

Draping versus transforming: Notes on new frontiers of design theory

A Commentary on Robert Adam's Essay, "Architecture today: The great moderation"

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I feel indebted to Bob Adam for starting this discussion with what I regard as a splendid summary analysis of the historical forces that have acted on the styles and fashions of architecture and urban design in the last century, and the conceit (largely unfounded, as he notes) that architecture and urban design have in turn shaped these forces. This sets the stage very well to discuss our work ahead.

I would like to add a further aspect of the story that I think carries some strategic implications for us. I'll conclude with a summary of those.

First on a personal note, I am sorry I could not be with you in person, but I have just finished an appointment in Europe and am starting another in the US, and it would be prohibitive to cross the pond again so soon (and unhealthy for my carbon footprint). But I hope I can be back soon with the commencement of yet another visiting appointment, this time to the University of Strathclyde. From there I look forward to engaging more directly in what I am sure will be a very fruitful collaboration between TAG and INTBAU. As chair of the US chapter I know that our board (representing our close INTBAU allies at the ICA&CA, the University of Notre Dame, the University of Miami, and others) will be enthusiastic about the collaboration.

I think this discussion should acknowledge the overriding fact of the growing catastrophe in our natural environment, and the inability to separate from that the catastrophe in our built environment that has come about in the last century. And further, I think we must acknowledge the collective responsibility that all architects must share, both in what must be done to remedy the situation, and in the professional role in how it came about.

Broadly speaking, we can describe two views of the built environment today. One is that cities and towns must not look anything like they did earlier than a century ago, except as acts of preservation -- that is, museum pieces. And that if they do take on any visual aspects of historic cities -- even if as an unintended result of good responsible planning -- this constitutes one of the cardinal sins of the profession, historicism. The only exception may be (only for some) the ironic use of historicism as a semiotic expression. The adherents of this prevailing view generally identify themselves as Modernists, Neo-modernists, or Post-modernists.

Another view is that it is not necessarily a bad thing at all if cities look like they did at some other time than the very narrow period of the last century. Many different people share this view, but they have little coherence, and little credibility within architectural theory.

I believe that it is crucial now to call into question the former view, and frame its multiple defects -- most conspicuously, its manifest unsustainability. I believe it is necessary, as part of this process, to offer a credible historical analysis of how this view came about, and why it is now untenable.

This is what I call "the penny that must drop." What follows are my notes on how it seems to me this argument must unfold.

I come at this field having begun my studies in the 20th Century arts, and music specifically. So I am particularly aware of what distinguishes architecture and urban design from the other arts – namely, that cities and buildings are not mere canvases for artistic expression. They have another, particularly consequential role to play in the natural world: namely, they constitute the actual structure of human settlement. This distinguishing fact should be at the center of our attention, but I find that its full implications are routinely overlooked – a lacuna that I think has a lot to do with the mess of our built environment today. I will discuss the implications of this below.

One reason this state of affairs exists is that, as Robert notes, architects have become aesthetic specialists in a much wider decision-making process over which they now have little apparent control. Indeed, many key decisions are already made by the time the architects get to the scene. These decisions are made by developers, and corporations, and banks, and planning officials, and all the other agents of the development economy. And they are made by one other particularly important constituency in the modern context, and this is the one I want to come back to in a moment: the engineers.

So at times it seems the architects are left only to do some drapery over the engineering assemblages largely determined by others -- in effect, some clever packaging. And they can drape on some avant-garde aesthetic experimentation, if that is what their artistic specialty decrees, and if that is what makes them feel better about themselves. (Thus are they tolerated by the other specialties.) But this is conditional on the market, of course -- and sometimes driven by it, in hidden ways (as critics like Kenneth Frampton have noted).

Thus is architecture divorced from the core act of “making,” of shaping the world in a way that fuses art with life. The art is more like a garb, a drape.

But I think there is more to the story -- more responsibility of architects for how this situation has come about, and what else has gone wrong. I will start this bit of the story with a comparison to the world of modern music.

When I studied Modernism in music, I spent considerable time with Schoenberg, Varèse, Vebern and others from the seminal period of the early century. Vebern in particular articulated “the path to the new music” (in a book by that title) as a natural progression, an expansion of possibilities of music, from the simple melodic lines of antiquity to the parallel harmonies of the Middle Ages, to the triads and embellishments of the Renaissance, to the explosion of possibilities in the tempered scale, explored by Bach and many others. And this was seen as only the natural precedent of the music of Modernism, which took this progression to its next logical stage: serialism, atonality and other expansions of the vocabulary of music, exploring ever more corners of tonality and rhythm. (In jazz and other vernacular forms, very similar things were going on: exploration of new kinds of chord clusters, dissonances, polyrhythms, and so on.)

The early Modernist architects in fact claimed the same natural progression. They did not speak of breaking with the past for its own sake (and here is a minor quibble with Bob Adam’s account) but breaking with a *particular* past, a *particular* tradition, that they regarded as corrupted and out of line with the *true* natural progression. And what was that progression? It was the rationalization of technology, the re-ordering of society and its physical forms according to logic, reason, science. It was, in short, the Enlightenment project. We would design out the failures -- the poor sanitation, the over-

crowding, the exploitation of the rich which prevented the rational flow of wealth to all, and so on. And we would achieve Rational Geometry, stripped of the inefficiencies of an accidental history.

This was therefore a Modernism in technology, which was distinct from that in the arts per se: While painters and sculptors and musicians were exploring *new* dimensions of experience, and *new* aesthetic expressions of our human confrontation with nature, the architects were busy expressing the *existing* technology of the day, and merely imprinting it with the ideas of the artists. Thus, while Varése composes *Density 21.5* to express the exploration of new worlds within nuclear physics (as the title suggests, a reference to the point of nuclear critical mass) Le Corbusier's exhibition building for Varése is not built using any such new technology of physics. Rather, it employs the relatively antiquated engineering of *Newtonian* physics. And on it is laid an expressive garb to echo Varése's ideas, and to achieve some of their avant-garde luster.

Thus we are now going to be in the business of (radical) aesthetic drapery over (conventional) engineering. We are going to package the standard industrial engineering of the day in exciting new garb, firing the imagination and triggering utopian dreams of new possibility.

This is, of course, what advertising has always done, relying upon the tremendous power of suggestion. If I buy *that* car or *that* deodorant, my horizons will expand, and who knows -- I might have girlfriends who look like *that*. This was the power of suggestion, the seductive force that could tip a well-meaning artist into a mercenary advertiser without anyone ever noticing.

Thus the Modernists in architecture – quite unlike their colleagues in painting, sculpture and music – became close marketing collaborators with the engineers, serving to glorify their Newtonian, linear, early industrial paradigm. This attitude is almost comically on display in Le Corbusier's 1923 *Towards a New Architecture*, where he says for example:

Thus we have the American grain elevators and factories, the magnificent FIRST FRUITS of the new age. THE AMERICAN ENGINEERS OVERWHELM WITH THEIR CALCULATIONS OUR EXPIRING ARCHITECTURE (*sic*).

Is it unfair to claim that the early Modernists were mere industrial marketers and product designers? Not at all, when we consider the training of Le Corbusier himself, along with his modernist co-pioneers Gropius and Mies Van Der Rohe. In addition to their other disparate studies in architecture, all three spent a critically seminal period together, under the training of the industrial designer Peter Behrens. It is not an accident that Behrens was regarded as the first industrial designer, corporate brander and product packager of the 20th Century. His work for AEG (and later, for Hitler and Speer) would define the grandiose aspirations of his three young protégés, to exalt the re-making of the world in the wonderful new image of the machine. (Or the grain silo. Whatever.)

Gropius later protested this, of course. In his 1943 book *The Scope of Total Architecture* he argued that theirs was not a project to assist in the takeover of the machine, but rather a project to humanize the mechanistic forces that had already begun to take over civilization. (This was clearly a more apologetic tone than Le Corbusier's glorifying come-on.)

MACHINE AND SCIENCE IN SERVICE OF HUMAN LIFE...[There is] a portrait of the early pioneers of the modern movement as men of rigid, mechanistic conceptions, addicted to the glorification of the machine and quite indifferent to intimate human values. Being one of these monsters myself, I wonder how we managed to survive on such meager fare. The truth is that the problem of how to humanize the machine was in the foreground of our early discussions and that a new way of living was the focus of our thoughts.

But I think the most telling fact is simply this: that a man who had no university education, and who was, according to widespread authorities, *essentially unable even to draw*, came to re-shape one of the most globally important schools of architecture, the Harvard Graduate School of Design, from a Beaux-Arts program to a CIAM modernist one. In the process he facilitated the jettisoning of centuries of accumulated knowledge about good city-making. And the Harvard post was, of course, only one of Gropius' many positions of high influence.

How do we explain the fact that Gropius' professional skills were so limited? Engineers need only limited skills in drafting. Product designers and packagers can also rely upon illustrators. What they need most critically is the ability to create and to communicate a concept, a theme, an image that will package and sell a product effectively, using compelling emotions. Behrens, the pioneer of industrial design, could do this exceptionally well, using the language of industrial futurism. So could his three standout students. Within the marketplace, there was an overpowering demand for what they could do. That it could also be branded as "great architecture" was only a bonus – only part of the advertising *shtick*.

Of course we could say that artists do not need to have highly specialized training either. They simply need to have great talent in creating art that is widely admired. On this score we are free to say that Gropius, Le Corbusier and Mies Van Der Rohe have passed their historical test.

But the trouble is, this begs the question. We should not be interested, except perhaps incidentally, in their performance as artists, as sculptors, or as frozen musicians. We are interested in their legacy as *architects* -- that is to say, master builders who have played a role in shaping human habitat, human life, and a good share of the structure of the Earth's surface.

Gropius, Le Corbusier and Mies would likely be highly offended to have their art characterized as "draping" over engineering – as "product packaging" for marketing purposes. Indeed, they aspired to marry their art perfectly with this engineering, in their core doctrine of functionalism. But was it really "functionalism? No, in fact it was sheer romanticism, in the *guise* of functionalism.

Consider: did Le Corbusier's houses need the portholes of cruise ships, so as to stand up to crashing waves, or the pipe columns of cruise ships, so as to go whooshing down the street? Of course not. Was a building stripped of ornament any more functional than a house with ornament? When it came to the pedestrian realm, we now know that in some respects such a building was *less* functional. (Yes, ornament is a function too.)

As Functionalism, we can see that the new regime failed colossally in innumerable ways: it failed to create and sustain the human connections of a city, it failed to create durable human habitats, and it even failed as indoor space in many ways (well-documented by research). But it was truly functional in one sense. It was relatively successful in meeting crude industrial and economic demands: cheap construction, ease of management, economies of scale. This was a very crude, mechanized version of functionalism, mostly for the function of machines; the human functions mostly had to make do within this hyper-regimented regime. But we would have romantic imagery to make the whole thing more palatable -- even exciting.

Indeed, we must fear not: this was a wonderful, exhilarating new world on offer, and we must build it promptly!

Notice that I do not make the usual distinction between Le Corbusier and the others as architects, and as urbanists – I do not give them the customary condemnation for their urbanism, while excepting their architecture as masterful. Yes, there were some interesting innovations, and some ideas that may still be useful today. There was an interesting history that we can study, and perhaps find it enjoyable to do so.

But architecture is the stuff of urbanism, and architecture that presents blank walls, poorly aging materials, and non-human geometries simply makes bad urbanism. And because this means it fails human beings in its essential duty – to make good cities -- that alone makes it bad architecture.

That many architects fail to appreciate this basic test of good architecture goes back to the pervasive confusion. Buildings and cities are not pieces of sculpture. They are not fine art.

And the tenets of this fake-art-architecture continue to make catastrophically bad urbanism right around the world to this day: poorly aging surfaces, blank walls, sterile detailing, degradation of pedestrian experience. The regime continues of object-buildings placed badly within a fragmented planning.

Moreover, its hegemony does not allow any of the good resilient solutions to be used that merely happen to look like they might have been used prior to 1920. This “art fallacy” continues to devastate our settlements.

I have taken some time to lay out this account because I believe it does explain one critical if negligent way in which architecture has shaped the modern world: as a powerful marketing force disguised as (or confused with) art, it has served as a lubricant for the industrialization of the built environment. That is to say, it has served as an accelerant for the “rationalization” of the built environment into segregated parts, which would be recombined into a mechanical assembly, fueled by petroleum and other non-renewable resources.

We would have this kind of building here, that kind of building there, outdoor spaces assigned here and there, and occasional walkways between them – all neatly composed for visual consumption. But overall the entire contraption would be connected by mechanical vehicles fueled by very large quantities of petroleum. This would liberate us to move about in the most unconstrained ways. As Le Corbusier said in his 1935 book *Ville Radeieuse*:

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.

Never mind that the tissue of urbanism would now be severed, and the actual places in which we would freely move about would be increasingly fragmented and desolate – a new “geography of nowhere.” At least it would all look masterfully ordered – artistically composed.

Of course Le Corbusier was not *solely* responsible for the phenomenon of modern sprawl – nor were the other CIAM Modernists. As Jane Jacobs pointed out, the roots of sprawl go back to the Garden Cities, and perhaps even deeper. But what I think we can see (and must acknowledge) is that architecture fully adopted this simple, linear, mechanical model of nature, with all its consequences – consequences that are still very much with us today, and persisting in the thinking of a reactionary Modernism.

So alongside Robert’s account of a regressive Modernism, I think we must speak of a regressive industrialism, and the commodification of product packaging that is still the hallmark of architecture – its co-conspirator. Yes, as he relates, there is this style and that style, this brand and that brand. And yes, there are unbelievable elaborate intellectualizations of the artistic projects involved, and how they mean this or mean that. But what is being created in the end? It is not a gallery of sculptures. It is not mere “products” to be consumed and discarded when the users grow tired of them. It is the tissue of cities, and of human life.

Meanwhile, of course, other disciplines have moved beyond this primitive, limited industrial model. Technology itself has begun to do so, with the new emphasis on complexity, adaptation, niche marketing, narrowcasting, networks, and all the other hallmarks of the momentous if uncertain scientific transformation that is under way.

And postmodern architecture itself talks a good game about having done so. But let me assert here, and I will discuss in slightly more depth below (though it’s a large topic, discussed in more detail elsewhere), that this is nothing other than a kind of elaborate self-con. The leading architects are still draping garb, and have not transcended the old paradigm. It is in this context that I think we can best understand the persistence of Modernism today, in all its so-called Postmodernist, Neo-Modernist and Rococo forms. We must not look like *anything* that could have occurred in the era of pre-modernism!

Let’s be clear what this prohibition says. All the great cities of the world, which in their day copied the past freely – London, Paris, Rome, and countless others – these cities work extremely well even in the modern world. They are enduring, humane, resilient. They offer significant low-carbon benefits. They are among the best-loved places that human beings have ever built. *And we must never, ever build anything like them again.*

In contrast to this peculiar view on the novelty of technology, let us look briefly at the events that have taken place in the sciences in the least half-century or so -- particularly since it is in science that the pioneers of Modernism put such faith.

We all know that there has been a fantastic revolution in the sciences, which continues right up to the present day. We are now aware of non-linear systems, dynamic feedback processes, cellular automata, attractors – all the phenomena of what have been dubbed “the new sciences of complexity.” Jane Jacobs herself heralded this new era over a half-century ago. Architects, never ones to be too far behind in the game of “me-too,” are now making noises along these same lines.

The revolution certainly extends into the realm of design theory – indeed, to the very heart of it. Herbert Simon, the great polymath, had a lot to say about this subject in his life, and one of the more notable things was his definition of design: it is “the transformation from existing states to preferred ones.”

Note that design is not the creation of lovely objects, or the packaging of items for sale, or even the creation of profound works of art. *It is not the creation of aesthetics alone as a work to be regarded or product for consumption.*

Indeed, in the sense of a *tabula rasa* act of sheer imagination, it is not “creation” at all! Rather it is *transformation*.

The concept of **transformation** has a central place in modern biology, and in many other fields. (And this is really nothing new: this concept was central to Goethe’s thinking too, among other earlier visionaries.)

But lo and behold, there is another realm where the workings of transformation can be observed. It is in the traditional city, and in traditional buildings – and in the learning processes of tradition itself.

I have written elsewhere (and will only summarize here) the high correspondence between the “collective intelligence” of tradition, its powers of self-organization and retention of cumulative problem-solving knowledge, to other well-studied natural processes. There is a very high correspondence with similar processes observable in biology, in genetics, in complex physical systems, and so on. We see this patterned self-organization from the humblest examples (say, an informal settlement in India) to the most evolved ones (say, the great cities of the Islamic world). And we can see the same thing within the Western Classical tradition.

Jane Jacobs also noted these properties of organized complexity and self-organization, and noted their relationship to economic processes – seen now as agent-based emergent phenomena, or cellular automata with dynamic characteristics. There is an important economic implication (which I will discuss below).

Another implication (and one that I think we must champion) is that the aesthetics of the built environment is not mere draped-on fine art. It is, rather, an intrinsic quality of healthy, beautiful human habitats. This is not an accident: as recent research has confirmed, our perception of beauty is a highly evolved ability to detect those states that are likely to promote our own health and well-being. And as work in the field of “biophilia” confirms, the perception of beauty itself is a contributor to health and well-being.

But some will object, where is “the architecture,” the creative expression? Certainly it is still there. But it is re-engaged in a more integrated role within the larger ordering of the

built environment – as a kind of elaboration or articulation, of the naturally beneficial structures of the environment. It is not draped on, nor is it allowed to hijack the sensible ordering of the built environment in the name of artistic creativity.

While this may seem a limitation to some, in fact it is a much more profound relation of art to architecture – one that has characterized the greatest buildings in history. It is the way the great cathedrals followed simple ordering logic, and then expressed their detailings, their elaborations, their ornaments, in powerful and beautiful ways.

Instead of trying to stand apart from the world and become a regarded object as in a gallery – which destroys the quality of place and replaces it with mere giant sculptures - this kind of art-architecture is what it should be: an elaboration of the built environment so as to better connect people to their daily needs, to each other, and ultimately, to the cosmos. This is surely the role of all great art (as opposed to mere aesthetic artifacts for consumption).

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Now, as Robert notes, we are in the middle of a protracted economic crisis, calling into question the very foundations of our current industrial model. It appears we will have to assimilate the ideas of biological process more deeply, into our very economic systems. What this means, and how far it goes, is not clear to very many people. (For those who believe it is clear, they may only be deluding themselves.)

But one thing I think we can say with confidence. The old linear model, based on petroleum extraction, is on the chopping block. This was the model that Le Corbusier extolled when he argued for his secretary and himself to drive anywhere, burn up tires and so on. This was the model of modern sprawl.

And lo and behold, where did the current financial crisis begin? In the sprawling American suburbs, in the so-called “drive til you qualify” neighborhoods – you know, Le Corbusier’s home under a tree – which were overly dependent on cheap petroleum and cheap debt. This wave propagated out to consume the entire Western world – but not the East.

But this is hardly good news. For it seems the East is merely a half-century behind us, and implementing almost precisely the same Neo-Modernist model of sprawl. Freeways; wide geometries; radiant-city buildings; Modernist industrial materials and fenestration; all the mechanical and industrial assemblies (and the economic operating systems behind them) as before.

The only difference is a superficial one: there are some gadgets applied that are meant to reduce the consumption of resources, and so, to slow the executioner’s blade. But this approach utterly fails to learn the lessons of the modern biological sciences – the ones Jacobs and so many others have argued: you cannot treat “the kind of problem a city is” in the same way, using the same simple model. Disaster will be inevitable.

So we have a level of performance of these “green” structures that is absurdly below par. We have “sustainable” buildings today that are not even designed to last more than fifty years, and their mechanical and electrical cores typically last much less than that. In

many cases it is more expensive to rehabilitate these buildings than to demolish them and start anew – at great expense of energy and materials.

There is, of course, a process that we know behaves according to the biological rules that we want to exploit: self-organization, emergence, integration, homeostasis. In human affairs, that process is called tradition.

This observation suggests a very different way of talking about tradition: not as a mere social value, a custom, a personal preference, a contingency of history -- but simply, as an agency of human intelligence. Traditions are vehicles for self-organization of societies, and for co-adaptive integration of their cultural elements.

Why do we run away from tradition as a cultural force, or try to hide it as a mere “preference” that we should be allowed to indulge in, like some kind of peculiar bad habit? It’s because tradition is greatly misunderstood, and wrongly considered to be dispensable. Some undesirable human phenomena are associated with traditions: oppressive rituals, backward customs. But science is also a tradition, of course. It gets its power through the workings of traditional process: open collection, refinement, peer review.

Tradition is thus variable but not arbitrary. It is a unique path to solving universal problems – that is, a local path to solving global problems. It is an essential element of our survival as we work through the current predicament. And it offers the prospect not only of survival, but of renaissance.

This is not mere marketing by suggestion – the magical thinking of artists - but rather, argument from the ample evidence of history. What a concept.

What are the conclusions from this discussion? Let me suggest several.

1. ***We must voice (or re-voice) a fierce critique of architecture*** (and architectural urbanism) as a profession, grounded in the perspectives outside of architecture that have documented its scandalous failures, of both commission and omission. We can point to the failures of the persistent modernist legacy, in its origins in a broader collective fiasco. We can highlight the shallowness of fashions, their unsustainability (see below), and their vulnerability to ridicule (not unlike spiky hair in the 1980s).
2. ***We must begin this critique with the simple evident observation of the progressive disaster of the built environment.*** This is not easy to do, because it is not easy for laypeople to discern the disastrous evolution of the built environment. It changes too slowly, and they are likely to assume that what exists today has always existed and will always exist. But most people will perceive this if given an opportunity. (Among other things, this suggests various kinds of comparative book projects, and public debates.)
3. Once this is documented, ***we must point to the responsibility that all architects must share*** for this catastrophe - ourselves included. We must put all architects and urban designers on the defensive. Then we will be in a leadership position in the response.
4. ***We must appeal to tradition***, not as something comforting or historically useful, but rather, a powerful evolutionary adaptive force in its own right, conveying a critical survival function. We must stress that the elements of

- tradition may be variable, but they are not arbitrary: they have adaptive value. Our civilization must therefore re-employ this form of “collective intelligence” within its core “operating system,” as a matter of highest urgency.
5. ***We must avoid facile appeals to popular preference.*** It is useless to claim that “most people like tradition,” and that is all we need. Most people like kitsch! On the other hand, most politicians, and engineers, and other specialists, fancy themselves superior to “most people” in matters of professional judgment, and therefore their duty is to override the “tasteless kitsch” of the people.
 6. I think ***we must therefore embrace four key values*** as arguments for traditional architecture:
 - a. ***Sustainability.*** Tradition is manifestly sustainable, for reasons that are now comprehensible.
 - b. ***Local identity.*** We need traditions to distinguish what is local from what is global, and to assist with the adaptation to the local.
 - c. ***Human health.*** We can now employ evidence-based design methods to identify the necessary qualities that are present in traditional architecture and urbanism: biophilia, support of healthy social interaction, walkability and exercise, access to networks of human need.
 - d. ***Beauty.*** We now recognize the biological basis of beauty for what it is: a highly sophisticated ability to detect environments that are likely to promote our own well-being. We must recognize the sharable (but variable) domain of beauty, and reject its banishment from a subjectivist, relativistic discourse.

In support of these last four values, there is fortunately copious evidence in many other disciplines, which we must marshal. Indeed, we must do a much better job of this than we have in the past.

As a possible model of the way forward, I commend to you the Arts and Crafts period. (Of which I am especially reminded because I write this a block away from Macintosh’s wonderful Glasgow School of Art building.) They did not “slavishly copy” – that red herring argument – but they did copy, and elaborate, and innovate, and create a marvelous mix of old and new. So has great tradition always done. So should we, I think.