



A landscape architecture student at UC Berkeley's College of Environmental Design documents his studio space in Wurster Hall. Photograph by John Lambert Pearson, via Flickr.

FROM THE EDITOR'S DESKTOP

California needs a major software update. We're pretty much stuck with the hardware that's made life possible here for millions of people: the tremendous water and power infrastructure, freeways and roads, cities, towns, suburbs, and farms. Most of that hardware was built in the twentieth century, though, and it's increasingly clear it's not optimal for the challenges of the twenty-first century.

So there's a lot of tinkering going on to adapt the way we think about and operate these systems. That's software. This creative recoding runs through this issue of *Boom*. You can see it in the changes coming to water and energy management, planning and zoning, housing and transportation, agriculture and open space, from urban neighborhoods to our international border, from Oroville Dam in the north to Otay Mesa in the south.

All of this is well and good. But it does make me wonder if it's enough. There is a part of me—the editor part, no doubt—that wants to say, “Let's just start over.” Rather than trying to fix this mess, let's just start again from the beginning and write some new code suited for operating California today and creating the future we'd like to live in.

But that's where this metaphor breaks down. There is no one California with a single operating system upon which this new code could run. This new code is being written, tested, and run in millions of homes, thousands of businesses, schools, nonprofit organizations, and hundreds of governments throughout the state. It's code made of laws, rules, and regulations, but it's made of culture, art, and daily life, too.

Still, will we be able to tinker our way through the grand challenges of the twenty-first century? Climate change comes first to mind. But our mounting crisis in the affordability of housing follows close behind. And then there's the gridlock in

transportation, with roads and highways ever more clogged, while mass-transit ridership declines, and a high-speed rail system that might better connect California someday is still having trouble even laying track.

Or will all the tinkering, all the kludges, all the workarounds—as clever and beautiful and right as they are—inevitably add up to what software engineers elegantly call a “hairball,” a concatenation of software products, processes, bugs, and bug fixes that ultimately creates as many problems as it solves and wastes as much time and money as it saves?

In other words, are we stuck inside a “wicked problem”—a California designed for one era that is ceasing to work in a new era—with no way out that doesn’t create additional problems?

A “wicked problem” doesn’t mean it’s evil. The term was coined in the 1960s by Horst Rittel, a professor of the science of design at the University of California, Berkeley’s departments of architecture and city and regional planning in the College of Environmental Design. Rittel and his colleague Melvin Webber explained the nature of wicked problems in a seminal article entitled “Dilemmas in a General Theory of Planning” in the journal *Policy Sciences* in 1973:

“The search for scientific bases for confronting problems of social policy is bound to fail because of the nature of these problems. . . . Policy problems cannot be definitively described. Moreover, in a pluralistic society there is nothing like the indisputable public good; there is no objective definition of equity; policies that respond to social problems cannot be meaningfully correct or false; and it makes no sense to talk about ‘optimal solutions’ to these problems. . . . Even worse, there are no solutions in the sense of definitive answers.”

With wicked problems, the solution depends not just on how the problem is framed, but the definition of the problem also depends on the solution. People often have radically different worldviews and frames for understanding wicked problems. Factors that might constrain a wicked problem as well as resources to solve it change over time. And wicked problems are never solved definitively.

So here’s to muddling through!

After working on this issue, I can think of no place better suited to do that than California.

And I’m grateful to have such a creative crew to think with in this issue, which we pulled together with guest editor Colin Marshall, who opened up his own wide-ranging network to us and to you, our readers.

Yours truly,
Jon Christensen