Exhibit Columbus: New Middles catalog essay

Small Acts of Future-Making
By Radha Mistry

Those of us who have had the privilege of living in the middle of the United States – my experience held mainly in my time as a young designer and student of Architecture in the Mississippi watershed city of New Orleans – have learned the falsities of casting coastal cities as the primary hubs of innovation, of cultural exchange, and connection. The lackluster comparison by geographies alone then inadvertently relegates cities in the middle of the country to *simply that* – middle cities. What this overlooks is the rich design legacy of cities in the heart of the United States that perpetuate what Andrew Blauvelt might refer to in his essay *Defuturing the Image of the Future*, as "small acts of future-making."

In fact, all acts of design, of inquiry, of discovery, of technological advancement are small acts of future-making. Columbus itself is a city steeped in architecture and manufacturing innovation, having garnered coveted works by architects like Eero and Eliel Saarinen, I.M. Pei, and Cesar Pelli, interspersed as they are amongst older, 19th century, gingerbread-like structures. Future Firm, a J. Irwin and Xenia Miller Prize recipient, even highlight in their prize-winning contribution "Midnight Palace" that 39% of the population of Columbus works in manufacturing, compared to 9% nationwide. It is clear that the city of Columbus has always enticed future-makers. Those who believed that we must not simply resign to the future happening to us.

The landscape of the future, however, is changing. Today, even for future-makers in cities like Columbus, perhaps the rate of change can feel too fast. Context changes too often. The world is noisy and hard to parse. We don't know what to make of our present, and consequently we don't know how to plan for a future fogged with uncertainty.

Globally, the middle class is growing faster than at any time in our history. In 1990, less than a quarter of the world's population earned enough to be classified as middle class. Today, that number has grown to almost half of the earth's citizens. Four hundred thousand people join the middle class each and every day, and they deserve, at minimum, what we all want: transportation, abundant food, and housing.

By 2050, two-thirds of us will live in cities. To house everyone we will need to build more buildings per day than we are currently building. This also means we will have to build the new world at the same time as we continue to adapt, retrofit, and rebuild the old to remedy our calcifying infrastructures: highways and hospitals, education and energy. Ten billion people are poised to want the same thing that we all want. More.

This is not necessarily then about what will define Columbus, but how Columbus will find ways to redefine its contribution to the wider global design discourse, and ultimately the act of future-making. There is no choice but to do this. To think about the planet and to expand our sense of what is meant by global citizenship. To reconcile a history of exclusion with a future that

ruthlessly begs the question “Who is this preferable for?” Amidst the changing landscape of the future, Columbus cannot sit in the middle, cocooned.

A not-so-simple reality persists. As we make more things for more people, we increase potentials for negative impact — unintended consequences of the things we design and produce. How can we balance building all we need while reducing negative impact? How might we ensure less negative impact on people? Less disruption to business, less harm to communities, and less creation of inequality?

In this era of increasing turbulence, we need something to hold on to. While the tension between scarcity and abundance (the threat of too much and too little) may present a great challenge, amidst this landscape, designers and makers have perhaps one of the greatest opportunities to guide us as mediators of our future environments, to make the future tangible, to provide some semblance of a path forward.

As has previously transpired along the rich and expansive landscapes of the Mississippi watershed, there are yet new terrains to explore, innovate within, and learn from in the Middle. New virtual spaces of interaction, new entities to collaborate with, new design and production languages to unearth, new infrastructures, new histories, new technologies. Each new thing however, can only offer a partial glimpse into a potential future. In these small acts of future-making who else comes into view? What kind of collective future emerges through the incarnation of millions of new things? Because it is impossible to know for certain, we often use fictional scenarios to unpack and prototype the potential impact of what is changing and what is not. The following *interlude* is therefore less a prediction of what is to come and more a provocation on what might be. A peak into the small acts of future-making we might encounter ten and twenty years into the future of architecture and design.

> ***In a new age of nourishment how might the built environment support the natural environment to feed people and planet?***
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> By the early 2030s the Earth was cooling again, and so were tensions between the young and the aging. An emerging generation of digital citizens entering mainstream politics had assigned greater market value to social and environmental concerns. Intergenerational reconciliation and not solely technological advancement, it turned out, was the gateway to a new age of nourishment. One marked by the reconfiguration of the world’s energy infrastructure and the redesign of power generation and consumption.
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> It began with the formation of the Global Young Futures Accord in 2028. Undeterred by geo-political factions and driven by the notion that economic viability relies on energy reliability by 2040 members of the accord had led 45% of our first home, planet Earth and its people towards true ecological regeneration.
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> Flash forward five years, and today in 2045 meat crops now no longer place a debilitating burden on water resources, and instead feature a process where the cultivation of such protein sources requires the extraction of vast amounts of CO2 from the atmosphere, very

little water, and even less capital. In many parts of the world, cows are simply relished for their production of milk, the beef variety has gone largely extinct.

It's been over fifteen years since the conception of the Young Futures Accord, and the delicate equilibrium between economies and ecologies has been left largely unperturbed. We've come away with novel approaches to anticipatory ecological development — a generative digital twin model for planetary resilience that adjusts as new factors arise and local constraints change over time. This adaptability means that the next generation of optimists no longer have to simply hope that actions taken in good faith actually do good for society. This is the new age of nourishment.

As virtual environments become more prevalent, how might the digital citizen navigate and learn from digital and Internet-based territories?

An entire territory was just commandeered by a global Army. As hard as it is to imagine, it was a long time in the making. It began during the Great Awakening of the early 2020s. Families were separated by distance and time, governments had mandated strict rules for how citizens may circulate beyond the bounds of their homes. The threat of disease was constant – veiled but looming. It twisted our hearts and braided our veins, and so humanity opted out of the physical realm and retreated with great fervor into the digital. Virtual worlds blossomed. We saw virtual funerals and protests materialize in video game environments. And, a global army of Korean Pop superfans, yes K-pop superfans, descended from all corners of the Internet and annexed a hashtag, rendering it all but unusable to white supremacists who had hoped to assert greater power and influence.

Over the course of the next decade, this initial act of virtual combat was followed by a barrage of others ranging from political activism to digital infrastructure subversion. It opened the door to new policy structures and auteurs who were incentivized by technological agility and better equipped to navigate digital and Internet-based territories born of the 21st century. These newly discovered territories for congregation, for connection and for commerce are now powered by a planetary nervous system; a large-scale distributed, open and participatory insights platform that provides real-time social mining services as a public good.

What was once a fascinating fluke from decades before, bred out of necessity – has now rendered itself into every aspect of the way we learn, connect, and exchange value. Our digital citizenship at odds with our physical sense of identity and belonging. These governed terrains have virtually become *the* territories of connection and conflict.

How might human-machine collaboration usher in a new model for manufacturing in the middle?

A small group of workers scuttle along in repetitive motion. One holds two steel members in place, while another solders them together, applying weld beads with

inconceivable precision. A third worker then assesses the joinery to ensure there are no inconsistencies, before stacking the components neatly over in a section just along the edge of the fluorescent yellow box within which their task area is temporarily bound. Bearing witness to this choreographed chaos is mesmerizing. Oscillating entities. They move around in unison, but in their own curved functions. These workers are well-trained, highly skilled, and incredibly efficient. Their grip is always steady, their vision has been augmented to allow for virtual data overlays to guide physical tasks in real-time, and their command of the tools and large machinery around them, breathtaking.

Occasionally, a silver-haired man saunters over to check on the quality of assembly being produced by the group. The man appears to be the team's supervisor. He also appears to be relatively unbothered, as if checking on the workers is a superfluous formality. Wanted but unneeded.

In a growing movement of micro-factories popping up around the Rust Belt, this co-bot team – hybrid teams composed of robots partnering with humans – is nothing new in 2032. The flexible and adaptive factories in which these teams operate also have a fraction of the footprint of their cumbrous predecessors. Hardware and software is easily configured by uploading a dataset, so a facility isn't restricted to a single product or output.

This is the heart of the Rust Road Initiative. Back in 2018, the departures of large company manufacturing headquarters in other parts of the Midwest seemed to indicate the fate of the Middle as a whole. And by the 2020s when seventy percent of the parts that were being made were never even used, we were losing the efficiencies of technological advancement within inefficient supply chains. To combat this, the Rust Road Initiative called for a series of new construction projects to better connect logistics systems and the flow of ideas and services between emerging micro-factories and their host cities in the Middle's most hard-hit region. The plan also proposed a funding model targeting many of the large corporations who had originally begun divesting from small town operations. Taking from other industries moving away from models that required the ownership of products and towards the usership of services, the solution seemed clear –*why not leverage a manufacturing-as-a-service model?*

The ever-expanding scheme now boasts mass implementation of smart infrastructure, the use of emerging technologies like robotics for construction, and a Configurable Micro-factory Audit to assess which former facilities could be repurposed as part of the new manufactory-service-network. Corporations wouldn't have to commit to a single site or town. For a fee, they would have access to the entire Rust Road network, and as demand for particular products shifted, so could the nature of the manufacturing process. A new model for manufacturing, it turns out, needed reconfiguration and not relinquishment.

These new terrains are not so foreign in some ways, especially not for a middle city like Columbus, perfectly poised with the legacy, the infrastructure and most importantly the instinct to mediate the changing landscape of our collective futures. Architecture and the design of cities play an immense role in our resilience as a society to better navigate change. The built

environment itself is the palimpsestic aggregation of future artifacts. New Orleans – a city with a tumultuous relationship with water – is just one case-study demonstrating the ability of design to aid citizens in navigating change successfully or unsuccessfully. One hundred years before that day in 2005 when Hurricane Katrina made landfall along the Gulf Coast, when architects were planting their visions for the city, did they foresee such a disaster? How might their schemes have been altered to adapt to or mitigate against the potential negative impacts of more frequent and intense natural disasters?

Because cities are inherited, we have an obligation to those who come after to build better, to be designers and makers who engage in small acts of future making that are, in the words of the Director of Exhibit Columbus Anne Surak, "locally responsive and globally engaged." Perhaps then some semblance of a path forward manifests in that space between our critical uncertainties today and our opportunities for tomorrow where we ask "*what do I hope to leave behind and for whom?"*