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Three Takes on Responding to Crisis as Berkeley's CED Turns 50

By Jake Wegmann

The University of California, Berkeley's College of Environmental Design (CED) held four lectures during the first week of February 2010 to commemorate its fiftieth anniversary. CED, at its inception, became the first school in the US to combine the disciplines of architecture, landscape architecture, and city planning into one college. I attended three of the four lectures, finding them to be edifying and thought-provoking and, moreover, directly related to the theme of "crisis" that we are exploring here in BPJ Volume 23. (I was unable to attend the fourth lecture by Barbara Maria Stafford.)

Each of the three speakers that I watched responded to the challenge posed by CED Dean Jennifer Wolch and the other organizers: what is the role of CED in addressing the layered crises that have emerged at this historical moment? In response to this question, each lecturer addressed a crisis of a different scale, and proposed a bold set of solutions with the scope to match it.

In the first lecture, Oxford economist Paul Collier, author of the influential international development tract *The Bottom Billion*, addressed a crisis affecting a specific place as a result of a sudden calamity: how to cope with the aftermath of the devastating earthquake that had struck Port-au-Prince, Haiti only weeks before. Dr. Collier, having previously been to Port-au-Prince, has swiftly emerged as one of the principal advisors to the Haitian government, United Nations, and entities involved in recovery and eventual reconstruction. Catering to his CED audience, he engaged with the on-the-ground realities of Haiti and emphasized that the interdisciplinary skills of the sort nurtured by CED—if we can only breach the disciplinary silos that divide our disciplines—will be desperately needed if a lasting recovery is to take hold in the years to come. He then proceeded to make a series of recommendations.

His first recommendation was that rebuilding efforts must be swift. Dr. Collier spoke of a window of time measured in mere months in which substantial efforts to re-house the displaced population must occur. Otherwise, as past experience with disasters elsewhere has shown, the tent settlements will almost inevitably transform into quasi-permanent encampments, leaving their inhabitants in a state of limbo with devastating

long-term humanitarian, economic and political consequences. Second, Haiti must quickly build up its economic development efforts even as it labors to provide a modicum of comfortable living environments for its citizens. It already has a flourishing apparel manufacturing sector, along with great potential for the expansion of highly underdeveloped agricultural and tourism sectors, given Haiti's proximity to the United States. As Collier reinforced, Haitian citizens must have jobs even as they struggle to rebuild their shattered communities and mourn the loss of loved ones.

Dr. Collier's most provocative suggestion was to advocate forcefully for the dispersion of the majority of the population of Port-au-Prince to other parts of Haiti. He noted that rapid informal urbanization overwhelmed the capital city in the decades prior to the earthquake, while rural areas and particularly secondary cities were starved of prime working age adults. Meanwhile, Port-au-Prince suffers from the unavoidable geographic reality of extreme vulnerability to earthquakes and hurricanes to a far greater degree than any other large conurbation in the country. To me, all of this was redolent of the arguments to relocate New Orleans in the wake of Hurricane Katrina, which I find insupportable because of the Crescent City's unsurpassed importance to American cultural life and memory. But Dr. Collier's line of reasoning forced me to at least reconsider my initial reaction to his proposal.

The keynote speaker, Manuel Castells, an acclaimed professor who splits his time between the University of Southern California and the Open University of Catalonia in Barcelona, addressed an even larger-scale crisis than a devastating earthquake: the disintegration of a model of American suburbanization that has been in place since the New Deal Era of the 1930s. As we have seen, the languorous slumber of the American Dream was abruptly ended with the credit crisis of 2008 and the associated unwinding of the housing bubble. Suddenly, the calculus of building ever-larger houses, reached via ever-longer automobile commutes—even as older communities were abandoned—no longer added up.

It is certainly true that planners and other observers of the American scene have lambasted the sociological anomie, environmental degradation and aesthetic impoverishment of large-scale construction on the suburban fringe since at least the days of Lewis Mumford. But the novelty of the situation in which we find ourselves, according to Dr. Castells, is that this long-familiar, if much-derided, system no longer actually *functions*. Builders cannot get financing to keep building exurban tract houses because there are not enough people available to buy their products. It is one thing for people to grumble about the status quo of relentless expansion towards the exurban hinterlands, and quite another for it to collapse under its own weight.

If we are indeed at the dawn of a new era in urban development in the US, what will the new era look like? On the surface, one might think that the various solutions proposed by the Smart Growth, New Urbanist and allied movements may now come to the fore: the expansion of urban rapid transit lines, implementation of sophisticated transit-oriented developments, and so on. But the trouble, to Dr. Castells' way of thinking, is that these sorts of complex, immensely expensive solutions will also become difficult to achieve in the coming years. While planners and others have feasted on the bounty of federal stimulus funds since early 2009, unleashed in the name of economic recovery, this torrent will surely abate soon, and implacable fiscal realities will demand a greatly scaled-back federal government. In addition, decision-making processes have become so elaborate and convoluted that complex projects, even the sorts that are desperately needed for social and environmental reasons, frequently run aground on the shoals of calcified bureaucracy.

What, then, are we left with? Dr. Castells maintains that, by necessity, we must turn to small-scale urban interventions that do not require largesse from either large concentrations of private capital or the government, but that can collectively add up to a radical reordering of our human habitat. He cited the explosion of decentralized urban organic farming as a perfect example. Another instance is the rapid emergence in recent years of cycling as a form of practical urban transportation rather than mere recreation. None of this is to say that governmental intervention will not be helpful or, in some cases, essential. Building a cycle track to encourage bicycling must be undertaken by a local government and is vastly cheaper than installing a new light rail line. Changes in rigid zoning ordinances could allow small-scale commercial enterprises to flourish within what are now residential-only neighborhoods, particularly as the hyper-concentration of retail in remote big box stores begins to collapse.

Dr. Castells' vision of an emergent, bottom-up, incremental form of urbanism begins to actually put an appealing sheen on what could be an era of lasting privation, at least by the standards to which many have been accustomed in recent years. In any event, Dr. Castells' framework was provocative, to say the least. It was also an invitation to be highly skeptical of the schemes of heroic grandiosity that entranced so many of us working in the fields of planning, architecture and other disciplines back in the "go-go" years of the mid 2000s—an era that now seems remote in time.

In her lecture, Janine Benyus addressed arguably the greatest crisis of all: the very real possibility of humanity—since we are existing in unprecedented numbers and squandering planetary resources at the highest-ever rate—irreparably fouling the air, water and land of the Earth that sustain our species. Surprisingly, however, the tone that framed Ms.

Benyus' lecture was not one of grief or existential dread, but rather one of almost childlike delight and curiosity about the world of plants and animals. Originally trained as a biologist, and with a background in science journalism, Ms. Benyus has never lost her unabashed wonder for the intricacy, ingenuity and beauty of the biosphere. Today, Ms. Benyus is perhaps the world's foremost exponent of a radical new approach to technological development: biomimicry. She is the founder of the *Biomimicry Institute*, based in Missoula, Montana, near her longtime home.

Biomimicry begins with the simple observation that the natural world is replete with living things routinely performing physical tasks that are beyond the ken of the most advanced conventional engineering techniques available to humanity. For instance, the kingfisher is a bird that is capable of diving into a pool of still water at high velocities and catching a fish with *essentially no splash*. This capability is vital for catching a fish, because a large ripple in the water would give the kingfisher's quarry a warning and allow it to escape.

Biomimicry, Ms. Benyus explained, requires a different attitude of human engineers than that to which they have long been accustomed. If we cease to seek to improve or overcome nature, and instead adopt a posture of humility — searching for what we can *learn* from nature — we will often find that evolution has already “solved” some of the world's most urgent problems in civil, chemical, structural and others forms of engineering.

Ms. Benyus offered an example of this approach: the chief engineer of the Shinkansen, Japan's high speed railway company, was struggling with the seemingly intractable problem of the noisy, disruptive shock waves produced whenever the bullet trains would emerge from tunnels. He noticed, while partaking of his hobby of bird watching, the remarkable abilities of the kingfisher. He then realized, in a flash of inspiration, that the technical problem of how to design the optimal nose cone of a bullet train was essentially identical to a problem long since solved by evolution: how to configure the beak of a kingfisher such that ripples are minimized when it breaks the surface of still water. The end result, visible to all in the distinctive nose cone shape of today's Shinkansen trains, not only greatly reduces noise impacts but has the corollary benefits of increasing running speed by 10 percent and reducing electricity usage by 15 percent. Along the way, it provided the renowned Shinkansen trains with a distinctive visual icon renowned throughout the world.

Perhaps my favorite of the examples that Ms. Benyus brought up was that of coral. Coral, day in and out, combines carbon dioxide with seawater to form its hard shell, which eventually forms limestone. Limestone, as it happens, is the raw ingredient for both cement and

aggregate, the constituents of concrete, one of the world's most important building materials. The biomimicry application of this observation is a technology that absorbs carbon dioxide emissions from coal-fired power plants, combines it with seawater and other readily available materials, and uses them to *produce the raw materials that go into making concrete*. Anyone familiar with the proportion of global carbon dioxide emissions attributable to both coal-fired power plants and to concrete production can instantly grasp the staggering implications of such a technological breakthrough, should it prove to be sufficiently robust to be deployed worldwide. Indeed, a Bay Area start-up company is pursuing this very idea as I write.

All of us who have spent time in the world of academia have listened to innumerable lectures over the course of our lives, of widely varying quality. I found the 50th anniversary CED lectures in general to be enormously valuable and thought-provoking. But this particular one by Janine Benyus is one of the very few lectures that I have witnessed that I will never forget. The reaction from the audience, composed predominantly of CED students in their twenties and thirties, was palpable. For these students, there is no debate about the need to build a sustainable world through their work as planners or designers. But they are weary of being bombarded with endless reports of metastasizing crises, even as they are concerned with the more immediate worry of finding employment in a difficult economy. This is a generation that is in desperate need of a reason for hope for the future. Ms. Benyus' lecture delivered precisely that, as evidenced by the distinct lack of a dry eye amongst most of those in attendance as she made her concluding remarks.

Those of us who attended some or all of the lectures for the 50th anniversary series for CED, I would venture to say, were amply rewarded. The topics, as it turned out, could not have been more apropos for the "crisis" theme that underpins this edition of the Berkeley Planning Journal. Whether examining a crisis befalling a particular place at a particular time, as did Dr. Collier, or a crisis heralding the replacement of one dominant city-building paradigm with a new one, as did Dr. Castells, or a planetary crisis and a radical new response to it, as did Ms. Benyus, these leading thinkers of our time all showed pathways forward with characteristic engagement, intelligence, and vision. I cannot imagine what could have been a more fitting and timely manner in which to commemorate the 50th anniversary of Berkeley's College of Environmental Design than to hear from these thinkers.