The global population is expected to reach 10 billion by 2050. Seven of these ten billion are expected to live in cities – so we are adapting to become an urbanised species. This will place demands on the city – and on people. It will require respect and cooperation, responsibility and the development of new technologies, new values, mental transformations, empowerment and enlightenment. And without sustainability, it cannot be done. Living sustainably is one of the greatest challenges that faced city dwellers in the past – and the present, and the future. Another, even greater challenge, then and now, is how to stay healthy.

When the VELUX Group was founded in 1942, there was a scarcity of space and materials, so attractive and affordable living space under the sloped roof of existing and developing buildings was created. These new spaces created better and healthier living conditions for people with the provision of daylight and fresh air. 70 years of development has led to the credo that the VELUX Group calls Sustainable Living, based on the concept that the quality of our lives and the quality of our environment are intrinsically interlinked. Sustainable Living aims to create buildings with a healthy indoor climate that also give more than they take in environmental terms.

D/A 17 takes the vision of sustainable living into the urban scale, and the overall theme is Urban Life – the development of better and living conditions in the cities. It discusses how to harness the potential of the cities and turn them into healthy, safe and stimulating places for an ever-increasing number of us – and how to achieve this whilst radically reducing our ecological footprint, which encompasses much more than CO2 emissions alone. Often this challenge is only discussed from macro-economic, macro-environmental and macro-social points of view. This issue of D/A takes a slightly different approach – by putting people, their cultures and values, their needs and aspirations, their health and well-being, first. The focus in the magazine will be on the symbiosis between people and cities. The aim is to convey a message of hope for a sustainable future; to create a good life in cities with the basic things that really matter – clean air and water, sunlight and daylight, a safe home, harmony with the natural environment, and a feeling of local and global connectedness.

D/A 17 is divided into three sections. In the first, four authors open the debate on the potentials and challenges of contemporary cities; Richard Hobday, Hardin Tibbs, Charles Landry and Janice Perlman address the issues of urban health, the reconciliation of human culture with nature, the quest for a new ‘civic urbanity’, the housing crisis in the world’s megacities, and the widening gap between urban elites and the urban poor. Many of the questions and arguments that the authors raise in their texts are taken up again in the third section of this magazine, where we present a discussion between Danish philosopher Ole Fogh Kirkeby and Danish climate expert Per Meilstrup.

The central part of this magazine was created together with artist Robert Polidori. Known for his masterful photographic explorations of deserted places like Chernobyl, or post-Katrina New Orleans, Polidori’s task was to produce a portrait of people’s living environment in three major cities of the world – London, Phoenix and Rio de Janeiro. We hope the panoramic images will provide a structured focus on eight unique aspects of urban life, in four clashes of contrast. Together with the accompanying statistics and graphics, we sought not only to focus on the obvious and well-known aspects of the cities, but also to reveal some of the hidden potential in their built structure. Such a complex topic cannot possibly be comprehensively covered in one magazine. So we will be delving deeper in D/A 18, due for publication in Autumn 2012.

Enjoy the read!

The VELUX Group
IN SEARCH OF HEALTHY CITIES
Making cities healthier places for mankind to live in has been an ongoing endeavour since the first cities came into existence. In his article, Richard Hobday provides a brief synopsis of the history of this endeavour and discusses one of the great challenges that cities are going to face in this respect in the future — that of providing adequate amounts of sunlight to their citizens in order to keep them healthy.

THE EMERGENCE OF THE TRANSMODERN CITY
The future evolution of cities towards sustainability will be a result of global cultural change, writes Hardin Tibbs. As the values of modernity, with their belief in technology, growth and progress, increasingly give way to the more post-materialistic values of transmodernity, ecological concern and spiritual self-discovery will become increasingly important as ‘drivers’ of our urban culture.

CIVIC URBANITY
In this article, Charles Landry explains his concept of Civic Urbanity, an attitude towards our cities that aims to strengthen the links of city-dwellers to the local community and to the place that they live in. This concept requires commitment from everyone, as well as an open democratic discourse. If it succeeds, it will turn citizens from mere ‘consumers’ to ‘co-creators’ of future cities.

A CALL TO ACTION – OUR CITIES, OURSELVES
The megacities of the world will continue to grow in the next decades — and if we do not act soon, the divide between privileged elites and the urban poor will grow as well. In her article, Janice Perlman outlines five strategies to move forward in this respect: 1) non-reformist reforms; 2) transparency; 3) negotiated solidarity; 4) diversity and density; and 5) infrastructure leapfrogging.

THE URBAN POTENTIAL – LONDON, PHOENIX, RIO DE JANEIRO
What roles do light and darkness play in modern cities? How do cities organise their growth; how do they use their surfaces, volumes and open spaces? Where are the visible and invisible boundaries within a city? And what consequences does this all have for human quality of life? In a photographic essay by Robert Polidori, as well as selected facts and statistics, Daylight & Architecture portrays three major cities of the world and tries to answer these questions.

MAN AND THE CITY – POWER TO THE PEOPLE
Mankind is becoming an urbanised species. There are estimates that around 2050, 7 in 10 people worldwide will be living in cities. What challenges does this impose on society? What does it require in terms of mutual respect and solidarity, of new values, political empowerment and education? These questions are discussed in a conversation between the climate expert Per Meilstrup and the philosopher Ole Fogh Kirkeby.
"Not only are we sedentary, but we have chosen a life that is increasingly lived indoors. A baby born in the United States will spend close to 87 per cent of his or her lifetime indoors and another 4 per cent in enclosed transit.

The reason? We have become experts at creating shelter with ever-increasing comfort. [...] In choosing to become an indoor species, we have cut ourselves off from the natural world, making us increasingly oblivious to what we are doing to our immediate outdoor surroundings."

People have been living in cities for thousands of years. Two of the biggest challenges that faced city dwellers in the past are still with us today. One is how to stay healthy; and the other is living sustainably. There is a long, if intermittent tradition of planning for both. Some projects were successful, others less so. But they all provide useful insights.

The idea that the built environment can influence public health, for good or ill, is not new. Throughout history, some civilizations have recognised the importance of hygiene, sanitation, pure air and sunlight in preventing disease and promoting health. Others have not. Four thousand years ago, people in the north of India arranged their communities to keep themselves healthy. Sites excavated in the Indus Valley, and at Harappa in the Punjab, suggest ancient Indian cities were laid out for health. The streets were broad and paved, with covered sewers. Bathrooms and drains were common features. For Romans like Vitruvius, protecting the ordinary citizen and the army from disease was a priority. The Roman statesman Marcus Tullius Cicero famously wrote that Salus publica supreme iure, or the health of the people is the highest law. Presumably, this is why the Romans invested so heavily in aqueducts, piped water, sewers, public baths and latrines. The Romans do not seem to have built many hospitals, other than for their military. And they put public health in the hands of their engineers and architects, not doctors.

**Housing and Health**

In Europe, the practice of planning for health was largely abandoned from the Middle Ages until the early years of the 19th century. The very wealthy some- times commissioned architects who had an understanding of the influence of locality, climate, ventilation, and daylight on health. But cities built to prevent disease were the exception. Medical thinking had changed. Personal and environmental hygiene was less important than it had been. Eventually, the laying out towns and buildings with due care for health re-emerged. This was in response to the squalor, disease and political unrest in the new towns and cities of the Industrial Revolution. Leading figures in the movement for sanitary reform, such as Florence Nightingale and Edwin Chadwick, advocated health promotion, rather than curative medicine. They campaigned for closed drainage and sewerage, clean water, garbage collection and public baths. They also called for improvements in housing and hospital design. Like Vitruvius, Florence Nightingale believed good design could shorten the course of diseases. In her Notes on Nursing, she identified five basic requirements for securing health in houses: pure air; pure water; efficient drainage; cleanliness; and light – especially sunlight. Her concept of public health care centred on housing rather than hospitals. In her view, good housing was a better investment than hospital construction: “...in all European countries, more sickness, poverty, mortality and crime is due to the state of our poor men’s dwellings than any other cause. And we would rather devote money to remedying this than any institution.”

Eventually town planning and good housing were seen as key to improving public health. But there were competing ideas as to how to plan and build for this. Some social reformers saw Britain’s Garden Cities as the solution. Others rejected the grand schemes of Bournville Village and Port Sunlight for a more functional, modern approach. A great failing of architecture and planning in the years that followed was a reluctance to learn from the experience of others. The ring of new towns built around London after the Second World War illustrates the point. The aim was to move a half million people from the poorer parts of the capital to live in healthier, self-contained communities. One of the first of these projects, at Harlow in Essex, was planned to this end. Among other features, it had one of the first large sports centres in England, and its own golf course. Harlow was successful by the standards of the time. One indicator of this was the fall in infant deaths. Between 1961 and 1975, the infant mortality rate in Britain fell from 21.6 to 15.7. In Harlow it fell from 20.6 to 9.0. The mental health of the residents improved too. Careful planning and better housing had raised the health of an industrial working-class community to the level of wealthier middle-class suburbs. Years later, a doctor who

“The problem is that the bulk of what is being built today, which could stay with us for hundreds of years, may have even more negative impacts on the urban communities they are designed to serve than the ones built by the well-intentioned social reformers of the last centuries.”

The natural world appears to be organized by orientation to the sun. Many plants and animals abound with examples of arrangements that follow nature’s example in this regard. Our cities are non-directional. Our buildings are not usually oriented to follow the rhythms of their surroundings. Ralph L. Knowles (1981)

...many of which are sealed and conditioned. Levels of pollutants in modern buildings; interventions in themselves. And indoor planning were not regarded as health design, housing improvement and town planning for health were not always put occupants’ welfare first. The harmful effects of bad housing in many of the diseases we now associate with urban living: depression, heart disease, diabetes, obesity, and cancer. New research shows disruption of the circadian clock also weakens resistance to infection.

Besides being the human body’s external timekeeper, the sun is its main source of vitamin D. Recent studies have found alarmingly high rates of vitamin D deficiency throughout Europe, North America, the Middle East and elsewhere. In Britain, the classic bone disease of vitamin D deficiency is resurgent. In Australia, such is the concern about vitamin D deficiency and poor bone quality, there has been a reversal in public health policy. People living in some Australian states are now advised to go out in the sun rather than avoid it. Research now shows that in addition to bone mineralisation, vitamin D3 is fundamental to the functioning of the immune system, the brain, to physical strength, balance, resistance to infection and so on. Unfortunately, getting out into the sun to make vitamin D or synchronise our body’s biological rhythms can be difficult in the developed world. Buildings are not open to the sun like those of us living further north are like equally light deprived, perhaps even more so.

The sun is our external timekeeper. Without the time cues given by the sun, the underlying rhythm of the human body can become disturbed. This can cause a range of health problems. Disruption of the body’s 24-hour clock has been linked to many of the diseases we now associate with urban living: depression, heart disease, diabetes, obesity, and cancer. New research shows disruption of the sun’s orientation has a significant effect on the availability of sunlight in streets. This diagram shows the shaded portions of a typical street intersection during different times of day and year, depending on its orientation. It can be seen that a street grid oriented SW/NE and NW/SE is actually better for sunlight provision than a traditional north/south and west/east grid, where a large number of streets remain entirely in the shade for long periods during winter.
many common infections will no longer have cure, and once in a while, will become manageable. To compound the problem, over the last three decades outbreaks of new viruses and other pathogens have become more common. So infectious diseases are set to become more of a public health issue in the developed world than they have been. And many of them, such as avian influenza, SARS and drug-resistant tuberculosis, are diseases of the indoor environment.

Modern buildings and modern cities are not planned to prevent infections spreading. For example, sunlight is the principal natural disinfectant in the environment. It kills bacteria, viruses and fungi that might otherwise infect us. The citizens of Imperial Rome had right-to-sunlight legislation. By contrast, few countries today can claim to be as advanced in this respect. The Romans took the view that it is more effective to prevent diseases than to treat them. Florence Nightingale believed buildings should promote health, not merely prevent disease. In the past, architects, engineers, city planners and politicians worked together with this in mind. There is evidence that some of their work greatly enhanced people’s physical and emotional well-being. In the 21st century, it should also be possible to create sustainable towns and cities that have a positive influence on health. While there will be opportunities for innovation, it would be unfortunate if the lessons of the past were overlooked.

In the early days of North American high-rise architecture, there were vigorous discussions on the effects of high-rise buildings on sunlight provision in cities. This diagram was drawn by Boston Architect William Atkinson in 1909 to prevent the construction of a 300-foot tall building in the city. It shows the shadows cast by the tower at different times of day during midwinter solstice.

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**References**

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**IMAGINE AN ADVANCED CITY THAT IS AT ONE WITH NATURE, COMPLETELY SUSTAINABLE. THIS CITY LIES IN THE FUTURE, BUILT BY A HIGH CIVILISATION THAT HAS GAINED THE WISDOM TO MASTER ITS SOARING TECHNOLOGICAL CAPABILITY.**

What would this city be like? What challenges would have been overcome to build it, and what would be the path leading to it? Is such a thing even possible?

Multitudes of future scenarios fan out in front of us, prefiguring our hopes and fears, our expectations and our speculations. Today’s civilisation – our global urban culture – is transforming rapidly as it embarks on a journey beyond modernity. Our sense of the destination depends on how deeply we investigate our predicament. If we diagnose superficially, we may easily see a world of chaotic surrections, in which the future city is a sprawling favela. And a holistic urban hack, in which planning is by self-permission and opportunistic hustle. This is the Middle Ages redux, running on dwindling fossil fuels and mobile phones, intent on evading the dying clutches of 20th century centralised bureaucracy. But this is surely not the best we can hope for. In the original spirit of la prospective – Gaston Berger’s normative approach to looking at the future – we can try a different tack, and look to the best of possible new creation, the maximum potential of our time.

Admittedly, cities are hardly ever the result of conscious comprehensive design. We build them largely as a spontaneous collective enterprise, almost unconsciously. They are shaped by the combined interactions of cultural, social, economic, technological, and regulatory forces – a large scale fusión of desires, capabilities and constraints. They are the human equivalent of ecosystems – the term ecologists use for structures such as termite mounds and beaver dams.

Cities are where people come together, drawn by age-old desire to be in society with others. Shared cultural values then set the aesthetic and functional aims that determine urban design interventions. And as human culture gradually evolves, it shifts the agenda of urban design and reshapes cities.

Cities express the capability of the human species at any given time, and if we do not foresee in time and space, we can read the overall emergent pattern. Cities may grow outside the control or deliberate design of any individual or organisation but, according to research at the Santa Fe Institute, they show a remarkably consistent infrastructural pattern everywhere around our globalised world.

Research by Geoffrey West and Luis Bettencourt has shown that so-called ‘superlinear scaling’ applies to all cities, meaning that everything from the total
It is unlikely that the planet can accommodate an urbanised humanity that routinely draws resources from ever more distant hinterlands, or routinely uses the biosphere, the oceans and the atmosphere as a sink for its wastes. Can cities transform themselves into self-regulating, sustainable systems – not only in their internal functioning, but also in their relationships to the outside world?"
Clearly the problem of man and nature is not one of providing a decorative background for the human play, or even ameliorating the grim city: it is the necessity of sustaining nature as source of life, milieu, teacher, sanction, challenge and, above all, of redescovring nature’s corollary of the unknown in the self, the source of meaning.”

Charles Jencks has suggested that the entire cosmos can provide a new iconography for architecture, derived from the patterns of cosmogenesis. This, he says, draws a visual language from science and promises to be relevant for art and architecture. He has been exploring this potential in his own architectural and landuse work, finding reproduction in the spiral foggy traces of the subatomic, the great flowing arcs of galaxies, scientific notation spelled out as a pattern on the landscape.

Yet this view of cosmos as iconography refers only to the outer physical cosmos, not the inner cosmos or world of meaning that opens up to spiritual explorers. The cultural convergence of an inner search with the outer scientific view would restructure the transmodern human in a cosmos that is both physical and spiritual, both subjective and objective.

To achieve this, transmodern culture must resolve the contradictions between the objective and subjective, so that the inner cosmos can be fully recognised and reunited with the outer cosmos. The perspective capable of transcending the modernist denial of subjectivity is likely to be akin to one proposed by Edgar Morin. In this view, the entire objective physical universe contains the mysterious otherness that is the conscious subject, which itself holds the entire physical universe within its subjective inner universe of conscious awareness, in an endless recursive loop.

This integral perspective, a union of Eastern and Western thinking, which does not privilege either subjectivity or objectivity, would open up the way to cultural acceptance of the inner cosmos. If what we already know from transpersonal psychology and various spiritual traditions is a guide, it would reveal a complex inner structure of consciousness and being.

The eco-spiritual city

The revalidication of subjectivity would gradually alter aspects of social life, because scientific and managerial orthodoxy would no longer be free to reduce human beings to mere biological machines. This would free people to more fully reflect and respect each other as unique subjectivities, and promise a time of softer hearts, a life lived more in community.

The inner cosmos would lend itself to iconography too, just as the outer cosmos does. The fusion of the two would create the deepest symbolic meaning of transmodernity: the process pattern of human- ity as an evolving conscious being within a living cosmos.

After perhaps as long as two hundred years, transmodern humanity would find a stable but dynamic accommodation with planetary ecology, and come into alignment with the previously hidden order of aspirational cosmos. The aesthetic expression of this cultural understanding would no longer simply follow biological forms or sacred geometry; it would be an embodiment of a deep knowledge of the underlying processes and their connection to human life.

In parallel, transmodern structures would become intrinsically eco-integrated - shaped by a dynamic eco-morphic architecture that would literally be a spontaneous diagram of outer processes and an inner hierarchy of inner cosmos. This, he says, would do away with the “us” or “our joint world”, rather than choices that are only for “me” and my more selfish needs.

The notion of civic urbanity, which is proposed as a way forward, is a normative idea. It is a promise for a better city. It taps into deep yearnings for connection and purpose. Yet it does not come naturally. It has to be fostered and can become part of a new common sense if practiced and encouraged by a revised regime of regulations and incentives. So far it is not the default position that citizens, urban professionals or politicians take.

Together these four concepts frame the idea of civic urbanity. This ideas seeks to realign individual desires and self-interest within a collective consciousness focused as much on responsibilities for ‘us’ or ‘our joint world’, rather than choices that are only for ‘me’ and my more selfish needs.

The value loop – a new framework for decision-making

This would be the ultimate eco-spiritual form of the city, in which objective process became one with subjective symbolism, creating a living form on the land, the home of transcmodern humanity.

It is only possible to guess at the appearance and technology of such a city. It would be compact, eco-autonomous, a contiguous kinetic megastucture perhaps, or a hybrid of building and city. Its form would be a spontaneous diagram of outer processes and an inner hierarchy of knowing flowing together, maybe aseries of concentric circles, linked by radial lines and interfused by open landscape, like a vast Chladni figure.

In this ultimate sustainable city, humanity will be at one with itself, with nature and with the cosmos in all its dimensions.

References


CIVIC BANDED THE CITY A FRESH

There is a quartet of concepts that can reshape our thinking about urbanity in the 21st century. They are eco-consciousness, healthy urban planning, the idea of the intercultural city and creative city-making.

By Charles Landry

Together these four concepts frame the idea of civic urbanity. This ideas seeks to realign individual desires and self-in- terest within a collective consciousness focused as much on responsibilities for ‘us’ or ‘our joint world’, rather than choices that are only for ‘me’ and my more selfish needs.

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Civic Banding the City A Fresh

There is a quartet of concepts that can reshape our thinking about urbanity in the 21st century. They are eco-consciousness, healthy urban planning, the idea of the intercultural city and creative city-making.

By Charles Landry
The original European urbanity soon became a source of socio-cultural, economic and political energies. It stimulated urban democracy, urban social life, urban economy, the arts, the sciences, technology. Cities with urbanity took the lead, leaving those without it far behind… such vital cities provided the urban community with an identifiable face and, above all, with pride.”


hensive development’ that can do initia-
tives in one big hit but so often loses out on providing fine grain, diversity and va-
riety; ‘economies of scale’ thinking, with its tendency to think that only the big is
efficient or to produce off-the-shelf physical
infrastructures without sensitivity to local needs; and lastly, focusing on the needs of cars, which can lead us to plan as if the car were king and people a mere nuisance.

A healthy place is one where people feel an emotional, psychological, mental, physical and aesthetic sense of well-being, where doing things that make you happy happens as a matter of course and, incidentally, not because you have to make a big effort. A healthy place throws generosity of spirit back at you. This makes you feel open and trusting. It encourages people to communicate across cultural differences. It recognises differences, yet seeks out similarities. It highlights that, most of us, in reality, when we look deep, are hybrids, and so downplays ideas of purity. It stresses that there is one single and diverse public sphere and it resources the places where cultures meet. It focuses less on resource projects and institutions that can act as gate-keepers and instead encourages bridge-builders. In so doing it does not consider that there is a cozy togetherness. It acknowledges the conflicts and tries to embrace, manage and negotiate a way through them. Based on an agreed set of guidelines of how to live together in our diversity and difference.

In total, it goes beyond a notion of equal opportunities and respect for existing cultural differences in order to achieve the pluralist transformation of public space, institutions and our civic culture.

Creative city-making: creative city making seeks to address the escalating crisis cities face that cannot be solved by abusiveness-as-usual approaches. It includes the challenge of living together with great diversity, it addresses the sustainability agenda and helps cities rethink their role and purpose in a changing world in order to survive well economically, culturally and socially, and to manage increasing complexity.

Creative city-making argues that cu-
riosity, imagination and creativity are the pre-conditions for invention and innovation to develop, as well as solving intractable urban problems and creating interesting opportunities. Unleashing the creativity of citizens, organisations and the city is an empowering process. It harnesses potential, it searches out what is distinctive and special about a place and is a vital resource. It is a new form of capital and a currency in its own right. Creativity has broad-based implications and applications in all spheres of life. It is not only the domain of artists or those working in the creative economy or scientists, though they are important. It includes people like social innovators, imaginative bureaucrats or anyone who can solve problems in unusual ways. Cities need to create the conditions for people to think, plan and act with imagination.

To make this happen requires a different conceptual framework. The capacity of a place is shaped by its history, its culture, its physical setting and its overall operating conditions. This determines its character and mindset. For too long there has been an ‘urban engineering paradigm’ of city development focused on hardware. Creative city-making, by contrast, emphasises how we need to understand the hardware and software simultaneously. This, in turn, affects the ‘organism’ of a city, which is how we manage the city under these new conditions. Today the essential element of the personality of many cities is their ‘culture of engineering’. The attributes associated with this mindset are both positive and negative. It is logical, rational and technologically adept; it learns by doing; it tends to advance step by step and through trial and error. It is hardware-focused. It gets things done. There is a weakness in that this mindset can become narrow, unimaginative, inflexible and forget the software aspect, which is concerned with how a place feels, its capacity to foster interactions and to develop and harness skill and talent.

Overall, key themes highlighted by the four concepts are caring for others and the wider world, celebrating and fostering distinctiveness and identity, providing more liveable places and being open minded in order to find solutions to any urban challenge.

Urbanity and being urbane has a combined economic, social, political and cultural history that is useful to retrace for today and to recapture its best features. It represents an urban culture. The tradition of urbanity is essentially European, reflecting an attitude that emerged in the late Middle Ages in Italian city states and in Northern Europe, especially the Hanseatic League cities. It was led by merchants who tried to escape from the shackles and constructions of feudalism to trade in a less impeded way. In so doing, they became a vigorous group with their own political, economic and cultural interests that successfully competed with the existing medieval order. They developed what became the bourgeois style of life, including their own learning and cultural institutions and norms and values. They were anti-feudal and, in their context, democratic; they were open and cosmopolitan and proud of their city and invested in it. They reflected a new emerging economy based on trade and new methods of production; there were new professional bodies, education and sci-

GENERATING CIVIC URBANITY

Here are some guidelines to build civic urbanity:

1. The first step is to bring the concept of civic urbanity into wider circulation to discuss its merits and possibilities.
2. Spell out its potentially positive impacts to solve problems across a number of domains. This process builds evidence by showing examples of good practice.
3. Persuade a city to explore civic urbanity in detail and to make this a policy programme. This will involve bringing a cross-departmental group together from physical planning, health, social affairs, economic development, environment and culture.
4. Develop a professional development programme to assess the city through various lenses, such as healthy urban planning or how interculturalism could work.
5. Undertake practical projects that embody the spirit of civic urbanity.
Today we begin to see that the improvement of cities is no matter for small one-sided reforms; the task of city design involves the vast task of rebuilding our civilization. We must alter the parasitic and predatory modes of life that now play so large a part, and we must create region by region, continent by continent, an effective symbiosis, or cooperative living together.”

Lewis Mumford in: The Culture of Cities (1938)

There is a general consensus that the world’s megacities will continue to grow during the decades to come. Urban poverty and inequality, resource abuse and the lack of adequate housing and urban services are thus bound to become ever more pressing issues. To overcome these, inventive approaches that focus on the human potential in cities are needed.

By Janice Perlman

The focus can be vast from shifting the city to be green, to fostering local entrepreneurship or getting different groups to mix or celebrate. Throughout history, being civic has been linked to the democratic impulse. This implies being active and so fosters a realm of debate and public discussion. Citizens at their best are thus makers, shapers and co-creators of their evolving city. They are products of their place rather than merely consumers. The fear for most cities that need to attract the semi-permanents and itinerants with talent is that those have little time to build commitment, direct involvement, participation and loyalty. Instead the buzz and liveliness is created for them, as reinforcing the consumption bias.

To be civic often involves challenging the status quo and official institutions as well as organisations and institutions that work together in a way that official bodies cannot or will not.

This article is a call to action. It argues that we have a short window of opportunity to make a difference in the way our cities work. If we do not act now, our urban centres will continue to reflect the vested interests of the privileged few to the detriment of the urban poor, the environment and future generations. I offer five considerations for moving forward:

1) non-reformist reforms;
2) transparency;
3) negotiated solidarity;
4) diversity and density; and
5) infrastructure leapfrogging.

To plan is human, to implement divine

If we are serious about moving from the idea of inclusive sustainable cities to the implementation of this idea, the time to act is now. If we fail to generate the public support, political will and economic momentum to make the leap now from principles and design concepts to tangible changes in our urban reality, we risk missing a beckoning window of opportunity. For the past several decades many of us have been advocating for more participatory, diverse and regenerative cities.

When I began the Mega-Cities Project 25 years ago, people thought I was crazy and that the 23 cities projected to reach populations of 10 million people or more were certain to implode. They could not believe that in short order there would be more people living in cities than in the countryside, nor that the largest and fastest growing of these cities would be in developing countries in which the informal economy and self-built housing would outpace the formal markets. As you can see in the graphs and illustrations in this article, they were much mistaken.

Now there is worldwide recognition that cities and mega-cities are here to stay and that our collective future depends on how well they work. The path forward will

Urban Growth = Rural-urban migration + reproduction

The world’s cities are growing by close to 200,000 people a day: almost 1.4 million people a week, close to 70 million people a year; i.e., 130 people per minute

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If we are serious about moving from the idea of inclusive sustainable cities to the implementation of this idea, the time to act is now. If we fail to generate the public support, political will and economic momentum to make the leap now from principles and design concepts to tangible changes in our urban reality, we risk missing a beckoning window of opportunity. For the past several decades many of us have been advocating for more participatory, diverse and regenerative cities.

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be guided by the extent to which urban policy and the interventions of architecture, design and planning may be geared to conserve resources, generate livelihoods, nourish conviviality and integrate the urban and the rural, and the global talent pool of intellectual capital.

Today, there are a billion people living in informal settlements, unrecognized, un-serviced and excluded from “the rich”. Virtually all of the population growth in many countries has been urban, and in the 21st century, that is predicted to continue.

If, as some economists like to think, the newly-arrived migrants from the countryside find shelter, they could afford to rent or own; a tiny parcel of land to build on. But this is not the case, and the families who have risked all to move to the cities for better opportunities, end up settling on vacant lands and building shanty homes and slums there. This population is faked only not by the private real estate markets but by government policies as well. Neither national nor local governments have shown a willingness to commit the resources needed to house this aspiring population. From the 1960s until the late 1990s, the typical policy response was to eradicate the self-built “shanty towns” and to send their residents back to the countryside — forcibly or sub-contractor labourers (often without pay). The stated aim of this was to conserve resources, generate livelihoods, and build up their communities there. The reality, as we are aware, is that these efforts to solve “the slums” problem have left our cities privatising urban land to buy and build on. But this is not the case, and the families who have risked all to move to the cities for better opportunities, end up settling on vacant lands and building shanty homes and slums there. This population is faked only not by the private real estate markets but by government policies as well.

In working towards sustainable cities, we have to think beyond “car-free cit- ies”, rooftop gardens and pocket parks. While we advocate for enlightened de- sign for public transit, bikeways, parks over freeways, urban agriculture and cycling, we are aware that these are only one level of response to the challenge of greener cities. Likewise, as we build and zone regulations to pro- mote smart buildings, minimise home- to-work travel and maximise mixed-use, we know that in most cities large num- bers of people are struggling with how to find sustenance and shelter. The urban poor are already walking and biking (or taking public transportation if they can afford it) and already re-using more than they throw away and growing their own food (space permitting). They know a lot about making more from less and this practical wisdom should be part of the solution.

The agenda and goals for Rio+20, the colloquial name given to the upcoming 20th anniversary of the 1992 Earth Summit (UNCED – the United Nations Confer- ence on Environment and Development) held in Rio, reflects a new awareness of the interconnectedness between inclusivity and sustainability. The stated aim of this year’s summit is “advancing the green economy in the context of poverty eradica- tion and sustainable development” (the mining mine). The agenda reflects the critical role of cities in shaping the future of the planet and recognises the import- ance of local authorities and civil society in the process. In contrast, the only men- tion of cities in the 1992 UNCED was Para- graph 28 on Local Authorities, which was treated as a special interest group buried among the chapters on minorities, handicap and tribal peoples.

If we do not act now, our urban centres will continue to reflect the vested interests of the privileged few at the detriment of the urban poor, the environment and future generations.

This current model of urban develop- ment has left our cities privatizing urban services, straining to provide services to their populations within tight budget con- straints and pushing the limits of the carrying capacity of their natural re- source base to sustain human life. This model — as we have seen worldwide in the past year — is fraying the social con- tract and leading to widespread urban as- wealth and power become increasingly concentrated in the hands of the few.

How to get from here to there?

Five considerations for moving forward:

1. Non-reformist reforms: What is at stake goes well beyond aesthetic changes on the surface of our cities or the frenzy of urban marketing to make cities more competi- tive in the global marketplace. In address- ing ourselves to “cities for people”, we are really talking about structural transfor- mation, or what André Gorz called “non- reformist reforms.” That is to say, reforms that contest and change the logic of the system, the incentive-and reward struc- tures, the rules of the game and who is at the table. In the Mega-Cities Project, we call these types of approaches “system- challenging innovations”. In order to break out of the self-reproducing cycle of “business as usual” in the world’s cities, we need to serve as inspiration from successful (often grassroots-grown) experiences that turn the tables.

I recently found an example of this in India. Among the poorest of the poor in Indian cities are lower caste women scrap collectors (wastepickers, garbage collectors and itinerant waste buyers). In Pune, they joined forces to create a union called KKWP (Kagol Kach Patra Kashakhati Panchayat). Started in the late 1990s, they now have over 6,000 dues-paying members. I attended one of their monthly meetings and asked what has changed since they unionised. One woman said, “Let me tell you. We each have a route. I said okay and dumped everything out on the street. He looked through it and said, ‘oh, you’re right, there’s only garbage in here and it smells awful — you can put it back in your sack.’ I looked at him and said, ‘oh no, I’m not putting it back, you’re putting it back. He said, ‘what do you mean, me?’ I told him, ‘if you don’t put it back right now, I will put a mass protest of all our monthly members and very soon there’s going to be a mass demonstration on the street here with a very angry, very whipped crowd and you’re going to be in big trouble!’ And he put it back.” That story gave new meaning to the old saying that “women are like snow- flakes — individually they melt, but to- gether they stop traffic.” She did just that. Transformational reforms change despair into hope by showing that a seem- ingly intractable situation can be changed by a different way of thinking and acting. This, in turn creates a sense of victory and reinforces a “can-do” attitude.

2. Transparency and negotiated solidarity. In order to have these structural changes, transparency and accountability are es- sential. With information and knowledge of how decisions are made and who is get- ting what from city budgets, people can become the guardians of environmental protection and of the just city. They can hold government accountable. There is no chance of organizing against an unbal- anced and unjust allocation of services and resources across urban neighbourhoods or sub-groups without having access to information about spatial distribution. Of the hundreds of urban innova- tions the Mega-Cities Project has iden- tified over the past 25 years. “Participa- tory Budgeting”, which started in Porto Alegre, Brazil in 1989, is one of the most widely in use in cities today. As participa- tory budgeting decentralizes the budget allocation pro- cess to neighbourhood-elected councils to set priorities for service delivery and investments. Then representatives from each neighbourhood meet to determine the overall budget, taking into account existing disparities in facilities and ser- vices. This produces what has been called a “negotiated solidarity”.5 Even when the council’s recommendations have only “advisory” functions, the munici- palities tend to follow them, which takes them off the hook for difficulty trade-offs in the face of multiple demands.

Another example of the power of trans- parency is WE ACT and the Environmen- tal Benefits Program (EBP) in New York City. West Harlem residents were fed up with the disproportionate siting of environmentally harmful facilities in their neighbourhood. Three community leaders galvanised action against the large- est sewer plant in NYC (the North River Sewage Treatment Plant) and six diesel bus depots and founded West Harlem Environmental Action (WE ACT for En- vironmental Justice). They documented that the pollution levels exceeded federal guidelines and sued the City of New York. With the settlement (an unprecedented $1.8 million), they established EBP, which hires and trains community members to conduct ongoing air quality monitoring. All fines go back into the budget.

The world's megacities (With populations exceeding 10 million)

2010

2050

2075

2090

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Past mistakes and failures are part of NOPE – Not On Planet Earth. Moving from wards experimentation and innovation. we found to be an integral part of such contrast, in the public sector any small or re-appointment, so the incentive is to desirable outcomes that might offset the mistake can be used against re-election. By expanding the trade-offs to include incentives and desirable outcomes that might offset the negatives, various voices may be heeded. Since the early 1990s the heterogeneous groups were faster. They had a shared frame of reference and common understanding that enabled them to work together efficiently. But as the problems became increasingly complex, the heterogeneous groups began to excel and at the very extreme of complexity, only the most heterogeneous groups were able to come up with any solution at all. When this diversity is celebrated and recognised for its worth in our cities, the close proximity of different types of people and their shared challenge of sustainable solutions will provide a perfect petri dish for cultivating innovation.

5. Infrastructure leapfrogging provides one of the most promising avenues for re-thinking how our cities work in terms of their ecological footprint and urban metabolism. All cities, all over the world, use basically the same physical infrastructure. Most of our urban systems were invented in the last 12 years of the 19th century – in terms of plumbing, the internal combustion engine, steel frame buildings, elevators and - have not changed much since. At the time of their creation, there was no awareness that natural resources were limited or that cities might reach sizes of 10 million or more. The major advances made in science and technology over the past 100 years have been applied to the military, space exploration, and to high tech consumer items – but not to the way our cities function.

Trillions of dollars will be spent in the coming decades to repair the aging infrastructure of our well-serviced cities and to supply infrastructure to the billion people living in slums and squatter settlements without access to running water, sewers, solid waste disposal, paved roads, permanent building materials, etc. The re-making of the built environment into a sustainable re-generative smart system, with intelligence and feedback mechanisms has the potential to boost the economy, create jobs, improve our health and well-being and to live lighter on the land.

I would like to conclude by saying everyone reading this magazine has a role to play in expanding the “we” to include the “they” and in bringing about the non-reformist transformation in our cities – both by daylight and starlight. In the powerful words of an Australian Aboriginal woman.

“If you’ve come to help me, you can go home again, but if you see my problem as part of your own, perhaps we can work together.”

Janice Perlman is an independent scholar and consultant whose recent book, Favela: Four Decades of Living on the Edge in Rio de Janeiro (Oxford University Press), won the PROSE Award for Excellence and a Generation Award. She is the Founder and President of The Mega-Cities Project. Innovations for Urban Life, a transnational non-profit organisation designed to “shorten the gap between ideas and implementation in urban problem-solving.” Dr Perlman was a tenured professor in the Department of City and Regional Planning at the University of California, Berkeley and has taught at the University of Paris, Columbia, NYU and Trinity College.

Notes
1. For further information on the Mega-Cities Project, see www.mega-cities.net.
2. Projections based on data from UN-Habitat. For the full report see: http://www.unhabitat.org/content.asp?typeid=19&catid=10&cid=928
3. Utilising outdated urban infrastructure designed in a 12-year period at the end of the 19th century when natural resources seemed limitless and the scale of cities manageable.

These principles were derived from the cross-cutting lessons learned from 21 of the world’s mega-cities. They pinpoint the linkages between the local and the global and between poverty and the environment and show the folly of environmentalists who cast cities as the enemy.
Each city is fundamentally different, yet similar phenomena can be observed in many cities. The following portraits of three major cities of the world – London, Phoenix and Rio de Janeiro – are a proof of this. Created by the Canadian photographer Robert Polidori, the portraits focus on four clashes in the built and natural environment that are manifest in all cities throughout the world. These clashes do not merely determine the visual appearance and spatial organisation of any city, but also influence the ways that people inhabit and experience the city, in doing so they exert a strong influence on the physical and psychological well-being of people in cities.

The term ‘clash’, in this context, does not denote something negative but rather both a challenge and a potential. As Charles Landry also argues in the article in this magazine, what matters in cities is not their infrastructure (or ‘hardware’) alone, but rather how citizens interact with this infrastructure and with each other, how citizens structure (or ‘software’) their city. The potential of cities is huge, as they dispose of one of the most important and virtually unlimited resources available today: human beings and their ingenuity.
The role of natural daylight has rarely been discussed in an urban scale in the past. This was different in the time before World War II, when fossil fuels seemed less abundant and the reliance on antibiotics and other medical treatments to cure illnesses caused by lack of light was not yet as strong as it is today. Yet in recent years there has been increasing evidence of how important natural light is for human well-being in both psychological and physiological terms. Moreover, with the rise of solar energy, and the development of plans to harness it on all scales, the relationship between cities and the sun has become of interest to urban planners once again.

A city initiates two verticality and horizontality is influenced by numerous factors: prices of land, zoning laws, socially and culturally accepted levels of density, and the individual demand for private living space. Whether a city is organised vertically or horizontally – or both – influences the way that people move about in the city, their ways of interaction, and the intensity of use of horizontal and vertical surfaces.

Within the past, it has been less common to have rich daylight/sunlight intensity in places of darkness distributed and organized to let in the sun or block it out. In recent times, this paradigm has shifted towards more openness and demarcation – spatially, the ‘industrial’ city grid has become the organisational model of many cities.

Until the Middle Ages, cities used to be more or less ‘closed’ in spatial terms, by means of city walls and fortifications, and in social terms, by means of class differences and other social barriers. During the last 4-5 centuries, this paradigm has shifted towards more openness and demarcation – spatially, the ‘industrial’ city grid has become the organisational model of many cities.

Nonetheless, the challenge to maintain cities’ openness persists even in our days. Contrary trends, such as increasing segregation, gentrification, and privatization of former public spaces, pose serious challenges. Moreover, the increasing immigration into cities raises the question: how much openness can a city society (and even city spaces) tolerate?

The life in a city condenses on its surfaces. The surfaces can be compared to an ‘open book’ on which to read the culture of a city. Surfaces act as barriers, but also as places of interchange; they are characterised as barriers, but also as places of interaction, often emotional, relationship with the surfaces in a city: the little patch of private garden behind their home, the facades they pass by on their way to work, the door knob they touch when entering a building.

Key questions

- How and where does the city provide shade?
- Where, and how, are open areas within the city?
- How much openness can a city tolerate?
- Where does the city have a clear outer edge?
- To what extent do different surfaces and nature interact?
- How visible and how permeable are they, and how do people interact across them?
- How visible and how permeable is the boundary between the city and its surroundings?
- Does the city have a clear outer edge?
- How permeable are the boundaries (i.e. the roofs and facades) of buildings in the city?
- How and where does the city grow (vertically and/or horizontally)?
- How and where does the city provide protection and privacy?
- How is the ‘gaze of the observer’ guided within the city – up and down, sideways, along prominent axes and big boulevards, or losing itself in labyrinthine small lanes and alleys?

The volumes between these surfaces – whether in buildings or open spaces – have a key visible, but often even greater influence over human quality of life. They determine the scale and ‘grain’ of the city, they contain the space that each citizen inhabits and the air that every person breathes. How a city’s volumes relate to human beings and human scale of a city, on the other hand, and the spaces inside and around them, determines to a large extent whether people feel at home in a city or alienated by it.

Key questions

- How do different functions and spaces in the city ‘stack’ one above the other, and how does this influence their use?
- How do people move between these spaces?
- How does the city provide daylight/sunlight intensity?
- How do the sun and shadows affect people’s lives?
- What does the city do to the sun?
- Where do people interact with the surfaces of the city?
- How do people move between buildings?
- What is the dominant feature of the city (a specific part of the city) – built volumes or open spaces?
- How densely are volumes packed together on a city surface, what scale does they have, and how does this affect human quality of life?
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### London

#### Population
- **2010 estimate**: 7,825,000
- **Population growth per hour**: 8.3 persons
- **Population growth per year**: 146,080
- **Growth rate**: 1.9%
- **Overall size of the economy (2008)**: US$ 565 billion

#### Environment & resource consumption
- **Ecological footprint per person (2002)**: 6.63 ha
- **CO2 emissions per capita**: 5.9 t
- **Area of public green spaces per person**: 34 m² (2009)
- **Area of private gardens per person**: 51.2 m² (2009) of which approx. 30 m² are vegetated

#### Social conditions
- **Unemployment rate (Feb 12)**: 10.1%
- **Area of public green spaces per person per year**: 150 m²
- **Average household size**: 2.37 persons
- **Average household size per year**: 2.87 persons

#### Health
- **Number of international visits to the city**: 14,059 million (rank 1 worldwide)
- **Number of international visits per person**: 4,375
- **Number of people who are healthy**: 82.3%
- **Number of people who are Employed**: 72.8%
- **Life expectancy in years (2010)**: 78.6 (men), 83.1 (women)
- **Percentage of women who breastfeed their babies**: 83.2%
- **Percentage of women who smoke during pregnancy**: 7.5%

#### Security and opportunity
- **Human Development Index**: 0.863
- **Average figure for the UK, 2011**: 0.8
- **Ranking in the Mercer’s Quality of Living Ranking (2011)**: 38th
- **Corruption Perceptions Index**: 7.9
- **Average value for the United Kingdom, 2011**: 6.5
- **Political Stability and Absence of Violence Index**: 0.56
- **Average value for the United Kingdom, 2008**: 0.56
- **Number of international visits to the city**: 14,059 million (rank 1 worldwide)
- **Unemployment rate (Feb 12)**: 10.1%
London: an international city

More than 300 languages are spoken within the city limits of London according to recent estimates, and there are almost 100,000 foreign students in London. The British capital is also the world’s most visited city, attracting 14.059 million foreign visitors in 2009. Tourism is a major industry in London, employing the equivalent of 350,000 full-time workers in the city. However, tourism also adds to the city’s ecological footprint: according to a 2002 study, the ecological footprint of London grew by around 5% if the activities of tourists visiting the city are taken into account.


- Amount of household waste: 382 kg/person/year
- 906 kg per household
- (Household) water consumption (2008): 167 litres/person/day
- Modal Share (all trips; 2010): Public transport (including taxi): 42%
  - Walk: 21%
  - Cycle: 2%
  - Motorcycle: 1%
  - Car: 35%
- Percentage of 16–24 year olds who reported taking drugs: 16.8%
  - 13.6% cannabis, 4.5% cocaine, 2.2% ecstasy, 1.2% hallucinogens, multiple answers possible
- Percentage of teenagers who become pregnant each year: 4.4%
- Percentage of 5–15-year-olds who meet the recommended fruit and vegetable consumption level: 24%
- Percentage of children who achieve the recommended level of physical activity (i.e. one hour of exercise each day): 28.5%
- 33% of all boys and 24% of all girls
- Percentage of 6th-year pupils who are at risk of obesity: 21.3%
  - 36% are at risk of being overweight
- Homicide rate per 100,000 residents (2011): 1.3
- Londoners are three-quarters happy

Since 2005, London’s citizens have regularly been asked how happy they feel, in a rating of one to ten. The results have consistently been in a range between 7.4 and 7.7 ever since, with the lowest result in 2005/06 and the highest in 2008/09, the year of the financial crisis.

*No data for 2009/10. Figure presented is the average of results in years either side.

- Total area of green roofs (2009): approx. 500,000 m² = 0.065 m² per person
- Number of street trees in London (approx.): 500,000

A city with a large footprint

In 2002, the total ecological footprint of London was 49 million global hectares, an equivalent of 6.63 global hectares per person. That year, London’s ecological footprint corresponded to:

- 42 times the biocapacity of London
- 293 times the geographical area of London
- Twice the size of the UK
- Roughly the size of Spain.

(Metropolitan area): 4,192,887
Population change since 1990: +65.43%
Population change since 2000: +23.07%
Population density (2010): 1,080/km²
Ecological footprint per person: 8.0 ha (Average figure for the United States, 2007)
CO₂ emissions per capita: 17.9 t (Average figure for the United States, 2008)
Life expectancy: 77.8 years
Number of beds in hospitals:
Human Development Index: 0.91 (Average figure for the United States, 2011)
Corruption Perceptions Index: 7.1 (Average value for the United States, 2011)
(0 = highly corrupt; 10 = very clean)
Political Stability and Absence of Violence Index: 0.59 (Average value for the United States, 2008)
(–2.5 = worst governance, 0 = average, 2.5 = best governance)
Area: 1,338 km²
Area of city parks per person: 13.2 m²
Area of desert parks and preserves per person (2011): 107.7 m²
Living on the streets?
The total accumulated length of streets in Phoenix is 7,795 km. Theoretically, every resident of Phoenix has indirectly ‘owned’ a length of street equal to their body length, or (at an estimated average street width of about 7 m) around 38 square metres of street area.
Percentage of population over 25 with completed high school education: 81.54%
some college education: 23.78%
Bachelor’s degree or higher: 17.88%
Post-graduate degree: 8.86%
(All figures from 2010)
Number of pupils per teacher in schools: 16.4–22
Depending on school district (2003/2004)
Funding per pupil: US$ 4,980–$8,304
Depending on school district (2003/2004)
Overall size of the economy (2008): US$ 200 billion
31st-largest city economy in the world
GDP (gross domestic product), adjusted for Purchasing Power Parity (PPP): US$ 47,700

Unemployment rate (Feb 2012): 7.8%
Poverty rate (2009): 21.1%
Poverty rate among children: 30.5%
Percentage of residents below 50% of the poverty threshold (2009): 10.2%
The US poverty threshold is 15.76 US$/person/day for a family-of-four household, or US$ 31.48/person/day for a single household

Number of cars per 1,000 inhabitants: 828
Average figure for the United States 2009
Number of cars per household: 2.1
Number of persons per household: 2.8

Amount of household waste: 726.6 kg/person/year (expected for 2012)

Modal share (trips to and from work) (2000)
By car: 89.1%
By public transport: 3.3%
On foot: 2.2%
By bicycle: 0.9%
Others: 1.1%
Work at home: 3.3%

Adult diabetes rate: 7.7%
Adult obesity rate: 22.5%

Daily nitrogen dioxide (NO2) levels in outdoor air: 18.5 ppb
Daily particulate matter (PM10) level: 32.5 µg/m3

Homicide rate per 100,000 residents: 7.6
Robberies per 100,000 residents: 210
Vehicle thefts per 100,000 residents: 500
All figures from 2010

Literacy rate: 99%

Quality of life in Phoenix
Phoenix offers approximately 75% more quality of life than the average US city or town. This is the result of the Quality of Life Index of the real estate Internet platform CLRsearch, which evaluates the quality of life in cities based on an Internet opinion poll. According to this index, the desert metropolis offers particularly good culture, education, and weather. It is also reputed for having a significantly lower mortality rate. In the online health survey, 95% of people in Phoenix rated their health as excellent or very good, which is higher than the average US citizen.

Sunshine hours/year: 3,876
Phoenix is considered to be the city with the highest average sunshine amount (85.4%) and the highest number of days clear of clouds in the United States. The skies are clear 59% of the time, partly cloudy 22% and cloudy 19%.
Annual rainfall is about 22 cm, which makes Phoenix one of the 25 driest cities in the country. The average daytime temperature in summer is over 32°C

A recent housing stock
The young age of Phoenix can also be seen in the housing stock of the city. Of the slightly over 600,000 housing units in Phoenix, 35% were built after 1999. Today, Phoenix has a density of 3,876 housing units per square kilometre, or 37 dwelling units per hectare. Around 61% of all homes were owner occupied, and 39% rented.

Quality of Life Index:
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Population (2010): 6,320,446
Metropolitan Area: 12,387,000
Population density: 5,036 pers/km²
Ecological footprint per person: 2.9 ha
CO2 emissions per capita: 2.1 t
Amount of household waste (2009): 525 kg/person/year
Garbage collection rate: in the favelas: 67% in the rest of the city: 92%
Life expectancy (2007): 73.1 years
Total number of hospital beds (2009): 1,000 beds (=one per 305 inhabitants)
Human Development Index (2005): 0.832
Corruption Perceptions Index: 3.8 (2011; average value for Brazil)
Political Stability and Absence of Violence Index: –0.12 (average value for Brazil, 2008)
Ranking in the Mercer’s Quality of Living Ranking (2011): 114th
Homicide rate per 100,000 residents (2010): approx. 30
Literacy rate among population over 15 years of age (2010): 97.1%
Area: 1255 km²
Percentage of the city classified as natural areas (1998): 53.7%
Sunshine hours/year: 2085
With 58 m² per person, Rio has an impressive amount of green spaces. The largest of these are the Park of Tijuca, the largest urban forest in the world. For the 2016 Olympic Games, the city is planning to create a new green corridor in the residential areas, lined by 11,000 trees, around its natural potential.

Percentage of total population living in favelas (2008): 18.7%
Poverty rate (people living on less than 2.75 US$/person/day) (2008): 10.18%
Poverty rate in the favelas: 15.1%
Number of international visits to the city (2009): 2.698 million (rank 38 worldwide)

Health and crime
Rio de Janeiro's population consists of 46.8% men and 53.2% women. This discrepancy is attributed to the high violence rates among young males, in particular. On average, the life expectancy of Rio's men is 8.8 years shorter than that of women. Between 1978 and 2000, Rio lost almost 50,000 people to homicides, particularly in fights between rival gangs of drug traffickers, and between these and the police. However, the homicide rate has decreased by 50% since its peak in 2002, and now stands at around 30 per 100,000 inhabitants per year. This is still high, but not higher than in some North American cities such as St. Louis, Detroit and New Orleans. Source: 2010 Population Census of Brazil; Janice Perlman: Favela. Four Decades of Living on the Edge in Rio de Janeiro, 2010; http://www.chinadaily.com.cn/world/2008-12/02/content_7261219.htm; http://www.rio-de-janeiro-travel-information.com/rio-de-janeiro-safety.html

Water supply
At (officially) over 300 litres per person per day, Rio's water consumption is rather high. This is mainly due to the fact that 60% of all water is lost through leaks in the system. Moreover, 30% of all water is lost through illegal connections to the water system in many areas. The benefit of this is that officially, over 98% of all residents of the city have access to potable water. An estimated 83% of Rio's residents have access to sanitation, and around 85% of all the wastewater in the city is treated.

Pupils per teacher:
in elementary schools: 23.7
in high schools: 16.4 (all figures from 2009)

Average years of schooling for children:
in the favelas: 6.6 years
in the rest of the city: 9.9 years

Health and crime
Nowhere in Brazil is the clash between wealth and poverty as palpable as in the country's two major cities, Rio de Janeiro and Sao Paulo. At the top end of the price range, apartment prices in Ipanema, one of Rio's most expensive districts, rose by 36% in 2011 to an average of US$ 8,200/m². According to Mercer's city rankings of cost of living for expatriate employees, Rio de Janeiro ranks 12th among the most expensive cities in the world in 2011, ahead of London, Paris, and New York City. At the bottom end, there are 32,000 households in Rio who earn less than one quarter of the official minimum wage, i.e. less than 2.05 Euro a day. Source: 2010 Population Census of Brazil; http://en.wikipedia.org/wiki/Minimum_wage_law#Brazil; http://www.globalproperty-guide.com/Latin-America/Brazil/Price-History

Health and crime
This development is attributable to the higher density of the young population, and to a lack of investment in the social infrastructure and public institutions. However, this situation is not unique to Rio. The same phenomenon is observed in other large cities in Brazil, such as Sao Paulo and Salvador. Rio's climate change action plan calls for the reforestation of protected areas. To achieve this, a US$ 15 million programme has been launched that involves planting 1,500 hectares of new trees in the city. Source: Siemens AG/The Economist Intelligence Unit: Latin American Green City Index, 2010

Statistics inspired by the Sustainia Index to be published in October 2012 – to see more please visit www.sustainia.me

Greatest fears in Rio de Janeiro
36% Stray bullets
23% Getting mugged
19% Going out at night
7% Presence of drug gangs
4% Being stopped by police
4% I do not feel fearful
2% To be struck in traffic
2% Soccer fan fights
1% Crowds
1% Flooding
1% Bus, Train, Metro
People are migrating from countryside to city. We seek the thrill, the unexplored, the primitive and the alien that nature used to give us, between houses, streets and each other. By the middle of this century, seven in ten people across the globe will be city-dwellers. In other words, we are evolving into an urbanised species. This makes demands on the city – and on its inhabitants; it calls for mutual respect and cooperation, for responsibility and technological innovations, for mental adjustment, new values, empowerment and enlightenment. Without sustainability, it’s not going to happen.

A dialogue on cities, sustainability and the presence of history between Professor of Philosophy Ole Fogh Kirkeby and Climate Director Per Meilstrup.

Illustrations by Robert Samuel Hanson
“Surely the ultimate goal of sustainability is to create quality of life for the individual in harmony with society?”

Ole Fogh Kirkeby: I think that’s just the construct embodied by the term. It’s the original sense that was reappropriated as a technical term. To sustain: to support ourselves, to hold up. He has to have the light on board without also taking on board the heavy thing and is taking the weight of it on his back. Life is like the Greek Titan Atlas shouldering the celestial orb. But what all we should be shouldering is the globe. I’d say that is the metaphor the originators of the term had in mind.

PM: I also find when talking to Americans and Brits that they use the word sustain in a way different to its technical term. To sustain: to support as in to keep it held up. He has to have the light on board. Ole Fogh Kirkeby takes a seat with his back to the light. He has to have the light behind him, he can’t be doing with anything else. And Per Meistrup kicks off.

Professor Kirkeby, when talking about sustainability today, we’re referring to the relationship between man and nature, economics and culture. How has the term sustainability come to be bound up with environment and economics?

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on the planet. It’s a concrete fact that humanity is now the main impact factor on cliffs, soil, sea currents, ecosystem cycles etc. It’s a striking thought, and a huge difference from earlier geologic periods. That’s the epoch we are entering now. But I doubt if we’ve actually realised that yet. OK: So do I. But there’s also a strange dilemma in there, because on the one hand we are well aware of all the things we do have major impact, e.g. we were perfectly aware of that in our nuclear testing, and we know that there are huge islands of plastic floating around in the Pacific, but then we shrugged it off with the idea that the planet is so big it probably won’t matter. But on the other hand we are shocked at how small the planet is in relation to the universe!

There’s always a strange duality to it.

PM: It’s clearly a difficult thing to acknowledge.

OK: It’s so fragile, isn’t it? And I think that sense of fragility strikes us, not least when we find we can’t control the world as much as we once thought. It’s interesting to think about the famed and disastrous earthquake in Lisbon – I believe it was in 1755, and the German author and philosopher Goethe, who was about five at the time, later recounted that in an instant the earth had fallen silent, but nobody knew what had happened because Goethe was thousands of miles away from Lisbon and news of the quake didn’t reach them until many days later by stagecoach.

The earthquake occurred in the sea a few hundred kilometres off the coast, and created a tsunami. But now they are trying to do surveys out at sea so they can issue alerts before it happens again. Because it will happen again. Many years before the destruction of Lisbon, there was a yet another tsunami, which was even bigger and swallowed up a large number of the Canaries Islands. This is alarming because humans suddenly realise that the planet can go to pieces. Things happen. The world is fragile.

PM: What does it do to us? What does it do to our consciousness?

OK: On the one hand we definitely don’t feel omnipotent. We feel deeply dependent on our planet, and I think in a sense also feel responsible for it. It’s a mixture. We can’t control the evil forces of the earth, but we still have to watch out because it will take almost nothing for it to explode. The whole thing is so sensitive.

PM: Katherine Richardson, Head of the Sustainability Science Centre at the University of Copenhagen, likes to say that one of the reasons why we have so many discussions about sustainability is that it’s maybe for the first time since Darwin asks the question: what is our relationship with nature? Darwin’s theory that man is descended from the apes makes people wonder if the slaves they owned were actually human beings, and basically, every aspect of our civilisation and economy was questioned. And it’s the same basic tension in the debate going on today.

“... but then we shrugged it off with the idea that the planet is so big it probably won’t matter. But on the other hand we are shocked at how small the planet is in relation to the universe!”

OK: That may well be true, but I doubt many people believe in Darwin’s theory. We don’t see when we look in the mirror in the morning. So we don’t really believe we could be descended from the apes.

PM: But you recognise the argument that we are forced to decide where we stand in our relationship with nature?

OK: I do. We have a need to feel that we are at one with nature. In former times, we could sounds the idea that the planet is at one with nature or natural beings, while feeling that we held sway over nature, and in becoming so terribly dependent on nature, we have also become at one with nature in a fatal way. And I think that’s an uneasy experience. It is also an experience that draws closer when you, as I have, reach 60 or 65 say, and discover your own mortality. I have just read Simone de Beauvoir’s essay The Coming of Age (La Vieilliesse), and she wrote it when she was 62, and refers to everyone over 60 as geriatrics. She describes a number of famous people and their views of old age, and those worst affected are scientists because they come to a standstill after the age of 50, while painters fare best because they can carry on working and creating – even blind Goya painted.

The shock of old age – the recognition that you will not live forever – is a strong parallel here. Like the parallel taught by Christianity of ashes to ashes and dust to dust, as a harsh reminder.

PM: We look back through history and one of the reasons why we talk about man and the city is that we have increasingly become an urbanised species. If you go right back, we have gone from a nomadic existence to settling, cultivating the land, becoming permanent fixtures and building communities and urban settlements. Today more than half the world’s population lives in an urban community – we passed the half-way mark in 2007 or 2008, and migration appears to be continuing. I see it as a linear development, but is this migration going to continue indefinitely?

OK: If we go back to the Indo-European era, or at least to the first written legacies, cities are ascribed two purposes: one defensive, one ritualistic. …

PM: On the one hand we definitely don’t feel omnipotent. We feel deeply dependent on our planet, and I think in a sense also feel responsible for it. It’s a mixture. We can’t control the evil forces of the earth, but we still have to watch out because it will take almost nothing for it to explode. The whole thing is so sensitive.

OK: That’s an interesting thought – because one would imagine that people who live in the city, really in the country, and not as commuters, although some of the effect probably also rubs off on them, have a different perception of time, light, nature and of each other than city-dwellers do. You would imagine that people living in the country, whose living conditions are radically different and who lead more isolated lives than people in the city, would develop a different consciousness.

And I believe they do when it comes to politics but also when it comes to our innate sense of time. What is currently referred to as cultural acceleration, of being hasted, driven, of wanting to speed up all the time, one would imagine this mentality exists less in rural areas, since people there clearly have no reason to be caught up in any acceleration, they don’t even need to wear a watch, which means that time sits differently with them in some way.

Neither do they need the differentiated language that goes with all the new professions and their expertise – except when it comes to terms for the natural world and natural phenomena, for which they have a highly differentiated language and a font of experience which is altogether absent in city-dwellers.

PM: Like the myth of the famous 18 words for snow in Greenland.

OK: Yes, in the country, everyone has words for plants and animals. But not, perhaps, for their contact with other people, where they acquire more stereotypical impressions because they don’t see the same diversity of people – and we must face up to the fact that humans have been socialised by a religion that has produced stereotypical human images – not necessarily corrected human images, but the Seven Deadly Sins and their associated vices, for instance, and the fact that religion overwriters longest in the country. They are pretty simplistic. We live by them ourselves, and city-dwellers make judgements based on them even though we try to wriggle out of them and stand up to them. In rural areas there is clearly no incentive to stand up to those images – not that people in rural areas have no vices, they no doubt do, but they are judged in cruder terms. Besides which, people know...
Each other from very pragmatic settings, as in barter deals, which don’t perhaps make for the most enriching acquaintances, and in that way different types and horizons evolve. In the country, there’s no incentive to play around with concepts or any incentive to invent new modes of entertainment or experiential or philosophical modes. This is why people who have advanced a rationale – of whatever kind – anything from art to science – have always left the country. And then naturally, because they belonged to the elite, retained both options – both of the city and country, which is ideal because then they are not held down by the millstonescepticism, Christian set of values.”

“Supposing what we need is to trigger a mass green movement to take hold of every city in the world – what would it take?”

“None of us want to lose ourselves. Not if you understand the question – and you lose yourself if you betray the values you live by.”

OFK: Yes, at least, this is where conflicts arise; filters – communicational interest fields arise, where people have to translate their autobiographies, their personal histories into other people’s realities. Membranes arise, vibrating between people, where translatability prevails. PM: I’d like to come back to what you were saying about people living in the country and their sense of time and acceleration.

OFK: Time entered our culture with the factories. Time-keeping devices such as clocks, sundials and hourglasses began to emerge in the Middle Ages, while the pocket watch was a later invention of the Late Baroque period of the 16-1700s. Instruments for time-keeping have immense influence on our culture in that they make time essential and critical. The full impact comes with the factories of early 19th century industrialisation. Factories were the first undertakings to require workers to turn up for work at a fixed time, and it takes a long, long time to learn to get to work on time. And to show up for work every day, even on a Tuesday after the three-day revelry of Avinæstfete. The workers have to learn not to relate to each other during working hours, not to chuck the materials at each other or to puller, and they have to turn up on time and observe strict work discipline. The break with personal biological and emotional logistics is a long struggle and has to be drummed into people by force. In the Western European culture, time discipline is prepped and drilled in only one setting. In the military. Drill really comes into its own after the 1750s and eventually comes down to the last second of time & motion studies. Presenting arms is not just for show – but a demonstration that a procedure can be performed in precise, structured sequences. And this was the feat of precision adopted by the factories. Indeed, the first factory managers, in the 1800s, were military men – this was where the factory headhunted their directors.

PM: You also make the point that light is perceived differently in the country from in the city.

OFK: In the country, light is perceived in a completely different way: it is experienced organically. The first setting in which people began to control and contain daylight was in church rituals. This was down to the great architects. But in the factories, functionalism runs to excess, because here there is none of Lucky Per’s “servant of the light”, but an attempt to master the light.

PM: Looking at the revolution of the increasingly urbanised human being, then it may be seen to alter our relationships with each other, economically and culturally, and conflicts arise. Does urbanisation affect sustainability these days. As practised by some holier-than-thou members of the Green movement.

PM: The sense of religiousness and devoutness you get when moving in very green circles – that’s no coincidence!

OFK: No. We cannot live at all if we don’t live for values. Every choice goes back to a value – otherwise it would just be arbitrary. Right from how you button your shirt in the morning, to how you wipe your backside – it all goes back to time – to a value and a choice that was made. And that is one of the predictors of values – if we want what we say to someone to carry any weight, we tag a value onto it.

PM: So is articulating sustainability as something driven by economic interests something a dead end? Is this fundamentally misguided? – do we need to revert to values as change drivers?

OFK: I believe so. And although some might hold that we can discursively construct people on a pragmatic, functionalistic, dry level, that’s not what counts for people in the long run. PM: So when starting this mass movement, which would definitely be a precondition for overcoming sustainability-related challenges, then it wasn’t be driven by cost-benefit analyses, but by value-laden messages?

OFK: Yes. I would also say, and it may sound a bit odd, but what if you were to ask everyone you passed on the street this question: what would you rather lose your money or your children? Would you rather lose all that you own and your wife and children, or would you rather lose yourself? The answer is that they would rather lose everything but themselves. None of us want to lose ourselves. Not if you understand the question – and you lose yourself if you betray the values you live by. And everybody knows that.

PM: That would mean giving the global eco-movement a real shove to get back on track because the tendency now is to use economic arguments for “doing something” – even among the more radical lobbyists. A consensus has been created that ultimately this is what counts. So is that wrong?

OFK: I don’t think anyone becomes an activist without relying on a set of values. So it’s a question of PM and rhetoric. Because the activists believe that the people...
"The word sensuality is also fostered by the city."

they are lobbying have to be tackled with economic arguments. And no doubt they do, but this is a strategic world, a pseudo-

"One of the most fascinating things in the country-

side is often the horizon: I think you might well go mad if the horizon were taken away from you."

PM: So what does the world look like right now? We talked about the fact that urban communities are also 'nature' in the sense of cultural nature, man-made nature, like the majority of our forests and landscapes, man-made things. So what's the horizon in this case?

OFK: I would say that our senses have been refined along the way. The term is OFK: I was raised with a sense that we have loss of anything in relation to nature, since it is around us all the time, but from the fact that are nascent, as in bearing new experiences, new perceptions. OFK: What is that down to a kind of schoolmaster mentality and schoolmaster power. Those were the kind of people –

PM: But you would say that nature is in sur-

roundings that have endured for some time, long enough for us not to reflect on where they came from. So in that sense, yes, those things are nature. You have to be careful about setting criteria for what makes things natural and organic, because then mountains wouldn't be nature. And you have to be careful about saying that it is about something new, the things that matter.

PM: I think for many years, urbanisation has

to be careful of experiencing something new, you're better off exploring new city dis-

tricts than taking a trip out to the country – at least if you're in Denmark.

PM: We're talking sustainable cities, but in the many years, urbanisation has been articulated as one of our biggest envi-

ronmental problems. But essentially it's one of the greatest opportunities for solving a lot of problems, that is, if we manage to apply the expertise we currently have in ur-

ban planning and design. Every single day 180,000 people move from the country to the city – that's the equivalent of two Tokyo

PM: So that's what the horizon is.

OFK: It sounds like a period of time, and production, and which is relatively no interest and in no way need represent na-

ture. Nature is infinitely many things. And it's also what we make of it.

PM: I also think most people have the sense that a sustainable life is one lived in the country. Or at least a house with a hedge and a garden, while the cities symbolise dirt, dust and filth."

PM: How long does nature have to have sur-

roundings that are constantly nascent, as in

"You could also argue a case for timeless-

ness; that it is consistent with something that hasn't come into being yet. One of the most fascinating things in the country-

side is often the horizon: I think you might well go mad if the horizon were taken away from you. You have an elderly friend of 91, and she is very wise, so I ask her why we are so fascinated by looking out until we gaze ends by itself, as it was. She answers because you are looking towards at yourself. And he thought that probably at least, it symbolises what you look for in yourself when you look outwards. And you may perhaps find something, an idea perhaps, but her words got me thinking about something else, about one of history's finest images or metaphors – of Plato describing the dialogue between his tutor, Socrates, and the young states-

man and idealist Alcibiades. Alcibiades asks Socrates about where one finds the good things in life, the things that matter. Socrates says that this is done by looking in the eye of another. You have to find some-one else's gaze, the gaze of someone who is not you. And when you look into their Wheeler will well.
“I like the thought of a city with an amazing receptiveness to it, that keeps hospitality top of mind.”

PM: Yes. Because what makes the country-side a living hell is that it epitomises everything you already know…

OFK: Absolutely! After World War II, the cities in the UK were built and rebuilt according to the Howard model, where you can walk into the room, the building, the city, the street, the public spaces, and the architecture has been preserved, because the unknowns are preserved, because the unknowns are what epitomise nature.

PM: And that’s what counts most anyway - sustainability is not about electric cars and wind turbines, but about how we can create a high-performance society for human well-being, without it undermining our environment and living conditions. So it works at a social level.

OFK: Like the thought of a city with an amazing receptiveness to it, that keeps hospitality top of mind. The ability to receive and provide hospitality, as in the friendship extended to strangers in the ancient Greek philosophy, and the willingness to receive while the unknowns are preserved, because the unknowns are what epitomise nature.

PM: Something new and surprising – something you don’t know about already and have to delve into.

OFK: Yes. Because what makes the country-side a living hell is that it epitomises everything you already know…

PM: Or if we couldn’t sit under a birch tree anymore? Many people might say that was a loss, I personally love sitting under a birch tree.”