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Poststructuralist fiddling while the world burns: Exiting the self-made crisis of "architectural culture"

We critique the current crisis for the environmental design professions: facing urgent ecological, social and economic imperatives, key leadership has become mired in the confusions of do-nothing postmodernist artistic doctrine. The result is a self-made state of paralysis, leaving the egregious mistakes of the past to be endlessly repeated, while it only matters that they are cloaked in ever more aesthetically extravagant artistic garb. We argue that this self-excusing paralysis arises because, under a poststructuralist infatuation with ambiguity, multiplicity and constructed meaning, an effective shared framework to address the urgent challenges of the built environment becomes impossible. This paralysis is rewarded, however, because it serves narrow economic interests, which are happy to find rationalisations for projects that might otherwise be rejected as of inferior quality. We conclude with the hopeful observation that the ingredients of such a framework are indeed emerging from the biological sciences and other fields. However, to make use of them, we argue, professionals must learn to critique, and finally to dispense with, the misapplications of non-productive forms of thinking, a number of which we specify herein. We hope this paper will serve as one small step on that important path.

Key words: environmental design criticism, architectural culture, poststructuralism, postmodernism, professional responsibility

1   Introduction

A spectre is haunting the environmental design professions: the spectre of marginalisation and irrelevance, in the wake of the greatest economic and – possibly very soon – ecological crisis of our age. At a time when these professions are facing imperatives to develop more sustainable, more resilient, more humanly successful settlements, they are instead offering up, often to naive developing-world clients, a curious mix of ever more exotic visual confections, greenwashing rhetoric and – when rightly criticised – a theoretical apologia of hand-wringing postmodern nihilism (Koolhaas, 1995; Frampton, 2005; La Giorgia, 2007; Lewis, 2011).

As we discuss herein, what makes the insult all the more injurious is that it was the same design professions that played a major role in creating this ecological and economic debacle in the first place. This article gives a brief account of how this professional malpractice came to pass; what the direct consequences for depletion of oil and other resources are; what the toll on human life has been; and why the professions seem to go on blindly, unable or unwilling to correct their egregious mistakes. We trace this to a historic shift in design culture, away from an integrated human problem-solving approach and toward a specialised approach to environmental design as first and foremost a "fine art", to be given all the ambiguous indulgences that this entails – and, most recently, the almost limitless indulgences of a postmodernist, poststructuralist sensibility.

As we describe, leading designers have gleefully cashed this artistic "blank check" and used it to rationalise a multitude of sins. They have bemoaned "commodification" of design culture and then proceeded to exploit this commodification themselves for all it is worth. They have sneered at movements that have tried to reform suburban developments, without themselves accepting collective professional responsibility for creating the fragmented freeway suburbanism and soulless big-box campus architecture (with stripped-down, stuck-on trad adornments) that their own professions masterminded. Most egregiously, they have fashioned an elaborate poststructuralist narrative that suggests that nothing is to be done, that much greater forces are in control and all we can do is play along, hoping for occasionally brilliant, or at least witty, deconstructions of the truth.

This "magical thinking" is not so different from that of ancient cave-painters, who imagined that the beautiful pictures of deer on the walls would summon up a good hunt the next day. If our art is beautiful enough, then we will surely make great cities. Most people know that this is sheer folly; however, poststruc-

turalist designers have pulled off the neat trick of persuading many thousands of aspiring students that this is not only not folly, it is sheer ironic brilliance.

Moreover, the "art-designers" have been aided by a development industry that has always found this artistic approach to be a useful persuasive gloss to add to questionable projects. If you do not like our project, they seem to say, it is because you are philistines that do not understand great fine art or complex modern culture. The accusation of being reactionary has thus served as a powerful weapon to silence defenders of neighbourhoods, historic buildings, vulnerable populations, almost any victim of a questionable project. Now, with the coming of poststructuralism, this "artistic-industrial complex" has been given the most remarkable kind of blank check for development, able to dodge behind "complexity" and "contradiction" and "plurality of views" and "multiple meanings" – and, thereby, to build almost anything, almost anywhere. The result has been that our ability to learn from our mistakes, to repeat our successes and to actually solve our urgent problems – that is to say, our collective intelligence – has been the catastrophic casualty. However, this remains a profitable result for some, in the short term.

We conclude on a most hopeful note: that we do indeed have the tools, methods and ways of thinking about our problems sufficient to understand and resolve them. We describe some of these toward the end of the paper. However, this will require a different way of thinking about "the kind of problem a city is," as Jane Jacobs put it (1961: 429). Moreover, it will require a greater professional recognition of the crisis the professions have made for themselves and a greater commitment to correcting it. We hope this paper will serve as one small step in the direction of a wider and most necessary kind of professional self-critique, and self-learning.

2   Living on borrowed oil

The pattern of foreclosure maps in U.S. cities – "ground zero" of the global economic crisis of 2008 and beyond – holds the first clue in our story. In city after city, strong clusters form an outer ring of "drive 'til you qualify" suburbs: distant, car-dependent subdivisions with cheap, pay-later mortgages, poorly located in relation to most jobs and services. Inside these high-foreclosure rings, higher-density urban areas show far fewer foreclosures. It is not a coincidence that these inner areas are more compact, walkable and transit served – that is, lower-carbon – and less sensitive to the rising energy costs that pushed many homeowners over the edge, triggering a wave of cascading mortgage defaults. Indeed, the proximate result was nothing less than the worldwide financial crisis of 2008 and the "great recession" that has ensued. The rise in energy prices, a cy-
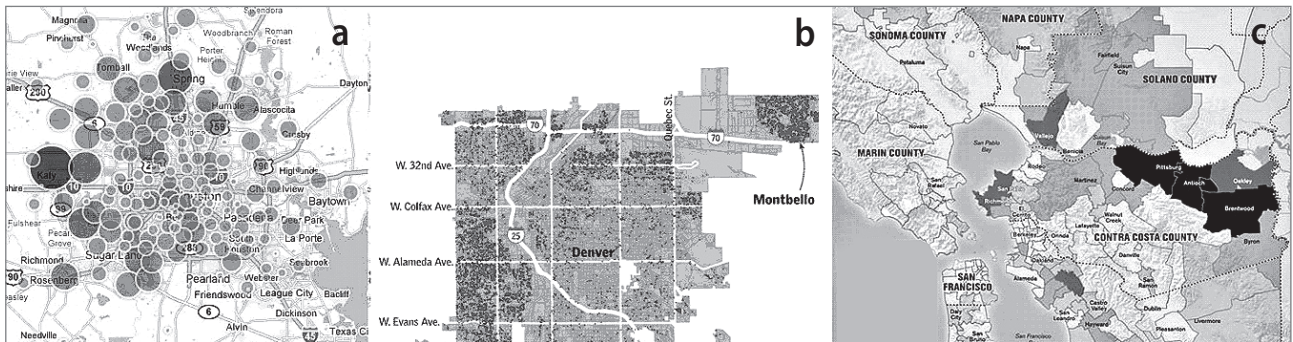
Figure 1: Foreclosure patterns, showing far higher foreclosure rates in outer "drive 'til you qualify" suburbs; a) Foreclosures in Houston – larger circle size indicates higher foreclosure rates; b) Foreclosures in Denver – the dots indicate individual foreclosures; c) Foreclosures in Dallas – black indicates high foreclosure rates, white indicates low foreclosure rates (illustration: a: *Houston Chronicle*; b: *Denver Post*; c: *San Francisco Chronicle*).

clical recession and the re-adjustment of unsustainably cheap, "pay-later" mortgages, all converged into a "perfect storm" of economic distress (Figure 1). However, this was no mere freak event. It was very likely a harbinger of more and worse to come if we do not get to the core problems that created it: interlocking failures of finance, regulation, energy use – and, yes, planning and environmental design (Leinberger, 2008).

Thus, the bill is rapidly coming due for the unsustainable habits, fuelled by historically cheap oil, that have dominated our economies over the last century of expansion. They are habits of practice as well as habits of thought – and systems of value, law, standard, action and inaction. They can be thought of as a kind of grand "operating system" on which run all the massive multiplayer games that produce the world as we know it, out of a vast mosaic of activities. We may think that parts are good and parts are bad, but the current lesson is a simple one: it cannot go on like this. Some significant things must change, and unsustainable patterns of urban development and growth are strengthening (Figure 2). Not many people defend the sprawling American suburbs as a desirable form of settle-

ment – other than a small and persistent cadre of laissez-faire ideologues and professional apologists, who seem to make a good living doing so. Not many defend the ugliness of strip malls and gas stations, or the loss of a meadow or a cornfield in exchange for an oil-stained parking lot. Not many find the suburbs beautiful or find even modestly older ones to be aging gracefully. Moreover, there is the disturbing feeling, not well articulated, that this ugliness is deeply connected to the fact that they are not sustainable. Biologists are beginning to tell us there is something to this: the beautiful meadow is sustainable because its structure has achieved a complex and highly ordered balance – a pattern we are wired to find beautiful (Kellert & Wilson, 1993; Kellert et al., 2008).

In fact, this sprawling American product has been exported right around the world: suburbanisation, fragmentation, uglification, resource waste and depletion, damage to human health and wellbeing, and ecological devastation (Burchell et al., 2002; Frumkin et al., 2004; United Nations Human Settlements Programme, 2011). In spite of the best efforts of architects and planners – or perhaps because of them –

Figure 2: Urban sprawl and the continuing dominance of automobile-dependent landscapes and fossil-fuel society; a) The "Boomburb" model of Suburbia by Robert Lang and Patrick Simmons; b) "Asphalt Nation" urban sprawl typologies by Jane Holtz Kay (photo: Jim Wark).

a stark formula seems to be in operation: newer = uglier = more waste of resources = more ecological damage. Even the regime of sustainable buildings seems a cruel joke when even the best projects are not planned to last much more than half a century – a curious definition of "sustainable". Indeed, the fingerprints of the planning and environmental design professions can be seen at the scene of the crime. Far from helping to reverse the damage, they played a major role in creating it – and now they seem busy rationalising its existence, blaming others (greedy bankers and oil companies, laissez-faire politicians, etc.) and excusing their own culpability.

The provenance of these fragmented, car-dependent suburbs is none other than the over-segregated, over-rationalised, ex-urban reform schemes of Ebenezer Howard (1902) and other Garden City planners, and of a later generation of modernist architect-planners like Le Corbusier (1923, 1935). Indeed, Le Corbusier described his utopian (but ultimately very successful) plan for economic development around car-dependent, oil-guzzling suburbs with surprising frankness in his 1935 book *La ville radieuse* (translated into English in 1967 as *Radiant city*): "The cities will be part of the country; I shall live 30 miles from my office in one direction, under a pine tree; my secretary will live 30 miles away from it too, in the other direction, under another pine tree. We shall both have our own car. We shall use up tires, wear out road surfaces and gears, consume oil and gasoline; All of which will necessitate a great deal of work . . . enough for all" (Le Corbusier, 1967: 74).

Developers and other economic interests were only too happy to use this rationale to justify questionable projects and, soon enough, governments would join them. The architectural and environmental crime that started with Corbusier's astonish-ing (thankfully failed) proposal to demolish the historic centre of Paris and other European cities later culminated in economically, racially or culturally segregated human silos such as St. Louis's Pruitt-Igoe (see De Decker & Newton, 2009) or Chicago's Cabrini Green or the Swiss housing monster Le Lignon, Vernier. That "superblock," project-planning mindset continues to this day, now in segregated middle-class enclaves, representing a quantum leap in automobile and fossil fuel dependence, in project locales ranging from China and the Gulf countries to Brazil, India and many other cities. Its principal feature is fragmentation, but its toll on vulnerable populations (either warehoused within them or left behind outside them) is dehumanising alienation (Figure 3).

This, then, for better or worse – and some of both, to be sure – was the engine for the growth of the last half-century; and it was planned in no small measure by a leading figure in modern environmental design. And consume oil and gasoline it did – in vast quantities – along with unsustainable quantities of other resources as well. Research shows that the carbon footprint of the U.S. suburbs, taken as a planetary model, would quickly swamp all other efforts to get a handle on greenhouse gas emissions[1] (Wackernagel et al., 1997). Yet there is disturbingly little professional circumspection (or even awareness) of the very likely implications from the fact that this same catastrophic model is being built on a vast scale even today, in the rapidly developing economies of many parts of the world. One consequence is political: the unsurprising message from Copenhagen 2009 seems to have been: do not lecture us on reducing carbon until we have got our share of what your high-carbon American consumers still clearly enjoy. However, what was truly breathtaking was how soon the scheme collapsed financially, with global-scale economic devastation.

Figure 3: a) The apartment complex in Le Lignon, Vernier, Switzerland, was built four decades ago in the Corbusier Spirit of massive machine housing; it now has about 6,800 tenants and there are plans to erect another one in the coming decade; b) Residential towers in Jumeirah Beach Residence, Dubai, where the real estate market is extremely fragile (photo: a: Christian Lutz; b: Reuters).

We might have been forgiven for thinking we had a few more decades of this cheap ride on unsustainable resource use. On the contrary, we saw that what was ecological had already become economic – or, more precisely, what was "unecological" had become "uneconomic".

This, then, is a shot across the bow of what is to come. Let us be clear what is at stake: If we do not come to terms with these challenges, the future will be a much bleaker one, very likely for all of humanity. The challenges are broader than the built environment, to be sure, but the built environment will surely be a crucial dimension. As Le Corbusier's example shows, the environmental design and planning professions are already implicated in the crisis – and will be increasingly held to account for an effective response.

The work we do is no longer mutually reinforcing, but I would say that any accumulation is counterproductive, to the point that each new addition reduces the sum's value . . . . It is not always clear whether we are using our position to engage in an intellectual discourse or an incredible ego free-for-all. Unfortunately, we have not been able to provide any dignity to the profession due to our complete technical inability to conquer market pressures and our willingness to be totally manipulated . . . (Quotation from a lecture by Rem Koolhaas, cited in La Giorgia, 2007: D1.2)

Modernism's alchemistic promise – to transform quantity into quality through abstraction and repetition – has been a failure, a hoax: magic that didn't work. All attempts to establish a new beginning have only discredited the idea of a new beginning. The wake of this fiasco has left a massive crater in our understanding of modernity and modernisation. (Koolhaas, 1995: 961)

3   The responsibility of Rem Koolhaas

The architect Rem Koolhaas is perhaps the most eloquent spokesman for a point of view that has wide currency in the postmodern design professions and within their academic milieus. He frames a highly articulate critique of the failures of the utopian modernism of Le Corbusier and other pioneers, and the profoundly circumscribed worldview it has left behind for postmodernists. Indeed, his is such a useful exposition that it is worth a short discussion of its important themes. Koolhaas puts his finger on a central problem: "The work we do

"The work we do is no longer mutually reinforcing, but I would say that any accumulation is counterproductive, to the point that each new addition reduces the sum's value." – Rem Koolhaas

Figure 4: No longer mutually reinforcing? Koolhaas showed a simulated desert landscape with the noteworthy designs of many "star" architects (market vs. meaning) (photo: Office of Metropolitan Architecture; source: Helie, 2007).

is no longer mutually reinforcing . . ." and even counter-productive, to the point that ". . . each new addition reduces the sum's value." Indeed, the net result of leading architects' efforts may be only that they are indulging in an egotistical "free-for-all" (Helie, 2007: no page; see Figure 4).

Thus, one of the world's most successful and articulate architects is stating, bluntly and perhaps shockingly, that his profession is indeed degrading the "value" (his term) of the built world – not by intention, certainly, but as a result of the failure to create larger wholes of value out of individual acts. Much of this, he thinks, is because we are being manipulated by larger forces – most notably, market pressures. In his quote from *Whatever happened to urbanism*, he also blames the mechanical technological approach that sought "to transform quantity into quality through abstraction and repetition" (Koolhaas, 1995: 959). This alchemistic effort has become a fiasco, a "magic that didn't work". However, out of this bleak prospect he offers no hopeful way forward – because, we gather, he truly sees none. Indeed, he says, we are stuck in a kind of "crater . . . of modernity and modernization". Although we (the environmental design and planning professions) caused this fiasco, we are powerless to reverse it. The best we can do is perhaps to express our fragmented condition, even celebrate it. "What if we declare that there is no crisis? . . . The seeming failure of the urban offers an exceptional opportunity, a pretext for Nietzschean frivolity. We have to imagine 1,001 other concepts of city; we have to take insane risks; we have to dare to be utterly uncritical; we have to swallow deeply and bestow forgiveness left and right. The certainty of failure has to be our laughing gas/oxygen; modernization our most potent drug" (Koolhaas, 1995: 959). The world is ending. Let's party!

"That's another thing we've learned from your Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the largest map that would be really useful?"

"About six inches to the mile."

"Only six inches!" exclaimed Mein Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!"

"Have you used it much?" I enquired.

"It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well."

Carroll & Furniss (1893: 169)

Koolhaas' position bears a close kinship to that of a generation of poststructuralist philosophers and theorists of art. (Indeed, he cites three of the most prominent in his essay *Whatever happened to urbanism?*) Like Mein Herr in Lewis Carroll's enchanting story, these thinkers have witnessed the effort to make increasingly accurate rational representations of the world – and found the whole project has collapsed in a rather absurdist denouement (Figure 5). A full (and fair) treatment of their ideas is beyond the scope of this paper. However, they have famously argued for the profound limitations of reason as a means to faithfully capture any allegedly "objective" reality and, on the contrary, have sought to emphasise the synthetic and even arbitrary constructions of language and art. This condition, they note, leaves open the possibility of profound abuse of language and art by those with political or economic power, which they use to assert priest-like claims to "objective" knowledge – further increasing their power. Thus an important role of an artist is to "deconstruct" such texts and thereby reveal these narratives of power.

At its core, poststructuralism finds it must deny the very possibility of a sharable notion of value, insofar as that can be
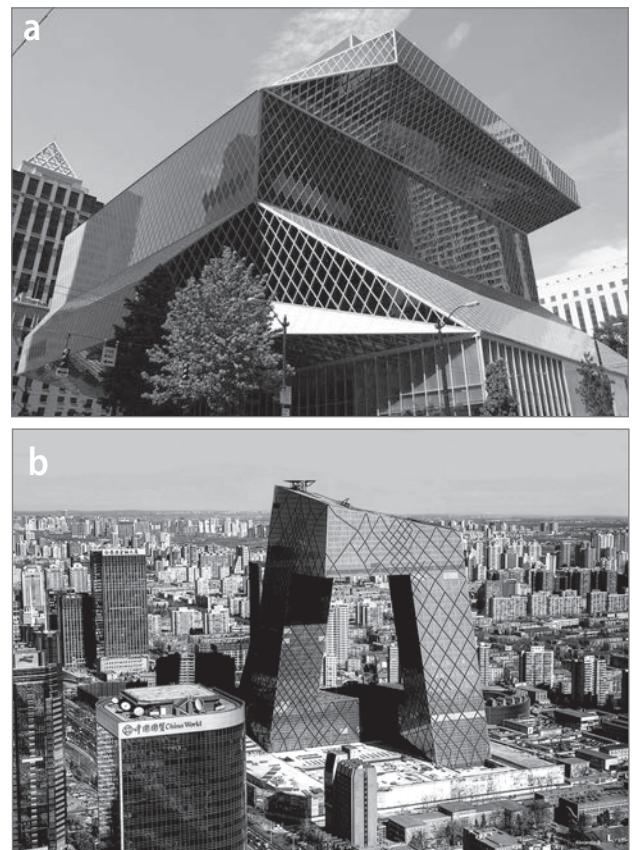

Figure 5: Poststructuralist ideas at work in different contexts and urban settings in which generic post-urbanism architecture reflects the ideas of global flows of money, media, power and transurbanism synergies of modernisation, globalisation and transformation; a) Rem Koolhaas Seattle Public Library; b) China Central Television Headquarters building (photo: a: Scott Larsen; b: Alexander B. Tutti).

accessed as an independent phenomenon, through the sharable ideas of a language. Rather, such values are also personally constructed, just as the meaning in language is personally constructed. We must let this "bottom up" process develop in a diverse and pluralist way, for to do otherwise is to impose artificial "top-down" frameworks. This would be the error of "foundationalism" – an unjustifiable political or intellectual hegemony. However, it is here that this pervasive academic philosophy poses a fundamental problem for anyone trying to "improve" the "quality" of the built environment – or, indeed, take on just about any other shared project that presupposes some form of normative standard (which very likely includes "carbon emissions reduction"). This is because such normative standards presuppose an independent value with an independent basis to agree upon it. However, even to suggest this possibility would be, on its face, a reification of value and a form of hegemony over the ability of people to construct (or to deconstruct) for themselves, apart from a theory of value of one's own.

This begins to suggest the curious set of logical problems that comes with this "deconstructivist" philosophical approach. They have been noted in great detail by a number of philosophers and scholars, and again are beyond the scope of this paper. However, they include serious logical problems with the very ability to perform scholarship, as anything more than a kind of cocktail-party narrative adventure (the infamous withering critique of the physicist Allan Sokal documented in the book *Fashionable nonsense* (see Sokal & Bricmont, 1998) is only one example of this line of critique). Another problem is the question how one can criticise foundationalism while self-evidently standing on a constructed foundationalism of one's own; that is, the poststructuralist worldview itself. "I know the truth, and it is that there is no truth!" However, this begs the question: "Then how do you 'know' that?" (see Habermas, 1987; Davis, 2004). More deeply, although this synthetic, neo-Kantian (and curiously positivist) view of ontology is historically and philosophically interesting, it is not, in the end, useful as a mode of thought for guiding human action. Indeed, it seems to embody a profound confusion about the ontological usefulness of language, which is assumed – incorrectly – to be fully congruent with reality. When increasingly more incongruences are inevitably found, one retreats to a position that language is arbitrarily synthetic and, in the words of Jacques Derrida (1967: 158), "there is nothing outside the text". Of course this misses the point that language is always an imperfect (and yes, synthetic) approximation, but is nonetheless useful as such. This is the wonderful point of Carroll & Furniss's (1893) enchanting parable.

This position is also entertainingly self-contradictory – after all, from what position do you state that language is "arbi-

Figure 6: Hagiographic coverage of Rem Koolhaas in *L'Uomo Vogue,* published in April 2008 (photo: Mark Seliger).

trarily" synthetic, apart from a position outside of language? Moreover, where is that, if you claim that "there is nothing outside the text?" If it is only within language, then I have to regard your utterances as your own synthesis, not mine. Why should I attach any particular meaning to your utterances about language – why not simply deconstruct according to my own constructed meanings? Why not pat you on the head as a reward for your meaningless squeaks and grunts? Ultimately, there is simply no epistemology here of any practical usefulness. However, here is the really serious damage: the same self-extinguishing logic applies to the built environment. If every act of architecture is nothing more than an artistic construction of personal meanings, then we might as well not concern ourselves with what anyone else does because that's their construction, not ours – and we must not presume a sharable domain, nor certainly impose our own theories of value on their work. We can bemoan the loss of coherence, or the hegemony of money or market forces – but we must not try to "reconstruct" according to normative standards of quality. Any such standard is deconstructable, including even the most apparently "objective" ones, like CO_2 reduction – after all, even plants prefer CO_2.

Now we see the nature of Koolhaas' "crater of modernity" for what it really is – the ultimate artistic license. The problem is not really our doing, but in the very nature of language and

ideas. As Koolhaas puts it, in his characteristically blunt and shocking fashion: "Since we are not responsible, we have to become irresponsible" (1995: 971). A corollary to this maxim is the self-fulfilling prophecy that, because we believe we have no choice, then in actual fact we have no choice. If we believe we have no possibility of a sharable theory of normative value in the built environment, as a basis to guide us in "cleaning up our mess", then indeed, there *is* no possibility – for we will simply cease to develop any such possibility. We cannot develop a shared framework for effective action because we believe this would be a transgression against the prerogatives of others to make their own individual constructions. This is the profound failure of poststructuralist thinking in the built environment: any opportunity for concerted action is forfeited voluntarily at the outset because the shared frameworks for doing so are to be rejected. To paraphrase Koolhaas: "Since we believe we are not responsible, let us not just enjoy ourselves while being irresponsible." Let us also criticise those that dare to try to be "responsible" – like those that, he suggests, are constructing a "new urbanism" that is "based on the twin fantasies of order and omnipotence." Thus these "do-gooders" are committing the sin of foundationalism. On the contrary, if there is to be such a "new urbanism", "it will no longer be about meticulous definition, the imposition of limits, but about expanding notions, denying boundaries . . ." (Koolhaas, 1995: 959). In short, anything goes – except, it appears, actually trying to address the problem (Figure 6).

4   Jacobs' "organized complexity"

The urbanist Jacobs has given one of the earliest and best-known accounts of the historic emergence of modern complexity science – and, in the process, argued that environmental designers *can* make real progress on the pressing challenges before us (Jacobs, 1961). In *The death and life of great American cities* she stated (1961: 428):

> Merely to think about cities and get somewhere, one of the main things to know is what kind of problem cities pose, for all problems cannot be thought about in the same way. Which avenues of thinking are apt to be useful and to help yield the truth depends not on how we might prefer to think about a subject, bur rather on the inherent nature of the subject itself.

> Among the many revolutionary changes of this century, perhaps those that go deepest are the changes in the mental methods we can use for probing the world . . . . Cities happen to be problems in organized complexity, like the life sciences. They present "situations in which a half-dozen or even several dozen quantities are all varying simultaneously *and in subtly interconnected ways*." Cities, again like the life sciences, do not exhibit one problem in organized complexity, which

if understood explains all. They can be analyzed into many such problems or segments which, as in the case of the life sciences, are also related with one another. The variables are many, but they are not helter-skelter; they are "interrelated into an organic whole."

Moreover, in parts of cities which are working well in some respects and badly in others (as is often the case), we cannot even analyze the virtues and the faults, diagnose the trouble or consider helpful changes, without going at them as problems of organized complexity.

Jacobs noted that the statistical and mechanical sciences of the nineteen century were slowly giving way to the new sciences that she described as "organized complexity" – that is, systems characterised by a number of mutually interactive variables that are "interrelated into an organic whole". This was the great insight of the biological sciences, helping to explain the sustained workings of ecosystems, genetic processes and much else. Jacobs' great insight was that it helped to understand the workings of cities too – and how we might intervene, "diagnose the trouble or consider helpful changes" so as to correct their problems, and, as suggested by her title, transform urban "death" (decline and malfunction) into "life" (vitality and success; Figure 7). The problem, she argued, was that environmental designers and planners were stuck in "top-down" mode – in an outmoded mechanical or statistical view of the universe, which, although technologically productive, simply

Figure 7: Council speaker Christine Quinn honours Jacobs: The section of Hudson Street between Perry Street and West 11th Street, where writer and urban activist Jacobs lived, was renamed Jane Jacobs Way in 2009. Even so, a campaign is underway by many architects and planners to "re-assess" Jacobs and marginalise her forceful critiques (photo: Stephanie Lam).

did not sufficiently explain the real "kind of problem a city is" – and, hence, did great damage to cities and left many of their worst problems unresolved. Jacobs continued to make this critique throughout her life, broadening it to include economics, academic theory, organisational theory and the dangers of over-specialisation – notably in her final, iconoclastic book, *Dark age ahead* (Jacobs, 1994).

Other theorists from this period were making similar observations. The mathematician-turned-architect Christopher Alexander, in his landmark paper "A city is not a tree" (1964), described the fallacy of conceiving the structures of cities as grouped into rigid tree-like hierarchies and failing to understand the interconnectedness – Jacobs' "organized complexity" – that comes with the natural growth of cities. As a result, new city plans were themselves rigid, tree-like plans, which severed the connective complexity of natural cities. This, he said, was enormously damaging to cities, in the same way that severing biological tissue was damaging to its life. Alexander argued that the problem has its origins in the way that we human beings conceptualise our world. We simplify, we abstract and we leave out essential connections. If we do so prudently and with room for iterative adaptation and correction, we can allow the systems we are working with to regenerate their essential interconnectivity through an emergent process. If we do not, we will very likely cut these systems to pieces – be they living organisms, ecosystems or cities.

Here then are two theories that explain Koolhaas' "crater of modernity" very well. They agree with his analysis of the failure of the (early) modern ideas of rational simplicity. However, they go a step beyond him, to note that a new understanding of complex and living systems is now at hand – and it is time to make use of our new insights. As Jacobs (1961: 433) put it, "[t]he recent progress of the life sciences tells us something tremendously important about other problems of organised complexity. It tells us that problems of this kind *can* be analyzed – that it is only sensible to regard them as capable of being understood, instead of considering them to be, as Dr. Weaver put it, 'in some dark and foreboding way, irrational.'" These and other scientific advancements give us a new, highly useful framework for viewing the world of nature and of human nature. It is not a "final objective reality" – for, indeed, there is no such thing. The poststructuralists are right that knowledge is always constructed. However, it is quite literally idiocy to deny the working proposition that knowledge is constructed in a symmetrical relation to "something real" – and, moreover, something sharable.

Indeed, to be intelligent in any sense of the word – and not suffer a fatal "paralysis of analysis" – we need a unified provisional view of our problems, a working unified theory of ourselves, and what it is we are doing. This approach can combine and exploit all the other insights that are available to us – what the

Figure 8: Jacobs holds up documentary evidence at a meeting of the Committee to Save the West Village, a group opposing Robert Moses' disastrous plans for freeway construction through Manhattan – a battle she and her group would win (photo: Library of Congress).

biologist Edward Osborne Wilson has termed "consilience". Moreover, it can incorporate the poststructuralists' concerns about the finality of knowledge – but not their absurdist Carrollian response. In her analysis, Jacobs warned about the holdover legacy of what she termed "misapplications" – ideas that are no longer usefully valid, if indeed they ever were, but that continue to have wide currency and impact – and continue to block needed progress (Figure 8). As she says, "[t]hese misapplications stand in our way; they have to be hauled out in the light, recognized as inapplicable strategies of thought, and discarded" (Jacobs, 1961: 435).

5   Key "misapplications"

Therefore, we present here a short "top ten" list of the most egregious such "misapplications" and the substitutions we should make at once, if we are to make real progress on our urgent challenges:

- *The misapplication of quantitative technical thinking.* The statistical aggregation of numbers has its place, but often leaves out crucial parts of the story. Yet complex systems can be impenetrable – "unless" we allow ourselves to use qualitative, emergent properties as diagnostics.
- *The misapplication of linear and mechanical thinking.* These too have their place, but must be supplemented now with an understanding of mutually adaptive systems and the effective inter-disciplinary models that are available and necessary for their management.
- *The misapplication of specialisation.* Critical emergent effects of human activity as a whole come from the interactions of many agents, following rule-based systems. We must understand this "massive multi-player game" and the rules by which it is constructed, and may be

re-constructed, to produce alternate outcomes – including economic, legal and technical ones. We must embrace inter-disciplinary subjects, such as game theory, with new vigour. We must embrace the new models of collaboration and "open-source" development. These have their corollaries in the connective transformations of complex processes. Specialisation, especially academic specialisation, is the death of the ability to manage these critical structural linkages. However, effective inter-disciplinary thought also requires great rigour.

- *The misapplication of "thing theory" as a way of explaining the built environment.* The "thing theory" has failed us miserably – especially in the highly pathological, maladapted world of iconic architecture. In its place we need a theory of connected and modulated webs of movement, sight, sound – one that understands and manages the layered spatial systems of public, semi-public, semi-private and private places. Urban design must return to the sophisticated structuring of these places, both as an initial condition and as part of a generative strategy for their continual evolution and regeneration.

- *The misapplication of architecture-urbanism as a collection of art-architecture objects.* Incredibly, complex urbanism is still being replaced by a simple-minded "sculpture gallery" approach to urbanism, by architects that have no business practicing urban design. Art (and the art of architecture) must take its responsible place within the disciplines of human settlement and natural ecology. These subjects, taught in their full complexity, must be elevated in the schools as a matter of urgency.

- *The misapplication of the art of architecture as consisting largely of formal neoplasms.* In their place we need artfully done mutations in adaptation to real biological and biophilic needs. We need an evidence-based design – not conceived in a linear or mechanical sense, but in a mutually adaptive, evolutionary, pattern-based sense. We need to place the human at the centre of the design process – not the fashionable but moribund neo-modernism that is non-adaptive and inadequate. If we do not discard this arbitrarily limited and failing form of language, architecture is condemned to perpetual malpractice.

- *The misapplication of an anti-diachronic theory of history.* On its face, modernism was a defective theory of history – a kind of utopian false promise that we had "arrived" at a final ideal state beyond history. However, postmodernism, which is critical of this condition, in fact perpetuates the fraud, only replacing the utopianism with a despairing nihilism. Instead we need an understanding of the continuing diachronic nature of culture and the evolutionary world in which it exists: the continual evolutionary processes that produce continual newness, but also crucially incorporate history, memory, pattern and recurrence. We need to be able to learn from history, replicate its successes and refine – but not wholly discard – its failures. This is because, in radically discarding, we have also discarded our ability to learn. This collective amnesia will be fatal.

- *The misapplication of theories of fragmentation.* Again, this is only part of the story. We need theories of convergence and theories of wholeness – and how it might be attained, drawing lessons from how it is in fact attained within natural systems. The work of Christopher Alexander – with resonance to physicists like David Bohm and biologists like Brian Goodwin – is worth attention in this important subject area.

- *The misapplication of a fashionable but ultimately pointless anarchism.* There are many times when the scale of activities is skewed to the overly large, and confrontation and destruction of damaging larger structures is appropriate. However, it is also true that, sooner or later, the time comes for a reconstruction – and we have no choice but to grope for our best approach to do so. Not to do so is to leave ourselves exposed to others, who will gladly do so, but only badly, for narrow self-interests – a kind of gangsterism. This is the flaw in much economic conservatism and is the reason that, as Jürgen Habermas (1987) noted, poststructuralism is, in a real sense, a kind of conservatism – supposing that "nothing can be done".

- *The misapplication of poststructuralism itself.* As we have only hinted at here, a kind of neo-structuralism is emerging from the sciences and from thoughtful philosophers. While there is sympathy for the concerns against "foundationalism", it seems the "cure" of poststructuralism may be far more deadly than the disease – that it amounts to a crippling of human intelligence, when we can ill afford it.

Jacobs noted that we do have the power to correct such misapplications, if we so choose, just as we chose to make them in the first place. This only requires that we take a greater interest in the actual kind of problem we are dealing with – in our case, "the kind of problem a city is" (Jacobs, 1961: 429).

6　Conclusion

Environmental design professionals are certainly faced with unenviable daunting challenges: fragmented development, wasted and depleting resources, damage to human health and wellbeing, damage to ecologies – and now, an economic crisis tied to failures in the built environment. Worse still, as we have discussed, many of these conditions can be tied directly to the mistakes of previous environmental design professionals.

However, what is their response to date? As we have seen, in response to this crisis of their profession's own making, leading

environmental design professionals have not chosen to confront their deeper professional responsibilities and strive to fix the human environments their profession broke. Instead they have chosen to retreat into self-justifying theories, greenwashing and ever more bizarre aesthetic follies, sold in profitable packaging to dazzled and ill-informed clients. Most recently, the new movement in urban planning and design, "landscape urbanism", dazzles with high-tech greenery: it incorporates high-tech infrastructure for directing water flows and requires massive, costly, complex site interventions. Yet, at the same time, it's explicitly willing to embrace low-density, automobile-dependent suburbia, as long as it serves as a canvas for works of environmentally avant-garde high art. It also comes with a new agglomeration of opaque theory, designed to mystify and impress the nonelect (Mehaffy, 2010; Kunstler, 2011).

If we were speaking of medical professionals, it seems likely they would face criminal malpractice charges. However, we are discussing environmental design professionals, only too happy to carry on profitably, repeating the same old mistakes, unheeding of the consequences. They are dangerously siloed, as yet unaware of the responsibilities and the opportunities outlined by modern science – or, we suggest, the renaissance that could await. Let us hope – let us insist – that a change of heart is near.

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Notes

[1] The authors have been involved in research that shows the dramatic magnitude of this increase, which was presented at the 2009 IARU Scientific Congress on Climate Change in Copenhagen, a briefing session for COP-15. For an overview article with links, see http://www.planetizen.com/node/41801

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