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Horizontal – Vertical, Defining the Ground

Michel Mossessian, Design Principal, *Mossessian & Partners*

Why is it that cultural and educational buildings that deal with creativity and innovation are horizontal, whilst those dealing with land value are vertical? And how can we inject creativity and culture into tall buildings, which they need, in order to be sustainable, given that land space is at a premium, both in terms of cost and availability? Education and the embracing of local cultural context are key factors in city building. These concepts are employed in Qatar's new sustainable downtown, Msheireb. This is how one can make high-rise building not only economically viable, but appealing and sustainable.

The initial question, which has provoked investigation into the questions set out above, arose during a MIPIM (the major annual real estate event for property professionals) debate where, on the Sustainable Cities panel, two high-rise tycoons were advocating height as the only viable solution to growth and a sustainable future.

We understand, from our observations of nature (as much as from town planning), the principle that to create sustainable cities we have to concentrate people in one place, so that they can benefit from fundamental urban infrastructures – such as transport links, waste management, schools, and shops. Financially, the most cost-effective solution is to simply duplicate the ground and keep going up: hence the birth of the mixed-use

skyscraper. But is this good enough? It might be economically simpler, but is it sustainable in terms of creating a happy city, a city that works and retains its population?

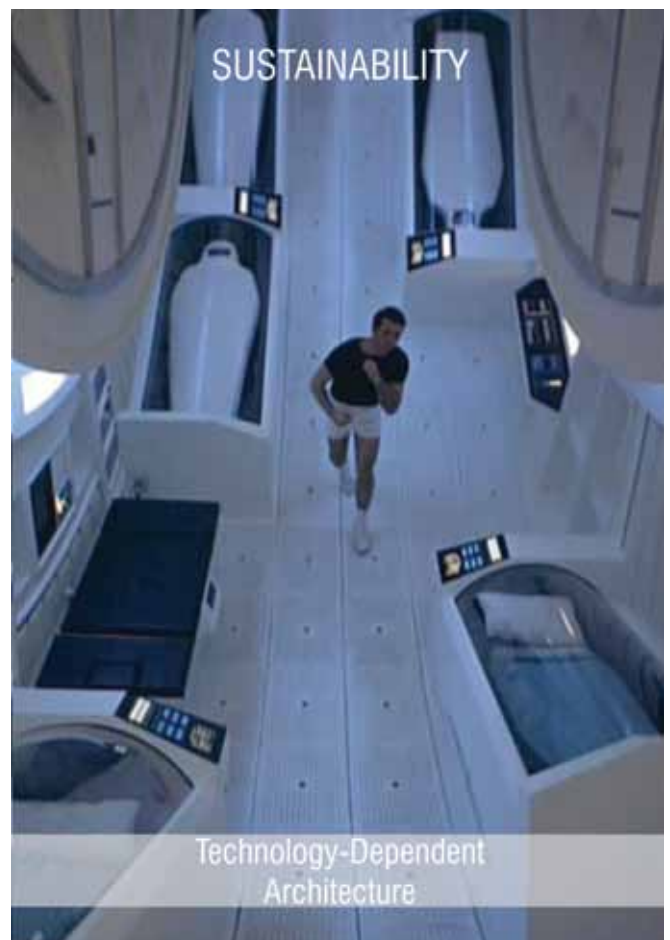
Cities only work where culture comes before commerce. First and foremost is the wellbeing of the citizens. Once you have that, you have a thriving, bustling city. New York and Venice are the exemplars of this format. Both were created as places of exchange, places where one can have chance meetings, sit and chat without a retail imperative (in parks and squares), as well as getting the day-to-day necessities done. These opportunities to bump into people and meet naturally leads to business being done and ideas being discussed and taken forward. Venice was a major center

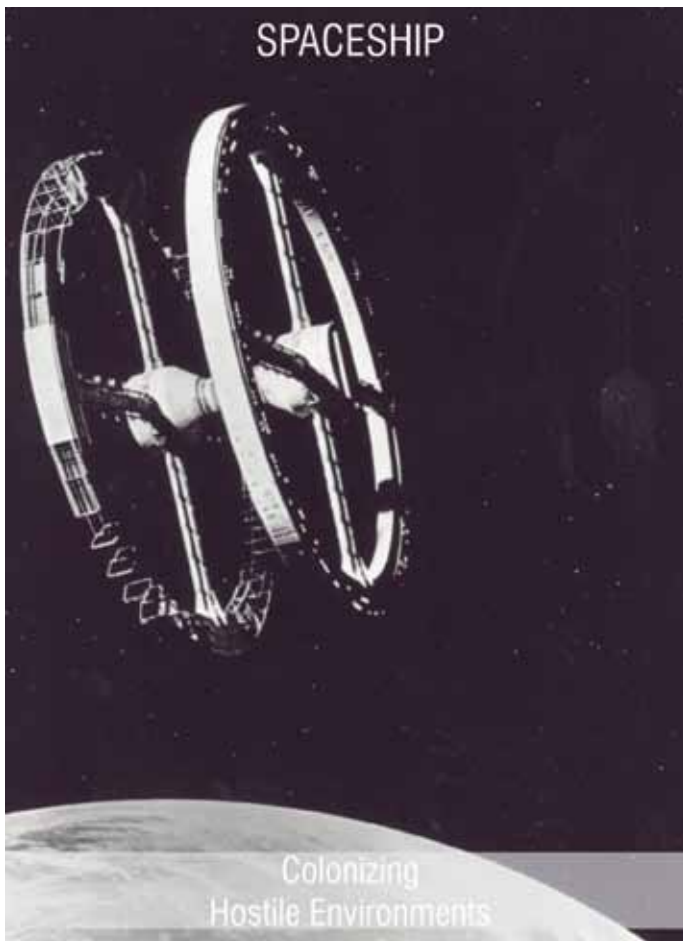


for trade and business, but that didn't make it soulless or lifeless; quite the reverse. And today it is still a city that everyone wants to come to and explore, because it frees the imagination and encourages creative exchange, as one discovers its passageways and piazzas. The same goes for New York. The grid, the ultimate abstraction of a city plan, encourages people to travel on foot, so that meeting and greeting and doing impromptu business is all the easier.

Mossessian Architecture's experience of working in Doha, Qatar, has also given a fascinating insight into the creation of the country's first "sustainable downtown" – the ultimate mixed-use, pedestrianized space: a revolutionary concept for the region. Here people will be able to walk from home,

Opposite: Shanghai high-rise resident disconnected from the ground-level community. Source: Mossessian & Partners
 Bottom: Architectural divide between the concepts of sedentary (cave) and nomadic (tent) culture. 2001:Space Odyssey. Source: Mossessian & Partners





to school, to work, to the shops, to public space and to mosques, via footpaths and squares that take the harsh climate into consideration. Msheireb, which is the name of this new quarter (completing 2016, and for which we have designed 23 buildings over four phases and a public square the size of Venice's San Marco) represents a deliberate break from the rapidly built high-rise quarter of the country's early 80s development period. In the latter there is no concession made to pedestrians; the only way to travel is in a car. Homes and offices are isolated in traffic islands. Communities struggle to come to life. Msheireb is totally on message in terms of community placemaking.

And now our mega creative industries are tapping into this way of thinking. They are developing campus style, rather than tower format, headquarters. And really these big campuses are becoming towns, to accommodate what now seems to be a critical mass of at least a 5,000 strong workforce. This is the equivalent of the population of a small town in which our parents might have grown up and the campuses are now providing all the amenities that towns could offer – shopping, restaurants, dry cleaning,

crèches ... why would you actually leave work, when all this is around you?

So this report will question the call of vertical building versus horizontal campuses, sky versus ground, and investigate what makes for the most sustainable solution.

Of course, as the great artists of our time have demonstrated, the vertical and horizontal are naturally complementary and have to coexist to generate the ultimate harmony and balance.

And for a long time, the tower has seemed to offer the best solution for city dwellers, with security on the door, communal waste disposal, etc. Is safe good or sterile? Or worse, in the case of JG Ballard's dystopian vision, prone to anarchy, as the opening sentence of his iconic 1975 novel *High Rise* so terrifyingly suggests: "Later, as he sat on his balcony eating the dog, Dr Robert Laing reflected on the unusual events that had taken place within this huge apartment building during the previous three months." (Ballard 1975)

I also want to question the fundamental architectural divide between the concepts

of sedentary (cave) and nomadic (tent) culture in relation to the evolution of our cities, finally bringing up the means and ways to build a future rooted in core values commonly shared by many cultures.

Mossessian Architecture's "blackbox" design process consists of three simultaneous vectors to be considered in parallel:

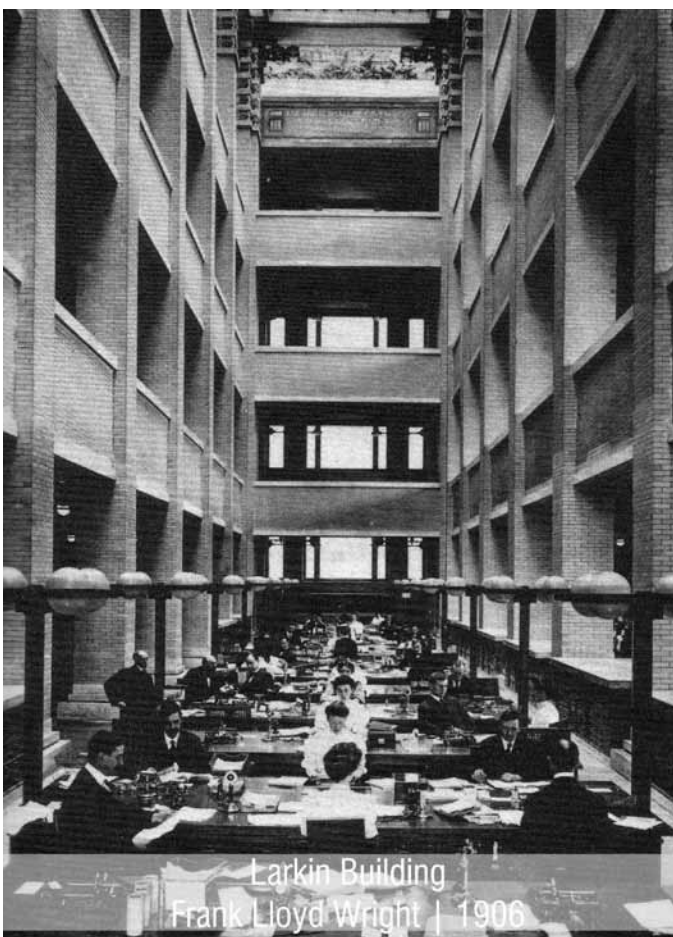
- Urban Articulation: a built form responds to past and influences future development. This defines the basis of a culture.
- Floor Plates: Work, Live, Play - maximizing the flexibility and efficiency of each use and ideally allowing all uses to coexist.
- Working with Nature: making buildings that require the minimum of technological intervention and maintenance, to minimise the impact on the environment (of particular concern in our Msheireb and Fez projects)

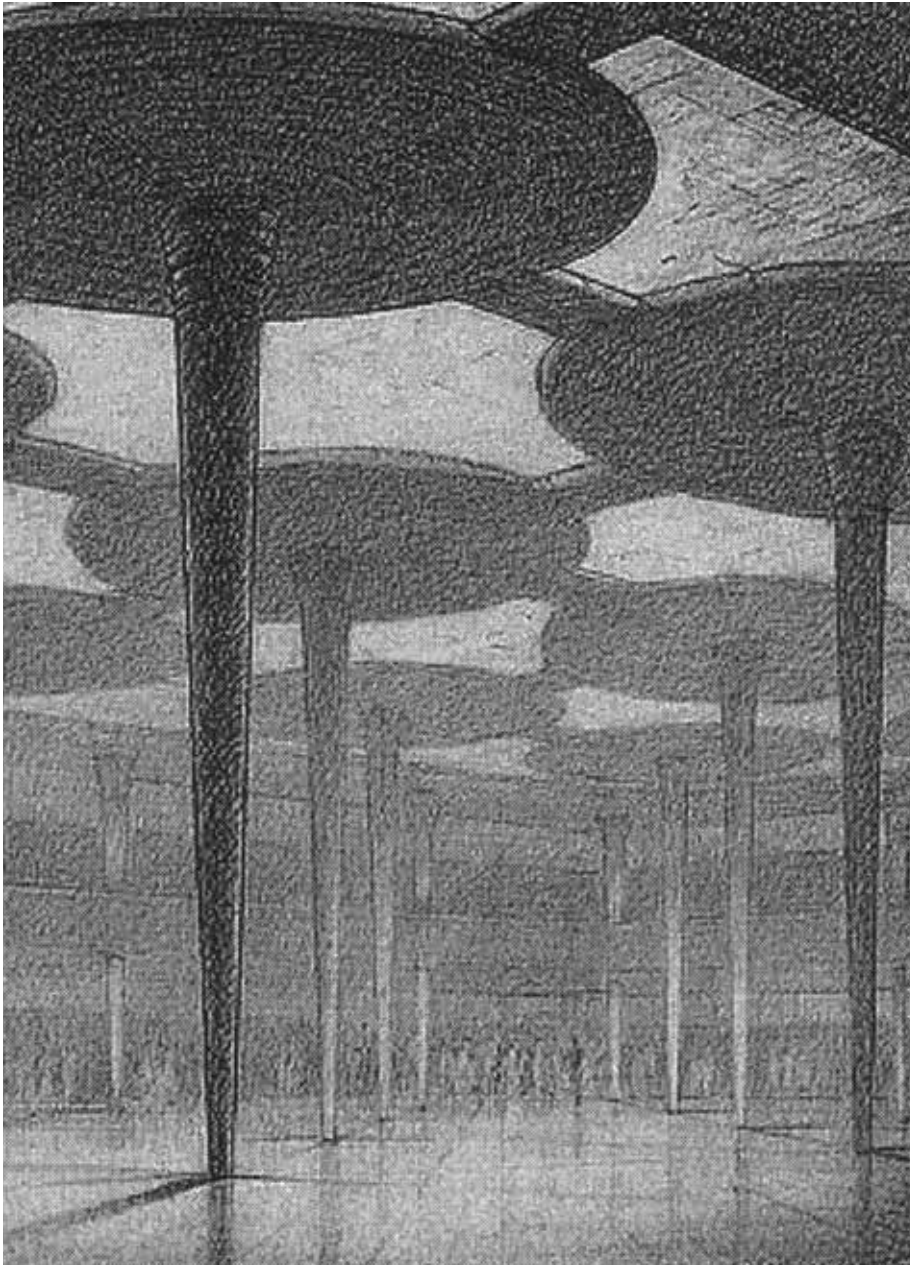
Each building form or urban form is unique and not surprisingly, Nature IS Culture.

Opposite: Do new buildings operate like spaceships, sealed off from the surrounding environment, or like caves, responsive to their surroundings? Source: Mossessian & Partners

Bottom: Frank Lloyd Wright: Larkin Building, 1906 (left); Johnson Wax Building, 1936 (right). Source: Mossessian & Partners

“Financially, the most cost-effective solution is to simply duplicate the ground and keep going up: hence the birth of the mixed-use skyscraper. But is this good enough? It might be economically simpler, but is it sustainable in terms of creating a happy city, a city that works and retains its population?”



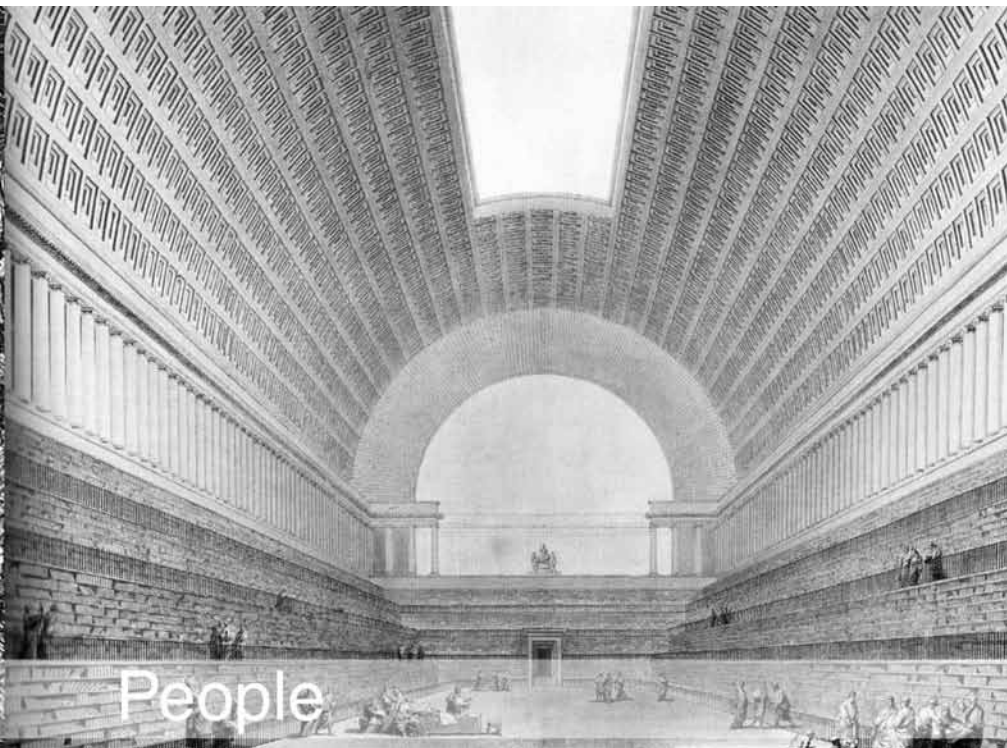


Left: Frank Lloyd Wright, Johnson Wax Building, 1936.
Source: Mossessian & Partners

Bottom: Giovanni Battista Piranesi, Imaginary Prison
Étienne, Louis Boullée, National bibliothek.
Source: Mossessian & Partners

Opposite Top: Unity Temple, Unitarian Universalist Church in Oak
Park, Illinois. Designed by Frank Lloyd Wright.
Source: Mossessian & Partners

Opposite Bottom: Frank Lloyd Wright, Designs for a mile-high
tower. Source: Mossessian & Partners



People

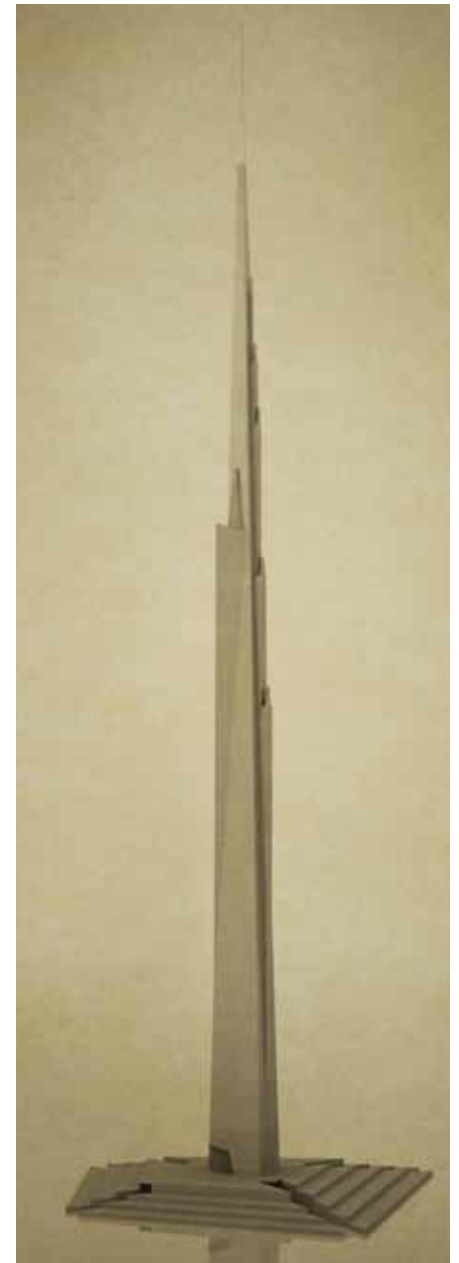


If there is one architect to have synthesised culture and nature, it is Frank Lloyd-Wright, an architect who managed to capture the spirit of the New World, whilst also listening to the distant call of its original occupants, the Native Indian Americans. Unity Temple in Chicago is the perfect illustration of both dwelling archetypes – tent and cave, a big void with echoes of the decorative detail of Indian American textiles, referencing the immensity of the New World territories. In many ways, this building became the glossary of his later work, mostly configured on the horizontal, but also translated into some of his visionary high-rise cities.

Later, Louis Kahn pushed the paradigm further, providing a space bathed in light as a meeting place and a perimeter envelope as the functional zone.

The next evolutionary stage was for the tent to become a spaceship, a hermetically sealed unit designed to survive in what is increasingly becoming a climactically and sometimes socially hostile environment. 2001: Space Odyssey is one of my key references here, where the spaceship has to cross over threatening territories. Here the protective envelope is a mechanical system and robots and machinery far outnumber the human presence.

The same could be said of our spaceship style towers today, where mechanical systems make up the protective envelope, use up a third of the space and claim a third of the build cost.





Urban Articulation

The problem, as fiction movies so ably demonstrate, is that we don't want to live and work in a confined space, sealed off from the rest of the universe; or, to convert the metaphor, the single use, traditional tower block has had its day. We want services and social spaces to be part of our everyday experience. We want to mingle with people outside of our immediate work environment and we tend to believe more and more that the health, happiness, and creativity of our workforces depend on the closest simulation that we can get to a whole city within a workspace. The County of Los Angeles public health body has now released statistics about the escalation of child asthma in the country and issued guidelines for families about how to deal with it, as well as to



Object of Solitude

Outdoor Air Quality advocates and decision makers on how to improve the situation. These range from encouraging the adoption of policies that create smoke-free outdoor areas, to reducing emissions and pollution from industrial sites and highway traffic. It's also true that we don't want our kids to grow up in totally sterile, workspace like environments, where they won't be exposed to the kinds of healthy bacteria that they need to build up resistance to infection and allergies. The Telegraph reports that allergies have increased because "the population of microbes that live in and on our bodies have altered from previous generations. This is not because of cleanliness, but because we interact with less diverse microbial environments than those of our largely rural ancestors"

(Espinoza 2015). So we want to make the live/work/play environments co-exist wherever possible.

Edwin Heathcote, architecture critic, writing in the Financial Times back in 2013, raises the question about insular office buildings: "Is the news that the world's technology giants – including Apple, Google and Facebook – are planning ambitious buildings something we ought to be nervous about?" He goes on to reference several ongoing projects: "Most striking of all is Apple, a company whose success is predicated on its penchant for design. It was co-founder Steve Jobs who commissioned Lord Foster to design the company's HQ at Cupertino, California, a glass doughnut that evokes the space station in 2001: A Space Odyssey." (Heathcote 2013)

I like that it's not only me who has 2001 as a reference point for describing the inhuman way that buildings are evolving.

He continues: "The self-consciously slick futurism of Lord Foster's design may chime with Apple's seamless products but, in the midst of the furore of the Edward Snowden revelations, it equally invokes the insular architecture of defence and security, the Pentagon and Britain's GCHQ (UK Government Communications Headquarters). There is something almost sinister in how self-contained it is, suggesting that this is a company that does not need to integrate with its surroundings but just sits in glorious isolation." (Heathcote 2013)



Opposite: Ginza, Japan, an international center for tourism, business, and retail. Source: Mossessian & Partners

Left: Dubai skyscrapers above the clouds & David Butler, Just Imagine 1930; Hugh Ferriss 'Looking west from business center' from Metropolis of Tomorrow, 1929. Source: Mossessian & Partners



The alternatives – partial or total integrations – have been evolving at a pace and we are beginning to think that sophisticated, mixed-use live work space has to be a better model in terms of efficiency, legacy and sustainability.

Japan was one of the first to demonstrate its collective understanding of how to satisfy a huge volume of users. Currently the largest mixed-use building in Ginza is under development, expected to open in November 2016. The project will comprehensively redevelop an approximately 1.4-hectare site comprising two blocks, with the aim of establishing Ginza as the center of international retail, business, and tourism. The multi-purpose, city-like building will comprise a retail facility covering approximately 46,000 square meters, a large-scale Grade-S office building with typical floor plate of approximately 6,100 square meters – the largest in Tokyo – and cultural and exchange facilities including the Kanze Nohgaku Theatre.

Public access is now one of the first considerations in corporate space – an atrium café, bookshop or food store that will

encourage osmosis, a two-way flow of life, so that the workspace is always fluctuating, rather than static; so that it actually comes more and more to resemble the city around it and in effect becomes a continuation of that space. This is where the office campus excels and one can easily see the rationale behind the commissioning of these new sprawling city-like workspaces, increasingly favoured by US technology giants. The aim is to re-create a creative urban environment that will stimulate the workforce and keep them within its walls – the temptation to leave is lessened by the provision of everything one could want on site. And imagine if you could go to work somewhere that constantly surprised and stimulated you – back to the Venice / New York examples, where even getting lost can be meaningful, yielding chance meetings and exchanges of ideas.

What one begins to question, though, is whether these cloned city environments are somewhat threatening. The tech giants who started off saying you could work anywhere – you could sit by a pool with an internet connection and make a million – are becoming gatekeepers of public space. Their campuses are designed to lure employees

in, keep them from leaving and prevent the competition from stealing their secrets.

The concept of an office campus that offers work, rest and play is not problematic per se. The British Council for Offices recently invited us to create a panel discussion for their annual conference. The title – “Lifestyle meets work-style” – referred to the increasing multi-functionality not just of workspace, but of public space: museums now offer places to eat and shop; shopping centers places to eat and educate; hotels places to work and entertain.

What could become an issue, however, is that whereas one does not feel as though one needs a pass to enter, in effect, private estates of London (Grosvenor, Cadogan, Portman, etc.) – and in fact, one is probably barely aware that one is entering their specific zones – wandering into a sprawling worker campus will be a very different thing. An estate comprising a single brand owner (i.e. a corporate campus) would have a different feel – a pedestrian might experience a rather sinister pressure to “buy” more of that brand.

Opposite: The Frank Lloyd Wright Era.

Source: Mossessian & Partners

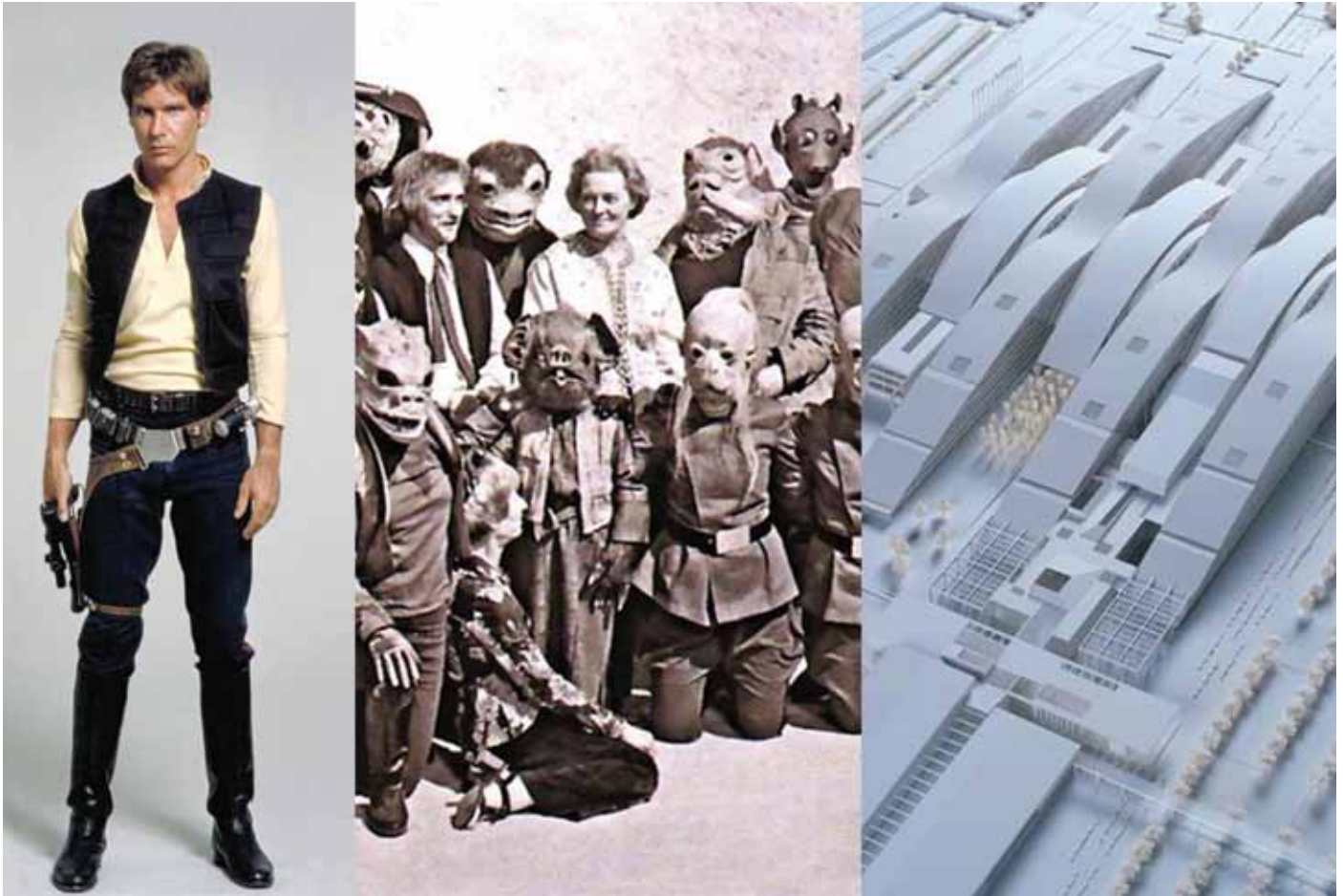
Bottom: Dotcommer era, Mark Zuckerberg & the Facebook campus. Source: Mossessian & Partner

“Public access is now one of the first considerations in corporate space – an atrium café, bookshop or food store that will encourage osmosis, a two-way flow of life, so that the workspace is always fluctuating, rather than static; so that it actually comes more and more to resemble the city around it and in effect becomes a continuation of that space.”

I had the opportunity to raise this question in the Financial Times recently, on a couple of occasions, noting the mental shift that London's historical estates are having to make to accommodate the likes of incoming super-employers, such as Google, Bloomberg and others.

There are ways to avoid this, the most obvious being to bring a mix of occupiers into the same space. Mossessian Architecture is one of several practices working with Argent on its new development at London's King's Cross; and Google is stated to have its local HQ in the redeveloped area. The key here is that Argent's interest is in attracting a mix of uses, keeping the ground level convivial and alive by catering for tenants that range from corporates to The University of the Arts. The latter might not seem an obvious occupier for commercial benefit, and so much the better for that, because its events are introducing different publics and activities to the space to augment the anonymous crowds alighting at King's Cross station, the future employees in offices emerging on the site and the local public passing through. Plans are even progressing for a temporary natural





swimming pond as part of the regeneration project. The mix is such that chance meetings between a whole host of characters can occur. It's a really healthy scenario.

The problem, clearly, is space. Cities are getting really full up – the second great wave of urbanization is happening now (the first having taken place 1750-1950 when urban populations in Europe and North America rose from 15 million to 423 million). Our urban population is expected to reach 3.9 billion by 2030, with 80 percent of that figure living in developing nations. And it's also a change in attitude to the suburbs that is driving companies back to city centers. Certainly for my generation, the suburbs have been something to escape from rather than retreat to. KPF's Robert Whitlock is quoted in *On Office* magazine as saying "The Apple campus is the outlier in a way. Companies understand that collaboration is a huge part of any business and the energy comes from younger people just out of school who want to live in urban centers and not in suburbia."

His observation is borne out by the fact that San Francisco is now outpacing nearby Silicon Valley in tech growth; that Shoreditch has

become home to 1300 digital companies who collectively constitute Tech City; The Olympic Park to Here East, a new 1.2 million sq. ft. business and technology campus, etc. There has also been a recent shift in downtown LA, which is now rapidly emerging as a live / work space: grocery stores are opening to cater for the huge increase in local residents, since parking lots are being converted into residential blocks and towers, creating a totally different vibe to this once purely commercial area of the city.

So how do we build up not just by adding glorified, nicknamed objects such as the Cheesegrater and the Gherkin to the skyline, but by making space that responds to occupants and is aware of its connectivity to the ground? The city only works if it allows us to meet, mingle, and do business at ground and sky level. Replicating the ground as one moves upward into the sky means just that: making mixed-use on the vertical, with meeting points clearly identified as public realm – urban rooms for all to use – throughout the building.

KPF's 10 Hudson Yards development is an interesting case study. It makes Ginza's

mammoth projects look a bit puny. It will consist of 16 skyscrapers containing more than 12,700,000 square feet (1,180,000 m²) of new office, residential, and retail space. Of that, six million square feet (560,000 m²) is commercial office space; 750,000-square-foot (70,000 m²) retail; two levels of restaurants, cafes, ground-floor supermarket and bars, a hotel, a cultural space, about 5,000 residences, a 750-seat school, and 14 acres (5.7 ha) of public open space. They are cantilevering over the soon-to-be-extended High Line.

Whitlock describes the site as "essentially a high-rise campus. The elevating systems, stairwells and atria allow you to merge vertically rather than horizontally. If you can have a campus embedded in a building – embedded in a city – it is a much more vibrant environment than something sprawling." (Whitlock qtd. in McLachlan 2014)

And, to be fair, is there going to be much space left for generous, sprawling live / work campuses in our packed urban districts?

Floor plates

Another question to ask is why do businesses have to put all their workers in

Opposite: Star Wars vs Nato. Source: Mossessian & Partners

Bottom: Old City vs New City (Star Trek film 2009).

Source: Mossessian & Partners

one building, given that 5,000 staff now seems to be the corporate norm, and that is a pretty unwieldy number of people. Apple has grown to 12,000 and it seems that they all want to be holed up in the same space. Breaking up the staff into different buildings has had an impact on Apple's culture, say past and present employees, according to the Wall Street Journal. "One example is how the current cafeteria is perpetually crowded, they say, forcing those who work away from the main office to go elsewhere for lunch. That cuts down on the kind of spontaneous discussions that used to take place between colleagues in different divisions that led to some of the company's most inspired ideas" (Kane 2011).

So we are forced to the conclusion that megalopolises of the live / work space are going to continue to evolve, because that is where the creativity is unleashed and where people feel most comfortable. The trick is to look at the nature and culture of each specific site to make sure that these campuses / buildings work contextually and therefore continue to make their users happy. We need to take nature's cue in working out how to minimise pollution from and maximise longevity for our cities. A spaceship pollutes more and is hugely costly to build and it brings with it all the issues of unhealthy sterility that I mentioned before. Can we apply non-hermetic principles to our new tower cities, such as the natural cooling strategies of ancient Yemen's celebrated skyscraper cities, to buildings today? The UK government's Special Representative for Climate Change, Sir David King, has discussed how the tight-knit structure of settlements built in the Middle Ages and the "self-organized development" in South American favelas are "exemplars of a direction to go" in terms of the built environment. "People got around on foot, which meant that urban development provided a full range of facilities within a walkable distance," he said, pointing out that towns like Cambridge have already reverted to this model. "When I first arrived in Cambridge, people expected to

drive everywhere. Now, exactly the opposite is happening." (Merrick 2014)

So it sounds like the line between work and play is increasingly blurred. We want our work to be as interesting as our home life. But do we want to live in the office ...? Alarm bells again.

An extract from an astounding article published in the UK broadsheet The Daily Telegraph in the fall of last year about the employees at Google's Mountain View headquarters in California, under the headline Google staff shun homes and live in car park:

"Googlers get so many enviable perks – free hot meals, a laundry service and well-

equipped gyms – that some of them have decided that they will do away with their homes altogether and live at the office. Or just outside it, in the car park. Former employees took to question-and-answer website Quora to share their stories after an anonymous user asked who held the record for the longest time spent living at Google's headquarters in Mountain View, California. Shana Sweeney, who works in HR at Google, answered: 'Technically, you weren't supposed to live at the office, but people got around that by living in their cars in the parking lot of the office. I don't remember the guy's name but there was this one guy that had a camper parked in the parking lot near Crittenden and the story was that he slept in the camper and then did everything else in the office. He lived in the camper for 2-3 years. Showered





Left: Msheireb Downtown Doha P1B | Qatar, Mossessian Architecture. Source: Mossessian & Partners

Bottom: Prominent office space in Central London, Mossessian Architecture. Source: Mossessian & Partners

Msheireb Downtown Doha P1B | Qatar



at the gym. Did his laundry on campus. Ate every meal on campus he could. After the 2-3 years, he had saved up enough money to buy a house.' Matthew Weaver, who worked as a 'staff site ecologist,' chimed in to say that he lived in a camper van for a little over a year, from 2005 to 2006 and said it was 'excellent for my career'" (Sparkes 2014).

I've found another terrifying report about someone who lived rent-free in their office for 500 days and saved \$20,000. His team felt that he was more committed and productive than ever before. But surely this can't be a healthy solution.

So that evidence all feeds into the theories I have been talking through about simulating outside life as much as possible within the office walls. But let's hope that it doesn't encourage more of us to opt out of life outside the office completely. That really does seem to be "Against Nature" and I want to reiterate, that nature and culture should always take the lead in our construction of the built environment.

Which brings us neatly to the only possible concluding concept which is that, due to urban population explosion, we are going to have to continue to build up, but we must do it in a way that makes towers permeable to outside life, not sealed units. Back to the osmosis principle: we must be able to flow in and out of buildings, ramble through back streets and meet people in public spaces between buildings so that creative ideas can flow, business can get done. Doesn't have to be at a desk. And in a way, better if it isn't.

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