New Architecture Program Mainstreams Sustainable Design Thinking

— Dennis A. Andrejko, FAIA

The built environment often showcases the development and advancement of cultures and civilizations, and today, more than ever, architecture is observed as influencing our everyday patterns of growth and opportunity. It is widely understood that, as designers, architects have a profound influence in shaping the environment around us, and at the same time, that very environment has a profound influence in shaping us.

The Best of Times – The journey into the 21st century of design thought is an exciting time. Practice is consistently exposed to an ever-expanding array of tools and methods, to expand the way design projects are conceived of and processed, while novel materials and methods of construction are developing at an ever-rapid pace. Combined, these new approaches suggest building forms, spaces, settings, and places that are unlike many previously experienced.

The Worst of Times – Yet at the same time, the downturn of the economy, natural disasters occurring at an ever increasing rate and in elevated fashion, climate change and rising temperatures, water in overabundance in some regions, and significant drought in others, put into question our very future and survivability. At a global scale, continued population growth, disease and health, famine, food scarcity, and increased energy demand tied to diminishing natural resources, remind us daily of the fragility of the "spaceship earth" we inhabit.

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Challenges and Opportunities – The profession of architecture is in a time of great transition. Challenges continue to mount and responsibilities grow. We are compelled to forge ahead by accepting both traditional roles along with new opportunities as these roles expand and diversify. By asserting our position as leaders in shaping the built environment, architects must become more equipped for, and adroit in synthesizing, the myriad elements that make up client needs and expectations.

Change is Constant – As the profession evolves, our next generation of design leaders are compelled to elevate their discernment around the diversity and complexity of an ever-changing landscape, and architecture schools have a responsibility to address this future head-on. At Rochester Institute of Technology a new program has commenced providing a unique setting for an architectural curriculum in an innovative way. The Master of Architecture program is now in its second year, and housed in the Golisano Institute for Sustainability where Ph.D. and Master of Science programs presently exist, and aligned with the College of Imaging Arts and Sciences. In a holistic fashion, the program has a core focus around four key themes, becoming an essential foundation and framework to increase the understanding, awareness and ability to manage and assimilate information. By mainstreaming sustainable design thought throughout the curriculum, these four themes become the primary agendas to educate emerging professionals in various aspects around issues that affect building design, operation, and use:

Technology – Mastering and understanding the value and significance of technology is fundamental to advancing the built environment and improving both the design process and product. Tempering technology with an elevated sense of recognizing its implications in design is also essential.

Urbanism – The challenges facing our cities and urban settings are profound, and throughout the globe urban settlements continue to increase in size and scope. Focusing on and paying attention to urban principles and practices as they affect the social, economic, cultural, and environmental fabric of a city must be an interwoven discussion with any building proposal. Our communities must serve as an active learning environment.

Integration – Integrating learning and practice are key elements for a successful design profession. The amalgamation of various disciplines and stakeholders, combining both the art and science of design to be mutually informative, and understanding the value of diversity and inclusiveness, can leverage and solidify collective intelligence in a team environment to the benefit of the communities in which structures are built. Cross-dis-

ciplinary and cross-professional alliances are fast becoming an essential theme in architectural practice.

Sustainability – Chief among these themes, and unifying their holistic intent is the sustainability imperative. Energy efficiency and high performance buildings, leading toward net-zero and carbon-neutral buildings can only be realized by a well-balanced understanding of several areas including sustainability science, ecological literacy, material and product selection and analysis, life cycle assessment, embodied energy and water, and commissioning and operational effectiveness. In addition, climate, culture, regional fit, and human factors play key and fundamental roles in a well-designed environment.

The Master of Architecture program holds sustainability—entwined with investigations around integration, urbanism, and technological advancement—as non-negotiable cornerstones and key ingredients of its curriculum. The program begins with a four-year, non-architecture related baccalaureate, followed by three years of focused study with sustainability as the foundation of future design inquiry. Students bring with them an interest in architecture with broad frames of reference, diverse and synergistic disciplinary perspectives, and intellectual maturity. The program integrates core course requirements with the Ph.D. and Master of Science students to greater assure deliberate, collaborative and connected discussions are brought to the table when conceptualizing design projects.

The new Golisano Institute for Sustainability building, scheduled to open in early 2013, is a living, learning laboratory where research, design, and knowledge sharing are fused together. Current and developing methods, materials and systems that make up and shape the built environment will be tested, explored and developed to advance the fabric around which future buildings are built and their surrounding context and settings are planned. The Master of Architecture program provides unique, relevant, and essential partnering among the academy and profession, with business and industry, and throughout the community and public as a whole—centering the profession with its collaborators as a nucleus of innovative thought.

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All designs hold the potential for elevated outcomes if we nourish our curiosity in sensible and practical, yet creative and evocative ways—expanding and catapulting us into design possibilities that enrich and advance the physical environment for our clients and communities overall. The design profession should look forward to opportunities to share ideas and contribute collaboratively in this quest for a more vibrant, healthy, productive, resilient, and yes, sustainable future for us to share and celebrate.■

For more information on the Golisano Institute for Sustainability, visit www.pci.org. for more information on precast concrete and sustainability, visit www.rit.edu/gis/