

The Problem of Sustainability: A Response

*(Response to *Molecules, Money, and Design* by Mark Jarzombek, published in *Thresholds 20*, MIT Journal, Fall 2000 - full text on-line at <http://architecture.mit.edu/thresholds/contents20.htm>.)*

Let me say from the outset that I find Mark Jarzombek's "Molecules, Money and Design" (MMD) an odd read. I feel provoked to respond but a bit uncertain what it is precisely that I am responding to. The difficulty, I think, is seeing clearly just what he is up to in this article. As a polemical piece, MMD seems hastily constructed and poorly argued; however, I may be missing a point which - giving the benefit of the doubt to Mr. Jarzombek - I will attribute to authorial intention. To wit, this is a piece less intent on making an argument than starting one.

If I am right in this, then hats off to Jarzombek. MMD raises a brave finger of objection to the confused and politically charged atmosphere of environmental politics within our capital culture in general, and within contemporary architectural discourse in particular. That it strikes me, however, as largely wrong in its assessments and conclusions is also significant. But, first a little context.

In the tired discourse of environmental politics, the battle lines are too often reflexively drawn between the capital-motivated interests of stubborn conservatism on one side and the often disingenuous populism of liberal forces on the other. Both parties display a pervasive anti intellectual bent evident in highly reductive arguments and a refusal to consider the shared cultural genesis - yet divergent phenotype, as it were - of each other's positions on the natural world. Meanwhile, in the academy, an embarrassed discomfort with the way the battle is being waged is combined with a genuine uncertainty about the state and fate of the environment given the limits of our present knowledge.

Because the academy is typically not "conservative" in the sense that its fundamental goal of gathering up knowledge necessarily brings social change along with it, liberal "pro-environmental" positions arise more comfortably there. These positions, I believe, have been justifiably fortified by the development of "earth-nature" (as opposed to "cosmos-nature") based physical sciences (ecology, genetics, evolutionary biology, etc.) as well as "earth-nature" based social sciences (environmental history and justice, evolutionary anthropology, eco-feminism, etc.). Even the so called "science wars", where the physical and social sciences have been trading volleys on the nature of reality for a number of years have made important contributions to a reconsideration of culture's problematic relationship to the environment by calling into question our understanding of its constituent elements. All of this, it seems to me, is healthy, useful, and on-track in the developing discussion around sustainability. But, returning to MMD, how does or could architecture-in academe square with all of this. This question, fundamental in Jarzombek's article and which so surely needs to be addressed, sadly, does not get appropriately answered.

The situation in architectural academe that Jarzombek describes strikes me as more reflective of the kind of polarized environmental discourse found in popular culture than the more nuanced and developed discussion I have tried to describe for academia in general. And, while I applaud him for sticking his neck out in his attempt to suggest a corrective for the kind of stultifying and,

as I read it, anti-intellectual environmentalism that seems to be insinuating itself within the architectural academy, I feel that he has positioned himself badly in a number of ways.

- Firstly, he misrepresents the “project of Sustainability” and musters some regressive ideas about the Natural Sciences and Capital to draw this up.
- Secondly, although I think he accurately describes some of, but not all, the key “sustainability” forces making directive claims on the architecture curriculum (i.e., domestic/green and corporate/technical architectures), I believe he overstates the firepower they hold.
- Thirdly, he reveals a surprising conservatism in his notions of architectural education as it pertains to history, theory, and design.

“Molecules” or The Project of Sustainability

In what seems like a headlong rush to forge his particular linkage of Sustainability with Capital and Design, a problem arises in the first paragraph, which I think, sends Jarzombek down the wrong path. He states “...there has been a growing interest in the project of Sustainability as a site where ethical commitment, architectural practice, capitalism and good design could come together...” I am alerted by the upper case “S”. Jarzombek is not the first to reify sustainability as a coherent cultural practice; however, it is amazing that he seems to feel its architectural dimensions are so well established that he can measure it against New Urbanism (p.32) at one point and the International Style (p.34) at another as if it is just another stylistic or political choice. In effect, this reification has allowed Jarzombek to bundle up very diverse histories, activities and positions within the environmental movement into a specious but unified “project” and “site” upon which Jarzombek proceeds with his argument about “...the new relationship of architecture to Sustainability...”. Consequently, he misses the opportunity for a deeper investigation into what “lower-case-s” sustainability might portend for the academe and the vast history of architecture’s old relationship to it.

Properly considered, “sustainability”, describes a cultural practice still very much in the making. Attempts at greater descriptive precision notwithstanding, it has become an umbrella term for many forms of proactive involvement with the environment which attempt to mitigate humanity’s transformative and negative impact on particular natural systems. Despite Jarzombek’s declaration that, “...the basic premise of Sustainability is simple enough...”, the major reason why sustainability continues to struggle to clarify its practices has to do with the difficulty of comprehending the extraordinarily complex manifold of natural ecological processes and cultural artifact-making practices (like architecture). The “perspective of the Natural Sciences” - which he considers the sine qua none of his version of sustainability - surely makes a contribution by identifying environmental problems, describing them at the level of “chemicals-in-dynamic-interaction”, and, providing predictive solutions but that is as far as it goes. Attempts to establish specific verifiable scientific tenets and procedures still fall remarkably short leaving sustainability a bit of a crap shoot with practices that are diverse and contentious even among members of its own adherents (e.g. pitting proponents of biome reclamation against alternative energy advocates who rely on entrepreneurial progressive technology, the unanticipated consequences of which have proven to be the very scourge of the biota since the advent of the industrial age).

But there is another problem. In Western culture, humanity has been severed from all things “natural” pretty much from the get go. Often discussed root examples are the pastorals of Theocritus, Virgil’s Eclogues, or simply the expulsion from the Garden in Genesis. The legacy of this is a Nature that is “uncultured” despite our reliance on socially contingent metaphors and other linguistic conventions to describe or even think the biotic realm, and a Culture which is “unnatural” despite being constituted by a species with the same genetic and evolutionary foundations that it stands over and against. This identity crisis underlies all environmental thinking and suggests that the issue of the environment and the place of sustainability is fundamentally a cultural problem not a natural one. This point is underscored by the environmental historian and eco-feminist, Carolyn Merchant, in her book, *The Death of Nature*. Here Merchant suggests that the top down view of traditional history presents a misleading picture of the “natural” environment. In this view, culture is understood to be dynamic and primary with its’ own conventionally studied sources of change - demographic, economic, political, or ideological, while, on the other hand, nature is rendered passive and secondary - “Nature...is simply the space wherein cultural change takes place”. As an alternative, Merchant suggests a re-visioning of history from the ground up. This view encompasses two key points. Firstly, it presumes that human and natural environments form an interrelated system, and secondly that any cultural history is wanting without a full accounting of how we have adapted to our environments. I think Merchant is right in this. Furthermore, I think sustainability as a discourse rooted in the over-arching matrix of the biota, is well-suited to “remind” us about ourselves and the artifacts (like architecture) we make.

Ultimately, I am struck that, as an historian/theorist, Jarzombek buys into a positivist model of the Natural Sciences as the back bone of sustainable practice. Besides being based on “malleable” and “repairable” chemico-physics rather than the less controllable emergent properties of chemical biology, this model gives us, to use Heidegger’s terms, the “earth” without the “world.” By considering the idea of sustainability as simply a chemically-based repair kit maintaining a “steady state” condition rather than as a form of social practice which both attempts to keep the complex biotic realm sustained (i.e., with Webster’s, “to keep in existence”) as well as redress a blind spot in our awareness of our own history, Jarzombek misses the possibilities that sustainability-as-a discourse might provide for us. Presently our unfortunate bi-furcated condition as natural-cultural entities coupled with the limits of present knowledge about ecological processes and environmental cause and effect make it very difficult for sustainability-as-a-practice to be other than an aspiration. There are still too many details to be worked out. And one place, it seems to me, that is very well positioned to work them out is in architecture - large, culturally conceived, earth-changing artifacts stuck in the ground in the wind, rain and sun.

“Money” - Sustainability and Advanced Capital

This brings us to another vector in the triadic relationship between architecture, sustainability, and capital from which Jarzombek develops his argument. Firstly, he wonders why “ the connection of capitalism...so obvious... remains so discretely undiscussed.” I wonder at his wonderment. Perhaps it is precisely because of this obviousness that it seems off the table. One can argue that this is due to the “naturalization” of late capitalism in the practice of everyday life

(as Frederic Jameson, after Adorno, does) or that the lessons from the collapse of alternative social systems and economies in the past 15 years have simply produced a reflective pause on such matters. Jarzombek prefers the former notion and seems intent on using Frankfurt School descriptions of advanced capitalism to conjure up a boogie man lurking behind sustainability. By eliding the trans-economic nature of environmental devastation (e.g., in the former Soviet Union and China), this condemnation-by association of capitalism and sustainability is a similar form of rhetorical trickery to that which he accuses big business and government of using in their co-optation of sustainability. Developing this pact with the devil, he states that "...sustainability must work with capitalism and government for just as much as these institutions are responsible for the problem, so they alone possess the resources necessary to research and then deal with something as vast as our global molecular reality." And so, we are left with corporate accommodation, "the billion-dollar industry in green-equipment and green-technology".

Once again, I think that Jarzombek has missed a useful mark on the way here. The fundamental issue needing to be understood is not advanced capitalism but early capitalism and its relationship to western notions of industry, technological science, and progress. It is the rhizomatic influences of these 18th and 19th century ideas, which have been sprouting up trans-culturally to produce the environmental problems we see today. These ideas are the ones dangerously "naturalized" in our culture. Advanced capitalism simply facilitates their spread while being as much symptomatic as productive. But, it also does something else worth noting. While Jarzombek's view is correct in its warning about the hypocrisy in the "administered society", the commodification of "Sustainability", and the politics of rhetorical exploitation, he should not ignore another aspect of capitalist culture, that is its inadvertent (or perhaps, simply,... democratic) accommodation of subversive tactics and resistance from those it purports to co-opt. The fact is, one of the residuals of corporate and political "exploitation" has been a vastly increased level of environmental awareness both in terms of real biotic problems as well as its relationship to social justice. Indeed, the "globalization" of advanced capital systems has provided the means for making a qualitative and positive impact on the environment through greater dissemination of information, more accurate means of assessments, not to mention a radical shift in communication modes away from "industrial age" natural-resource-based technological material and toward the immateriality of information networks. Alternative energy production and technology investment in sustainable practices are becoming more and more robust and will not likely go away this time as they did in the post-60's era. So what is Jarzombek's real concern here. After unsettling us with talk of Capital in the "culture industry", it turns out that his real concern is not Capital's cynical assimilation of sustainability but rather what he sees as sustainability's consequent assimilation of big business techniques.

Returning to the topic of science, Jarzombek inappropriately conflates his discussion of Natural Science with a Taylorist sounding notion of technological scientific management or what he calls an "efficiency paradigm". Fearing the introduction of sustainability into the design studio utilizing corporate techno-business practices with measurable, bottom-line criteria, he conjures up a kind of mechanistic imperative replacing individuated "artistic freedom" with epistemic assembly lines based on technological skill and precision. Personally, I find things like Alexanders' "pattern language" more threatening to the practice of the studio than the unexplored range of spatial, formal, and material possibilities in sustainable design thought. But none the less, Jarzombek's future-studio seems implausible even if his description of

sustainability were not. Architects are not engineers, ecological or otherwise, and the smattering of environmental technology they get in their curriculum should neither fool nor scare anyone into thinking they can bring a substantive level of environmental performance precision to their designs. Architecture studios speculate, with students loosely using what they learn of technics, structure, history, and theory to suggest possibilities and ways of thinking about the relevant issues. It is hard for me to see how this could ever change without first changing the nature of the profession as a whole.

Design, Technocracy and other Grand Narratives

Jarzombek spends little time discussing domestic “green architecture” which he associates with grass roots politics. Apparently, this movement is less threatening to him; perhaps because of its ineffectual history in the mainstream discourse of the architectural academe. He would be right to feel this way and I would probably side w/ him in suggesting that this history is less the result of academic irresponsibility than the failure of green architects to make their case. The domestic “green architecture” portfolio has often drawn less from an historical or theoretical analysis of architecture than it did from the strident and confused politics of the environmental movement which I alluded to above. Rather than re-considering architectural design as “always already” bound up in issues related to sustainable practices by looking historically at theoretical intentions and material consequences, many green architects (including those in the academy) have tended to overlay green design issues on top of conventional academic design issues - much in the way that many of them overlaid solar energy panels on to their architectures as a necessary add-on to the “real” architecture. Both tendencies have resulted in a failure to capture academia’s interest despite the latter’s recognition that something indeed was at stake.

However, as Jarzombek sees it today and I think rightly, green architects in the U.S. have an important new alliance with corporate technological culture (although he fails to note, even in his extended discussion of Herzog, how tardily this alliance has been forged compared to many socialist oriented European economies). My hopeful view sees little problem here. Rather, in present practice, it appears like the traditional contribution of interesting engineering and inventive construction “means and methods” informing design possibilities (e.g., Building-Integrated Photovoltaics or BIPs). However, Jarzombek fears for “...the consequences if the forces of technology and popular culture unite in redefining the architectural academe...”. Furthermore, he fears that this alliance (propelled by the recently evolved, politically correct, version of greenery) besides replacing studio concerns with “performance criteria” will step into the architecture classroom where ...”History/theory will either be jettisoned outright, or will have to be sidelined to make way for the growing needs of science...” Besides the overstated authority he gives to science in these matters which I have tried to outline above, I think this also exhibits a very conservative idea about the nature of history and design.

I have argued above for a more nuanced understanding of sustainability as a manifestation of how we are interpreting the environmental problems we presently confront. The history of its relationship to the Natural Sciences, advanced capitalism, and architecture are more complex than Jarzombek seems willing to consider here. Consequently, the questions he poses in his seven-fold politics strike me as unnecessarily alarmist and missing the point. It is indeed not “...right to measure a building’s impact on the environment by the amount of money its owner

saves on electrical bills...” But it is intellectually exhilarating as well as technically provocative, when an architecture tries to understand its affinity to the earth in a performative way. Not due to dry “instrument readings” but rather by the emergent tectonics, spaces, and details that appear when an architecture maps itself on to natural processes, wind, sun, water, and soil. And emergent is the right word. There is much forthcoming that we cannot predict and the undeveloped nature of what effective sustainability means coupled with the critical importance it holds for us in the century ahead provides the architectural studio with a chance to speculate on a host of new kinds of tectonic relationships and properties.

As has been convincingly argued elsewhere, the forms, spaces, and materials of earlier architectures were premised on ecological concerns. I am not referring to the “primitive hut” here but also hellenic classicism and a host of more recent indigenous architectures. Nevertheless, in the course of time, the original intentions of these forms, spaces, and materials have given way to semiotic transformation. The keen awareness - as a matter of survival - of our natural surroundings receded from within the environmental prosthesis which technology provided us and the possibility of a speculative existence allowed us the luxury to forget the big cthonic space of the earth and, instead, focus on the “instrumental design” of the world. We now seem to have reached a point where we can reflect on the consequences of this and unfold our present by updating our past not to drop our history of architecture books but to abridge them. As with design, this is what we have always done in the academy and elsewhere.

The future is an inter-disciplinary one and it may indeed be thought of as “architecture-with science”. But this interdisciplinarity will draw as much from the social sciences as the natural sciences. A meaningful and effective sustainable practice in architecture is not possible without the academy’s over-arching scrutiny into our cultural histories, theories, and the technological practices that they engender. Once this level of thought is introduced in the Architecture History & Theory classroom, then we can begin to discuss its impact in the studio. In the meantime, we should encourage and direct students, as we always have, to re-think architecture at its roots, and to steer their design thinking toward the fascinating, rich, and critical issues that will affect their lives.

I think it is true that Sustainability is about remembering. But, this does not represent a “...return of grand narratives...” in the sense that Jarzombek would have us think. Rather, I would agree with Jameson (who I think is in here somewhere for Jarzombek) that the claim of a grand narrative can not go uncorrupted by its own narrative form nor the parasitry relationship it has on prior narratives. In this sense, there indeed lies a narrative rooted in notions of sustainability... one that has been forgotten. It is also one to which that Jarzombek’s MMD gives both too much and too little credence.