

# The Return of Nature

Sustaining Architecture in the  
Face of Sustainability

*Edited by Preston Scott Cohen and Erika Naginski*

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## Eco-Pop

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### Part One: ARUPtocracy

In April 2010, Peter Head of ARUP came to MIT to give a lecture in which he showed this equation:

$$(\text{CO}_2 - 80\%) + 1.44 \text{ GHA/capita} + \text{HDI increase} = 2050: \text{The Ecological Age}$$

Head knows what he is talking about. He has had more than 40 years of experience in civil and structural engineering and planning, and has been involved in many leading projects in Asia, Europe, North America and the Middle East. The lecture in which this equation appears is now online and translated into Arabic, Chinese, Korean and Spanish.<sup>1</sup>

I am not sure I understand everything about this equation. After all I am not a scientist. But I do understand the equals sign, and it is at this point that I will aim my opening discussion. The equals sign intends to prove that the equation not only *will* work out, but that it has *already been* worked out. If science can accomplish anything, it has to be founded on the sanctity of the equals sign, and ARUP, one of the world's greatest engineering firms, has (so one can presume) now placed the weight of its considerable reputation on this mathematical symbol. 1.44 GHA cannot be 1.43 GHA. 80% is not 79%. 2050 cannot be January 1, 2051. My point is thus a simple one. This is a faux-equation built around a principle of elegance, as good equations, so some scientists argue, are meant to be. Thus the question is: Why in an age when science is often held in suspicion and when the science of global warming is so radically politicized, does ARUP play games with science? Why does ARUP produce an equation that discredits science even further?



**8.1**  
J. C. Laird, Desert Vivarium,  
2011 (Photo License:  
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Commons).

Against the supposed science of this equation, I would like to propose another one that conforms better to the actual goals of ARUP: Technology + Control = Nature. It is a laudable ambition. But should we leave it at that?

I am not suggesting that ARUP engineers think that nature is something dialectically different from culture; they know that the nature they produce is just natural enough (for most people at least) that it cannot be mistaken for the artifice that it is. The result, of course, is that the natural has been evacuated of whatever naturalness it might have had. Everything, even nature, is not-nature. Architects will, of course, continue to ornament their drawings with green grass and trees while working with the Romantic image of a happy and contented nature. But we all know that this is all so much smoke and mirrors, for our globe is basically an enormous vivarium (Figure 8.1). Yet unlike the vivarium of old where we humans see—and construct—the difference between nature and its artifice (unlike the animals in the vivarium who presumably are unaware of this difference), we are not only living in the vivarium but also constructing its habitat at the same time. The controls and the dials are no longer “outside” the vivarium. They are inside and part of our daily human existence. Every breath we take, every machine we operate, and everything we purchase changes the dial. And yet, despite this, we seem to want to

be like the fish, snakes and birds that live an entire life—so we presume—without realizing they are in an artificial landscape. For this to happen, however, we need ARUP at the dials.

The nature around us is an illusion constructed in tight alliance with the world of pipes, ducts, and valves both real and metaphysical. But we should not just assume that this is a death of the natural world. ARUP's equation produces two natures. The first one is Nature-as-image and the second is Nature-as-Science. The equals sign gives us entrée into this latter form of nature, a nature that is rendered transparent through the elegance of the equation and at the same time comprehensible in the abstractions of science. The equals sign is an indication that in their eyes the new vivarium culture can actually work—that is to say, that we can live in the enclosure of the globe by manipulating its inputs and outputs (Figure 8.2). ARUP's equation is the governing principle of the new globe/vivarium.

The idea that Nature is not "out there," but that it is identical to science is an extension of Positivist techniques of observation, calculation and prediction. Positivism rendered matter as "dead" so that it could be enlivened by the equations of physics and chemistry that govern the world from their magisterial heights. Yet it is one thing to describe Nature through an equation and another to fiddle with the equation so that it "works out" to our (or perhaps their) convenience.  $E = mc^2$ . Now THAT is an equation. What ARUP proposes is not. For 2050 to be reached, heat will be released and recaptured. Carbon dioxide will have to be measured and contained, bought and sold. Methane will have to be curbed and natural resources managed. But if 2050 comes around and we are not where ARUP wanted us to be, the mistake, according to them, was not theirs but ours! While this is astonishingly arrogant, we should follow their argument to its logical conclusion for what their equation tells us is that we cannot trust politicians to do the work of science. What we need, therefore, is a special brand of trained technicians and managers who supposedly have nothing to do with politics. If Aristotle wanted us to be ruled by an aristocracy, ARUP wants us to be ruled by an ARUPtocracy, which would reign supreme in the Ecological Age. ARUPtocracy would put an end to corrupted democratic inefficiency as well as to corrupt nation states. It would even impose its will on the corporate world by arguing that it, too, is "a corporation" that understands the logic of big business.

In discussing ARUP in this way, I am trying to separate ARUP's ideology of management pragmatism from its philosophical position. We are often so seduced by the promises of the former that we do not discuss the latter. ARUP claims the supra-legitimacy of a disinterested science over the distrusted and ineffective human institutions of governance and, as such, represents a form of disengagement from the more prosaic world of humans. This is modernism's (and postmodernism's) last great gasp.

ARUP's equation, furthermore, promises what it cannot deliver. The equals sign is a fiction, an expression of a utopian projection of a unified nature. This means that ARUP's approach to Sustainability is to architecture what Intelligent Design is



**8.2**  
Producing the Natural (vivarium pipes) (Photo: Mark Jarzombek).

to the discussion of evolution: a joke or, worse yet, an extension of the false hope that there is a god in the system or, in this case, that there is a big equation in the sky. Why are we amazed that climate-change-deniers are so pervasive when our leading intellectuals and engineers play around with the equals sign?

The result is an architectural discourse about Sustainability that—from a cultural and theoretical point of view—is tottering on irrelevancy. And this is not because the globe is not warming. The reason we want the appearance of Nature and the illusions of Science to (co-)exist is that they hold out the promise of a fixed point on which to leverage design and policy. But that Archimedean point—and the utopian project of modernization on which it is founded—does not exist and to hold on to the illusion that it does is simply absurd. Just as religion is the opium of the masses, Sustainability is now the opium of architects, policymakers and technocrats.

So let me be clear. We live in an unsustainable world and we will *always* live in an unsustainable world. This means that we should build *and theorize* accordingly. The first theoretical act is to clear the air, get rid of the word “Sustainability” and learn to speak honestly about what it means to design in an unsustainable world. So I propose an equation that I know *will* work and that I know is *more* scientific than the one proposed by Peter Head:

$(CO_2 - 80\%) + 1.44 \text{ GHA/capita} + \text{HDI increase} \neq 2050: \text{The Ecological Age}$

## Part Two: Eco-Pop

ARUP has magnified nonsense in the name of rationality and in so doing has proven that nature is nothing more than a shifting, if not actually empty, signifier. So using their beginning point, I want to carry the argument to the next level. If ARUP is producing fairy tales, why is architecture so serious about its mission to improve the efficiencies of our buildings and cities? Let us simply accept the truth that Nature = Shifting Signifier. That is where we should start. We must engage (or perhaps re-engage) architecture as a play of concepts, and what better concept to play with than Nature.

And this brings me to Pop Art, an art movement of the 1950s and 1960s that emphasized exaggeration and that took its imagery from advertisement, news, and generic cultural artifacts. It poked fun at postwar corporate seriousness. Though the movement is now long since forgotten, I propose to add Nature to the list of its targets. The fusion is Eco-Pop, a design strategy that embraces *all at once* the untenable cultural predicament of our current age, the vacuity of the idea of nature, and the fabulated ambition for a Sustainable future. Eco-Pop, just as it rejects the rhetoric of science and efficiency, does not ascribe to design-from-below either; it does not attempt to give some magically empowered voice to the non-architectural community. Unlike ARUP, which secretly points to a technocratic utopia from above,

Eco-Pop makes no claims about politics at all except that it needs an environment of free speech. Its goal is thus rather to think outside of the conventional design ethos of the professional architect and to make use of cultural productions, tropes, and critiques that may not require “design” themselves but that can be grafted *into* the processes of architecture.

*Eco-Pop returns to the postmodern notion of pastiche.*

Eco-Pop shifts the focus from the technological to the philosophical. Nature, if it exists at all, is being filtered through the vortices of our cultural imaginaries, which means that architects need either to wake up to these cultural constructions or be left holding the empty promise of irrelevancy.

*Eco-Pop seeks the truth of rupture over the myths of continuity.*

Eco-Pop accepts the truth that there is no single magic equation that explains all. There are hundreds and thousands of potential equations.

There is very little architectural history to Eco-Pop, since most design schools today would see an argument in its favor as preposterous, and this largely because designing an Eco-Pop building would mean something vastly different in pedagogical terms than going to a class on Sustainable Design. There are precedents, however. On the Pop side of the equation, one could list the Chiat/Day Building, Los Angeles (1985–1991) by Frank Gehry (Figure 8.3). Rarely do we talk about this building today, but one can hardly overlook its rather amazing binoculars. And if the Oldenburg tactics weren’t enough, one is struck by the oddly aligned sticks holding up the roof. There was a time when tactical exaggerations and borrowings were considered



### 8.3

Frank Gehry, Chiat/Day Building, Venice, California, 1991 (Photo: 2007 Bobak Ha’Eri, GNU Free Documentation License, Version 1.2).

a legitimate part of an architectural way of thinking, but for various reasons this approach died. Even Gehry now has turned away from such cultural references.

The Urban Cactus of UCX with Ben Huygen and Jasper Jaegers seems to move toward the ideas of Eco-Pop. Unlike the other projects of UCX, which should be categorized as rather uninteresting examples of modernist reductionism, this building with its tree-laden curved balconies seems playful. But is it Eco-Pop? No. Unfortunately the UCX architects did not consult with Natalie Jeremijenko who not only heals “Polar Ice Cap Stress Disorder,” but also plants trees upside down as part of her Tree Logic exhibition at the Massachusetts Museum of Contemporary Art (MASS MoCA). The trees survive quite nicely. Her project asks us to think about our manipulations of nature while at the same time showing us an extreme example of the non-natural.

As it is, the UCX project is little more than a tower with bourgeois balcony plantings. The architects, in other words, have caved in to the naive notion of nature as an ideal, though constructed, landscape for the wealthy. In accepting the status quo, they do not challenge us to rethink our attitudes toward nature. Jeremijenko’s trees do. Had UCX really wanted to challenge the architectural cliché of photoshopped nature, they would have followed Jeremijenko’s idea and hung the trees upside down from the ceilings of the apartment above.

Unlike the Urban Cactus, the Naha Harbor Diner in Naha City, Japan, is an excellent example of Eco-Pop (Figure 8.4). The project was designed by Takeshi Hazama and built by the engineering firm Kuniken Ltd.<sup>2</sup> There is some difficulty



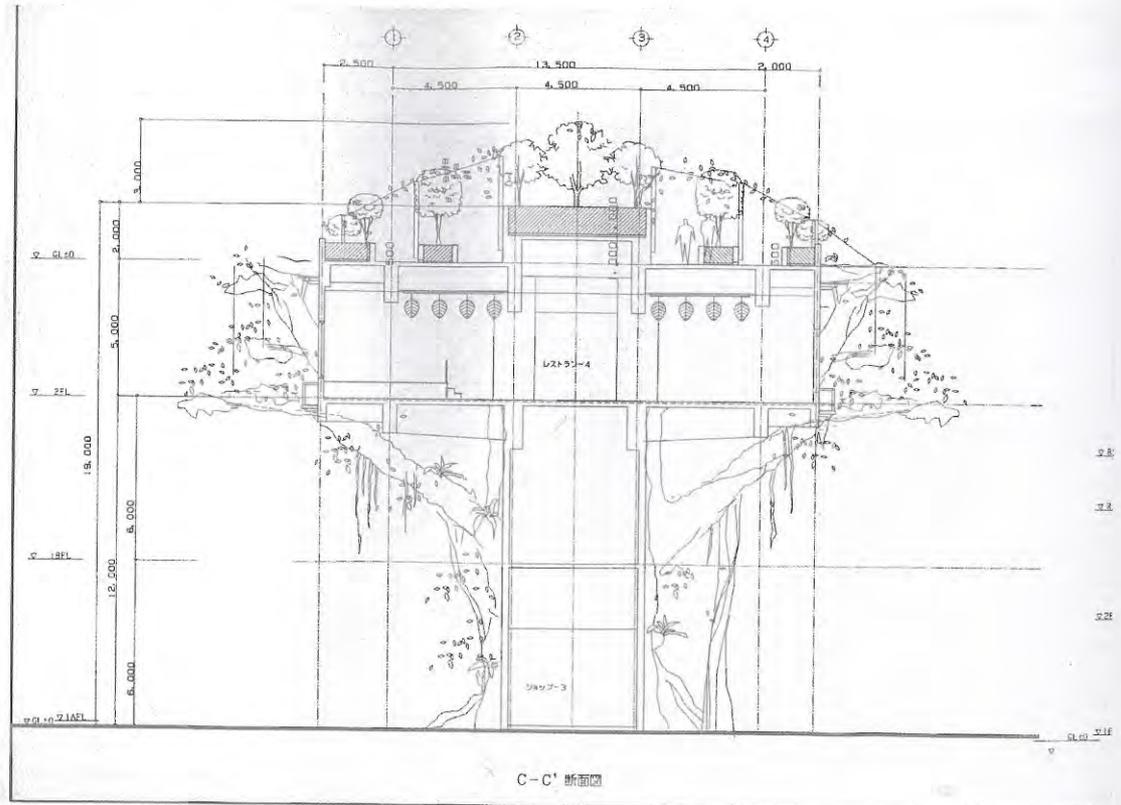
**8.4**  
Takeshi Hazama, Naha Harbor Diner, Naha City, Japan (Photo: Courtesy of Mark Jarzombek).

in knowing what to call it, but I will insist on calling it a building. Even so, the project would hardly earn a passing grade in a design studio, despite the relatively sophisticated engineering that went into its construction.<sup>3</sup> The tree's bark, for example, was made of painted fiberglass-reinforced panels supported by light-gauge steel frames. Hazama created small cracks in the panels and inserted mats and plants so that moss could grow from the branches. Eighty thousand small lighting fixtures were also installed on the tree's skin and restaurant façade. At night, these lights illuminate and define the shape of the tree.

This unexpected pairing of nature and artifice is extraordinarily provocative, especially as an alternative to the seductive tree romance of the film *Avatar*, which I see as merely extending the heroic, animistic fantasy of a computational fusion of man and nature. The Naha Harbor Tree plays on the difference between the "natural" and the "man-made." It is not a conventional tree house either, but has a modern—and rather absurdly typical—concrete building montaged into the branches. The design does not hide the restaurant in the tree, but launches it implausibly into its upper reaches as if swept up there by a great tsunami. This multilayered, syntactical fracture, in which both the tree and the restaurant (and even the idea of Japan) are in quotes, is the key to this building's success. The disparate imaginaries out of which the diner is designed are ready-mades, but by

### 8.5

Takeshi Hazama, Naha Harbor Diner, construction drawing of the section (Photo: Courtesy of Mark Jarzombek).





**8.6**  
Stata Center Upgrade  
(Photo: Mark Jarzombek).

putting them together in this way, the project undermines the presumption that aesthetic production has to be an extension of the super ego (Figure 8.5).

More can be done to expose the transitory state of the cultural product. We should, therefore, take the Naha Harbor Diner one step further. I propose to rebuild it next to Gehry's Stata Center designed for MIT along Vassar Street (Figure 8.6). The Stata Center, after all, is itself a replication of the Gehry brand. So if architects copy their own work, and corporations utilize the franchise model, why are we in the discipline of architecture so insistent on our principles of authenticity and autonomy? Such insistence has long since been obliterated as a cultural model and survives almost exclusively in schools of architecture. The new tree is, however, neither brand nor franchise, instead serving as an alien insertion—a photoshop that happily exposes the death of the *arkhitekton* and the related death of Nature, both of which are dialectically invisible in Gehry's building. The Vassar Street Diner, as I propose it, will remind us that the death of these concepts is the *only* theoretical platform on which architecture can legitimately operate. The new fiberglass tree is the future set against the backdrop of the old.

## Notes

- 1 This equation and a lecture of his are now online at: [http://www.arup.com/Publications/Entering\\_the\\_Ecological\\_Age.aspx](http://www.arup.com/Publications/Entering_the_Ecological_Age.aspx) [Accessed December 2011].
- 2 Takeshi Hazama is a registered architect in Japan although he has never been trained as an architect. He considers himself as a designer not an architect. Hazama lived for many years in Italy where he worked as an assistant art director for the Italian movie director Federico Fellini. He was hired by 20th Century Fox as an art director in Los Angeles for

several years. He then went on to produce TV commercials in Japan. Now, he bases his business in Japan as a designer–producer. He was part of the team that came up with some of the themes for the scenes of the opening and closing ceremonies of the Atlanta Olympics. Though he is a licensed architect, Hazama is what one might call a concept designer. The client of the restaurant was Kiyoharu Kakazu, the former head of Ryutou Inc., which used to be Ryukyu Seito, a local sugar manufacturing company. The site is between the city of Okinawa and the airport, and, according to the architect, lacks good “Ki” or “quality.” The tree was meant to compensate for this. It represents the Gajumaru tree (*Ficus microcarpa*), which grows in the region. Hazama envisioned that the tree would form the basis of a commercial village around it, providing “Gokujo Kokage” (the Best Shade under the Tree). Feng shui was also taken into consideration. Four living Gajumaru trees were placed at the bottom of the tree.

- 3 I would like to thank Norihiko Tsuneishi, who interviewed Hazama for me and made the necessary translations.