Architecture and the Global City

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"Thus the *Bauhaus* was inaugurated with the specific objective of realizing a modern architectonic art, which, like human nature, should be all embracing in its scope."
Walter Gropius, *The New Architecture and the Bauhaus*
"Despite the undeniable progress of techno-science and all the beneficial effect it has had on the quality of human life, one has sufficient reason to be apprehensive about the tendency of technology to become a new nature covering the surface of the earth while simultaneously destabilizing both the natural and the man-made worlds."
Kenneth Frampton, *Technology, Place & Architecture*

"What is the effect of globalization on cities, and what role do cities play in the globalization process?" Posed as the overarching, framing questions for this conference, they don't quite fit a discussion of architecture and cities. Therefore, let's restate the framing question and posit some additional questions. How do forces and manifestations of globalization affect architecture and in particular the architecture of global cities? Is there even such a thing as "global" architecture? What forces counteract or resist globalization of architecture? Is globalization of architecture a new phenomenon, or has architecture always exhibited inherently globalizing tendencies? And in this era of globalizing tendencies related primarily to economic, social and cultural phenomena, to what extent can and does architecture per se affect people's sense and perception of global as opposed to local citizenship?

Recall obvious globalization phenomena, conditions and contrasting trends.

- Faster, data-intensive communication between distant, contrasting cultures.
- Increased sharing of cultural "products."
- Increased multinational business and industrial activity.
- Increased internationalization and standardization of technology.
- Increased international mobility for both business and tourism.
- Economic growth and, for some, rising personal incomes.
- Increasing gaps between haves and have-nots.
- Increasing desire for goods and services accompanied by unmet expectations.
- Increasing threats to natural resources and environmental sustainability.

All of these directly or indirectly affect architecture. Whether the effect is positive or negative depends on what you believe architecture should be.

Anywhere & Everywhere Architecture

The architectural manifestations of globalization are ubiquitous: skyscraping company headquarters and bank buildings, chains of standardized hotels, franchise restaurants, shopping malls, name-brand stores and boutiques, theme parks, fitness centers, and multi-screen cinemas. You would expect to find such structures and services in any city that calls itself "global." When abroad, how often have you felt especially comfortable in a hotel room similar to others you have stayed in, felt relieved perusing a menu with foods you recognize, or enjoyed shopping in a store whose merchandise and interior design are like the store at home? Increasingly familiar global architecture reflects the market needs and functional agendas of international business and industry, the corporate worlds of finance, manufacturing, retailing, travel and hospitality, recreation, and entertainment.

Most urban buildings—housing, schools, traditional markets, religious edifices, factories producing locally crafted goods—are minimally affected by globalization because they are built by, and primarily serve, citizens of local communities. Cultural facilities such as museums and theaters can embody indigenous architectural traditions, but they also can be high-profile, non-traditional architectural symbols contributing to a city's global profile. Sydney, Australia, with its Opera House designed by Jorn Utzon, and Bilbao, Spain, with its Guggenheim Museum designed by Frank Gehry, and are two notable examples. Yet the museum in Bilbao is more than an urban hood ornament and aesthetic magnet drawing tourists and architects to a city that no one would have visited otherwise. This architectural tour de force represents the world's first and most dramatic example of a global museum franchise. And with only minor design changes to position it on a different site, its clone could be built in any city.

Increasingly visible in the landscape of cities aspiring to be authentically global are office towers—really tall, world-class towers. Some think that the 9/11 catastrophe in New York City and the threat of worldwide terrorism will deter future skyscraper construction. But for real estate developers, architects, engineers, city politicians and even many tenants, the techtonic allure, iconic power, and unmatched view of the world afforded by buildings soaring a quarter mile or more toward the sky is just too irresistible. Originally an American invention, these architectural edifices have spread like mushrooms in recent decades through cities on every continent. In the United States, even relatively small, second-tier cities sport skyscapers that often are totally out of scale with the low-rise city fabric, neighboring buildings and adjoining streets. Like the Bilbao museum, most skyscapers are generic in design and could be deposited anywhere. The same is true for shopping malls which today are proliferating worldwide. Strolling through the interior malls at Canary Wharf in London's docklands, at Potsdamer Platz in Berlin and the underground Manege Square in Moscow is fundamentally the same experience. The culinary variations encountered when eating at a McDonald's anywhere in the world are minimal, which for many travelers is reassuring.

We should not be surprised at tendencies to globalize architecture. Architects spend much time looking at what other architects are designing, no matter where. Thanks to fabulous photographs and drawings in slick magazines and professional journals published in virtually all developed countries, plus architectural monographs and other visually rich books appearing every month, architects can scan and span the globe. This has created a subculture of high-style design advocated by architects who are not reluctant to "borrow" design ideas from architects on the other side of the earth. Many stylish products and materials—glass, aluminum, stainless steel, copper, titanium, countless varieties of natural stone—used to clad and finish buildings are readily available throughout the world. If they are not available locally, they can be ordered and imported, as happens with increasing frequency. It is no longer unusual, for example, to find a building in New York City with a sophisticated glass and metal curtain wall manufactured in England or Germany and, in its lobby, granite and marble veneers imported from Italy or Spain. While this once would have been considered prohibitively expensive, global shipping of goods and services, even for building construction, has become routine, fast and affordable.

Objective elements of architectural form

For architects, architecture is quintessentially about the design of purposeful, built form. The objects of design can range from a piece of furniture or humble bus shelter to the grandest of civic buildings, from a campus or complex of buildings to a village, from a small town to a downtown. Architecture both contains space and is contained by space. A 19th century palace on Nevsky Prospect encompasses habitable rooms, stairs and hallways, but outside its mass and facade also help define the edge of the street and shape the streetscape, a function unrelated to the specific program for which its interior was configured. The lofty, mystical interior of St. Isaac's Cathedral fullfills a spiritual and functional mission for the Russian Orthodox Church, but outside it serves as a memorable urban landmark and monumental place-maker, surrounded by streets, plazas and parks, for all the world to see. To Muscovites, GUM is a place to shop. But to architects and architectural historians, its significance lies elsewhere: it constitutes one of the edges of Red Square; and its interior represents a world-class prototype—along with Milan's—of the enclosed, skylit, axial "galleria" that has inspired so many 20th century shopping malls. Thus architecture, although usually financed and built by specific clients for specific purposes, inevitably plays other roles in the city which may not be initially understood or anticipated by the original designers, builders and owners.

No matter what these intentions and roles are, works of architecture share common attributes and elements. Every building is a geometrical form. All buildings contain and shape interior and exterior space. They must structurally resist the forces of gravity and nature, remain stable and protect occupants from unwanted environmental or human intrusions. Generally buildings are comprised of foundations anchoring the structure to the earth; walls and columns holding up floors and roofs; partitions subdividing space; doors and windows for the passage of light, air, goods and people; and manually operated or automated systems to control interior environments and make them reasonably comfortable. The designer's task is to artfully assemble all these components in a coherent, three-dimensional composition. Even small-scale assembly details affect the visual quality of that composition. Many buildings also have purely decorative, non-functional elements, inside and out, whose removal would not jeopardize the building's structural integrity or functional performance. Sometimes such elements serve symbolic or didactic purposes. And all buildings have describable sensory characteristics related to construction materials, surface textures and colors, and qualities of light and sound.

Finally, interior spaces in buildings—individual rooms and horizontal and vertical circulation—are organized in both plan and section to accommodate, efficiently and elegantly, a functional program determined by those who sponsor the building's construction or subsequently use it. Thus the functional agenda, like the budget, exerts strong influence over the initial form of a work of architecture. It determines the overall size of a project and may significantly limit configuration options, whether the project is a house, church, school, library, hospital, hotel, theater or parking garage.

Forces shaping architecture and history's view of architecture

Everything cited above is typical of architecture throughout the world, no matter where or when it was created, and no matter how modest or immense in scale. But if, at the most fundamental level, a wall is a wall and a door is a door, what accounts for the extraordinary variation in architectural form over time and across cultures? The answer helps analyze and understand architectural globalization.

Design decisions, made by either architects or non-architects, are the result of four sets of interdependent forces. The first is imposed by the existing, measurable physical context in which a building is built. The second is determined by available and evolving building technologies, including new materials and new methods of design and construction engineering. The third has its origins in the cultural context of a community or society—religious beliefs and rituals, social values and behavior, political characteristics and economic resources. And the fourth flows from human intellect and will, manifested in the aesthetic ideas, beliefs, theories and compulsions of architects and their clients.

You don't have to be an architect to comprehend the first set of forces. Architecture always has been profoundly affected by geography, climate and microclimate, geology, available natural resources for transportation and building. We can readily appreciate architectural determinants giving shape to an Inuit igloo near the Arctic Circle, housing held aloft on stilts along the canals and lagoons of Bangkok, a Berber village of stone on a Saharan hillside in North Africa, or the stone and stucco structures of Tuscany. For reasons of sustainability, buildings in hot, humid climates differ from those in hot, arid climates. Forested environments with communities engaged in timbering are likely to exploit wood, rather than steel, stone or concrete, as a primary construction material.

Likewise, the role of technology as an architectural form determinant, especially in industrialized societies, is readily apparent. Until the 19th century, most of the world's significant buildings relied for structural support and stability exclusively on unit masonry in compression—thick walls and massive piers or stone or brick. For thousands of years, floor and roof structures were comprised of either masonry vaults or framing assemblies of heavy timber beams and trusses. With the advent of electricity, structural cast iron and steel, malleable and extrudable sheet metal, reinforced concrete, plate glass, thermal insulation, plastics and countless other synthetics used for connecting, laminating or waterproofing, architects and builders were liberated from the constraints of the masonry bearing wall. Thus the history of modern architecture is, in part, a history of design exploitation of industrial-age products and techniques allowing creative architects to break with established design and construction traditions.

The third set of forces related to cultural context are less obvious but equally potent. They arise initially from physical necessity but, over time, evolve and transcend necessity. Embodied in received tradition passed down from generation to generation, they may become codified. Classical Roman architecture, canonized by Vitruvius in his Ten Books on Architecture, considered history's first architectural treatise, originally derived from constructional and environmental logic. But by Vitruvius' time the original logic was forgotten. Use of the classical orders became formulaic, a mandated style, the only correct style. Likewise, during and after the Renaissance, classicism and neoclassicism again became the order of the day. Neoclassical and baroque styling dominated St. Petersburg not because it was inherently Russian or intrinsically suitable for St. Petersburg's climate and landscape, but rather because it represented the architectural "zeitgeist" of western European culture in the 17th and 18th centuries.

The fourth and final set of forces represents the intrinsic artistic drive of the individual artist, the desire to imagine, invent and improvise. Throughout history, designers occasionally come up with something genuinely new, radical, perhaps revolutionary. They may be motivated by dissatisfaction or boredom with the tried and true, with accepted codes and conventions. They may realize that a new technology will allow creation of a new kind of form. While still obliged to accommodate traditional programs and functions, they may conceptualize new ways to configure space or structure to accommodate such conventional programs and functions. Or new programmatic needs and building types, like those engendered by the Industrial Revolution or the Information Age, may inspire architectural innovation. And sometimes, unprecedented design ideas spring from an obsession with form for its own sake, with formal invention sui generis.

When we think about such designers in the more distant past, we remember Brunelleschi and Palladio. Scanning the late 19th and 20th centuries, we recall Antonio Gaudi, Louis Sullivan, Frank Lloyd Wright, Le Corbusier, Alvar Aalto, Eero Saarinen, Mies van der Rohe and Buckminster Fuller. Currently we may think of Frank Gehry or Rem Koolhaas. The work of all these architects was at some point influenced by physical and cultural context. But each in his own way also created architecture that transcended those influences and traditional aesthetic precedents, devising formal architectural languages with vocabulary and compositional grammars never seen before. Equally significant, other architects and clients around the world have been inspired to embrace and replicate those languages—with varying degrees of success and failure—simply because the heroes and models were considered new, different and worthy of emulation.

The urge to "globalize" architecture

From time to time, an architectural theory or movement arises not just to do things differently, but rather with the express aim of prosyletizing and gaining converts and disciples, of disseminating itself and displacing competing –isms and –ologies. Creative architects and architectural academics can be especially susceptible to believing that they have found the "truth," the right way, the universal way, and then to feel compelled to spread the gospel. They question diversity. Likewise, governments and government leaders may oppose diversity and instead sanction a particular philosophy or style of architecture, perhaps exploiting it as a symbol of the state, a symbol of unity and power.

The Roman empire is the first and perhaps most notable example of an attempt to globalize architecture, to establish architectural hegemony by decree and spread Vitruvian order across the globe. It worked. While it didn't suppress completely the indigenous architectural tastes and practices of the provinces, it nevertheless became the empire's ubiquitous, unmistakable architectural theme disseminated and adapted to satisfy provincial needs. Today, in Roman ruins from Turkey to Spain, from Tunisia to England and France, you still can see the legacy and aesthetic impact of this ancient globalization policy. Moreover, even in the absence of a mandate from an emperor, the classical language and ornamental vocabulary of Roman architecture continues today to be replicated, reinterpreted, transformed, distorted or caricatured all over the world, including Russia.

During the Renaissance, architects and their patrons again believed that orderly classicism, or some derivative thereof, was the appropriate architectural fashion for western civilization, notwithstanding local conditions or traditions. When men began studying architecture more formally, as a profession rather than just a craft, during the 18th century, they studied Vitruvius and his Renaissance alter ego, Leon Battista Alberti. In Italy they visited sites of Roman antiquity and the country houses of Palladio. In the 18th and 19th centuries, architectural academicians in

France, England, Italy and Germany all taught principles of classical and neoclassical composition, which then was exported by students to the rest of Europe and to European colonies in America, Africa and Asia.

In the late 19th and early 20th century, many European and some American architects reacted to the persistent hegemony of academic classicism and neoclassicism. The rapidly evolving modern movement condemned historicist design philosophies—"ornament is a crime" proclaimed Adolf Loos—and argued stridently that the modern age demanded new kinds of architecture in response to new industry, new technologies, and new social and political orders. Not surprisingly, it didn't take long for a new hegemony to be proposed. In the 1920's and 1930's, the "International Style" was born. Its most well known prophets were German émigré architects Walter Gropius, founder of the Bauhaus and later head of architecture at Harvard, and Mies van der Rohe, who went to Chicago and I.I.T. Abetted by a young American architect, Philip Johnson, they foresaw a future promising a new world order, a rational and mechanized world liberated by technology, mass communication, unfettered mobility and social justice. What could be more irrelevant to the impending future, they asked, than academic, neoclassically styled architecture? Thus they advocated an architecture based on systematization and standardization, mass production, economies of scale, functional logic and aesthetic composition devoid of both ornament and sentiment. The international stylists imagined that, given a similar functional program, a building in southern Asia shouldn't be very different from one in Japan, North or South America, Africa or Australia.

Meanwhile, neoclassicism was hardly dead. Mies and Gropius left Germany in part because Adolf Hitler and his architectural toadies disapproved of modern design. Once again, the state took the position that there should be an official architectural language, and what better source and model for the Third Reich than the Roman Empire? Like the Romans, Hitler not only wanted to master and rule Europe, he also wanted Europe to be governed by Germany's grandiose, classically inspired architecture. His point of view was shared to a large extent by his nemesis, Joseph Stalin, who likewise didn't care much for modern architecture and especially the constructivism pervading Russian architectural thinking in the decades preceding World War II. How ironic that Nazi Germany under Hitler and Communist Russia under Stalin, along with capitalist America under Washington and Jefferson, all adopted Greek and Roman classicism and neoclassicism as the architectural style believed to best represent their respective nations.

From the end of World War II until the 1970's, classicism retreated and the international style movement gained strength, indeed becoming truly international. Embraced by architects and architectural consumers alike, it especially influenced the design of office buildings and corporate headquarters, schools, hospitals, laboratories, and high-rise, multi-family housing. Aging, austere, functionalist buildings, clad with panels of concrete, masonry, metal and glass, can be seen in hundreds of cities around the world. In architectural schools today, we still label certain design strategies as "Mies-ian," referring usually to a façade comprised of a rectilinear, gridded curtain wall of repetitive, uniform glass and metal panels. Visit any "global city," and you will see modernist buildings exhibiting similar versions of international styling, just as you would find many examples of classically derivative architecture.

The most recent movement potentially with a global reach is New Urbanism, concerned less with architecture than with town planning and urban design. New Urbanism sprang from a desire by a number of architects, landscape architects and civil engineers to offer an antidote to suburban sprawl in the United States. The goal was to create new planning norms and land development patterns based on traditional cityscape and townscape patterns. Effectively represented by the Congress for New Urbanism, new urbanists have expanded their agenda to include urban revitalization and sustainability. Yet as so often happens with new movements, some adherents display excessive levels of zeal, self-righteousness and desire for converts. New Urbanism sometimes sounds like a religion when disciples stridently espouse their cause. Fortunately, much of what's espoused makes sense, and despite homage paid to tradition, the CNU specifically disavows and avoids promulgating any architectural style or aesthetic philosophy. How "global" New Urbanism may become remains to be seen. As American-style suburbs and sprawl spread around the globe, New Urbanism may become much more globally relevant.

Resisting Globalized Architecture

In the world of architecture, tension and sometimes outright conflict has long existed between those who welcome the architecture of modernity and modernizing globalism and those who

deplore it, seeing it as a threat to authentic, indigenous culture in general and to regional architectural character in particular. We love to visit unique cities such as St. Petersburg, Paris, Rome, Venice, Agra and Bangkok, or wander through picturesque towns and villages in Tunisia, Greece, Spain, Mexico or Japan, and for that matter the United States. Part of what appeals to us about all these places is their architecture: unique and locally distinct, venerable, recognizable, generated by particularities of site, climate, culture, and locally available materials and construction technology. Most inhabitants of these places, as well as those who love visiting them, strive to safeguard the established forms and decorative motifs associated with traditional architecture. They value historical continuity, cultural diversity and preservation of geographic identity, all symbolized by a particular architectural language and vocabulary, just as a spoken language and local dialect impart identity.

Here in St. Petersburg, whenever someone proposes to construct something new or, more typically, to modify an existing historic structure, whether a building or a bridge, heated debates invariably ensue, and the issues are always the same. Will the project proposed change or adversely affect the look of the city? Will the project fit in aesthetically? Why compromise or spoil forever the original architecture of even a single 18th or 19th century palace? These are philosophical questions, perhaps even moral ones, especially when such projects could, in fact, help restore and preserve the historic fabric of the city while contributing positively to the city's economy and well-being of its population. For St. Petersburg, the challenge of globalization is to find the right balance, the artful compromise, between preservation of the old and introduction of the new.

Such challenges may not be felt in a few of today's or tomorrow's global cities whose history is still very new and most of whose architecture was created during the 20th century, cities such as Miami, Houston, Los Angeles or Sydney. But cities such as Beijing, Shanghai, Tokyo, Singapore, Mexico City or Montreal all encompass architecture and embody historic architectural traditions that easily could be eclipsed, if not destroyed, by architectural globalization. The Chinese have been especially ruthless in engaging in wholesale demolition of historic urban fabric, residential neighborhoods and traditional structures to make way for new and aesthetically uninspiring modern buildings. In designing Moscow's version of modernity—mostly in the form of office and residential buildings—since 1991, Russian architects have made pathetic and sometimes laughable attempts to allude stylistically to Russian architecture of previous eras. Whether references are Byzantine, Greco-Roman, baroque or some eclectic combination thereof, the results are often aesthetically ludicrous. Today Moscow is littered with obviously ersatz, poorly crafted architectural compositions exhibiting the worst stylistic characteristics of 1980's American postmodernist design. These buildings could be situated just as easily in New Jersey.

What should new architecture look like in Moscow or Montreal or Mexico City? Should it literally replicate historic architecture? Surely not. Yet given the ubiquity of present and future technologies, how can new structures built around the world not increasingly resemble each other and ultimately become interchangable both aesthetically and functionally? How can we avoid a future of architecturally homogenous cities? Architects and their clients must provide the answer by creating buildings and communities demonstrating that modernism and regionalism are not mutually exclusive. Often, the traditional architecture of a region suggests how modern architecture can be made more sustainable, since builders in previous centuries had to rely entirely on natural means to make habitable environments. Indeed, the more a contemporary building responds to local climatic conditions and energy conservation opportunities, the more likely it will feel regional as well as modern. But this is difficult to accomplish, and even more difficult to accomplish well. It requires great sensitivity and substantial talent to successfully weave together appropriately chosen, traditional characteristics and elements with technologically modern characteristics and elements. It demands a regionally derived, form-making language, with its own compositional grammar and vocabulary of materials and details, that yields an office building in Moscow different from one in Mexico City, even though both may be functionally identical.

In the mid-1960's, I personally faced this challenge when, as a newly graduated architect, I served as a Peace Corps volunteer in Tunisia, employed in its public works ministry. Educated in the U.S. to be a "modern" architect through a curriculum based substantially on Bauhaus principles, I discovered that my clients—mostly Tunisian government officials—expected us young, naive American architects to design new buildings that would be at once modern and traditional. Tunisians and their secular government were profoundly committed to western-oriented modernization but respected and sought to preserve deeply rooted cultural, social and religious

traditions. This applied to architecture as well. Accordingly, I had to analyze and select aspects of traditional Tunisian architecture—functional relationships determined by social customs and behavior, formal geometries, materials, colors, ornament—to be incorporated somehow in what otherwise would be a "modern" building. My hope was to make architecture that looked both contemporary and "Tunisian." When I returned to Tunisia a few years ago and visited a number of my still extant projects, I better understood this challenge while realizing that I had been only marginally successful in meeting it.

Renzo Piano, among today's most creative and respected modern architects practicing internationally, explains clearly what architects must do in this era of new global history.

"I believe that the architect must lead a double life. On the one hand is a taste for exploration, for being on the edge, an unwillingness to accept things for what they appear to be: a disobedient, transgressive, even rather insolent approach. On the other hand is a genuine, and not merely formal, gratitude to history and nature: the two contexts in which architecture has its roots. Perhaps this double life is the essence of the only humanistic approach possible today."

Regrettably, most new architecture suggests that few architects are up to the task. In the future, global cities may look more and more alike. Let's just hope that the lovable, venerable parts of those cities will still remain sufficiently in tact for us to visit and enjoy.