SHAPE SHIFTER: (Clockwise from left) A municipal project in Spain by Foster and Partners (2011) that features a transformable ceiling, which regulates light and heat; the designer; Emergent Surface, an installation at MoMA that typifies the surfaces possible with Hoberman’s technology; the Rapidly Deployable Shelter, an expandable tent with military and humanitarian applications that won a 2008 IDEA award

a changed man
With an artist’s eye, this multifaceted wizard and his eponymous firm make the theoretical possible and the conceptual complete

It’s been a big year for engineer-cum-designer Chuck Hoberman, who continues to push design’s envelope with morphing walls and collapsible structures. The modern-day da Vinci won two IDEA awards, took part in MoMA’s “Design and the Elastic Mind” and is working with Norman Foster on numerous projects.

When you started your firm 20 years ago, did you anticipate the technologies available today? I had a broad notion about building what I called “unfolding structures,” which now I call “transformable design.” It’s all about physical transformation, about building things that change size, shape or other physical properties. The potential of that transformable concept was a bit blurry, but, as an artist, I’ve always been comfortable with a certain level of ambiguity and blurred boundaries. I was excited by my designs’ potential without knowing what they would do or how they could be realized.

Considering how far technology has come, can you guess where we’ll be in another 20 years? I’m by no means a futurist, but the one thing I can say with confidence is that physical space is catching up with the digital realm. Our experience with the built environment is moving into radically transformative directions. It’s the logical next step. One reason is that in order to achieve goals of sustainability, buildings need to adapt and respond to the environment and the user. Buildings are becoming self-optimizing, time-based entities. The model of a building as a static shell that mediates between dynamic environment and dynamic user is disappearing. The building is becoming the dynamic mediation between the two.

Your projects appear mathematical, but some of your latest ones use themes of biomimicry. Has your work evolved to something living and warm? From day one, the transformable pieces I’ve built have always had an organic quality to them. I think it’s a deep connection with the way that my structures grow, change and evolve and the way nature does, too. It’s different, yet the echoes are profound. I was more of an engineer and mathematician back then, but I consider myself more of a designer now. I’m interested in function and the way my work is perceived and serves people. Most people aren’t enamored by math and engineering; they respond to beauty and work that impacts their lives. That’s what design is all about.

There’s been a lot of negative criticism lately about American design and the dearth of innovation when compared to Europe. Are things really that bad? Speaking specifically of architecture, the firms we partner with overseas do more international work than their American counterparts. That’s significant because when you work across cultural boundaries, the creative teams are more heterogeneous, leading to richer collaborations. On the other hand, the United States is the preeminent leader in creative computer technologies: entertainment, gaming and interactive design. And as somebody who’s engaged with those fields as much as other traditional areas of design, I’m not sure the talent is any less, but perhaps it’s finding an outlet in different areas.

You studied sculpture before earning a degree in engineering. Do you still consider yourself an artist? It changes over time. In the end, as somebody who took a degree in fine arts and took a second in engineering, they really are polar opposites. One is a kind of development of a sensibility, and one is absorbing a lot of information. And that sensibility of an artist – I’ve never lost. DR