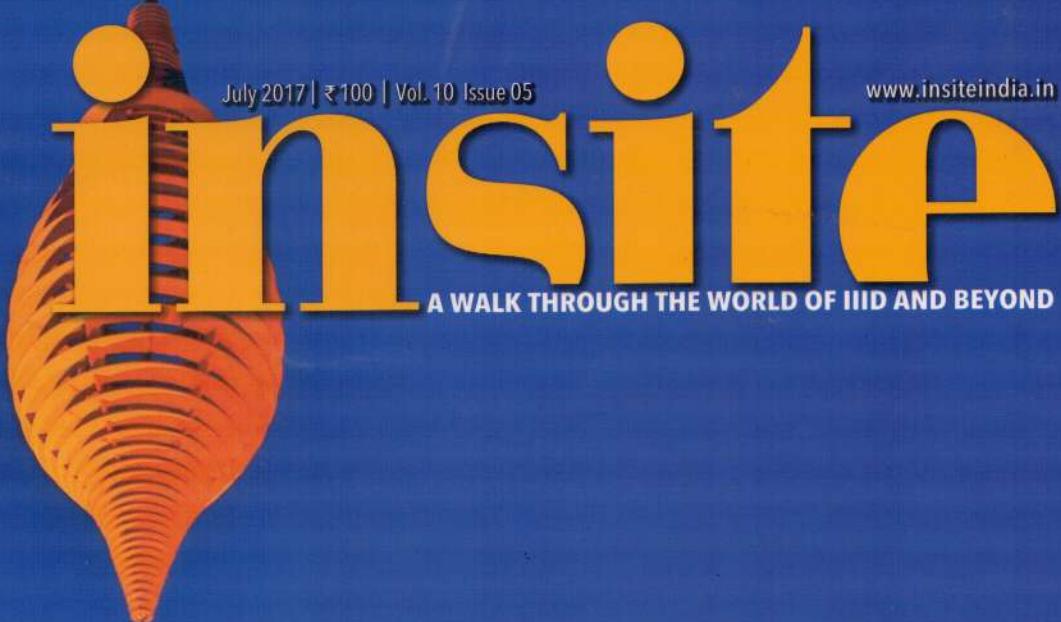




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# the mind & the machine

## A SYMPHONY IN DESIGN



Manish Gulati

*Reaching the depths of human imagination yet remains an uncharted feat. Brimming with ideas and for every idea, the human mind tends to create possible outcomes to manifest the virtual into reality. The increased complexity of forms in contemporary architecture combined with an extensive set of design constraints to achieve the deliverables brings Parametric designing into play. A tool that collates, analysis data, computes and creates an ease where one can explore a million possibilities to model the dynamics of design, mastered by designer and innovator Manish Gulati of M:OFA Studios.*

TEXT: Zohra Khan

PHOTOS COURTESY: M:OFA Studios

**“Starting with the basic stamp size sketch based on intuition, we add multiple layers through physical modelling and parametric simulations”**

**1-2.** Catenary curves were drawn used as parameters, to generate multiple possibilities of spatially exploring the fluidity of space created by tresses of free flowing hair for the Toni & Guy salon

Life or nature is not based on linear equations but, a set of complex algorithms coming together harmoniously to make it work like a fluid organism with unpredictable patterns. The more smartly we employ digitalisation into our architecture, the closer we get to the master designer, Nature. Human mind on the other hand with its unpredictable patterns and possibilities is one of the most complex computational devices available if used in the right context. There have been phenomenally elaborate works by architects Antonio Gaudi or Frank Lloyd Wright, which holds true to the adage that 'No Computer is stronger than the mind'. Having such strong intuitive thinking, they could arrive at design solutions based on a balance of intuition

and logic. Within the existing scenario, more often than not, we find architecture sidelined with maximum stress on technology. Designs have become solely an output of logical and mechanical reasoning.

"As a design practice, MOFA believes in creating efficient and optimised designs which follow a right balance between intuition and logic. Each project begins with understanding the brief in great depth. Sufficient data related to the project and the context is generated through an extensive research process." - Manish Gulati, Founding Partner, MOFA

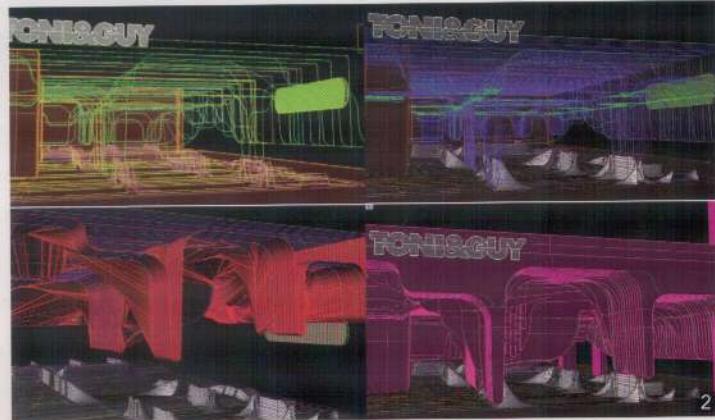
When we designed Toni & Guy salon in 2013, we began with exploring the fluidity of space created by tresses of free



1

flowing hair. Adding to that, layers of anthropometries, functionality, efficiency, financial sustainability we came up with a design. Hundreds of catenary curves were drawn used as parameters, to generate multiple possibilities of the elemental ideation that resulted in a seamlessly dynamic space.

While designing the office for a cricket IPL franchise, Delhi Daredevils in 2014, we did frame by frame analysis of multiple frames of batsmen hitting various strokes in relation to the frames generated by the swinging arms of the bowlers; all to study and understand the kinetic beauty of human form in motion. The idea that emerged from a kid's flipbook helped us understand the spline curves obtained from mapping the

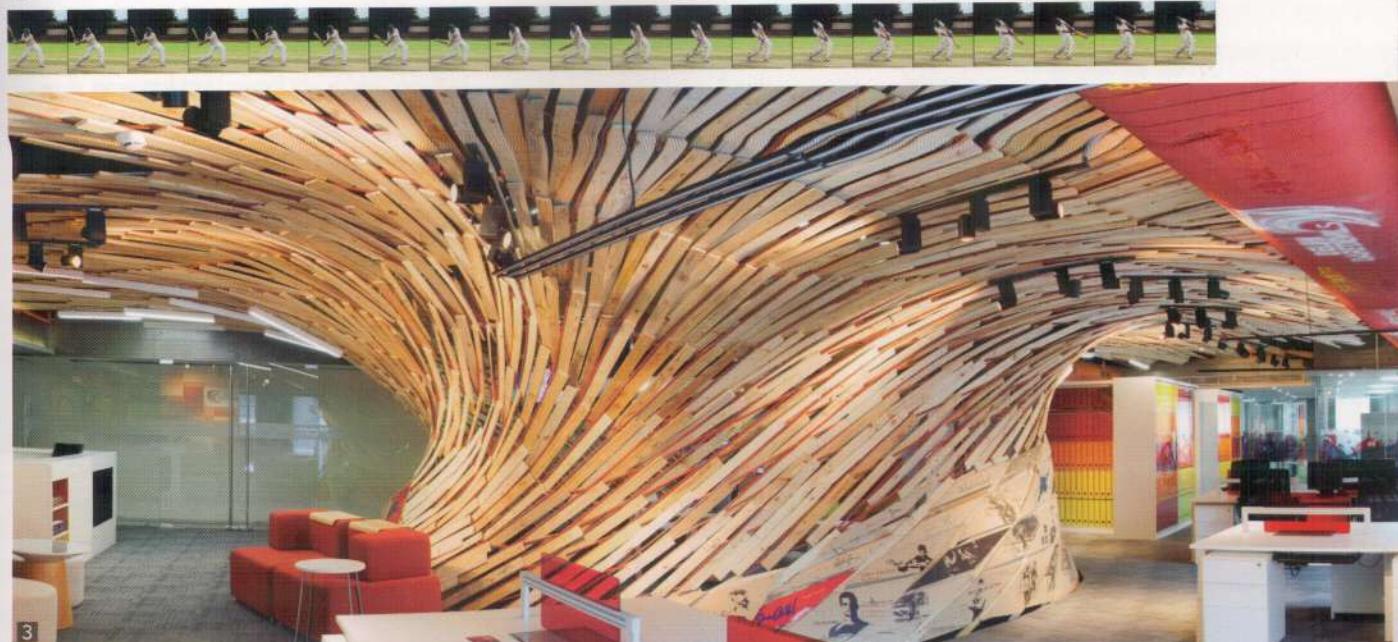


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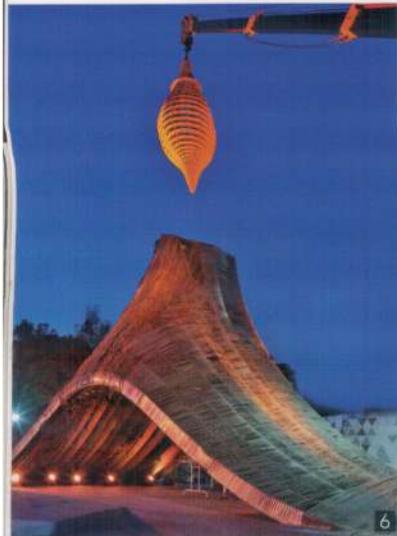
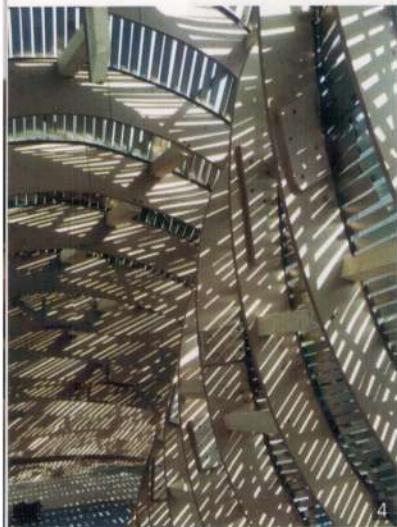
various synchronised movements, which further modelled digitally and simulated parametrically, helped us achieve the intended space using the right materials and expressions.

For us, computation and digital

**3.** Delhi Daredevils office was conceived of the spline curves obtained from mapping the various synchronised movements of a batsman hitting various strokes



3



**4-5.** Urbanscapes, an experiential landscape communicates the idea of lost trees of Delhi

**6.** Digitally fabricated internal ribs formed the basic skeleton and the external skin was created by manually welding strips of up cycled scrap steel

simulation are one of the tools that facilitate our designs. We create the internal shells using parametric simulations and reverse the equation on exteriors by inviting beautiful, natural variations of the unpredictable human mind as seen in Urbanscapes, the experiential landscape created for India Design ID 2017, New Delhi. Communicating the idea of lost trees of Delhi, the forms were derived through clay exploration and subsequently modelled through parametric optimisation. The internal ribs were digitally fabricated to achieve a basic skeleton of the structures. The external skin was however created by welding more than 77,000 strips of up cycled scrap steel executed by a series of craftsmen with their age-old wisdom and the algorithms generated by their minds.

Deploying manual techniques of construction instead of complete digital resolve was intended to create a right balance between the two. As a design practice ceaselessly working to bring sustainable and green solutions, neither do we rely solely on technology nor do we discard it. We choose to take our decisions at the right time. Human mind if used in the right place, with its age-old wisdom is the strongest supercomputer after all!

"The human mind and by extension the human skill set is potent as it in its every stroke has a sum total of multiple experiences and the beauty is that what the human mind learns and perceives from those experiences is not the same. A machine through a given set of simulations and experiences will all learn the same thing. In a human mind, the outcome is not random; it is a design and a very potent one at that, hence, the beauty of every single note/stroke/colour/emotion." – Tanushree Gulati, CEO, M:OFA. ●

*Manish Gulati is the Founding Partner and Principal Architect of M:OFA Studios, an architectural firm based in New Delhi. M:OFA under his leadership has won more than 50 International, National Design awards, special mentions and competitions. Their works are regularly published in all leading design journals and are counted amongst the 50 top firms of India. Being specialists in the design of Public Spaces and Institutional buildings, their works range from large stadiums, retail and hospitality architecture to Private Homes. Each project undertaken by the firm goes through exhaustive research and interactions to eventually derive intuitive spaces. Manish believes, through design, we can provide solutions to any problem in the world.*

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