AMERICAN DREAMERS

OPTIMISTS, MAVERICKS, AND MAD INVENTORS SHARE THEIR DREAMS FOR BRIGHTER FUTURES

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SHARP/STUFF

W+K TOMORROW

American Dreamers
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"My new American Dream is the hope that my old American dream—the one that I was lucky enough to live myself—will continue to expand and be available to all who seek it."

— ARIANNA HUFFINGTON

FOREWORD

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Nostalgia kick-started this project.

It felt that, as a country, as people, we had forgotten how to dream. When we looked back at earlier decades, we saw ambitious, shiny dreams full of rocket packs, equality, and cloud cities. Social progress met technological evolution, supercharged by optimism and the belief that a better tomorrow for future generations was being created.

We wondered how we could regain that optimism.

We wondered if there were still dreamers out there.

And while the American Dream might have taken a hit, we found plenty of American dreamers.

In the place of one dream that guides us all, we discovered many: created by inventors and prophets, designers and poets, artists and entrepreneurs who believe in brighter futures. *American Dreamers* brings these visionaries together: Dr. Zubrin reminds us why humans must travel to Mars; Cindy Gallop offers a real world alternative to porn; Stan Lee calls for heroes; and Arianna Huffington banishes old media gods. From cooking to space travel, from sex to running, this is a mixture of projects, schemes and blueprints for tomorrow.

This collection of over fifty dreams is just the start. We're continuing to talk to dreamers and collect dreams. If you find some in here that inspire you, let us know. If you know other dreamers who should be here, tell us their name. And of course, share your dreams with us.

Those cloud cities and rocket packs aren't as far away as they might seem.

"One never knows what will change the world."

—STAN LEE

DREAMERS

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NADER TEHRANI

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Nader is the principal of NADAAA, a design, architecture, urban design, and industrial design firm in Boston, Massachusetts. He is the founding principal of Office dA, which he headed for twenty-five years. Nader also heads of the School of Architecture at MIT and for the last twenty years has taught at MIT, Harvard, and RISD.

nadaaa.com

CHANGING THE FOUNDATION
OF OUR KNOWLEDGE

What is the current state of design?

One of the most radical things that has happened is the Internet. It has taken a discipline that had a rarified and highly tuned knowledge base and made it accessible to a much vaster population. The education that may have once only been accessible to people at Princeton, Harvard, and MIT is now something that is affordable and accessible to people in all corners of the world, from Chile to Iran to China. Design is more accessible. Design becomes more democratic. Design can be afforded, implemented, and intuited by much larger populations.

We have also seen a shift in production. If modernism was defined by mass production, digital fabrication affords mass customization. The kinds of forms, construction protocols and configurations that are possible geometrically and affordably are the result of what computing has been able to render. These two things, together, are changing the landscape altogether. Both the intellectual landscape as well as the physical landscape.

How do we build for the future?

There are some things that have already changed and I don't think the discipline has caught up with them. In the old days we used to think of cities as organisms that evolved over decades or centuries. Now, if you look at places like Shenzhen, among other Chinese cities that have evolved, they sprouted up out of a village and gained millions in population over twenty years. This is unprecedented and there are few techniques and urban design protocols that have prepared neither the academy or profession for that. This is a work in progress.

At another level, the kind of research being done at MIT is formidable. For instance, in our course, How to Make (Almost) Anything, in which digital fabrication and interactive technologies are being taught, we create a more responsive environment. You do not just exist in space. Architecture is another protagonist. There is a call and response in relation to your environment. At the most mundane level, heating is not just something you turn on and off, it knows when to turn on and off in relation to your body's presence.

In material sciences we are investigating materials that at the molecular level—the nano level—are changing in their behavior. Things that have no insulation quality will now gain a much larger insulation potential just because of their makeup. The ways in which concrete or metal behave will be

YOU DO NOT JUST EXIST IN SPACE. ARCHITECTURE IS ANOTHER PROTAGONIST. THERE IS A CALL AND RESPONSE IN RELATION TO YOUR ENVIRONMENT.

different to how they behave today. The way we can control the density of materials is also important because if you look at the composition of a beam it may have different properties at the top versus the middle. The gradient by which you can begin to manipulate structural systems will optimize them, make them more efficient, save money, and be more sustainable. These are just a few examples in which you get to control the parameters of the elements that go into design. Think about how many materials and resources are wasted per building. If you look at the major wastage of resources in the world, the construction industry eats up a good portion of that. The kind of research that we do at the molecular level of materials can contribute a great deal to that change.

What does the city of the future look like? Will we use buildings differently?

The question of how things look versus how they perform is an age-old architectural predicament. If it has proven anything it is that there is a complete divorce between how things look and how things work. Digital fabrication affords, with the same economy, the ability to build almost anything, any variable of geometry. You should see the way they have optimized the way they make Doric columns and Ionic columns. They do it through CNC fabrication. We know that the means by which certain freedoms have been created through digital fabrication do not produce future looking forms. They deal with the very substance of history as much as they do with forms of innovation invoked today or maybe ten years from now.

THERE IS A COMPLETE DIVORCE BETWEEN HOW THINGS LOOK AND HOW THINGS WORK.

When you get into the question of performance however, we have a lot to look forward to. When you look at both how we are operating within the academy as well as in practice, the lines between design, architecture, engineering, industrial design, product design, and urban design have all

been completely blurred. Much of this is due to the way in which each of these disciplines has begun to impact each other. A lot also has to do with the environment we live in right now. Not only is the economy strained but the natural resources of the world are cornering us so that we need to ask the questions, "How do we get things to work? How do we establish reciprocity between design and what it gives back?" To that end, my sense is that we will be able to have a much clearer understanding of the repercussions and performance of piece or artifact that we design in the future. That will be done on a simulation basis. If the computer of the last twenty years has been dedicated to constructing form and imaging in different ways, the computer of today is dedicated to managing fabrication protocols, and the computer of tomorrow will anticipate by simulation all of the repercussions: structural, environmental, resources, and so forth. Effectively, every platform and software is heading in this direction. Not because they are a consultancy to design but they will become the very substance of design itself.

THE COMPUTER OF TOMORROW WILL ANTICIPATE BY SIMULATION ALL OF THE REPERCUSSIONS: STRUCTURAL, ENVIRONMENTAL, RESOURCES, AND SO FORTH.

What are the issues facing America today regarding our cities and design? How will these be solved?

The American city of the last half century or more, since World War II, has been centered around the expansion of the city through the suburban condition. Even the exam you take to become a registered architect is founded on examples that deal with the suburban condition way before they do the city. Suburban sprawl has demonstrated all of the ways it requires and is dependent on fuel, transportation, infrastructure, and a great waste of resources. One of the issues that needs to be dealt with, not purely at a design level, but at a political and administrative level, is how we can get Washington, D.C. and the states to work around agendas of city making. We need
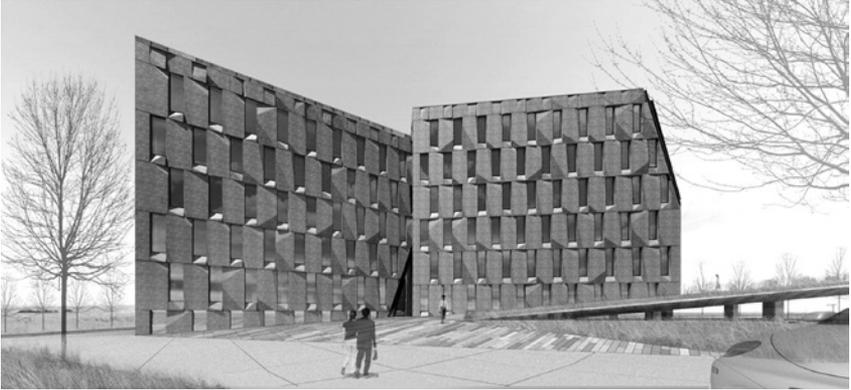
Courtesy of NADAAA

to create zonings and codes that offer alternatives to sprawl by densifying the existing suburbs, creating new centers (that do not require transportation to a central hub), and that innovate with existing conditions.

The second issue is that we need to begin imagining how federal funds, now going into highways and transportation networks, which are of no public value outside of transport, may be imbued with a public function outside of just transportation. Right now there are no monies put into the design of the public space, and no resources put into infrastructure as a public mandate. The city of the future may tap into this potential to transform at a public level—this after decades of privatization in the United States.

My sense is that beyond the grassroots level of what we do in our studios and academies, this is one big political obstacle that awaits us. The only other way I can imagine it changing is to alter the structure of patronage. That is not a question of educating architects further but is a matter of educating the clients. The only way to do that is by introducing design, the arts, and the city as curricular agendas at the beginning of our education. The city is the foundation of our knowledge and our societal platforms. How is that left out of the curriculum?

If you had one area to focus on, and in so doing change the world, what would it be? What is your progressive soapbox?

That is a big question. I will speak to it from the perspective of what I do on a daily basis. There is no limit to design and there is no limit to innovation. The scales of design have an impact on society at every level whether you are designing silverware, a chair, a room, a house, an institution, or a piece of infrastructure that gets you from here to there. The way in which design culture can impact and alter the world is

THE CITY IS THE FOUNDATION OF OUR KNOWLEDGE AND OUR SOCIETAL PLATFORMS, HOW IS THAT LEFT OUT OF CURRICULUM.

boundless. It seems that, beyond myself, who operates in all of these areas, we are really invested in design as a way of producing new forms of knowledge and a transformation of culture. This is how we can impact the way communities work. Design is everywhere.

And so, we need to construct patronage in ways that can take advantage of what design thinking brings to society. Design thinking is not built on linear knowledge. It is rooted in lateral thinking—making unexpected connections you would never expect—and built on the risk to fail. Design thinking is based on making the unexpected. Bringing design thinking back into the core of education is an important factor.

The integration of design into education and patronage as a central pivoting point of politics is important. Look at how public funding has been chipped away over the years. This is where design thinking can do the most for culture. Design has ways of integrating diverse ways of thinking. Architecture, for instance, is not a precise discipline. When you are an architect you have to know about engineering, environmental engineering, space planning, urbanism, material properties, and you have to know a little bit about a great range of disciplines. It is also one of the unique forms of production that has the potential of producing new forms of knowledge based on speculation, experimentation, and risk.

Does design have the power to change the world or is it just a by-product?

Neither is right or wrong. We are programmed and led by a certain form of patronage, we learn from culture. But there are also key moments in design that produce new forms of knowledge and transform culture. No, I don't think that design or architecture can end world hunger but the ways in which we plan cities, create transportation, and change

Courtesy of NADAAA

our environment all have massive impacts on the way we use resources. They impact how we produce better environments for people to live in.

As much as everything has changed, it is amazing how much does not change. A lot of sustainable strategies that people adopt today are not only high tech but are absolutely low tech. With all of the most sophisticated solutions of how to "green up" a building, there is nothing like opening a window to circulate the air. Daylighting is the same thing. We have some of the most sophisticated lighting devices, some of which are very expensive and are very green, but that does not compete with daylighting.

There are cultural questions that need to be brought to the table and be able to operate within many paradigms. They need to operate between the traditional city, the modern city, the suburb, and the city of the future in ways that leverage smart thinking as a basis for flexibility. There are many ways to be flexible, but part of it is to not take on a monocular vision towards this or that technology.

THE WAYS IN WHICH WE PLAN CITIES, CREATE TRANSPORTATION, AND CHANGE OUR ENVIRONMENT ALL HAVE MASSIVE IMPACTS ON THE WAY WE USE RESOURCES.
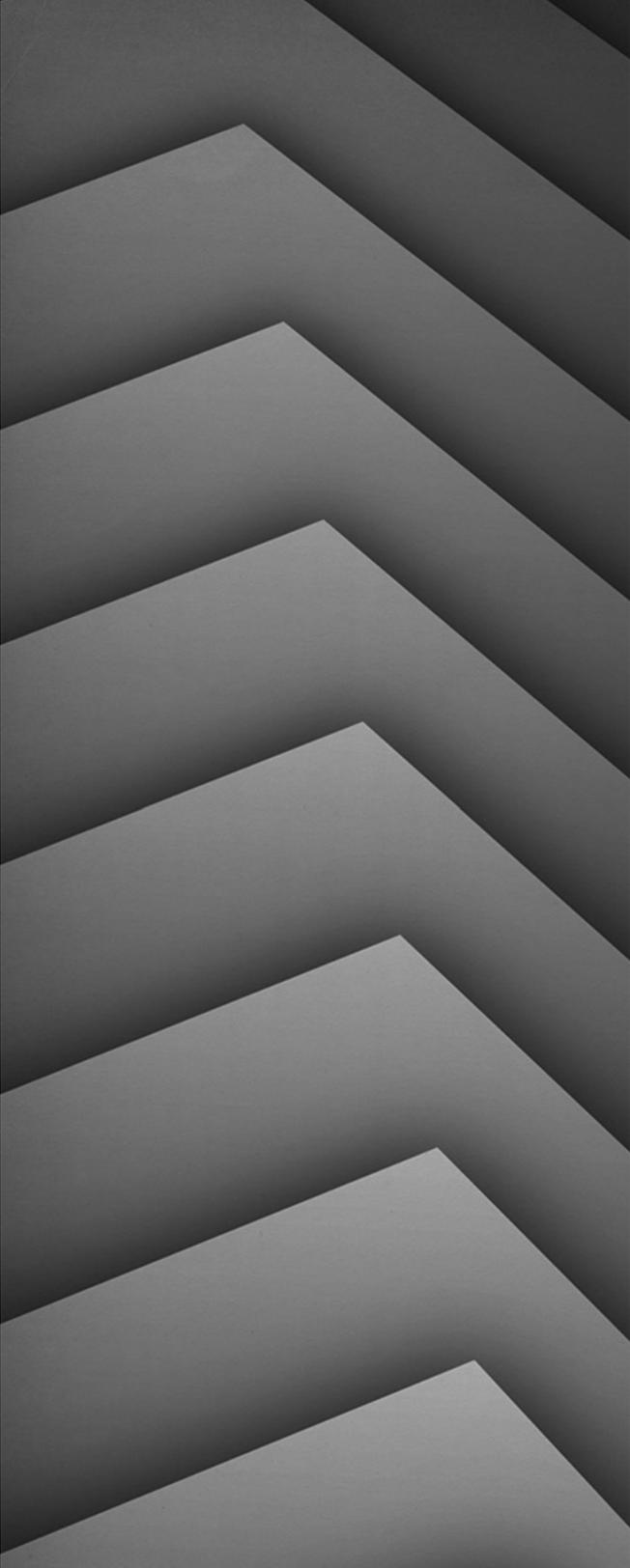
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"You might say that the spirit of thoughtful optimism has infused some of our greatest achievements. The Internet and the Apollo missions were born out of nuclear anxieties and Cold War paranoia but transformed those impulses into startling victories for the species. They lit up the globe, igniting the imaginations of billions."

— ED FINN
Director of Arizona State's Center
for Science and the Imagination

American Dreamers is for those who believe in brighter futures. Gathering the optimists, mavericks, and mad inventors who believe we can create a better world, *American Dreamers* is a guidebook for optimism and an art book for inspiration.

Featuring dreams from: Arianna Huffington, Stan Lee, Jamie Hyneman and Adam Savage, John Hockenberry, Kurt Andersen, Yul Kwon, Cindy Gallop, Aaron Koblin, Chris Anderson, and more.

Change starts with dreaming and dreaming starts here.

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