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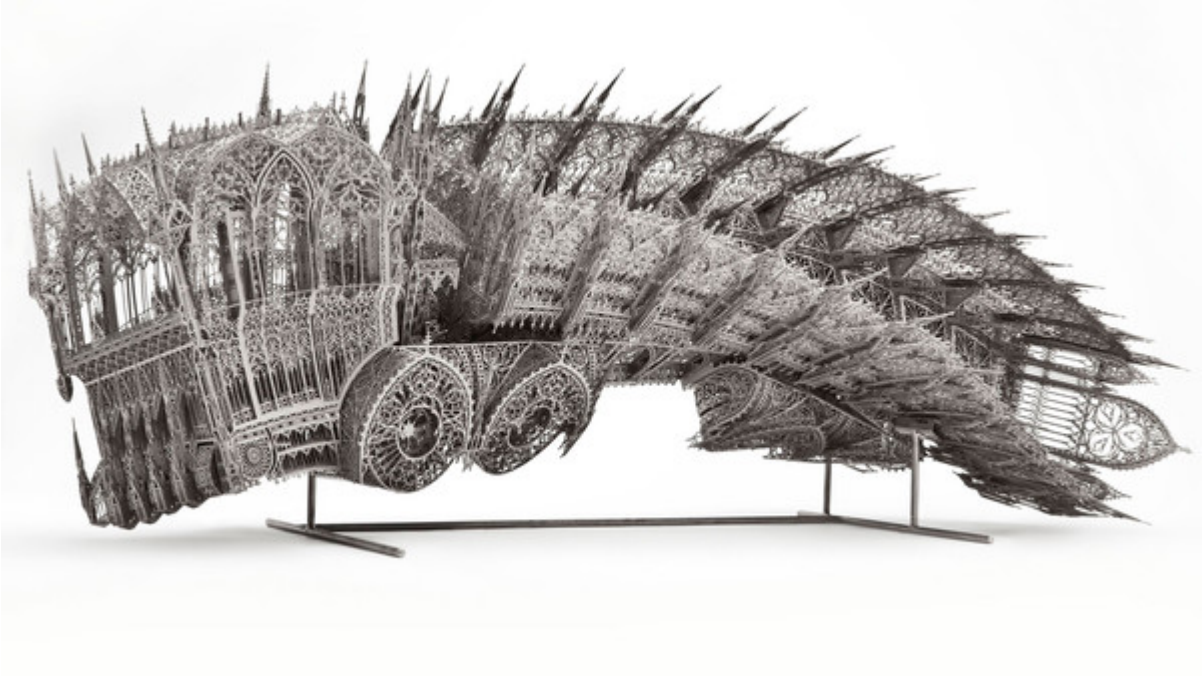
Out of Hand, Museum of Arts and Design, New York – review

By Ariella Budick

Digital fabrication opens new artistic possibilities – but the human touch remains essential



Wim Delvoye's 'Twisted Dump Truck'

The day may soon be at hand – or Out of Hand, as the title of the Museum of Arts and Design's new exhibition would have it – when a designer with a good eye and a smartphone can tap "Print" and have a factory down the block spit out a tapestry, an evening gown, a prosthetic limb, or even a complete cathedral. Not yet, though. The provocative but ultimately disappointing show is besotted with new tools: 3D printers, computer-guided milling machines, resin-squirting robots, body-scanning lasers – all sorts of gizmos that can shape whatever fabulously algorithmic forms the mind conceives. And yet, despite the title's implied vision of touchless art, digital fabrication still involves plenty of old-fashioned craftsmanship. A machine might produce a rough draft of a futuristic chair, but the way to achieve that final seamless techno-gloss is to spend weeks or months patching and sanding and buffing by hand.

In art, as in life, computers perform such miraculous quantities of drudgery that they make once impossible tasks suddenly doable. And, as anyone who has ever combed through a spam-clogged inbox knows, they also create new genres of time-devouring labour. The Japanese design firm Nendo outsourced to a 3D printer the job of stacking, cutting and gluing thousands of sheets of paper, but at least for now, only a human with a needle can painstakingly peel away the excess to reveal a little container carved out of all those pasted pages. And only a highly skilled craftsman can apply layers of urushi lacquer to give that paper box the quality of hand-carved wood.

Out of Hand offers a paean to the future, which means it won't be long before we're smiling at its "advanced" – which is to say, charmingly primitive – explorations of new toys. The engineer Behrokh Khoshnevis, based at the University of Southern California, envisages a day when robots mounted on gantries will squeeze out concrete like toothpaste to form the shells of buildings. The pitch is full of hopeful hypotheticals: low-cost but well-designed apartment towers could be assembled in days, the homeless could be housed, cities could sprout even faster than they already do.

In the meantime, a surfeit of optimism gives the exhibition the atmosphere of a highbrow trade show. Continuum Fashion's 3D-printed bikini, made of little nylon discs joined by plastic wires, intimates a future when every shopper can perform a self-body scan, design a garment with a swipe of a trackpad, send the result to a tabletop printer – and, voilà: a digitally bespoke wardrobe. For now, technology lags behind fantasy: the bathing suit looks clunky and uncomfortable, and its manufacture still depends on cumbersome and expensive machinery.

Perhaps it's not a coincidence that in this catalogue of tomorrows, the freshest work should come from artists with a strong allegiance to the past. Frank Stella uses the computer as just one more tool in a sculptor's workshop; his spiky, colourful tangles of epoxy resin, stainless steel tubing and lacquer emerge from the same sense of drama that has been driving him for decades. Richard Dupont presents the latest update of the classical nude, scanning his own body and translating the data into a series of rippling, distorted figures like escapees from a fire in a wax museum. These digitally diseased self-portraits are haunting because they evoke a technology gone horribly awry, implacably churning out an army of silent mutants.

With similarly ominous whimsy, Wim Delvoye leverages the phenomenal precision of laser cutters to reproduce gothic tracery in miniature and evoke ravishing disaster. His “Twisted Dump Truck” is the offspring of a medieval cathedral and a monster vehicle doing a gymnastic and possibly lethal leap. The torquing chassis, adorned with pointed arches and needling spires, is the nave, the cab is a chapel, the wheels rose windows. Delvoye conflates the advanced technologies of different periods and purposes – 12th-century religious architecture, the 20th-century automotive industry and 21st-century computational power – and sends it all hurtling over the guardrail.

There’s a show-offy quality to this piece, as there is to so much else in this cyber-virtuosic showcase. Many of the participants use 3D visualisation software to leap beyond simple Euclidean geometries into a world of rational complexity. A grid laid across a curving plane becomes the mouldable mesh that many sculptors and architects use as the basic ingredient of digital art. The fashion designer Michael Schmidt has turned a nylon latticework into a floor-length fishnet gown. (The process involved human fingers gluing on 12,000 Swarovski crystals, one by one.) The architect Ammar Eloueini enclosed the staircase of a Paris apartment in an irregular, organic-looking screen in which the perforations resemble colonies of amoebas. Behold the latest in decor clichés.

Technology gives designers a quick way to emulate the slow processes found in nature: the way winds whittle away at sandstone pinnacles, water carves out glimmering canyons, crystals gather into miraculous structures, and evolution yields the liquid machines we call living beings. Nature repeats its complex patterns at every scale: photograph a patch of mould through a microscope or take a satellite picture of a continent’s coastline, and you may not be able to tell them apart. Designers, fired by nature’s ingenuity, have tried emulating these fractal patterns in buildings, fabrics, and jewellery. The key is that computer-guided machinery can produce infinite variations almost as easily – and as cheaply – as identical modules. In architecture, this has important practical applications: the weathered steel wrapping of the Barclays Arena in Brooklyn was made from 12,000 panels, all of them different. “Out of Hand” includes more speculative projects, such as EZCT’s collection of 25 chairs, designed by something the group dismayingly describes as a “post-human” collaborative.

In the not too distant future, sophisticated digital design tools must inevitably fall into the hands of amateurs. This will trap artists and architects in what you might call the Garage Band paradox, named for the popular software that can turn every 10-year-old’s bunk bed into a professional recording studio. As elites keep developing specialised technologies and techniques, the masses keep co-opting them, eventually forcing the pros to revert to that old, low-tech standby: the imagination.

Until June 1, madmuseum.org