzugehen. Unser kollektives Verständnis und unsere Unterstützung für diese zwölf Grundsätze haben es der Schule ermöglicht, eine zunehmend extrovertiertere Gemeinschaft zu werden, die ihre Überzeugungen sowohl verteidigen als auch verändern kann. Die Existenz dieses Dokuments hat uns zu besseren und hilfreicheren Kollegen und zu einer selbstbewussteren Schule gemacht.

In der nachfolgenden Abhandlung sind die Grundsätze in zwei Teile gegliedert: Im ersten Teil haben einzelne Dozenten ein einzelnes oder manchmal auch mehrere Prinzipien aufgegriffen und Erklärungen zu ihrer Bedeutung als wesentliche Bestandteile einer Architekturausbildung verfasst. Im zweiten Teil werden die Ziele der einzelnen Entwurfsklassen und Kurse zunächst beschrieben und dann aufeinander abgestimmt, als aufeinander aufbauende Gliederung von Fähigkeiten und Wissenseinheiten, die den Studierenden schrittweise vermittelt werden müssen. Teil dieser Wissensvermittlung ist die Erwartung, dass die Studierenden in der Lage sein müssen, diese Lehrerfahrungen zu veranschaulichen und sie zu einem Teil ihrer sich entwickelnden Denk- und Handlungsfähigkeiten als junge Architekten zu machen.

Eine integrierte Ausbildung in den Bereichen Architektur, Städtebau und Landschaftsgestaltung erfordert nicht weniger als dieses Maß an Lehr- und Lernwillen.

STEFANOS POLYZOIDES
Professor für Architektur
Francis und Kathleen Rooney Dekan
Universität von Notre Dame

ZWÖLF GRUNDSÄTZE FÜR EINE ARCHITEKTURPÄDAGOGIK

EINFÜHRUNG

An der Universität von Notre Dame wird Architektu sowohl als integriertes Fach als auch als praktischer Beruf in einer dezidierten Auswahl von traditionellen Fächern gelehrt: Entwurf, Geschichte und Theorie, Bau- und Umwelttechnik, Zeichnen, Praxis sowie einschlägige Themen in verschiedenen Nebendisziplinen. Diese Fächer werden als unverzichtbar und gleichwertig angesehen und werden den Studierenden zusammenhängend vermittelt.

Nachfolgend sind die grundlegenden Prinzipien aufgeführt, auf die sich die Studierenden der Schule kontinuierlich ausrichten und die sie anwenden sollen, sowohl während ihres Studiengangs auf der Universität als auch in ihrem späteren Berufsleben:

1. **ARCHITEKTUR UND NATUR:** Architektur dient dem Menschen seit Jahrhunderten als Unterkunft, sie verleiht Leben der Menschen Beständigkeit, Schönheit und Sinn, ermöglicht ihm gleichzeitig den Zugang zu den Gaben der Natur. Unser Programm basiert auf der Erkenntnis, dass Architektur die Grundlage für einen sich wandelnden menschlichen Lebensraum ist, der sich stets im Einklang mit der Natur entfalten muss.

2. **DAS STREBEN NACH UND DIE WAHRUNG VON WISSEN:** Wir haben uns der Idee des Lernens verpflichtet, welche auf der Bewahrung und Erweiterung des uns zur Verfügung stehenden umfassenden theoretischen, historischen und praktischen Wissens über Architektur, Städtebau und Landschaftsgestaltung beruht. Das Anknüpfen neuer Architektur an die Beschaffenheit der regionalen Gestalt lässt sich nur durch das Studium einschlägiger Vorbilder erreichen.

3. **VIELFALT UND EINHEITLICHKEIT DER GEBAUTEN UMWELT:** Wir sind alle ausnahmslos Schüler aller lokalen, regionalen und gemeinsamen Bautraditionen der Welt. Die Ausrichtung auf die Vielfalt der Mittel und Antworten auf Klima und Kultur haben Beispiele von unübertroffener ästhetischer Exzellenz und Umweltleistung hervorgebracht. Diesen sollten aus Gründen der Identität, der Nachhaltigkeit und der Schönheit auch in Zukunft nachgeeifert werden.

4. **PRAXIS UND VERANTWORTUNGSBEWUSSTSEIN:** Wir ermutigen unsere Studenten ihre gestalterischen Beiträge zur gebauten und natürlichen Umwelt als Bereicherung und Erhaltung des menschlichen Lebens zu betrachten, unseren Planeten mit Demut zu behandeln und langfristige Perspektiven für die verschiedenen Kulturen der Welt zu entwickeln.

5. **ARCHITEKTUR UND BESTANDSERHALTUNG:** Unser Unterricht widmet sich der nachhaltigen Ressourcenschonung und langfristigen Investitionen. Wir unterstützen die Idee einer Bauökonomie, die auf menschlicher Arbeit und hoher Kunstfertigkeit in der Ausübung des traditionellen Handwerks beruht. Wir befassen uns mit der Herstellung von dauerhaften Gegenständen und Örtlichkeiten, und nicht mit vorübergehenden Konsum- und Abfallströmen.

6. **ARCHITEKTUR UND GERECHTIGKEIT:** Wir richten unsere Bemühungen darauf, dem gemeinschaftlichen und sozialen Frieden sowie der Gerechtigkeit zu dienen im Sinne der Lebensqualität, nicht nur für die wenigen Privilegierten, sondern für die Menschen auf der gesamten demografischen Scala.

7. **ARCHITEKTUR UND STADT:** Wir betrachten die Aufwertung der Stadt als die höchste Verantwortung des Architekten im Laufe der Geschichte; sie versteht sich in der Stärkung derjenigen Apekte, die die Stadt zu einem Spielraum sie versteht sich in der für den Einzelnen als auch zu einer bereichernden, unterstützenden und schützenden Umwelt für alle machen. Wir ermutigen unsere Studenten, diesen Kurs der kulturellen Kontinuität zu verfolgen.

8. **ARCHITEKTUR UND UNIVERSITÄT:** Wir sind der festen Überzeugung, dass Architektur eine anspruchsvolle, bewusste Disziplin und Praxis ist und nicht nur eine autonome, unnahbare nicht nachvollziehbare bildende Kunst. Wir befürworten daher eine kooperative Beziehung mit vielen anderen verwandten Disziplinen an der Universität und darüber hinaus. Dazu gehören die Künste, die Geisteswissenschaften, die Naturwissenschaften, die Ingenieurwissenschaften, die Wirtschaft und das Rechtswesen.

9. **AUFBAU VON BEOBACHTUNGS- UND URTEILSFÄHIGKEITEN:** Wir glauben, dass das Lernen durch das Sehen und Erleben von Architektur, Städtebau und Landschaft in Zeit, Ort und Schönheit die zugrunde liegenden Werte und die Widerstandsfähigkeit von Gesellschaften jenseits des bloßen Sichtbaren oder Greifbaren aufzeigt. Dadurch wird den Schülern letztlich die Bedeutung der Verantwortung für ihre gestalterischen Entscheidungen und Handlungen vor Augen geführt.

10. **ENTWURF, DARSTELLUNG UND VERWIRKLICHUNG:** Wir wissen, dass Architektur aus Ideen entsteht und dann durch Zeichnungen und Modelle in eine körperliche Gestalt umgesetzt wird. Alle Mittel der grafischen Darstellung, von der Antike bis zur Gegenwart, haben einen innewohnenden Wert und sind für uns von Bedeutung. Wir lernen sowohl aus ihren Erfolgen als auch aus ihren Misserfolgen.

11. **NOTRE DAME IN ROM:** Wir betrachten das Studienjahr in Rom als einen Eckpfeiler der Pädagogik der Schule. Rom bietet das umfassendste Spektrum an 2.500 Jahren Baugeschichte: Wohn- und Monumentalbauten, öffentliche und private Gärten und städtische Infrastruktur. Die Studenten werden ermutigt, diese als lebende Vorbilder zu verstehen und ihre Bedeutung für die Gestaltung des öffentlichen und privaten Raums zu erkennen.

12. **NOTRE DAME IN DER WELT:** Wir ermutigen die Studenten in vielen Ländern der Welt zu studieren, um einen vielfältigen, internationalen Einblick in die Architektur und die Kulturen, denen sie dient, zu erhalten. Hier erleben die Studenten blühende, komplexe und maßstäblich gestaltete städtische Umgebungen, Gebäude und Örtlichkeiten, die im Einklang mit lokalen Ressourcen und Klimabedingungen eine Fülle von Gestaltungserkenntnisse für das moderne Leben bieten.

FAZIT

Wir unterrichten derzeit im Kontext einer beispiellosen weltweiten Krise: Auf allen Kontinenten werden Städte und ihre natürliche Umgebung durch das Fehlen grundlegender Planungs- und Verwaltungskontrollen, durch politische Trägheit, transaktionsorientierte Wirtschaftsbeziehungen, belangloses Design und unbeständiges Bauen verwüstet. Der Glaube an eine robuste Zukunft scheint zunehmend unerreichbar zu sein. Während ihrer Ausbildung werden die zukünftigen Architekten, Urbanisten und Landschaftsarchitekten sensibilisiert, die Prozesse und Methoden, die die Städte der Welt und die Natur an den Abgrund gebracht haben, kritisch zu bewerten. Wir stellen uns nicht einfach gegen diese Trends. Wir setzen uns mit ihnen auseinander und bieten praktikable alternative Lösungen an.

Indem wir uns mit dieser kritischen Situation auseinandersetzen, bilden wir unsere Studenten zu künftigen Führungskräften in der dringenden Aufgabe aus, die Welt wieder in ein Gleichgewicht zwischen Lebensqualität und Wohlstand zu bringen. Als ein Bestandteil der katholischen intellektuellen Tradition unterstützen wir das Prinzip der Einheit des Wissens, welches unsere Disziplin mit der Universität verbindet. Wir vermitteln ein Bewusstsein für die Dringlichkeit und den Optimismus, dass die Welt, so wie wir sie kennen, durch Glaube, Wissen, Verpflichtung, Zusammenarbeit, Sorgfalt und harte Arbeit erneuert werden kann.

Dieser Ethos ist der zentrale Grundsatz unseres Studiengangs, da er unsere Studenten ermutigt, tiefgreifende berufliche Verantwortung zu übernehmen, die in ästhetischer, staatsbürgerlicher und ökologischer Hinsicht in der Zukunft liegt.

Dekan Michael Lykoudis (2002–2020) & Dekan Stefanos Polyzoides (ab 1. Juli 2020)
19. Mai 2020

PREFACIO

TRADUCIDO POR ALEJANDRO GARCÍA HERMIDA

A principios de la primavera de 2020, después de veinte años en el mundo académico y otros veinticinco de ejercicio profesional como socio del estudio Moule & Polyzoides, acepté el cargo de decano de la Escuela de Arquitectura de la Universidad de Notre Dame, del que tomé posesión el 1 de julio de 2020. Durante marzo y abril de ese año, me familiaricé con la situación de la escuela gracias a las conversaciones que mantuve por Zoom con cada uno de los miembros del claustro de todos los niveles. En esas llamadas, descubrí que la mayoría de los docentes tenía un compromiso personal con la enseñanza de una nueva arquitectura clásica y tradicional; sin embargo, no tenían claras las posiciones ideológicas exactas de sus colegas sobre el plan de estudios, o la perspectiva del profesorado en su conjunto. Después de todo, resultó que la postura pedagógica de la Escuela se había desarrollado activamente durante tres décadas, pero no se había compartido en detalle entre los compañeros ni se había registrado de forma definitiva.

A mediados de mayo, mientras preparaba la mudanza de California a Indiana, le pedí al entonces decano Michael Lykoudis que colaborase conmigo para recoger por escrito los puntos esenciales de la pedagogía de nuestra Escuela. De su aceptación, y los fructíferos intercambios que siguieron, nació el documento de síntesis del que trata este libro. La colaboración se planteó desde dos perspectivas diferentes: la suya, documental, basada en sus dieciocho extraordinarios años de experiencia al frente de la Escuela; y la mía, llena de aspiraciones, que imaginaba futuros avances graduales en el plan de estudios.

Desde entonces, han sido muchas las ventajas de haber creado este resumen de nuestra pedagogía. El documento nos ha ayudado a explicar la naturaleza de nuestros programas a la Universidad y al Consejo consultivo. Se ha utilizado como plataforma para describir la Escuela a colegas y decanos de arquitectura aquí y en el extranjero. Nos ha ayudado a fomentar el sentimiento de solidaridad entre los profesores y a reforzar las ambiciones intelectuales de los alumnos y, lo que es más importante, ha permitido a los profesores prepararse y mantener una actitud abierta y colaborativa entre ellos mientras imparten los talleres y cursos. El apoyo a estos doce principios y su conocimiento colectivo han permitido que la Escuela se convierta en una comunidad más extrovertida, que puede defender y adecuar sus posiciones dependiendo de la naturaleza de las críticas que reciba. Gracias a la existencia de este documento, nos hemos convertido en unos compañeros mejores y más serviciales, y en una Escuela más segura de sí misma.

En la forma ampliada que sigue, los Principios están organizados en dos partes: En la primera parte, cada docente adoptaba un solo principio, o a veces más, y escribía unas declaraciones de validación sobre su importancia como elementos fundamentales de una educación arquitectónica. En la segunda parte, primero se describían los objetivos de cada taller y curso, y luego se coordinaban entre sí, en un esquema secuencial de módulos de habilidades y conocimientos que deben impartirse gradualmente a los alumnos. Un aspecto esencial de esta transferencia de conocimientos es la expectativa de que los alumnos deben ser capaces de demostrar que han aprendido estas lecciones y las han incorporado en su capacidad evolutiva para pensar y actuar como jóvenes arquitectos.

Una formación integral en arquitectura, urbanismo y paisajismo exige este nivel de intencionalidad en la enseñanza y el aprendizaje.

STEFANOS POLYZOIDES
Catedrático de Arquitectura
Decano Francis y Kathleen Rooney
Universidad de Notre Dame

DOCE PRINCIPIOS PARA UNA PEDAGOGÍA DE LA ARQUITECTURA

INTRODUCCIÓN

En Notre Dame, la arquitectura se enseña como una disciplina y profesión integrada que incluye la instrucción simultánea en un conjunto bien definido de materias tradicionales: dibujo, historia y teoría, tecnología de la construcción y medioambiental, taller de proyectos y temas relevantes de varias disciplinas periféricas. Estas asignaturas se consideran esenciales e iguales y se imparten combinadas, en la medida de lo posible.

A continuación se exponen los principios fundamentales que los alumnos de la Escuela deben estudiar continuamente y dominar durante su estancia en el campus y, finalmente, en su vida profesional cuando dejan la Escuela.

1. **ARQUITECTURA Y NATURALEZA:** A lo largo de los siglos, la arquitectura ha servido como medio para albergar a las personas, sus empresas e instituciones. Ha dado estabilidad, belleza y sentido a las comunidades humanas, al tiempo que les ha permitido acceder a la abundancia que ofrece el medio natural. Nuestro programa se basa en la premisa de que la arquitectura es la base de un hábitat humano en evolución que siempre debe desarrollarse en armonía con la naturaleza.

2. **BÚSQUEDA Y CONSERVACIÓN DEL CONOCIMIENTO:** Estamos comprometidos con la idea de un aprendizaje basado en salvaguardar y ampliar los profundos conocimientos teóricos, históricos y prácticos de la arquitectura, el urbanismo y el paisajismo que tenemos a nuestra disposición. La mejor manera de conectar los nuevos proyectos con el carácter de las formas tradicionales de cada región es mediante el estudio de los precedentes más significativos.

3. **DIVERSIDAD Y UNIDAD DEL ENTORNO CONSTRUIDO:** Estudiamos todas las tradiciones constructivas locales, regionales y compartidas del mundo, sin excepción. Su diversidad de recursos y respuestas al clima y la cultura han producido ejemplos de excelencia estética y adaptación medioambiental inigualables que deben emularse en el futuro como una cuestión de identidad, sostenibilidad y placer.

4. **PRÁCTICA Y PROTECCIÓN:** Alentamos a nuestros alumnos a pensar en lo que sus proyectos van a añadir al entorno natural y al construido para ennoblecer y sostener la vida humana, actuando con respeto por el planeta y suscitando un compromiso con las perspectivas a largo plazo de las diversas culturas del mundo.

5. **ARQUITECTURA Y CONSERVACIÓN:** Enseñamos en aras de la conservación de los recursos y la inversión a largo plazo. Respaldamos la idea de una economía de la construcción que se base en el trabajo humano y una gran competencia en la práctica de los oficios tradicionales. Nos ocupamos de la producción de objetos y lugares duraderos, no solo de flujos temporales de consumo y residuos.

6. **ARQUITECTURA Y JUSTICIA:** Dirigimos nuestros esfuerzos a servir a la causa de la paz social y la justicia comunitaria, y en apoyo de la calidad de vida de todas las personas en toda la escala demográfica, no solo de unos pocos privilegiados.

7. **ARQUITECTURA Y CIUDAD:** Somos conscientes de que la mayor responsabilidad del arquitecto a lo largo de la historia ha sido la mejora de la ciudad; es decir, la consolidación de aquello que la convierte en un campo de oportunidades para los individuos y en un entorno enriquecedor, solidario y protector para todos. Animamos a nuestros alumnos a seguir este camino de continuidad cultural.

8. **ARQUITECTURA Y UNIVERSIDAD:** Nos mantenemos firmes en nuestra postura de que la arquitectura es una disciplina y una profesión comprometida y con una intención, no una obra de arte autónoma e ininteligible. Abogamos por una relación de cooperación con muchas otras disciplinas, en la Universidad y fuera de ella; por ejemplo, artes, humanidades, ciencias, ingeniería, derecho y empresariales.

9. **DESARROLLAR LA CAPACIDAD DE OBSERVAR Y CRITICAR:** Creemos que aprender mediante la observación y la experimentación de una arquitectura, un urbanismo y un paisaje de tiempo, lugar y belleza muestra los valores subyacentes y la resiliencia de las sociedades más allá de lo meramente visible o tangible. A la larga, inculca en los alumnos la necesidad de hacerse responsables de sus decisiones y acciones en los proyectos.

10. **PROYECTO, REPRESENTACIÓN Y MATERIALIZACIÓN:** Sabemos que la arquitectura nace de las ideas y se traduce a través de dibujos y maquetas en una presencia física. Todos los medios de representación gráfica, desde los antiguos hasta los actuales, tienen un valor inherente y nos son útiles; aprendemos tanto de sus éxitos como de sus fracasos.

11. **NOTRE DAME EN ROMA:** Consideramos el año de estudios en Roma como la piedra angular de la pedagogía de la Escuela. Roma ofrece el espectro más completo de proyectos jamás construidos en 2.500 años de historia: edificios monumentales y de viviendas, jardines públicos y privados, e infraestructura cívica. Se anima a los alumnos a entenderlos como precedentes vivos y a discernir su importancia en el diseño del ámbito público y privado.

12. **NOTRE DAME EN EL MUNDO:** Alentamos a los alumnos a estudiar en muchos países del mundo para asegurarnos de que desarrollen una visión diversa e internacional de la arquitectura y las culturas a las que esta sirve. De este modo, los alumnos experimentan entornos urbanos prósperos, complejos y a escala humana. Los edificios y lugares que responden a los recursos y climas locales ofrecen instructivas lecciones de proyectos relevantes para la vida moderna.

CONCLUSIÓN

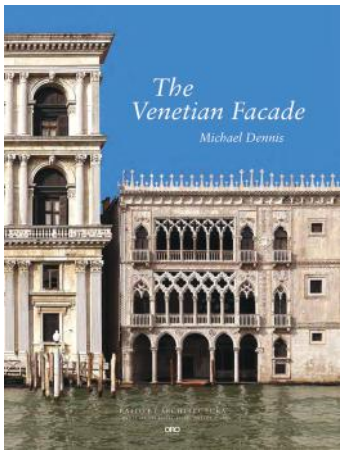
Actualmente enseñamos en el contexto de una crisis mundial sin precedentes: en todos los continentes, las ciudades y el entorno natural están siendo devastados por la ausencia de un planeamiento y unos controles administrativos básicos, por la inercia política, las relaciones económicas de carácter transacional, los proyectos genéricos y las edificaciones provisionales. La fe en un futuro próspero parece estar cada vez más lejos de nuestro alcance. Durante sus experiencias educativas y formativas, los futuros arquitectos, urbanistas y paisajistas están expuestos a una crítica de los procesos y métodos que han llevado a las ciudades del mundo y a la naturaleza al precipicio. No nos limitamos a oponernos a estas tendencias, sino que nos involucramos y ofrecemos soluciones alternativas viables.

Para hacer frente a esta situación crítica, capacitamos a nuestros alumnos para que sean futuros líderes en la campaña urgente para devolver al mundo a un estado de equilibrio entre habitabilidad y prosperidad. Como parte de la tradición intelectual católica, apoyamos el principio de la unidad del conocimiento, mediante el cual conectamos nuestra disciplina con la Universidad. Proyectamos un sentido de urgencia y optimismo de que el mundo tal como lo conocemos puede ser regenerado, a través de la fe, el conocimiento, el compromiso, la cooperación, el cuidado y el esfuerzo. Esta ética es el valor fundamental de nuestro programa, ya que anima a nuestros alumnos a asumir las profundas responsabilidades profesionales—estéticas, cívicas y ecológicas—que tienen por delante.

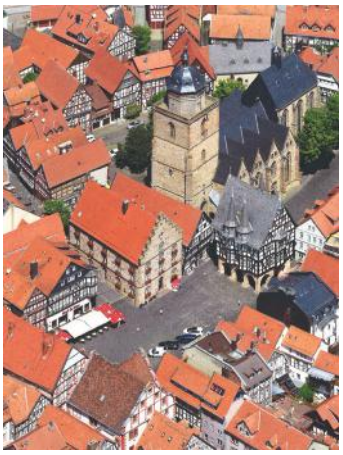
Decano Michael Lykoudis (2002–2020) y Decano Stefanos Polyzoides (desde el 1 de julio de 2020)
19 de mayo de 2020

RATIO ET ARCHITECTURA

Ratio et Architectura *is a new book series from the School of Architecture at the University of Notre Dame.* R & A *is dedicated to scholarly research in architectural history and theory, professional projects and counterprojects, architectural pedagogy and the arts, architecture and ecology, translation of important texts and treatises, and the documentation of important buildings. Michael Dennis'* The Venetian Facade *and Christoph Mäckler & Brigit Roth's* Handbook of German Urbanism *are the first books in the series.*



Michael Dennis
The Venetian Facade
FALL 2024



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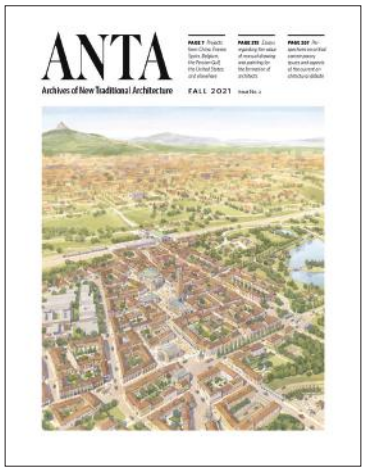
Handbook of German Urbanism
FALL 2024

Léon Krier
Le Corbusier After Le Corbusier
IN PREPARATION

Arduino Cantàfora
On the Threshold of Silence
IN PREPARATION

ARCHIVES OF NEW TRADITIONAL ARCHITECTURE

The Archives of New Traditional Architecture is a journal published twice yearly and is dedicated to traditional architecture and urbanism. It advocates for beauty, moderation, and common sense in building design amid the challenges posed by our deteriorating built and natural environments. Subscribe at anta.nd.edu.



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THE RICHARD H. DRIEHAUS PRIZE
AT THE UNIVERSITY OF NOTRE DAME

The Richard H. Driehaus Prize at the University of Notre Dame complements the School of Architecture's classical and urbanist curriculum, providing a forum for celebrating and advancing the principles of the traditional city with an emphasis on sustainability. Established in 2003, the Richard H. Driehaus Prize is awarded to a living architect whose work embodies the highest ideals of traditional and classical architecture in contemporary society, and creates a positive cultural, environmental, and artistic impact.

2024 Laureate Peter Pennoyer

"Beauty, harmony, and context are hallmarks of classical architecture, thus fostering communities, enhancing the quality of our shared environment, and developing sustainable solutions through traditional materials."

—RICHARD H. DRIEHAUS

RICHARD H. DRIEHAUS PRIZE LAUREATES

2024 Peter Pennoyer	2019 Maurice Culot	2013 Thomas H. Beeby	2007 Jaquelin T. Robertson
2023 Ben Pentreath	2018 Breitman and Breitman	2012 Michael Graves	2006 Allan Greenberg
2022 Rob Krier	2017 Robert Adam	2011 Robert A. M. Stern	2005 Quinlan Terry
2021 Sebastian Treese Architekten	2016 Scott Merrill	2010 Rafael Manzano Martos	2004 Demetri Porphyrios
2020 Ong-ard Satrabhandhu	2015 David M. Schwarz	2009 Abdel-Wahed El-Wakil	2003 Léon Krier
	2014 Pier Carlo Bontempi	2008 Duany and Plater-Zyberk	

Visit driehausprize.nd.edu for nomination information and to learn more about the Driehaus Prize and the Henry Hope Reed Award.

THE HENRY HOPE REED AWARD

Henry Hope Reed was the inaugural recipient of an award named in his honor presented in 2005, and in conjunction with the Richard H. Driehaus Prize. For half a century he promoted the classical traditions in architecture and its allied arts, educating the public about the importance of public spaces, and the grandeur in the design of monuments and institutional buildings. Each year the School presents the Henry Hope Reed Award to recognize achievement in the promotion and preservation of vernacular and traditional architecture among people who work outside the architecture field. Together, the $200,000 Driehaus Prize and the $50,000 Reed Award represent the most significant recognition of classical architecture in the contemporary built environment.

HENRY HOPE REED AWARD LAUREATES

2024
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2023
Adele Chatfield-Taylor

2022
Wendell Berry

2021
John Reps

2020
Clem Labine

2019
Carl Laubin

2018
Torsten Kulke

2017
James Sloss Ackerman

2016
Eusebio Leal Spengler

2015
Dr. Richard J. Jackson

2014
Ruan Yisan

2013
David Watkin

2012
Elizabeth Barlow Rogers

2011
Robert A. Peck

2010
Vincent Scully

2009
Fabio Grementieri

2008
Roger G. Kennedy

2007
Edward Perry Bass

2006
David Morton

2005
Henry Hope Reed

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We owe immense gratitude to the School of Architecture Advisory Council members for their immeasurable support, including the resources that made publishing this book possible.

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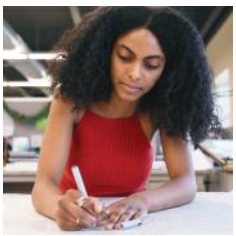
Most of what is currently being built around the world will disintegrate within a few decades. If this is not the time to dwell wisely within Nature, the City, and her Architectures, then when?

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