



- Title:** **ASPECT: RATIOS – Voices of Women In the Tall Building World**
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- Subject:** Social Issues
- Publication Date:** 2017
- Original Publication:** CTBUH Journal 2017 Issue III
- Paper Type:**
1. Book chapter/Part chapter
 2. **Journal paper**
 3. Conference proceeding
 4. Unpublished conference paper
 5. Magazine article
 6. Unpublished

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ASPECT: RATIOS – Voices of Women In the Tall Building World



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Ilkay Can-Standard

Ilkay Can-Standard is an architect/technologist and the founder of GenX Design & Technology. Her firm is focusing on helping architects, engineers and construction companies to transition to Building Information Modeling (BIM) technology, using the most effective and tested strategies. Can-Standard's goal is to help transform how we build and construct our cities. As Co-Chair of the CTBUH Young Professionals Committee (YPC) of New York, Can-Standard fostered an open dialogue between architects, engineers, developers and academics about developing responsible buildings and cities. Since she co-founded YPC, the group grew from 30 people to over 1,000 today. Can-Standard previously worked as an Associate Principal at Kohn Pedersen Fox Associates on award-winning projects, both locally and internationally.

Martina Dolejsova

Martina Dolejsova is currently the Communications Coordinator at Studio Libeskind. She earned her M.S. in Critical, Curatorial and Conceptual Practices of Architecture at Columbia GSAPP, in which her thesis focused on discussions of gender and the built environment from the 1990s, as well as the beginning impact of Internet technology on visual communications and identity.

Abstract

ASPECT: RATIOS is the outgrowth of a program developed by the CTBUH Young Professionals Committee in New York, beginning in 2016. The purpose of the lecture series, and of this special edition, is to showcase some of the exemplary work done by women in the tall building field. The impediments and setbacks faced by women in a male-dominated field are an infrequently discussed reality. CTBUH invited female colleagues to reflect on their experiences as women in a variety of roles and disciplines. We provided preliminary questions, but did not presume what subjects would be of most interest, and thus our invitation was very open-ended. The responses we received in some cases addressed gender inequality head-on; in others, colleagues held forth on a subject of personal importance to them. In all cases, the goal is the same: we want these voices to be heard. With a greater number of women entering the science and technology field, the conversation about their contribution to the tall building industry is more relevant than ever before.

Keywords: Gender Equality, Personal Essays, Architecture, Engineering

Introduction

Any metrics for the number of women who work on tall buildings are difficult to find, but this report recognizes the range of women involved in tall buildings and their respective range of experiences. Elena Shuvalova speaks about the invisible boundaries in that “any high post occupied by a woman in the tall building industry (is) to be a challenge.” MaryAnne Glimartin further attests that women in such leadership roles must have the skills of being fierce and incredibly adaptive.

Architect Pascale Sablan follows the empowered lineage of architect Norma Sklarek (the first licensed female African-American architect, in 1954) and has a tenacity equaled by her humanity, in testifying how a building's language can contribute to social objectives and improve lives. Architect Caroline Stalker's advocacy on urbanism and tall buildings takes another approach, one that is particular to the subtropical climate of northeastern Australia. Prof. Elena Mele explores how representation is as much a production of structural engineering as it is a creative flow of ideas.

Architect Nicole Dosso, the lead technical coordinator at SOM, addresses the hard realities of engineering tall buildings in a description of “touchdown zones,” the places where they meet the ground (or an engineered deck). Yet, even as their design becomes increasingly digitized, tall buildings are still an art, as structural engineer Wing-Pin Kwan points out in her essay on the importance of freehand drawing diagrams to foster flexibility, quick thinking and working out problems while on your feet. Architect Sara Beardsley shows that tall building design is as much a science as it is an art, and this fact feeds upon society's historical encouragement of men to study the sciences and women to do otherwise. Where are tall buildings going next? Prof. Helen Lochhead's personal response, a refreshing aside to the standardized, professional language typically used in the industry, communicates the importance of possessing agility in making personal connections and collaborations in order to effect change within underlying gender structures.

It's inarguable that a tall building is built through a collaboration of many people. As these towering achievements are

increasingly dynamically and intricately linked to women, it is important to tell their stories and to keep this door open for future generations.



Sara Beardsley, *Adrian Smith + Gordon Gill Architecture, Chicago*

What do you think is the biggest challenge women face in the tall building industry?

As an architect at AS+GG, a firm well known for supertall and highly sustainable projects, I have been fortunate enough to take on leadership roles in both design and technical aspects of a variety of building typologies – including tall buildings – to interface with clients, to travel, and to present our work.

A challenge women face is that, historically, the tall building industry has attracted and retained a lower proportion of women architects than most other specializations in architecture. This issue may be related to similar challenges currently faced in other STEM (science, technology, engineering, and math) fields, as tall building design is as much a science as it is an art. However, great strides have been made in the past few decades, as more female design and technical leaders in the tall building industry continue to emerge and be recognized for their contributions.

Attrition among mid-level women architects occurs across all specialties for a variety of reasons, but studies have shown that “career perception” – including real or perceived challenges in career advancement and access to opportunities – is a leading factor. Another contributing factor is work-life balance, as the tall building industry can be especially demanding in this area, especially considering the needs for long or nontraditional hours, work on international projects, and travel. One way to improve perceptions, and increase opportunities for women to specialize, endure, and become leaders in the tall buildings field, is by better supporting them in the critical early and

middle parts of their careers through improved mentorship. It is also very important to provide the guidance and encouragement necessary to a diverse group of university students to foster their interest in tall buildings, so that they can master the skills they need to succeed in a very competitive market.

Based on what you have learned as a professional, what would you go back and improve about the education in your discipline?

Many of the new or soon-to-be graduates I have met have never thought about what type of firm they wish to work for, or what type of projects they wish to work on in their careers. While university-level programs should always strive to train well-rounded architects, the last years of an architectural program should also give students more opportunities to specialize in the various sub-disciplines of architecture, with access to industry experts, to better prepare them for the workplace and make intelligent choices about the right fit for their careers. Students should begin to have conversations about their career path with professors and career coaches early, even if they do not know yet where that path will take them. It would be wonderful for our industry if more universities offered a tall building specialty and more high-rise studios within their architecture programs.

Sara Beardsley has been a Senior Architect with AS+GG since 2007 and has spent more than 10 years as a team leader contributing to large international projects, including Jeddah Tower, FKI Headquarters in Seoul, Astana Expo 2017, the Willis Tower proposed renovation, and Trump Tower Chicago. In 2011 Beardsley was the recipient of the national AIA Young Architect Award and in 2010 was one of Crain's Chicago Business' 40 under 40.



Nicole Dosso, *Skidmore Owings & Merrill, New York*

Touchdown

New York City is a unique place to build. Designing and constructing buildings over existing infrastructure significantly increases the challenges associated with tall buildings. Here, it can't be taken for granted that there will be *terra firma* on which to place a building's foundations. Several of the towers constructed above the formerly open-air rail yards at Hudson Yards (see Figure 1) and Manhattan West literally do not touch the earth.

At a critical structural point, primary building columns at grade and their associated foundations need to find their “touchdown zones” between existing tracks and the overhead catenary lines and signals servicing the railroads. Touchdown zones rarely align with the idealized column spacing planned for towers. Therefore, complex structural transfers that navigate between two grids are required, greatly increasing the complexity of coordination, construction, and cost.

Beyond structural and traditional technical considerations, such as wind acceleration and stack effect, tall buildings constructed over rail yards have a heightened concern for vibrations, acoustics, security, and track exhaust.

At track level, clear heights established by legal easements and train dynamic envelopes must be maintained. Limited clearances can impose challenges to vertical transportation regarding elevator pit depths, which correlate to a reduction in speed and cable travel lengths.

Construction precision and timing are critical when working at, above, or adjacent to active rail tracks. Work needs to be scheduled in advance and performed during coordinated outages to minimize disruption to rail service. Site logistics and physical constraints, such as the type and size of equipment that can be used at track level, can influence design

THE MAKING OF HUDSON YARDS

UNDERSTANDING THE "PLATFORM"

To complete Hudson Yards, two "platforms" must be constructed to bridge over 30 active Long Island Rail Road train tracks. Finished buildings will extend through the platform and rise above, with caissons drilled deep into bedrock between the rail lines to support the structures.

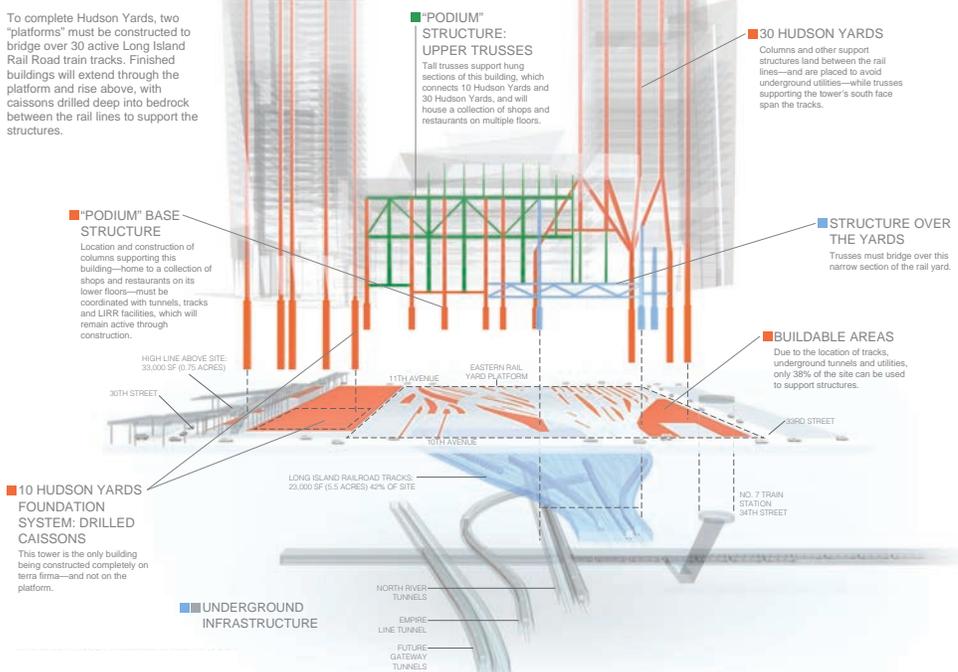


Figure 1. Hudson Yards "platform." Source: Hudson Yards New York

What technology or innovation do you think will have a profound impact on the tall building industry in the next 10 years?

I would bet on green living technologies: vegetative roofs, façades/walls, and sky gardens. In tall buildings, these technologies may have a better and more intensive use than in other building types. Distance from the ground level normally keeps those who live or work in a tall building away from natural elements for many hours every day. Green living technologies can re-establish human contact with nature, which has many positive effects on people's mood, on their sense of calm and balance, and, consequently, on their sense of comfort and work productivity. From contact with vegetation, everyone can benefit.

Over the last few years, green technologies have been used in tall buildings with increasing success. Vegetation in or on the buildings is highly appreciated by occupants and observers alike: it brings environmental, energy, and microclimatic benefits; improves the air quality; and restores biodiversity.

Raising a natural landscape in the urbanized world is a difficult challenge that many nonetheless believe to be winnable. It helps that we now have reliable results from early experiments to guide us.

There is still a long way to go in the fields of technological innovation, management techniques, and especially the regulatory framework, when it comes to complex factors like fire and wind safety, vegetation selection, precise definition of environmental benefits and performance, and the like. However, I believe that green living technologies will become more widespread in tall buildings.

Elena Giacomello is an architect with a PhD in building technology. She is an adjunct professor of building technology and a temporary research fellow at Luav University of Venice. Giacomello was the recipient of the CTBUH 2013 International Research Seed Funding, and author of CTBUH Research Report Vertical Greenery.

solutions. In cities where land is scarce, these types of challenges are becoming the new norm.

Nicole Dosso is the Director of SOM's Technical Department in New York. She served as Lead Technical Coordinator on One World Trade Center and 7 World Trade Center. Her current work includes towers at Hudson Yards and Manhattan West in New York.



If you could provide any advice to yourself when you graduated or entered the profession, based on what you know now, what would it be?

Elena Giacomello, Università luav di Venezia, Venice

Working as a researcher at an Italian university, I would suggest to my younger self to have research experiences outside the university, in the construction industry, at design studios, or on construction sites. As a researcher whose experience is characterized predominantly by studying books and working within the

academy walls, I did not know firsthand the propulsive drive with which the building industry asks "research questions" and demands decisive, clear, and, of course, scientific answers.

The concreteness that characterizes research activities in the "real" world is instructive to an academic researcher: to seek the right compromise between methodological rigor and the often-changing work context, to develop operational tools that are understandable to many, to collaborate with many different professionals who often have nothing to do with research, to consider economic constraints, etc.

Inventiveness and adaptation are qualities that become more useful by doing research outside the academy. Research must continue, while maintaining a high methodological rigor, until a concrete, comprehensible, useful, and shared result is achieved.



MaryAnne Gilmartin,
Forest City Ratner
Companies, New York

Discomfort with Business as Usual Leads to Innovation

Our generation of professional women has seen some amazing innovation. We've witnessed the evolution of many important technologies. We saw the telephone go from rotary to cordless all the way down the line to smart phones. In our industry, this raises the questions: How has the digital economy taken design and building methods to the next level? And as women have become more empowered in the business of placemaking, has our contribution fueled any process and product innovation?

The answer to both questions is yes.

For forever and a day in the tall building industry, we were building the same way our fathers and grandfathers built. Some may feel, "If it's not broken, then why fix it?" But those of us who embrace innovation, technology, and change knew there were breakthroughs and discoveries to be made for our industry.

The cost of land is rising, especially in gateway cities. The cost of labor is rising. Our industry needs to innovate to build great high-rise, transit-oriented development.

Under my leadership, Forest City New York went through an intense and expensive R&D process to come up with a way to be innovative. Our search brought us modular construction, which has been used for hospitals, dormitories, and other shorter buildings for years, but has not really been used to construct taller buildings.

We found a way to build tall, modular buildings that would not only reduce cost and time, but would still allow the building to have world-class design.

In late 2016, we opened 461 Dean at Pacific Park, Brooklyn (see Figure 2). The building,

which stands 32 stories tall, was built in a factory at the Brooklyn Navy Yard and trucked to the site. Now, residents are moving in, and to them there is no distinction between their building and one that was built conventionally. This beautiful building is a testament to what can be achieved through innovation.

Women have not been in leadership positions long enough to get comfortable with business as usual. Chances are, any truly successful woman in our business is likely to be a fierce leader, masterful problem solver, and great adapter to change. This reality creates great possibility. 461 Dean is proof positive of that.

MaryAnne Gilmartin has been the point person in the development of some of the most high-profile real estate projects in New York City, including Pacific Park Brooklyn, the New York Times Building, and New York by Gehry (Eight Spruce Street).



Wing-Pin (Winnie) Kwan,
Leslie E. Robertson Associates,
Hong Kong

What do you think is the biggest challenge professionals face in the tall building industry?

While wages and operational expenses keep increasing, professional design fees for tall buildings have stagnated or even declined. Design fees have simply not kept up with inflation. Meanwhile, design professionals are dealing with more complex designs and regulations. Unfortunately, fee competitions create a vicious downward cycle, in which each firm lowers its fees to be more competitive than the last.

Schedule compression is also a problem. In Asia, particularly China, more and more owners are setting unrealistic design and construction schedules. Fast-track construction has been taken to a whole new level; it is not uncommon that the foundation is con-



Figure 2. 461 Dean Street, Brooklyn. © Max Touhe

structed before the design is complete for a project, with major changes being implemented concurrent with the construction.

Both fee and schedule pressure could stifle innovation. To make a profit under these circumstances, it is safer for the designers to use conventional systems and to be unduly conservative in their approach. Such conservatism may not only lead to inefficiencies and wastefulness, but may also have a negative impact on the aesthetics and functionality of the building.

Projects under high fee and schedule pressure may not be adequately and/or competently staffed. The lack of budget or time to implement proper training, supervision, and quality assurance may lead to costly problems down the road, and may even have safety implications.

I believe automation of the design process has contributed to the erosion of professional design fees and increasingly unrealistic schedule expectations from owners. The advancement of design and analytical computational tools has greatly increased efficiency in the workflow. However, these tools may create a false sense of competence and security. In the structural engineering field, tall building design in the past was performed by skilled and experienced professionals with specialized knowledge and expertise. Nowadays, advances in available design software means it is not difficult for an

untrained person to calculate the sizes of structural members for an entire building in a short time, without understanding the principles and complexities behind the design.

Oversights and errors due to unreasonable compression in the design schedule and budget may ultimately cost more than the time or money saved. Design fees constitute only a small percentage of the overall costs of a project. A thoughtful design by skilled and qualified professionals, along with a proper quality assurance process, will ultimately save the owner money, and is more conducive to the generation of innovative and effective solutions to design challenges.

Based on what you have learned as a professional, what would you improve about the education in your discipline?

It is easy to rely on advanced computational tools to create increasingly complex designs. In the field of structural engineering, we no longer need to solve problems by doing hand calculations. Fewer and fewer schools teach classical analysis methods. Young structural engineers are generally adept with mastering computational tools; however, fewer and fewer can draw free-body diagrams or come up with approximate solutions to structural problems without relying on their computers.

As we increasingly rely on these powerful tools, it is more important than ever to develop an intuitive sense of whether the solutions they generate are reasonable. It is all too easy to make an inappropriate assumption or make a mistake in the input data – with structural design, such errors may lead to costly remediation work down the road; worse, there could be serious safety implications.

In engineering education, then, the ability to understand the underlying principles is the key for coming up with effective and innovative solutions. Instead of (or in addition to) focusing on “how,” it is important for the teachers and students to focus on

“why.” It is easy to look up design procedures, equations, and code provisions on the job; it is more important for a student to learn the theories behind the procedures and equations, and the reasons and considerations behind the code provisions. Students should be taught the skills (such as rules-of-thumb and simplified hand calculation methods) to arrive at approximate solutions for problems. One needs to be able to perform quick calculations for “sanity checks” of the solutions generated by the computer.

Wing-Pin (Winnie) Kwan is a Partner at the structural engineering firm Leslie E. Robertson Associates (LERA). She spearheaded the establishment of LERA's Shanghai office in 2011, and opened the LERA Hong Kong office in 2016. Notable buildings Kwan has been involved in include the 492-meter Shanghai World Financial Center, the 555-meter Lotte World Tower in Seoul, and the 630-meter Merdeka PNB118 in Kuala Lumpur. Kwan was honored



Helen Lochhead,
University of New South
Wales, Sydney

Championing Change

In 2013, I was at a breakfast gathering of Women in Design at Harvard University, with the eminent architect, planner, and writer Denise Scott Brown as the guest speaker. She

was surrounded by the best and the brightest young women graduate students from Harvard's Graduate School of Design. Scott Brown described her remarkable achievements and the professional hurdles she had faced, most notably being sidelined by the Pritzker Prize jury when her lifetime professional partner Robert Venturi was awarded the prize in 1999, without her. As she spoke, many younger women expressed their challenges to achieve equality and recognition and I felt I was experiencing a Groundhog Day moment. What had changed in 50 years? Why were we still talking about this? Clearly we need to be doing more.

For 30 years now, women have graduated in equal numbers from architecture schools, but

there is huge attrition. Only 20% of registered architects are women. Women face unacceptable barriers in the building industry across the board.

Recently, compelling research has highlighted not only the problems, but also strategies for overcoming these challenges.

Between 2011–14 the Australian Research Council (ARC) funded research into *Equity and Diversity in the Australian Architecture Profession: Women, Work, and Leadership*.

Research findings identified a range of contributing factors, including different pay rates for roles requiring similar levels of expertise, skill, and experience; uneven pay rises and opportunities for promotion or professional development for women with similar experience and performance; and different levels of pay and opportunity for part-time women who are performing the same work as their full-time counterparts.

These findings shine a light on why so many women leave the profession, and why, if they stay, they may remain invisible and behind the scenes. The report highlighted that we need to work together and work differently if we are to achieve a step change.

Taking the report findings as inspiration, Parlour, a forum, was established to bring together research, informed opinion, and resources on women, equity, and architecture in Australia, and to also celebrate the diverse achievements of women. Further, the architecture profession has responded with *Champions of Change*, an initiative of the AIA Gender Equity Taskforce.

In the construction industry, a team from University of New South Wales (UNSW) Sydney has recently completed research and provided some alarming data, but also some sound recommendations, for demolishing gender structures in the construction industry, but we can do more.

Awareness and education are crucial to meaningful policy shifts and behavioral change. In my own university, UNSW Sydney,

we have established a new network called **Engaging Women in the Built Environment**. This forum brings together women from all built environment professions and career stages, providing a platform for exchange, research and project partnerships, scholarships, work placements, and mentoring.

These are just some examples of how the paradigm can shift. In the future, robust organizations will need to be, by necessity, more agile, to adapt to the rapidly changing world in which we live. To face the challenges in today's tall building industry, we need to include all our talent and capabilities, and that means women and men. In the long run, this will make for more resilient organizations and a better, more inclusive built environment. It is a fitting postscript that the 2017 Pritzker Prize was awarded for the first time to an architectural partnership, in which one of the three partners is a woman: Rafael Aranda, Carme Pigem, and Ramon Vilalta, of Spanish firm RCR Architects.

Helen Lochhead is cross-disciplinary: an architect, a landscape architect, and an urbanist, who combines teaching, research, practice, and advisory roles. Her career has focused on the inception, planning, design, and delivery of complex multidisciplinary projects, ranging from a citywide improvements program for the City of Sydney to major urban regeneration and waterfront projects, both in Australia and the United States. More recently she led the development of a 30-year plan for the transformation of Sydney Cove and was instrumental in setting a new strategic vision for Sydney Harbour.



Elena Mele, University of Naples Federico II, Naples

Tall Buildings as Training Ground for the Education of Structural Engineers

The tall building is an extraordinary training ground for structural engineering education and results in a deep understanding of structures and in the development of critical thinking. In this perspective, the teaching/learning approach should be rigorously

inductive. Learning should be accrued by doing, and the object should be real case studies. Therefore, the starting point is the tall building construction industry. By looking at great examples, we can question the role of structure. With the term "great examples," I do not necessarily mean the tallest buildings, but the most innovative, intriguing, and inspiring buildings, such as those that pose major construction challenges to the structural designer. The basic idea is that deep comprehension of why the design solution to a challenging problem appears "right," in terms of structural organization and of structural-architectural interaction, could trigger a creative flow and generate new ideas.

The major learning outcome is the ability to use the principles of structural organization and behavior design tools, exploring the formal potentials that derive from a design approach focused on the structural conception.

For this aim, the students must choose their heroes (the great structural designers of the past and of present days) and learn from them through the immersive study of their masterpieces – tall building case studies. This is much more than simply "reading structures;" it is a reverse-engineering process that consists of dissecting a product, understanding how it functions, and learning the basic principles. The knowledge acquired from the dissection allows one to design a new product. This is a practice widely used in informatics, and, quite surprisingly, in the context of art, poetry, architecture, and other creative industries.

In *Tradition and the Individual Talent*, T.S. Eliot discusses the relationship between the individual artist's creativity and the heritage of tradition, understood as an element paradoxically necessary to poetic originality. "Good artists copy; great artists steal," according to Pablo Picasso and repeated by Steve Jobs. "I've stolen from the best; I'm a shameless thief," Woody Allen said. The concepts of influence, replication, and inspiration often recur in architectural design. Neil Leach, in a recent *Architectural*

Design paper, challenges the notion of authenticity and argues that the entire story of human culture is built on a constant process of replication. Therefore, why should structural engineers not use this approach, and steal like artists do?

During 10-plus years of the course "Tall Building Structures" at the University of Naples Federico II, the students have demonstrated the acquisition of a sound design culture, acquiring skills that cannot be obtained from a computer, namely: having ideas, posing the right questions, and using advanced analysis. But also, this sound design culture involves understanding the principles behind calculations; grasping insight, not only numbers; balancing new ways of doing with tried, tested methods; and using the potentials of structure for creating and characterizing form, space, and architecture.

Elena Mele, professor of structural engineering, is the author of more than 200 papers on seismic behavior and seismic isolation of buildings. In the field of tall buildings, she has published papers on diagrids, hexagrids, and non-conventional patterns. Current research concerns optimization of structural grid façades and seismic isolation systems for tall buildings.



Pascale Sablan, FXFOWLE, New York

Based on what you have learned as a professional, what would you go back and improve about the education in your discipline?

My education focused on the design process; in particular, architectural history and technology. However, the exercise of designing for others, for instance a client, and not just my own creative and conceptual needs, is an important lesson. More importantly, I learned that as architects, we can contribute to even larger issues, such as social justice in struggling communities. My end goal isn't to have a beautiful building featured on covers of magazines, but to



Figure 3. Detroit East Riverfront Plan 2050. © SOM. Source: Detroit Riverfront Conservancy

design respected and beautiful structures that greatly improve the lives of the occupants, the communities they serve and contribute to social issues change.

What's one thing you can't believe the tall building industry is still doing?

It is shocking to me that the tall building industry is still exclusively designing for the extremely wealthy. The design and construction profession has evolved into a profession of maximizing profits and comfort of the financial elite, and rarely focuses on improving the lives of the majority of the population. In poor neighborhoods, "beautification" often equates to disruption and debris during the construction process, and displacement once the projects are complete. This shatters communities and forces many existing neighborhood residents to search for affordable housing, typically miles away from jobs and family.

Where do you think the skyline will be most interesting to watch in 10 years, and why?

Detroit. Maurice Cox, Detroit's Planning Director; R. Steven Lewis, Urban Design Director; and the planning department are designing an ambitious and stunning, progressive community for the Motor City (see Figure 3). Brilliant designers in Detroit's planning department are re-envisioning the city without displacing longtime residents. I applaud all the leaders and individuals who are making this resurgence happen. The staff of the planning department are engaging the community, and in turn the developers who are collaboratively planning the future

of neighborhoods, homes, businesses and recreational spaces.

Pascale Sablan joined FXFWLE in 2007, and was promoted to Associate in 2014. With over 10 years of experience as an architect, she has been on the design team for Greater Noida Housing Towers in India, and the Al Faisaliah Tower and King Abdullah Financial District in Riyadh. She has been recognized for her contributions to the industry with several awards and honors, including the Emerging New York Architect Merit Award – AIA New York and the NOMA Prize for Excellence in Design.



Elena A. Shuvalova,
Lobby Agency, Moscow

What do you think is the biggest challenge women face in the tall building industry?

I consider any high post occupied by a woman in the tall building industry, especially in a country like Russia, to be a challenge. Basically, you need to be twice as enterprising as a man to achieve the same effect. Megaprojects are usually associated with huge budgets, so the men involved are usually trying to guess whether the women involved have a celebrity husband or father.

Scientists are out of favor in this country today; the level of competence is the last issue that developers consider upon meeting you. The government institutions and the private companies engaged in tall building construction are interested in the industry news I publish, but they are not eager to cite the source. The most complicated challenge is

to remain professional and avow your opinion wherever you deliver a speech.

What do you see as the most pressing urban problems that will impact or be impacted by tall buildings in the next 20 years?

I consider the main challenge of the modern megalopolis to be in finding the optimal balance between historic buildings and districts and new tall buildings and districts. Every megalopolis changes over time. But all these changes should be pursued under the careful consideration of professionals. Violent interventions in the urban space may render great harm to the urban fabric and to the citizens as well.

For example, a new law in Moscow is causing displacement and irresponsible construction patterns. The objective of the law suggests the virtual elimination of property rights in Moscow. As per this law, any residence may be considered for demolition if citizens vote for it electronically or in special State Multiservice Centers. In fact, the only legitimate voting procedure under the current Housing Code is a meeting of property owners. Electronic voting can easily be falsified, and Russia's problems with corruption are well known.

If a building is demolished, the city authorities can move the owners into new apartments on the outskirts of Moscow without any monetary compensation and with no means to appeal. In effect, it is like internal deportation. Thousands of Muscovites have already written letters of protest against this law to district, city, and governmental authorities, and to the President as well. I also oppose the mass-relocation projects, because I believe they taint the image of skyscrapers. I strongly hope that common sense will win, and we will be proud of Moscow skyscrapers as before.

Initially meant to settle the problems of citizens living in dilapidated houses (nearly 20% of the houses suggested for demolition are five-story apartment blocks built in the Khrushchev era), the law has turned out to

be a big problem for the real estate market in Moscow.

The new districts to which people are removed are on the outskirts of Moscow and consist of “economy-class” tall buildings, and most of them are of poor quality. Such “large-scale projects” are of no prestige to the architects involved and don’t benefit residents either, because often the buildings are over-concentrated in areas with poor infrastructure. After having visited the world cities that are doing well with this balance – New York, Chicago, Shanghai, Seoul, London, among others – it is a shame to return to Moscow and see our city government doesn’t understand the concept of beneficial urban regeneration. I think we could learn a lot from such cities, which strike the desired balance between progress and respect for the local architecture and citizens.

Elena A. Shuvalova founded the Lobby Agency in 2007. The main goal of The Lobby Agency is to provide unique and effective opportunities for development of mutually beneficial international cooperation in the sphere of construction, architecture, and real estate. Lobby Agency is also focused on economic research in real estate markets, especially on tall building and hotel markets. Shuvalova has led nine international business tours for Russian professionals studying high-rise buildings. Shuvalova is a graduate of the Moscow Institute of Economics & Statistics.



Caroline Stalker,
Archipelago Architecture
and Urban Design, Brisbane

Tall Building Urbanism for the Ecological Age

Tall buildings are the 21st century weapon-of-choice for accommodating rapid urbanization in most major cities on

the planet. There is a certain glamor about the “iconic” tall building. The way we discuss, view, praise, draw, photograph, and publish stories about tall buildings emphasizes their overall shape, façade treatments, height, and technical achievements. But tall buildings also come together to create cities.

How we make cities is the big issue of our generation. Globally, cities produce 50% of global waste, account for 60-80% of global greenhouse-gas (GHG) emissions, consume 75% of natural resources, and produce 80% of global GDP, according to the United Nations. The way in which we urbanize deeply influences our capacity to live in economically and socially successful societies, as well as the rate at which we consume or renew critical resources, such as air, water, land, materials, and waste. The way cities are formed profoundly affects our economic and social relationships to one another, as well as our relationship to nature and the resources we consume.

Given the critical pressures on city-making in the 21st century, it might be time to shift our emphasis away from “tall building as icon,” to “tall building urbanism,” emphasizing how tall buildings combine to form groups of buildings, places, experiences, ecologies, and precincts. Many cities around the world have planning guidelines that seek to shape tall buildings into “urbanisms of reasonableness” – democratizing views, avoiding privacy compromises, ensuring winter sun can find the street, shaping city profiles – and these things are important to seek balance between public and private interest in the urban environment. In the ecological age, however, the frame of reference for tall building urbanism needs to be greatly extended beyond conventional planning parameters. A tall building urbanism should

embrace a three-dimensional mesh of ecologies and social spaces that are an extension of, and embedded in, the wider city.

Over the years, my colleagues and I have worked to develop principles and designs for a tall building urbanism in my own subtropical city of Brisbane. Given the very benign climate and profusion of green available to us here, the work has emphasized a tall building urbanism that is porous to light, air, breezes, and landscape experiences. Tall buildings can be designed in concert with one another, and with urban spaces, to create a green ecological network of streets, parks, squares, sky gardens, podium gardens, and planted and naturally ventilated lift lobbies. A three-dimensional mesh of light, fresh air, and nature then becomes the public and semi-public space of our city, offering an ecological connection and interaction that fully embraces our climatic advantages, while creating a more sustainable urbanism. For our rapidly urbanizing cities, it is urgent that all of us look beyond the framework of “tall building as icon.”

Caroline Stalker is an architect and urban designer, with a career spanning 29 years. Her work demonstrates a sustained commitment to design excellence, and this has been recognized over the years through numerous architecture and planning awards. Stalker is also an Adjunct Professor at the School of Design, Creative Industries, Queensland University of Technology.

“To face the challenges in today’s tall building industry, we need to include all our talent and capabilities, and that means women and men. In the long run, this will make for more resilient organizations and a better, more inclusive built environment.”

Helen Lochhead, *Dean of the Faculty of the Built Environment, University of New South Wales, Sydney*