The Thin Green Line

To wit, green roofs are sprouting up everywhere. As residential cooling carpets, as landscape amenities to libraries, museums, and other public buildings, or as a form of corporate amelioration, there are today plenty of examples of green roofs and vegetal walls. It certainly does not seem to be much of a fight anymore—if anything, the sense is that a client would be disappointed if you did NOT include a green roof or a green wall.

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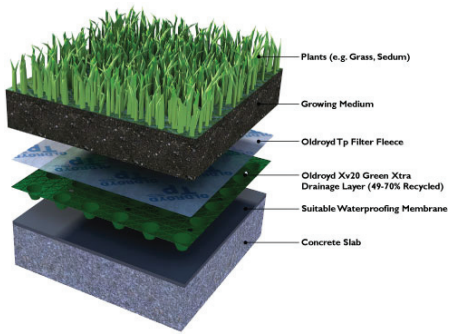
Of green roofs, there are three main types, making the term "green roof" actually a misnomer. Generally, there are extensive green roofs, intensive green roofs, and simply what is termed, "underground parking garages."[1] An extensive green roof typically possesses a thin moisture membrane, a layer of soil or nutritive growing medium, and a single plant species. They require the minimum amount of maintenance, and are certainly the most common type of "green roof." An intensive green roof has two crucial differences from the extensive type—one is a greater variety of plant species (the Ballard Library in Seattle has over 17,000 plant species!), the other is that it offers a depth of soil as can be safely held according to load standards. Intensive green roofs can hold anywhere from 50–150 pounds of vegetation per square foot, and include traditional roof gardens or almost any container garden that can be accessed and visited. The underground parking garage, ostensibly named because one would not ordinarily put human-oriented programs under the ground, offers a soil layer as deep as necessary for the planting of trees and other forms of deeper root vegetation. The soil layer on these is thick enough for in-ground planting and root systems, even if a root barrier is in place. It is of course assumed that the substructure will be sturdy enough to carry this load as well as handle the possible effects of moisture runoff.

Typically, the initial cost on green roofs is the main prohibition. The structure must allow for static loads. There must be a reliable form of moisture barrier, and usually, a root barrier. In the case of the extensive roof type, the performance may compensate for the initial cost, as the waterproofing membrane also shields and protects the roof from weather and UV light. Cost-benefit analyses often measure the long-term advantages of the green roof or wall as an equivalent to an additional insulating layer. Once those savings are



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accounted for in the long-term, environmental amelioration, and the civic responsibility that we all have toward reducing the urban heat index, is often the (pardon the pun) icing on the cake. There can be no doubt that green roofs and green walls, almost any additional vegetation, is no longer merely an environmental good or amenity. They are a social and environmental *necessity*.

This does not mean, however, that green roofs and walls are value free when it comes to architectural aesthetics, and by that measure, architectural theory. One could hazard to say that, if anything, the world of architectural theorization and critical engagement rarely even bridges the world of architectural sustainability and environmental responsibility. Perhaps because we are all humanists (in the end) or at the very least tend toward shared political perspectives, architectural sustainability has been a bit "hands off," fairly free from the stern eye of critique, as in, "saving the planet? Oh, right, … um.. carry on…". The upshot unfortunately is that we have very little sense of the theoretical potentials offered by these kinds of architectural works, nor often ways of critically unpacking not what architecture *does* (and in this case, we know it is doing good), but what architecture *means*.

The above title, "The Thin Green Line," is from the cliché—the visual metaphor that the thin red line or the thin blue line are a spare front line of defense against some encroachment or threat. "The Thin Green Line" is actually a direct rip-off from a film about park rangers from Australia, as well as a PBS documentary on frogs. The former imagines the line as a line of defense—the rangers who protect the earth's natural wonders and resources. The latter—the frog show—is a testimony to the depth of ecology and its pronounced and necessary heterogeneity. Frogs, it turns out, are being threatened by both disastrous global environmental degradation, and a nearly microscopic fungus called chytrid, which has no direct origin, and so is difficult to track and eliminate. Because the frogs are dying off at an alarming rate, the food chain of many ecosystems have lost their center pin. There are many, many species of frogs and insect-eating amphibians throughout the world whose habitats vary wildly, and scientists are racing to save some 7,000 species of frog from mass extinction.

Like the frog, the evocation of the thin green line to refer here to the green roof is not only metaphorical. It is also a very literal description of most green roofs and walls. The *pro forma* for the green roof and wall (and no, this is not merely a cost issue) seems to be that of a very thin performance envelope. The thin green line in this case is not exactly a defense, even if it is capable of reducing our overall carbon footprint. The thin green line, architecturally speaking, is a surface that contains a "trick."

Even if we can imagine that modernism dictated an appreciation for close greenery—whether as the Corbusian roof garden, Wrightian planter boxes, or a Californian ease of indoor to out—the prevailing aesthetic of the roof and the wall was as a plane distinct from the landscape. There are examples of architectural modernism that play with the landscape—the textile block, for example, and the way in which it is also used as a retaining wall in some instances, or the very odd example of Loos' Steiner House and its

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ivy covering. But overall, the current green roof and vegetal wall belong to a more postmodern sense of reversal. The greenscape appears as if it were an unexpected twist on the (supposed) landscape/architecture difference. Vegetation, seen as a "necessary supplement," is transposed to the very surface which would (normatively) uphold the distinction between the natural and the built, the organic and the artificial, or the landscape and the architecture—whichever binary might be operational. The green roof is therefore not merely an innocent environmental good. It delights in its visual surprise: the ordinarily smooth is made textural; the ordinarily hard is made soft, watery, tendrilled; the ordinarily hidden or unused home of the HVAC is made into an entirely fresh opportunity to offer the cooling oxygen of the green.

Again, this discussion is in no way intended to dismiss the very real positive benefits effected by the greening of our urban environments; merely, that these benefits should not dissuade us from a searching discussion of the formal, tectonic, or aesthetic effects that architecture demands from greening. If the prevailing architectural impulse is the thin plane as a "tricky surface," and this is still an effect generated by postmodernist critique, then it should make sense to ask how postmodernity became a hegemonic form of architectural effect (or, affect). Similarly, if our commitment is to the environment and environmental good, we could ask why the binaries of difference still persist. Simply put, the organic just does not operate on binaries.

The closest philosophical corollary is the discussion of deep ecology. "Deep ecology" a term coined by Arne Naess in the 1970s, understands nature as series of complex ecologies, enriched by diversity. It is a philosophy set in motion against the perception of a "shallow ecology," or basic human anthropocentrism. Deep ecology sees the environment and all its beings as possessing a set of rights and intrinsic value *in situ*, and thus entails a wrong done by humans not only by their exploitative deeds but by their sense of superiority. In its most extreme form, deep ecology leads to human population control, and militant activism on behalf of wildlife protection

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(one deep ecologist, Savitri Devi, was an admitted admirer of Hitler). As a more casual point of discussion, deep ecology offers a vastly different way of framing the world—not as nature versus the artificial, or even nature versus humanity, but as a rich, layered complexity of habitats, ecosystems, eco-centiousness and by that extension, consciousness, far outside of the mostly-Western ways of framing knowledge about our world and human awareness within it. It is the difference between the park ranger as a line and the frog as a center pin. The frog and the fungus are deep.

While one could interrogate the green roof on the depth of its commitment to the ecology, what is left open, and largely untheorized, is the architectural side of the equation—not just what architecture is asking of the organic (to perform in a particular way) but the root of architecture's consciousness, and the impulse toward a particular tectonic of thin planes and surfaces. In other words, it is not merely that the architecture is making the organic present, but rather that the presencing of the greenery is afforded by a tiny sliver of architectural allowance. Certainly, any example of the extensive green roof is hardly "deep," and not really at all "ecological," especially if we discount the heat index advantage, because it is thin, relegated to a performance surface or envelope. As such, we could correlate the thin plane to a Heideggerrean "enframing" of nature, as a "standing reserve," and leave it at that. However, if we account for a deeper sense of ecology, then it may be more fruitful (again, the pun) to trace a philosophical derivation back to Spinoza's conception of self-realization[2]. In Spinoza, the formation of consciousness is derived from an expanse, one that could be non-human as well as human. In this sense, the thin plane or the surface represent a limit condition—not only as a frame for the organic, but as a limit to roofness of a roof, the surfaceness of the surface, the wallness of the wall. In other words, the very "trick" that is trying to confuse the terms, is reifying them back into certitude.

What the green roof and green wall, in their most special and trickiest mode, do is to strive towards thinness. This problematizes the plant choice, the choice of system, the cost (!). All of it, in fact, starts to sound with a circular logic of choices a lot like Philip Johnson's "Seven Crutches of Modern Architecture"—the crutch of function, of the client, of cost, maybe now added to by the crutch of plant life.[3] In other words, and to get back to Spinoza and Heidegger, it is simply not enough to state a preference for thinness, and then to use the thinness to state a need for particular forms of plant life, or for that matter, a pronounced dichotomy between the imperatives of the organic and the imperatives of the thin surface. The organic world belongs to no such imperative (and it may be arrogant to even imagine that it does), and material philosophy does not adhere to it. So, why architecture?

The new green roof and wall is emphatically not the ivy-covered building, emphatically not the ruin. It does not revel in the thickness of masonry. Nor, does it appreciate the symbiotic rot that one can see in a Piranesi *vedute* or a Tuscan *ostia* (for obvious reasons, it's probably not a good idea in the modern city to have rotting or crumbling buildings!). And, while the new green

roof might emulate some aspects of the Classical or Romantic in its choice of greenery, such as that of climbing vines or vegetal messiness, it is again very reliant on the visual, if not linguistic, contrast between that wildness and the otherwise pristine artificialty of the building. This is especially the case when we account for the modernist liberation of the surface from the massing of the building. In Classicism, the cornice line and the balustrade in particular become the available surfaces for vegetal incursion, with some mossy vegetation clinging to other protuberances such as the top of the window pediment or along a high-relief entablature. Once the façade surface and the roof plane are liberated from the load-bearing wall, the modernist will toward disappearance, through the glass, the shifting wall plane, the games of the corner, have even further diminished the role of vegetation—have turned it into a surplus and intentional layer at best, suspicious and pictorial at worst.

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The green roof and the green surface are also emphatically not a transposition of the ground plane—if anything they reaffirm the ground plane as belonging to the ground. This is what effectively separates the architectural trick from the hobbit house. A hobbit house overgrows into a useful layer. The architectural trick can attempt to look like a hobbit house, or attempt to resemble the overgrown, but the green surface belies the effect of its growing medium. The architects launch a desperate and conscientious search for plant species that will allow for thinner growing mediums, and thereby obey the laws of the thin plane as readily as it would obey the laws of the ground. And, that is, not-the-ground.

Following on a discussion of Spinoza, the differences between deep ecology and the frame of *techne* could also be described as an ethical difference. Deep ecology has given rise not just to a slew of environmental activism but also to a code of rights and wrongs. Derived primarily from the writings of Aldo Leopold, eco-ethics are summed up beautifully by the quote: *"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."*[4]

This is a fairly clear distinction, and one that has led to a lot of militantism in the name of ecology over humanity—but what rings a bell here is the use of the word "thing," a word that is also used (if not exploited) by Heidegger in his writings of the exact year, 1949. And, indeed, the Heideggerean concept of *techne* did shift after World War II (in an episode most historians refer to simply as "the Turn")—away from a simple relationship of *techne* and concealment to one in which the material world is capable of dissolving the subject-object distinction. The Thing allows for possibility of poetry (to which, curiously architecture belongs) to mediate between forces of Being—and thereby to shape consciousness in various ways—some directly dichotomous (i.e., the water versus the vessel) and others as if to destabilize those dichotomies (i.e., the formal range of vessels).[5] The hands-off ethic should not, by extension, prevent the poetic.

One contemporary example of a green surface is that of Griffin Enright's installation for the SCI-Arc Gallery, titled (tellingly) "Keep Off the Grass!". A thin, warped plane suspended from the ceiling was composed of 1,000

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square feet of sod "panels." The installation was intended mainly as a commentary on the wastefulness of the ubiquitous green lawn. It was intentionally not watered, with the fluorescent lighting mounted 3.5 feet above the floor representing the amount of water needed to keep the lawn green for one year. But the real poetry of this installation came from the contrast between the substructure and its potent artificiality against the natural deterioration of the organic material. The dried grass *contracted*, revealing the square shapes of the panels from which it was composed. Directly as a result of the thinness of the panels, seams appeared through disappearance and shrinkage. The organic had been a supposition, a myth, but not a reality in its own terms. Architecturally speaking, it was *paint*.

It is a continuing cultural conundrum, that the lawn, the prime symbol of an indulgent urban agriculture, tends also to be the most prohibited from human experience—keep off—but in this case, I believe that the pun is aimed more at the drug, grass, and the keeping off of it; that is, the metaphorical drug within architecture's culture that induces us to believe that green is mellow, and that postmodern effects are still fun and good. "Keeping Off Grass" would suggest to us instead that we should not be fooled by grass, and that its greenness may mask other imperatives. For Griffin Enright, it was outwardly an attentiveness to water and water usage, which can be mitigated in green roofs and vegetal walls by using systems of rain runoff and water storage in a number of different, but not all, climates. Inwardly, that is, to us in architecture, it is a prescient warning: beware the hegemony of thinness. The new green roof is, architecturally, a form of abeyance. If the organic represents an abject condition, of wildness, an essentially incompatible ecology to that of the building, then the new green roof does not merely domesticate, it literally deterritorializes the organic by its thinness. And, in the meantime, it territorializes *us*. ◆

ENDNOTES

1. E. Snodgrass & L. McIntyre, *The Green Roof Manual* (Timber, 2010). Edmund Snograss is the definitive expert on green roofs, and the author of many manuals devoted to green roofs, vegetal walls and plant choices for buildings. Botanist Patric Blanc is however the foremost expert on vertical gardening.
2. Eccy de Jonge, *Spinoza and Deep Ecology: Challenging Traditional Approaches to Environmentalism* (Ashgate, 2004).
3. Philip Johnson, "The Seven Crutches of Modern Architecture" (Harvard, 1954)
4. Aldo Leopold, "The Land Ethic," *A Sand County Almanac* (1949), pp. 224-5
5. Martin Heidegger, *Poetry, Language, Thought,* trans. A. Hofstrader (New York, 1975)