

Cities and Climate

The Future of the Future

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The present paper is intended to serve as a background document for the World Urban Forum that will take place in Cairo in November 2024 under the slogan, “Cities and Climate: The Future of the Future.”

It is critical to learn from the historical foundations of contemporary urban imaginaries and trends. This essay explores some of these as they crystallized during the 1960s and early 1970s, alongside the emergence of planetary or “world systems” understanding. There is much to learn from the context and impact of futurologist studies produced decades ago, particularly those that looked to the then-distant year 2000. A better understanding of this history is useful to have in mind in the context of envisioning future urban policymaking options, a few

of which which will be examined in light of recent events and trends.

We should also keep in mind that parts of the contemporary Middle East have become cradles of a renewed global momentum for foresight and futurology. This is perhaps best illustrated by the slogan of the 2030 World Expo to be hosted by Saudi-Arabia, “The Era of Change, Together for a Foresighted Tomorrow,” and by the fact that high-impact and future-oriented research initiatives and institutions are flourishing in the UAE.

From that perspective, Baku, which will not only host COP29 later this year, but also the World Urban Forum in 2026, provides the ground for an inspiring tale of climate, energy, and urbanization transformation.

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From Vancouver to Vancouver

As we entered the third millennium, global demographic statistics compiled by the United Nations confirmed that more and more people in the world were becoming urban dwellers, based on forecasts initially developed in the early 1970s. In response, the first World Urban Forum was convened in Nairobi in 2002—a decade after the Rio Earth Summit—“to promote a merger of the Urban Environment Forum and the International Forum on Urban Poverty,” with a view to “strengthening the coordination of international support to the implementation of the Habitat Agenda.”

In fact, the acknowledgment of a world that was turning more “urban” than “rural” was gradual. UN Secretary-General Kofi Annan underlined that “rapid urbanization is fast becoming one of the major challenges facing the international community” at the second World Urban Forum in Barcelona in 2004, but it was only at the third Forum in Vancouver in 2006 that “coming

to terms with the urban age” really became a striking issue.

The comparison between the state of the world in 2006 with that of 1976, at the time of the Habitat I summit—also held in Vancouver—made a profound impression on the more than 10,000 participants of the 2006 World

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Urban Forum, which had nearly ten times more participants than the one in Nairobi held only four years earlier. What sparked an even louder global echo was that it forecasted that the

“urban population of developing countries would double from 2 to 4 billion in the next 30 years.” The assessment of the historic move away from a “rural” to an “urban” planet was accompanied with several operational recommendations, such as the one to “reinvent urban planning.” More significant still was that the Vancouver World Urban Forum displayed a strong impression that the North-South divide on urban issues was no longer evident.

The 2006 Vancouver World Urban Forum became a landmark in the recent history of urbanization, as it boosted the development

and connectivity of multiple professionals, scholars, the private sector, and local government networks. This altogether reflected a new, future-oriented vision of development, with urbanization described as a powerful pattern of transformation bearing huge economic and social potential.

That Forum also contributed to the rapid and widespread dissemination of a vision of a world in which cities would become a defining factor of tomorrow. Such a turn was also made possible by the rapid development of the use of smartphones, the emergence of digital social networks, and the exponential development of digital technologies.

Whereas a handful of papers were published internationally regarding the topic of digital communication and information and urban development in the mid-1990s, this started to change by 2008-2009. By then, the number of articles dealing with the issues of smart cities had multiplied by a factor of 2,000. The production of research literature about “sustainable urban development” faced a similar pattern, although not to the same extent as for “smart cities.” In fact, half of global research output on cities in the past years has focused on “smart cities,” while only a small share has focused

on “resilience” and “knowledge” issues. Such an abundant production was disrupted by the outbreak of the COVID-19 pandemic in 2020.

New Intersections

In many (but not all) parts of the world, the management of the COVID-19 pandemic resulted in law-enforced lockdowns lasting several weeks and even several months. The result was suddenly-emptied urban landscapes, emptied streets and highways, emptied railway stations and airports, and uncongested waterways located near major ports, as cargo shipping also faced a steep decline.

The image of a world of interconnected infrastructure and urban systems unfit to manage a pandemic, but which contributed to deepened pandemic risks and their impacts, did not last long, however. As the world started to recover, the pandemic showed that there may be numerous different ways to respond to the forecasts of a planet where about 70 percent of the population is expected to live in urban areas by 2050—as compared with about 57 percent in 2023. In other words, even if the baseline of 2,5 billion more people living in cities by 2050 as announced before COVID-19 still seems accurate

today, there may well be more than one kind of urban future waiting for us over the horizon.

That cities have long captured the human imagination is really nothing new, as was nicely exposed by the late French

historian Jacques le Goff back in the mid-1990s in an original, well-illustrated essay. Yet, since the beginning of the millennium, Hollywood movies and Western-produced video games have forged powerful images of cities that, intricately within the context of widespread urbanization described above, have left little space for the expression of urban imaginaries.

However, the recent emergence and recognition of more diverse imaginaries in Western countries through such trends described as “Afrofuturism” or “Arabofuturs” reflect the growing role of diasporas as cradles of intense creativity and ways to explore new identities at the intersections between multiple artforms. In the past thirty years, Afrofuturism has developed at the junction of pop-culture and cyberculture, but also music (jazz),

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painting, and other arts, including science fiction authors and moviemakers. It became one of the most successful exhibitions at the National Museum of African Culture and History in Washington DC in 2023-24. “Arabofuturs”—an exhibition at the

Institut du Monde Arabe held in Paris in 2024—similarly explores imaginaries and science fiction universes with a strong urban focus.

Both exhibitions also illustrate a wider phenomenon, which is the revival of foresight and futurology as ways to look at and build the future. This phenomenon has expanded in the past decade. For instance, UNESCO established a “Future Literacy” initiative in 2012, which now counts over 110 designated “laboratories” in 44 countries, while “Chairs in Futures Literacy, Future Studies, and Anticipation” have been established in over 30 countries across the globe. Similarly, the Islamic World Educational, Scientific and Cultural Organization (ISESCO), which counts over 50 countries as members, has

been actively promoting “future studies” through international conferences and the creation of Chairs, such as the “Chair for Innovation and Futures in Africa” established in 2023.

The recent revival of future-oriented studies and of the future as a self-standing matter of interest in the spheres of art and culture echo what happened in the mid-1960s and early 1970s. This was a time boiling over with rich debates and numerous initiatives to understand and predict the future. It emerged out of a combination of multiple disciplines and the extensive use of mathematics and statistics to build transformation scenarios.

While the notion of futurology was coined in the early 1940s and “think factories” and “think tanks” started to develop out of North America during the 1950s, by the late 1960s more than 600 such organizations in the United States, more than 300 across Europe, and several in the USSR were actively working on establishing future scenarios. Notably, the International Institute for Applied Systems Analysis (IIASA) was created in 1972 in London and installed in Vienna to “work together on problems other military and space matters.”

In 1970, the World Expo was held in Osaka—the first time ever in Asia. It was not only successful in terms of attendance, with over 64 million visitors. Prior to the start of the Expo (it was held under the slogan “Harmony and Progress for Humanity”), a Thinking the Expo study group was formed in 1964 by an anthropologist, a communication scholar, and media theorist. Its members studied the organization and outputs of the various Expos organized since the end of World War II, traveled extensively (including to Latin America), and took care to include developing Asia and Africa in the project. This group gave birth to a Future Studies Research Group in 1966. In 1968, it expanded into the Japanese Association for Future Studies, which hosted the famed second International Futures Research Conference in Kyoto in April 1970.

The Thinking the Expo study group emerged as a point of convergence about the development of new concepts of the future in the context of the overlapping discourses of “future studies,” comparative cultural studies, media theory and the information society, and architecture and urban planning. Back then, the *Japanese Journal of Architecture and Building Science* described the Expo site as “a model for the city of the future” while the

famed architecture critic Noboru Kawazoe explained that the Japan Expo “was not only about the search for Japan’s future but has a broader significance in the history of civilization.”

Hence, urban issues emerged at the turn of the 1970s as intrinsically linked with the development of “future studies” at the junction of complex system analysis, at the intersection of multiple disciplines and practices, and as a matter of deep scientific and cultural cooperation beyond geopolitical divides and the confrontation between liberal and planned economic systems. The development of digital computerizing capabilities and the development of the information society was strongly featured during the Osaka Expo; it also played a great role in the early-stage acknowledgment of urbanization as an issue of transnational significance.

The 1970 Osaka Expo and International Future Research Conference (held in Kyoto in the same year) largely contributed to boosting the development and recognition of the Mankind 2000 project. This last was initiated in the mid-1960s out of an International Conference on Disarmament and Peace and gave birth to the international project of the Encyclopedia

of World Problems and Human Potential, alongside the creation of the World Future Studies Federation.

Following a similar pattern, Aurelio Peccei, a former top manager at the FIAT automobile company and a founder of Olivetti IT company, convened a group of academics, scientists, planners, diplomats, and other thinkers at the Academia dei Lincei in Rome in 1968. To accompany the creation of this Club of Rome, the principal scientist and director of planning at the System Development Corporation, a pioneering software development company and a military research group based in Santa Monica, Dr. Hasan Özbekhan, wrote a paper entitled the “Predicament of Mankind,” which gave its name to the cornerstone research project of the Club of Rome.

The group agreed to promote the development of mathematical models of complex systems to evaluate long-term future trends, and finally used existing modeling of systems dynamics developed at MIT. There, a young team of researchers interpreted them and published the results in a book titled *The Limits to Growth* (1972)—the book became so influential that its fiftieth anniversary was celebrated in conferences around the world, especially

in Japan. Demographics were centerpiece in the report, alongside with the notions of systems and ecosystems forecasts.

The book examined the five basic factors that determine and, in their interactions, ultimately limit growth on this planet, the first of which was population increase (the others were agricultural production, nonrenewable resource depletion, industrial output, and pollution generation). Unsurprisingly (from today's perspective—then, it was revolutionary), cities and urban challenges are referenced.

Infrastructure for the Future

The development of “complex systems” and “world systems” analysis nearly half a century ago is a precious but consistently undervalued source of information and inspiration regarding contemporary urbanization and the related quest for sustainability and climate neutrality.

One of the main exceptions to this assessment took place at the Vancouver 2006 World Urban Forum, which celebrated the thirtieth anniversary of the Vancouver 1976 Habitat I Summit. The Habitat I Summit was established to address the urgency of global human

settlement issues through the “formation of an agreed global course of action” and was, at the time, the largest UN conference ever held (it was also the first to use large-scale video-based communication methods).

There are plenty of linkages between the development of forward-thinking, future-oriented research, including ecosystems and human settlements, and the milestone UN environment and urban summits of 1972 and 1976, alongside the connections between the World Expos and the role and composition of “future-looking” societies and research. Taking a closer look at these linkages is all the greater given that futurology during the late 1960s and the early 1970s was also deeply inspired by attempts to build global peace and overcome East-West divides to meet what was coming to be seen as common environmental challenges.

Comparing 50 years ago with today's time characterized by mounting geopolitical uncertainty provides a stimulating benchmark that is even more necessary and relevant in light of the recently concluded UN Summit of the Future, the outcome document of which, titled “Pact for the Future,” was defined by the UN Information Service as “groundbreaking.”

To many, the era of rather unequivocal globalization that opened about 30 years ago—i.e., in the early 1990s after the end of the Cold War—seems to face a serious downturn. At the same time, evidence provided by the Intergovernmental Panel on Climate Change (IPCC) indicates that mankind and its related activities in the past decades have triggered systems changes and alterations on land, at sea, and in the air. These changes and alterations to our natural environment are outpacing the scenarios from the various future-oriented reports published in the 1970s.

Forecasts about global warming tend to show that the 1.5-degree elevation of average air-surface temperature around the globe—a limit poised by the Paris Agreement at the Climate COP21 in Paris in 2015—was going to be surpassed, as evidenced by the reassessment provided at COP28 in Dubai last year. Recent assessments of biodiversity losses also show these have been accelerating rather dramatically, according to the International Panel on Biodiversity and Ecosystem Services (IPBES).

On the one hand, the affirmation of the “century of the city,” the development of global urbanization trends, and interconnected networks of physical,

digital, and financial infrastructure give an overall very positive and largely undisputed tone to the historic turn from a predominantly “rural” to an “urban” world. The positive virtues of urbanization were widely celebrated from the Vancouver World Urban Forum (2006) to the World Expo of Shanghai (2010).

On the other hand, a series of initiatives stemming from geoscience and a revival of system analysis started to push forward a new series of Earth System paradigms, aiming to provide renewed quantifications to determine the parameters of what the Stockholm Environmental Institute called a “safe operating space for humanity.” The team that popularized the foregoing concept at the end of the 2000s has claimed that “new challenges required new thinking on global sustainability,” yet it largely ignored the global impacts of urbanization—and vice-versa.

The Shanghai World Expo celebrated three decades of unmatched material development in China, driven by the growth of interconnected cities and metro-areas. Presented as world-class and exemplary, the China growth and urban development model was meant to provide a model of development the world over.

While the English slogan of the Expo promoted “Better Cities, Better Life,” the Chinese version more simply stated that ‘Cities Make Life Better,’ which provides a slightly more unambiguous meaning. Back then, a Chinese physician from 1910 became famous all over the country as his novel *New China* featured a “phantasmagoric city of underground transportation tunnels, electric lights, and elevated bridges across the Huangpu River.” Hence, the mega event, which attracted even more visitors than the Osaka Expo in 1970, did not leave much room for a critical assessment of the negative spillover of urbanization and related infrastructure. It was also a missed opportunity to promote a convergence between geoscience and urbanization, which was only brought into light nearly a decade later.

In 2016, preparations for the Habitat III Summit in Quito raised hopes for a more comprehensive global understanding of the impacts of urbanization and ways to forge stronger public policy tools. The German Advisory Council on Global Change edited a significant flagship report on the

transformative power of cities for the occasion, but then publicly regretted the lack of any tangible results of the Habitat III Summit and the weakness of the designated New Urban Agenda adopted at that time.

The Germans (and everyone else) had to wait for 2018-2019, when an IPCC-sponsored conference on urban and climate science in Edmonton and an independent group of scientists appointed by

the UN Secretary-General led the effort to recognize that urbanization was among the world’s key transformative “megatrends.” However, according to a

global group of academics and policy analysts, even if “research has recognized the complexity of city-driven dynamics, [...] our political realities have yet to catch up.” As the same group put it, the “worldwide impact of urban growth upon all Earth systems is still not well recognized by the international policy community.”

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Common Crisis, Common Future?

One long decade after the peak of “future” debates and initiatives in the 1960s, the World Commission on Environment and Development edited a report titled *Our Common Future* in 1987, just as the first hints of the end of the Cold War were beginning to be garnered by a few. This report called for “new approaches to environment and development” and introduced the concepts of “sustainable development” and “sustainable world economy” to a wider audience.

Today, the disarray of the UN’s 2030 Agenda for Sustainable Development, whose centerpiece is the 17 Sustainable Development Goals, is plain to see: no country is on track to achieve the SDGs by the 2030 deadline. Another level of cross-sectoral and forward-thinking cooperation was called for, hence the aforementioned “Pact for the Future,” which includes as annexes a “Global Digital Compact” and a “Declaration on Future Generations.” Although no one

called it that, this was effectually an attempted reset or do-over—another way to address intertwined economic, social, and environmental crises, including rising inequalities. Yet, the Pact’s preparation process had been slow and a consensus was quite hard to build. Moreover, the Pact’s language and underlying discursive logic largely ignore urban issues (the term “cities” is found only once in the 66-page document).

What if the present-day fragilities of the 2030 Agenda (its slogan, lest we forget, is still “Transforming our Wor4ld”) are due to the wrong assumption that the end of the East/West divide at the end of the Cold War would create a strong-enough momentum to turn “sustainability” into a universal, homogeneous, and future-proof rallying point for the world?

In other words, what if “sustainability” was so fully embedded in the macroeconomics of the post-1990s globalization—including the past three decades of intense urbanization—that it would be dependent on globalization, and not vice-versa?

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Has this caused what software engineers refer to as a fatal error?

In the beginning of the 1980s, the Independent Commission on International Development Issues, which was chaired by former West German chancellor Willy Brandt, had already emphasized the existence of a “common crisis.” It focused on the pervasive and historic North-South imbalance as a threat to long-term planetary livability. And in 2002, a report from the Brandt21 Forum further argued that “globalization cannot be our future, for it imposes growth without uplifting humanity.”

Making use of futurology might help us avoid simplistic approaches to overcoming existing forms of globalization and, instead, instill thinking and policymaking that goes beyond them. The need for creative and long-term visions and scenarios echoes the complexity of moving away from hydrocarbon-powered economies, as we were all reminded at COP28. It should therefore be no surprise that all major powers worldwide are developing scientific, research, and political ties with the UAE and Saudi Arabia, which only reinforces what now amounts to the pivotal

role those two GCC states play in multiple geopolitical spheres—alongside their appetite for forecasting the future(s).

In addition to all this, the reference to future-oriented studies brings into light inspiring connections between people and ideas. There was not such a great distance between the founders of the Pugwash Conferences on Science and World Affairs (it emerged out of the 1955 Russel-Einstein Manifesto), the development of “think factories” and “think tanks,” the establishment of the World Future Federation, the life and work of Ossip Flechtheim, one of the inventors of futurology, a philosopher such as Edmund Husserl, and a prolific writer such as Issac Asimov—to name just a few.

Consider that futurology has never been turned into a fully-fledged social science and that it remains an unconsolidated epistemological field, which means that new concepts and broad intellectual alliances and connections can emerge. This offers the world a chance to reimagine the future or, in other words, to promote synergistic, life-oriented, urban-centered models for the liberation of the future. **BD**

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