How Do You Spell "Architecture"?

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## The case for an emerging global language of design

There are just 88 keys on a piano, but there is no limit to the variety of music a skilled musician can play using those keys, from classical to country and everything in between. The alphabet has just 26 letters, yet it can be used to compose poetry and prose in multiple languages and styles, constrained only by the imagination of the writer. Perhaps most astonishing, the DNA code consists of just four basic instructions, A, C, G and T, which are the building blocks of all human life. Used in different combinations, just like the letters in the alphabet, those instructions are responsible for the "design and construction" of every human being who has ever lived — each of them made of identical ingredients, yet, at the same time, entirely unique.

And what about architecture? It has been around for thousands of years and is the primary language we use to tell stories about our collective past and future aspirations. Is there an "alphabet" or a "DNA code" for design? Should there be?

As people exert ever more influence over the natural environment, they have created a secondary "nesting" universe — the built environment — that has become ubiquitous in our lives.

The overwhelming majority of people spend far more time indoors than outdoors. It is primarily indoors where people are sheltered, fed, educated, do their work, sleep and reproduce. Every element of the built environment has been designed, manufactured and assembled in specific ways, and this includes materials we may think of as "natural," such as structural timber or bricks. This leads to an interesting question. We know the notes in the musical scale, and we know the letters of the alphabet, but are there "notes" that comprise a universal language of design? Does architecture have an inherent grammar or syntax?
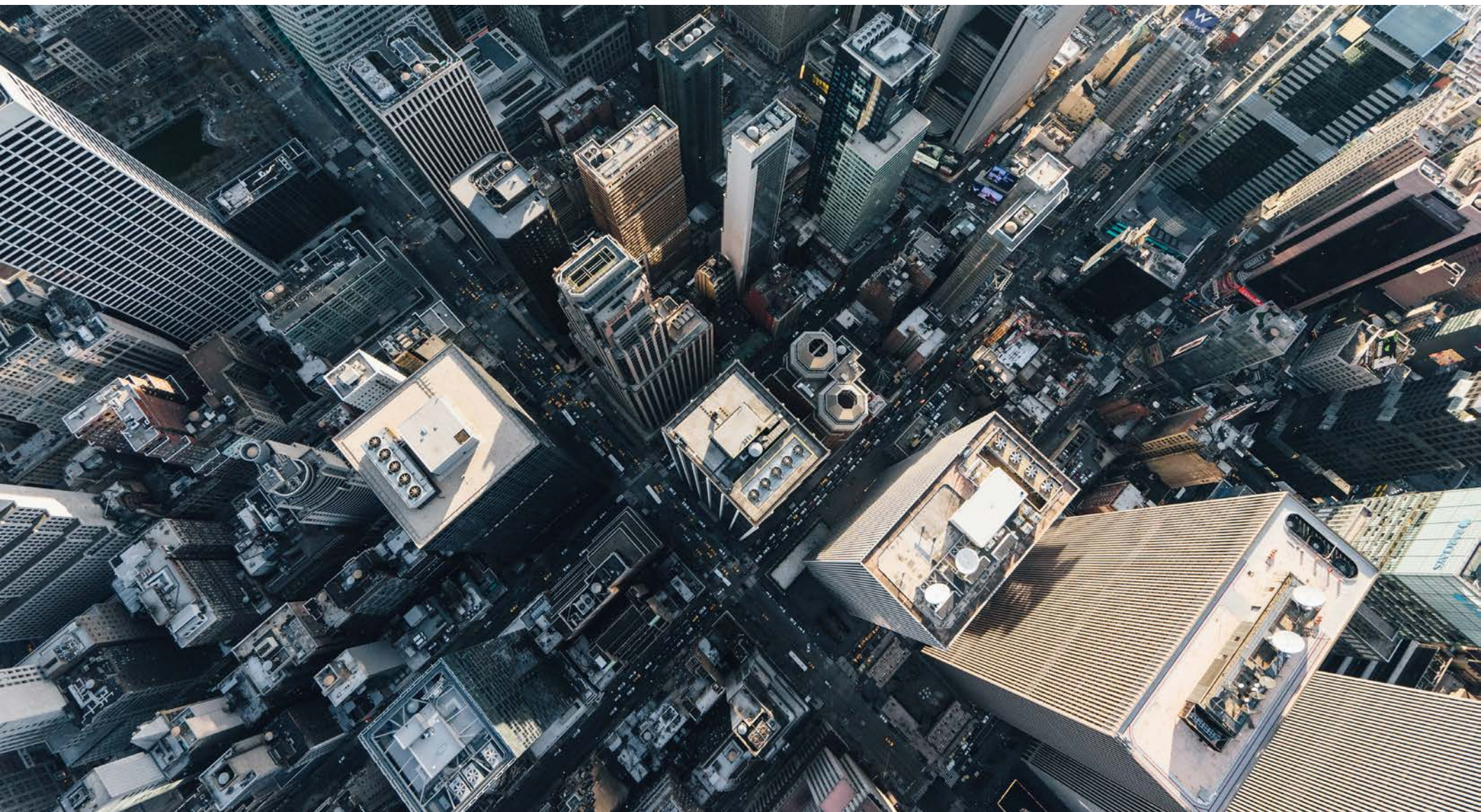
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As the world becomes increasingly urbanized, these are important questions. In ancient times, the design and construction of buildings was heavily dependent on localized conditions. People who lived near forests built with wood. Those who lived near quarries built with stone. In either case, the result of their labors reflected how they lived their lives and what their political, social and religious beliefs were. A Japanese shrine carefully crafted out of interlocking wood pieces would not have been possible in ancient Egypt; the materials, tools and technologies simply did not exist there.

Today's designers have the benefit of a much larger palette. Sophisticated supply chains make materials available on a global scale. Technologies such as elevators and air conditioning have become universal. The result is that an office building in Shanghai looks and functions very much like one in San Francisco, and they could very well have been designed by the same architect using materials from the very same factories. Thus, while we are seeing a great deal of creative form-making, the nuts and bolts of construction projects all over the world have become largely homogenous. Have we reached a point where a language of "world architecture" already exists?

That depends. The alphabet in France is the same as the one used in New Zealand, yet French literature has a distinctly recognizable artistic expression. The musical scale used by a blues guitarist is identical to that of a classical violinist, but the music could not be more different. Yet, it is often said that music is a universal language — understood by everyone everywhere. Could the same be said of architecture?

The world we live in is so interconnected that news from New Delhi seems as local to us as news from New York. Yes, there are still differences of culture, but an increasingly large percentage of design and construction projects (such as airports, hotels, office buildings and schools) employ materials, layout, functionality and craft that are essentially the same everywhere. Taking the music analogy a step further, have we reached the point where design can (or should) be "synthesized" using certain preset algorithms, similar to some modern music?

Looking at long-term trends, this seems increasingly likely. Consider the collective and cumulative effects of BIM modeling, 3D printing, prefabrication (both on and off the construction site), integrated project delivery, robotics, optimized site logistics and waste management, and the need for sustainability, and it's clear that there are powerful, unifying forces at work.

A good analogy is the automobile industry. All cars have the same basic components (engines, tires, seats, windows, tail-lights, etc.) and the industry is heavily regulated (just like design and construction), but there is still an astonishing array of styles and functions of motorized vehicles. The irony is that while becoming increasingly commoditized, the automobile industry has also become increasingly creative. If such customization and creativity are where the built environment is headed, future practice will impose new demands but also open new doors for the next generation of architects — all of whom will need to be fluent in the language of design.

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