



AlloPolis and Kami

MANIFESTO TOWARD THE COMPUTATIONAL COMPOSITION OF THE NEW POLIS

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Twenty three years ago, in 1988, I submitted my first paper to ACADIA. Entitled "Computational Composition in Architecture," it was a pointed critique of the state of computer-aided architectural design (CAAD) at the time. This paper proposed a then radical alternative approach, suggesting that architects needed to use computation in ways that engaged the genuinely architectonic and poetic, the very heart of Architecture, and not the periphery of mere building. To do this they needed to learn as much from artists and composers as from physicists and mathematicians, but, most of all, they needed to remember the distinction between Architecture and mere building, and apply the new tools to genuinely new architectonic possibilities, just as avant-garde composers like Xenakis had done for music. While the tone was certainly civil and constructive, the criticism was quite firm, and I expected that the reviewers would find the content too contentious and would probably not even accept the paper. No one was more surprised than I to learn that it was selected as the keynote paper for that year's conference.

"Computational Composition in Architecture" contained the seeds of all that is being done today and that ACADIA 2011 represents so well. The generative, the algorithmic, the parametric, the "liquid" in its many forms, were all present in that seminal paper. The following year, I submitted a follow-up paper, "An Experiment in Computational Composition," making the case more specific and particular, showing how one might approach the problem of computing "beauty." This led to a long sequence of well known and well received papers, and, notably, to "Liquid Architectures in Cyberspace," which, in turn, opened the door to the Banff Centre for the Arts and many doors beyond that. Under the context of a project called "BioApparatus," the Banff Centre had assembled the then exotic technologies of virtual reality and made them available, by competition, to a select group of artists. I was fortunate to be in this group - the sole architect - and surely the only one considering the architectonic implications of this strange new world. My project, "Dancing With the Virtual Dervish: Worlds in Progress" anticipated, and continues to anticipate, much that was, and still is, to come. Strikingly, the great blue isosurface architectonic forms in that project clearly prefigured the language that would lead Coop Himmelblau to the design of the BMW Welt in 2007. Other aspects of that work, such as the inclusion within it of the world's first immersive experience of four-dimensional space (as an architectural proposition, no less) still remain to be understood and absorbed. In time, they will.

Countless publications, events, conferences, symposia, workshops, and exhibitions followed, each attracting, reinforcing, and legitimizing the efforts of individuals and with similar ideas, working in isolation around the world, helping to catalyze their efforts into the emergence of a worldwide community. By 2000, these developments were sufficiently recognized to provoke my inclusion in the Venice Biennale of Architecture (where I represented Greece with my project "Invisible Architectures"), but only a handful of "digital architects" were present in the whole exhibition. By 2004, again at the Venice Biennale, critical mass had been reached, as Kurt Forster curated the entire Arsenale in the direction of algorithmic architecture and included, as a culminating point, my project "AlloBio," which, since 2002, was already heading in the direction of genetic architecture, nanotechnology, and new materials. In 2008, "Turbulent Topologies" was shown, again at the Venice Biennale, while that same spring, the theme of my 1995 essay "Transmitting Architecture" was chosen as the theme for the XXIII World Congress of the UIA.

Accelerating change being exponential, much has changed since then. We've come a long way. Algorithmic and generative design have reached levels of high sophistication and have embraced techniques of fabrication and manufacture that have led to a flourishing of form-making capacity, both in conception and in fabrication. Architecture is becoming both more material — with new control over matter — and less material — with more integration of the technologies of virtuality in its many flavors. Integration across many levels is allowing better management of architectural projects, and greater efficiency and sustainability is accepted as a desirable and achievable goal. As technologies of all sorts have become more powerful and pervasive, and also less expensive, new frontiers are being explored, new territories discovered, new vistas opened. Social media, augmented reality, location-based computing, these and more, are now part of the ordinary conversation of architecture. These are fruitful times, indeed — nearly everything we can imagine, we can accomplish!

Or is this not quite so?

Have all the promises been fulfilled, all the questions answered, all the avenues opened? Or, is there, perhaps, another level to rise to? Are we in a stage of fulfillment, or is there still something critical to add to this discourse? Are we at an end, or at a beginning? And, if at a beginning, as I will claim we are, of what kind? What, then, remains to be done?

I raise these questions critically, not because I do not appreciate the great advances that have been made, in architecture in general, and by this community in particular, but, rather, because I perceive a different issue, a different and much more difficult problem — one that is orthogonal to the accomplishments and admirable intentions of this group, and one that threatens to diminish and, indeed, trivialize even the best of work. Let me stress, then, what I have already alluded to: the development of the digital in Architecture (not just "architecture") was a critical effort, not just a utilitarian one. To continue that effort, the effort must remain critical and not become enamored of its successes. We must look to what remains to be done, critically.

We are all aware that, for all our advancements, "we," as a global culture, still face many problems. Indeed, these problems seem to be unaffected by our scientific and technological progress, or may even be exacerbated by it. The problems extend widely in domain and scope, but we are all aware of them. How could we not be? The media trumpet bad news incessantly — global warming, the extinction of species, war and famine, disease, political and economic crises, massive inequality and injustice, diminishing health and education, lack of public support for the arts, culture, education, and health, and, in the end, the erosion of any substantial sense of the public good. As architects, we generally do our best to address these problems in our projects, and generally blame ourselves when we fail. This is both unfair and self-aggrandizing — unfair, because it is not our fault, and self-aggrandizing because it is of a scope that is beyond solution by any single group or discipline.

What is the problem, then?

Guy Debord identified part of the difficulty we face (by no means all of it) in his famous book "The Society of the Spectacle," a work that remains troubling because it states a problem that is both evident and seemingly insurmountable. In brief, he points out how in the logic of the Spectacle, everything, even the opposition to the Spectacle, is simply absorbed and regurgitated as more Spectacle. We are certainly all aware of this in our media, and, as we are increasingly mediated, we are also aware of the feedback and self-amplification this is generating.

Much of what computers allow us to do is spectacular. Indeed, much of current architectural production is better than before if considered objectively — better engineered, more efficient, more ergonomic — and yet, much is also curiously devoid of meaning. Like the spectacular display of ergonomically designed and computer manufactured shoes at a "lifestyle" shoe store, the designs are advanced, clever, and inventive — but to what end? Let me quickly underscore that this is not just a problem for architecture, indeed, the same can be said for just about every mode of production; there is more of everything — and less absorption of anything significant — and less to absorb, even.

Let me approach this another way. We are all aware that there is an obesity epidemic, that though there is much to eat, people, in increasing numbers, are nutritionally unhealthy. I propose that there is also such a phenomenon as what we might call "information obesity", and perhaps also "design obesity," and even "architecture obesity" by extension; by which I mean much that is an abundance of the "edible" but a poverty of the "nutritious" or balanced. In an analogy to sound, we would say there is too much "noise" and too little "signal." Go to any computer-literate school, review any computer-literate firm, visit any developing city with "new" architecture, and you will see forms never seen before, amazing, ambitious,

sophisticated in some senses, but ... void. I repeat that this is not a criticism of the architects, it is rather a condition endemic to the system of production, the whole ecosystem of the built. Individual buildings may be extraordinary, but the environments they produce, the cities themselves - the citizenries, even, - are not.

In 1988, in my first keynote address to ACADIA, I directed everyone's attention to the need to focus our efforts on the genuinely architectonic; on the poetics of architecture itself, on using computation to arrive at designs that had a higher order of integrity due to the generative principles that were used to create them. Speaking to the "parametric" decades before "parametricism", I called it "liquid architectures," which is still the far more powerful formulation. I urged this community to use new tools to advance the role of architecture in society, drawing on the best of the past, present, and future. Now, many years later, I once again call for a corrective measure.

This time, it is not the forms that need to be addressed, at least not in isolation - we have learned how to make isolated designs spectacularly well. It is the underlying value system that must be addressed, the ways we make decisions, the reasons we offer or accept, the motives that drive our efforts. Crucially, we must reconsider the city — not apart from architecture, not as urban planning, zoning, regulating - but as the outcome of architecture; not as the place where many people live, but as culture, as the "polis" which is both the home and the host of citizens, citizenship, culture, and civilization itself. There is no evidence at all to support the idea that our present cities are designed with the purpose of nurturing culture — by which I mean more than "entertainment" — they simply grow at the whim of economic and political forces, with no one having a clear thought about what sort and size of urban community would actually be best for people. Largely, this is because we have forgotten how to even ask the question. Both the question and the answers exist, and have for centuries, but we ignore them.

The full explication of what I am referring to requires a re-evaluation of nearly everything. This is quite possible and quite clear, with sufficient time and perspective, but is far beyond the scope of this paper. Abbreviating it will most likely lead to unnecessary misunderstandings. I will be presenting this elsewhere, in due time.

What I can provide at this time, instead, is a manifesto I wrote at the invitation of the Urban Futures Institute of the MAK Center; in highly condensed form, it alludes to much that cannot fit here, and requires some effort on the part of the reader. At the very least, the word "kami" must be considered carefully.

Here it is:

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AlloPolis: A Transvergent Manifesto

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[Preamble: Armed with the tip of a scalpel rather than the blade of a broadsword, a manifesto puts forward a polemical call to clarity that speaks to a potentially imaginary collective of like minds, a wishful and wished-for "us" that may or may not exist in the present, but may yet arrive in the future. A manifesto does not enumerate its sources or reveal the careful construction of its argument. It simply presents certain conclusions, directions, demands, and programs, and says: "if you understand us, if you are with us, join us," leaving it to the reader to think — and to act.]

...

We embrace the future. We take for granted the free city, the diverse city, the global city, the technological city, the scientific city, the ecological city, the biological city, the smart city, the network city, the virtual city, the discontinuous city, the swarm city, the cyborg city, the nanotech city, the alive city, the Singularity city. To all these, and to any yet to come, we add the prefix "allo-" to signify "the other, of another kind," and to claim as ours the alien city, alien and yet of our own making. And while "alien" is for us something largely positive, we are not fooled into ignoring that its obverse and corollary can be alienation, against which we must be ever watchful and vigilant.

To be clear:

We accept the need for caution but denounce all pessimism as creatively unethical, defeatist, and unhelpful, and insist that only the assertion of positive alternatives is valid as constructive criticism. By this token, we accept the limits to any simplistic or telological notion of Progress, but reject as naïve and malinformed any

notion of the futility of progress, or of the end of the avant-garde and any such valiant effort to augment and exceed the world we are given. For this, we replace the obsolete notion of the totalizing global goal with the active principle of the resistant but positive gradient of local ascent in search of ever stranger and more wonderful topologies of freedom and beauty.

We reject the unimaginative city, the ignorant city, the ugly city, the unjust city, the dogmatic city, the unhealthy city, the unfriendly city, the unkind city, the paranoid city, the selfish city, the greedy city, the exploitative city, the usurious city, the cruel city, the incarcerating city, the separating city, the spirit-crushing city, though we know full well that this list covers most of our present day city-making. We reject with them all the false, petty, and mean-spirited arguments (be they political, religious, or economic) that have pretended—in the face of all evidence to the contrary—to justify sub-mediocrity as good, necessary, or inevitable.

We are honest: we measure the success of cities by the thriving of their citizens, as embodied in the architecture of thriving public realms. We see that the cities we are building pale in comparison to the ancient cities we visit, both in terms of ambition and in terms of the quality of urban life they support. We recognize that people in the past, though weaker, poorer, less free and massively less informed than we, nevertheless built better cities than we build, and left us culture and civilization where we leave extensive urban carpets of ugliness, fast food and permanent waste.

We admire the extraordinary vessels of our technologies but see these vessels abducted by avarice for the few and not guided by altruism for the many, and we reject as absurd the notion that only greed can drive us forward. We recognize the grandeur of our infrastructure projects, but realize that they are scaled for giant corporate bodies, not fragile human ones. We applaud the depth and sophistication of our sciences, but realize that they are scaled for pulseless nano-, femto-, atto-, zepto-, yocto-scale bodies, not pulsing human ones. We conclude that we do not suffer from a lack of knowledge or imagination; we suffer from the blinding toxins of a value system that perverts all motives and incentives, and from a malaise of the will that prevents us from recalibrating what we value, respect, protect, and nurture to serve us, at our scale, and to balance us, at the world's scales. We have confused quantities for qualities, quanta for qualia, counting costs and amenities for weighing balances and benefits, and have nearly lost our minds, our bodies, and our planet, as a result.

We refuse to be defeated.

We propose a creative principle, an ethical catalyst, a pervasive corrective, an aesthetic and moral differential (in a mathematical sense) that can produce massive change via a myriad minute adjustments in the direction of sanity and the search for ever stranger, ever more wonderful, ever bolder beauty. We call this principle "kami" (in deference to its origin in Shinto, but with no nationalistic, religious or metaphysical conceits), and mean by it the cultivation of those minute but precise acts and habits of attention, as if to a lucid and gentle secular animism toward the sparkling quantum foam of emerging and vanishing symmetries and balances, toward those tender alignments that are lost if not noticed and cherished, and toward all those infinitesimal differences that produce extraordinary beauty in all its forms, in nature or artifice, in love, in politics, in the intellect, in art, and in the senses. We propose that our urban and global future depends on our ability to bring this small corrective to all— but mostly to those who need it most: our children and our politicians— and to let it seep into us for years and centuries to come, till we and our values are one, and sane. In time we will blossom. This is how civilizations are made.

We seek the transvergent city, the allo-city, the cosmo-polis that becomes the AlloPolis, the city that helps recuperate the lost whole, the city that explores and embodies the transmodal continuum and participates in the human production of the alien, the city that nurtures the speciation of diversity, manifest freedom, manifest imagination, the city of present thriving and future augmentation, the polis worthy of spreading itself among the stars. Most of all, we seek that from which all other virtues flow: the generous city, free, exploratory, wise and beautiful. Why should we settle for anything less?

We can have that, and more, provided that we realize that, above anything else, cities are mirrors, and that we cannot build what we seek until we become what we seek.