The Living World:
On Not Being Here A Long Time

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Moving through the world with one's eyes, heart, and mind open is to realize the challenges confronting most people. It is to come to terms with preconceptions of what it means to make buildings, of the limits of what is considered to be relevant 'architectural knowledge' in the West and Westernized schools, of the potentials that exist out there and in each of us.

Time is bounded by and bounds a number of concerns. Timely action is needed because people's survival and well-being are at stake . . . something must be done NOW. We understand there is little one can do, because there is a timeless quality to the pain one sees . . . many have suffered, are suffering, and will suffer, no matter what I do, no matter what we do. And this is certain . . . each of us will soon be gone. The question is not how to make time present in architecture, but how to act as an architect when time and life are fleeting. What does it matter to be an architect in a living world?

I'm building an arbor in my backyard.

Made primarily of no cost materials (cut maple, birch, and beech saplings and downed branches), the structure is impermanent, incomplete, in need of constant attention. No money, no electricity, and no trucks were allowed, even though I have money, there is electricity and a driveway. The galvanized steel frame, inspired by canopy struts found in the garage attic, will remain and possibly hold another arbor or it will be discarded easily by new home-owners. Artifacts found in the dirt — a child's wagon wheel and bell — are given new life.

I work on it every day.

I moved through south Asia in 2001 with sixteen students of architecture, planning, and landscape architecture for eleven weeks. Whether Hong Kong, Delhi, Mumbai, Colombo, or Singapore, life is lived with openness not present in the West. With so many people (or should I say 'so . . . many . . . people' or maybe 'SOMANYPEOPLE'), this 'lived world' is immediate, RIGHT HERE, you're in it.

Fig. 1. Summer 2002.

In his piece 'Cities: From Ancient Greece to Globalization,' Paul Hirst casts exploding mega-cities as 'anticities.' While many cite Los Angeles and Las Vegas as urbanism's models of the future, Hirst offers Cairo, a sprawling city filled with shanty dwellers where growth fueled by uncontrolled rural migration renders the metropolis all but ungovernable. He could cite Dhaka, Karachi, Lagos, Manila, Mexico City, Rio de Janeiro, Teheran, or Tokyo. These cities along with Buenos Aires, Kolkata, Istanbul, Jakarta, Johannesburg, and Sao Paulo will be the largest and fastest growing on the planet. 'Such a prospect is disturbing,' says Hirst, 'because

Westerners have tended to see urbanization as progress and the city as a force of order.'

Charles Correa knows his home city, Mumbai, as a large city changed by uncontrolled migration. This is what Correa sees: in 1964 Mumbai's population was 4.5 million, less than half a million lived in informal settlements; in 1999 the city's population had doubled to 9 million, and 4.5 million lived in informal settlements. While 4 million 'legal' residents grew to 5 million in 35 years, the 0.5 million 'illegal' population grew to 4.5 million; in other words, 90 percent of the population increase was in the 'illegal,' informal sector.

Mumbai today is comparable to doubling the population of the Chicago metropolitan area in the same space between now and 2035 by building only unauthorized dwellings in urban gaps without engaging an architect, builder, or contractor, and not using off-the-shelf or 'new' building materials. Cairo and Mumbai are places thick with chaos and disorder, especially for the untrained, or *mistrained* Western eye. Seen in books, one can not imagine. Seen in person, well . . . one can not believe.

Imagine this 'lived world' in Delhi, which I e-journaled two years ago: ''We visited the Yamuna Pushta informal settlement today. Some brick houses, no 'bathrooms,' no 'kitchens.' A city within a city of 45,000 people. Building materials: bricks, bamboo, plastic tarps, corrugated asbestos sheets, some sandstone, rocks secure bent metal roofs. Fires often wipe out whole sections of the settlement, did I mention that? Just imagine this, your dwelling floods every year (annual flood plain), yet it is home and you come back and it burns every so often and you rebuild. The electric mafia steals electricity, marks up the price, sells to locals. Hand water pumps everywhere, pipe driven into high water table collects run-off from open sewers and dirty water. Incredible stench when we first enter, huge excrement smell — URINE — find out later a city contractor provides twenty toilets for entire settlement (1 per 2,250 residents) and charges for toilets too. So always a long line, always URINE.''

One-half of Mumbai (seven million people) and one-third of Delhi (five million) live in unauthorized housing built of leftover materials. As an Indian colleague said: 'The average longevity in India is 62 years. In the slums, 37. The people are fireflies drawn to the light of Delhi. Attracted by opportunity, they don't know . . . soon they will be dead.'

First, seven galvanized steel pipe columns 4.5 cm in diameter, five in one row on 2 m centers to mimic the screened back porch of the house, then two columns spaced 2.5 m from the first in a parallel row. All in 25 cm diameter holes, .5 m deep, backfilled with dirt, except for the three-column hammock frame — those holes filled with hand mixed concrete.

A steel pipe beam (identical in profile to the columns) spans the five-column row, perpendicular out to the floating columns, then diagonal back. Beam to column connection: oversized wood pegs driven into pipe (friction fit), holes drilled through pipe, lag bolt through pipe into plug.

Tools on-site: shovel, sledge hammer, hammer, chisel, saw, adjustable wrench, tape measure, level. Total steel assembly cost: $337 US.

Next, thirteen cut sapling columns (4.5 cm diameter at base) on .5 m centers (2 m / 4), in line with row of two floating columns. Then thirteen cut sapling beams span from sapling column tops over steel pipe beam. Thick gauge wire connections, wound and tied.

Hundreds of thin saplings and reeds tied to outside of sapling columns and beams with fine galvanized steel wire (18-, 22-, 24-, and 28-gauge). Found objects too: one decorative pipe from a neighbor's old canopy frame and a New York Yankee baseball cap (Day One of construction: September 13, 2001), children's wagon wheel and bell found in the dirt.

Galvanized steel mesh skin wired to all of wall and some of roof surface. All cut in approximate .6 m widths, lengths 1.2 m maximum, hung in parallel rows, slight overlap, loosely tied to horizontal saplings with 28-gauge galvanized wire. Lights hang from roof purlins. A vine is wired through mesh to sapling columns and horizontal saplings.

Tools: tape measure, level, needle-nosed pliers, gardening shears.

Millions of people — it might be one-half of the world's population — build and/or repair houses made of leftover materials; live in unauthorized leftover spaces of anticities; see themselves and are seen by many as residue, debris, remnants, surplus, the overproduction of the society. Burdens. That said, very interesting work is being produced in the self built world. Two architect/educators — Vijitha Basnayaka of Sri Lanka, and in Spain, Santiago Cirugeda Parejo — have their own provocative approaches.

Fig. 2. Summer 2002.

Basnayaka finds inspiration in the recycled material of society, in particular the ingenuity with which the dwellers of informal settlements see the potential in discarded doors, broken bricks, railway sleepers, scaffolding poles, window frames, steel-bars, reinforcement mesh, even bottles and aluminum cans. In describing Basnayaka's house for Mauli de Saram in Colombo, Robert Howell writes: ''The house is a unique demonstration of what [can be termed] 'squatter' technology used for a 'middle-income' house. It reminds me of a remark made by Dr. Peter Kellett, a researcher into low cost housing. He pointed out to me that we, perhaps, have less to learn from the houses of the rich — the houses of choice as he called them; than we can learn from the houses of the poor — what he called the house of necessity. Basnayaka learns from the technology of the self built housing, from the houses of necessity, and brings that spirit of ingenuity, of despair, of absolute need to his work.'' He sees in the necessary architecture of informal settlements the residents' alertness to life, however brief.

Parejo works within the legal system, exploiting gaps in administrative structures, gaps in a governmental body's supervision of city streets, gaps in official procedures that allow his constructions to look 'official' even as he enacts certain forms of civil disobedience, gaps in what it means to look 'legitimate' in places where the law fails so he can exist legally in a loophole. He 'formulates realistic and empirical strategies to push the law to its limits and find pockets of non-law in which to develop a possible habitat.' Among Parejo's more notable efforts: acquiring a building permit and then blurring what the permit allows (for example, getting a dumpster permit and building a playground that looks like a dumpster); spray-painting graffiti and then sleeping in official-looking scaffolding while removing the same graffiti; erecting and occupying a rooftop crane that others think is there only to move building materials up and down.

The creators of these 'buildings' or 'outlaw environments' issue challenges to city leaders, design and planning professionals, and academics regarding control of the city and privatization of public space. The ingenuity of the self builder and the appropriate technology that is leveraged offer lessons about the potentials of self-building. These re-defined architects challenge the sort of work architects do; the ways architects respond to the order and disorder they see in society; what is possible when one works with next to nothing except found materials; and what has not been thought of (or legislated against) by the ruling authorities and elites. Basnayaka and Parejo understand the imperatives of time: they act now, they act on behalf of one and many, and they act as architects in our living world.

> The arbor sees much living, and quite a bit of dying. In spring and summer a vine grows one-half meter every week creating a green roof. My wife Marcia is better when she swings and rests and sleeps in the hammock. Guests gather, ask if they can bring others, if they can come again. Roots of a surging maple tree expose themselves to our feet as the ever-enlarging root mass raises the ground. There are many birds — wrens, sparrows, blue jays, mourning doves, cardinals, a woodpecker, and even A HAWK — and squirrels, chipmunks, our cats, and other cats animating the yard, arbor, and our lives.
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> About dying. A sapling column grew ten sprouts last spring, even though dead!! The sprouts were green and delicate, convinced they should grow, not realizing I killed their parent months earlier. Really, there's too much death in our backyard. I find (and bury) a dead bird about every month — frazzled feathers, worn beak, quiet eyes, cold. Once I killed a young sparrow crippled by a cat. The hawk caught a small blackish bird just last week, pinned it to the ground, plucked its feathers, and ate its insides. Moon flowers planted at the base of one steel column push out the most precious and aromatic of white flowers . . . that live for one night, only. We wait, they grow, and WOW while we sleep they BLOOM! We find them expended in the morning, asleep as we awake.
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> The arbor is bare in late autumn, leaves gone, vine quiet. Different, yet again, in a winter snow storm, the roof's mesh catching snow, becoming opaque and thick, snow everywhere on the ground except

Fig. 3. Autumn 2002.

Fig. 4. Winter 2003.

under the mesh where clean earth shows and birds sit.

My father died nine years ago and, as I write this, my mother is dead four weeks, both of cancer. I emptied their house over ten consecutive weekends late last year. I threw out a great deal, kept a little, gave away some. Wedding pictures I'd never seen, their marriage license, every piece of mail I'd sent them in the past twenty years — this collection all new to me. And I find meaning-filled building material: my mother's rolling pin, several of my dad's hand files, an old yardstick too. All are wired into the arbor. A favorite golf club of my father is invigorated now as a diagonal strut.

Here, my parents' deaths extend the arbor's life and character, brace it against heavy winter snows that live load the wire mesh roof surface. Long, thin scraps from my dad's woodshop — some he harvested from his father's forest, hauled out, rough cut, dried, and finished for his use (which never happened) — now support the roof of this arbor. These pieces dad loved with his own hands now feel my hands and fulfill his desire that they be put to work. He started, I continue.

Sons and fathers. A carpenter who did some work on our house — James — gave an old tool to the arbor, his father's hand drill that will stay where the son placed it.

Individuals need help not only in Cairo or Delhi or Lagos, or Colombo, Sri Lanka or Seville, Spain, but in the West and the US as well. Sunil Khilnarni, in his 1997 book *The Idea of India*, makes this claim: 'India's present may actually contain more than a premonitory hint of the West's own . . . future.' He's right: some of the issues challenging south Asia today present challenges in the US as well, not in the future, but NOW. You might have to look a little harder to see it though, and you have to believe what you see.

According to the *New York Times*, the exodus from large parts of rural America to urban agglomerations continues and includes not only the Great Plains states; while the US grew by 13 percent in the 2000 census, many counties in upstate New York, Pennsylvania, Ohio, Illinois, Michigan, and three southern states lost 9

percent or more of their populations in the 1990's. Rural ghettos are unraveling throughout the US, in some of the same ways that inner cities did in the 1960's and 70's. Decades of economic decline have produced a culture of dependency with many hooked on farm subsidies, and a frightening rise in crime and drug abuse, including a 'methamphetamine epidemic that has turned fertilizer into a drug lab component and given some sparsely populated counties higher murder rates than New York City.' In fact, crime rates in heavily urbanized states (New York and New Jersey) are lower than in many of the nation's rural states (Iowa, Kansas, Montana, Oklahoma, Utah, and Wyoming). 'Housing is way too expensive,' says Jake Roher, a handyman at a lakefront trailer park, whose family has moved four times in six years, from Oregon, to California, back to Oregon, then back again to California. In more and more areas of the country, there is almost no affordable housing available for people with low-wage jobs.

To conduct field research for her best seller *Nickel and Dimed: On (Not) Getting By in America*, Barbara Ehrenreich worked at three minimum wage jobs. Her book documents the special costs endured by the working poor for food, health care, child care, and for housing: 'If you have only a room, with a hot plate at best, you can't save by cooking up huge lentil stews that can be frozen for the week ahead. You eat fast food or the hot dogs and Styrofoam cups of soup that can be microwaved in a convenience store. If you have no money for health insurance . . . you go without routine care or prescription drugs and end up paying the price. . . So unless I want to start using my car as a residence, I have to find a second or an alternative job.'

Bean Dalton is one resident of Dignity Village, an authorized informal settlement in Portland, Oregon. Says Ms. Dalton, ''I don't really call it 'homeless.' I call it 'houseless.' We have an address and a phone number. I got kicked out of my mother's house because I'm gay. . . Yeah, I feel like I'm living in poverty, but we don't have monthly bills to pay. [The day of the interview] the eggs from our cooler were frozen — that's how cold it's been out here.'' In the state where I live, graduate students documented persons living in cars and trucks, and prefabricated homes in rural areas raised on scaffolding to avoid annual floods. People pull pop-up trailer-tents behind cars, park, and live in the trailer; this is how they live. In the small midwestern city that is home to our university, local authorities estimate there are 1,000 homeless people; every one escapes our sight. First you must believe it is possible; then you can see.

What can be done as an architect to address these issues? I think and act small. I build and work with students, bringing into focus issues related to acting in a timely manner, knowing the timeless nature of our concerns. I build now in order to build continuously. I build for one in order to reach many. I build with young architects to connect and commit them to helping others.

> Former student Jerome is the primary designer; Sohith and Brooke contributed early; other students provided important ideas. On Day Two, Sohith used too much wire at some joints. Rusted now, the metallic knots are his legacy. Nick introduced a new branch-as-bracket language, leaving a short, thick branch wired into a galvanized steel corner. Holding a too short stick, Ryan found a new wire connector detail: one loop around a vertical branch, wire ends crossed and looped around the new horizontal branch, he created a stretched figure 8 tie. A casual grouping of lights arranged by Laura forms a chandelier, as opposed to an overly formal arrangement she considered earlier.
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> Melissa and Jenn authored another bracketing element, with a branch's fat end tied to a column, plus a diagonal tension element reaching into the roof (and sky) with the branch's light end. Kurt proposed a 'fat wall' idea (the basis for a recent construction) wondering if a 'blister' roof form could become a wall section. An MTA card from the New York subway, a found object left by Kevin, a former student.
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> Teachers being students, students being teachers. We extend our lessons, seeing anew together. What we built, as we talked, remains as we left it. I build from what they created; focus my vision through the lenses they provide.

The fall 2002 graduate studio I taught was titled 'Leftover Spaces, Leftover Materials, Leftover People.' Seventeen students participated, representing eight countries (Argentina, China, Germany, India, Mexico, Thailand, Turkey, and the US). Two design-build projects were featured: an informal settlement built and occupied on our university's campus during a kind of academic festival attended by thousands, and a sleeping platform.

The settlement project allowed only leftover materials assembled in a busy, but undistinguished open space (i.e., leftover space) on campus, one dwelling for each student. Among the most readily available materials, the students found wood pallets, cardboard tubes, triangular pieces of low grade plywood, and straw bales. And for this project, I negotiated permission from

the university to create and occupy the housing (their demands: no open fires, no 'dumpster diving,' no alcohol, no digging in the ground or through the pavement, and return the site to the condition we found it). Students lived here (and I slept on a park bench) for four evenings in late September. One night the temperature hit 37 degrees Fahrenheit.

Thousands of persons walked through our construction, on their way to class, to the academic festival, or just to visit us. Some visitors remained longer than others, in fact, thirty-seven persons stayed one entire evening. Many persons stopped and asked questions about who we were, why we were doing this, where we found the materials.

One month later, a related assignment: to design a temporary platform to be used for only one night (during a particularly cold November); to sleep in a very public space without permission and without being seen; to begin to understand what it means to occupy and live without permission; and to build with one's own hands. This project was inspired by the 'hidden lodging structures' of Tadashi Kawamata. Students expressed a number of concerns: being warm mattered; assembling a sleeping place very quickly was important; as was not getting caught by authorities. 'Building materials' included orange pylons, plastic tarps, and cardboard boxes. Favored strategies involved disguising one's place as a construction site, enclosing space over heating vents, sleeping in modified cardboard boxes, revitalizing parts of the informal settlement dwelling, and mimicking an existing building.

I asked repeatedly as we did this work: do you feel more like an architect or less like an architect? Usually, the answer was both. MORE like an architect as they designed and built and occupied their own creations. 'More' here means seeing paper designs become full-scale realities. 'More' means gaining an appreciation for thermal comfort because you are COLD in a dwelling you designed and built yourself. 'More' means explaining and justifying your architectural work to unconvinced spectators.

To these students, LESS like an architect means you realize the challenges that exist in the world. 'Less' here means not wanting to be recognized as an architect once you realize the tremendous amount of wasted but perfectly good building material. 'Less' because the dwelling you designed and built failed miserably when you only had to satisfy yourself as the client, designer, and builder. 'Less' means you realize the limitations of the conventional thinking about what it means to be an architect. 'Less like an architect' may even mean you don't want to be that sort of architect any more.

I'm just beginning work on an atrium installation, scheduled for June 2003, at the Buenos Aires National University. Three former students (including Jerome) work with me. There is no budget, contributions from 9,000 architecture students will be the only building material, and there will be almost no time — we'll be in Argentina for two weeks.

> Today, too cold (30 F), but working. Rigging a 3/16'' threaded rod between a sapling beam, purlin, and the heavy galvanized steel frame (ice cold); a vertical compression member to support roof section that collects snow. Then, a long bolt (from mom and dad) to join three structural members — sapling beam, an element of the thick wall, and a piece of decorative wood found (and forgotten) in my mother's kitchen cabinets.

Fig. 5. Winter 2003.

> Moving fast, hands bare and cold after repeated contact with tools and steel frame. Testing placement of dad's golf club; it's tight, acting as diagonal strut. It's good to work in winter, although cold.

Wood is dry so wire ties should remain tight in summer as wood swells with moisture.

One cat is with me, but he doesn't last long; he wants back in the house. Four mourning doves on the ground, shielded from snow. Birds land not knowing I'm there, they rise up quickly when they do.

Mulling over an extension of the arbor, a right angle turn over the front of the garage — something we never considered, but I will do. The wind kicks up, snow blows off arbor roof. Wondering what sort of structural steel to scavenge for the long cantilever, where to find it, imagining dad's tools in the new section, Bucky Fuller too.

I'm building an arbor in my backyard.

I work on it every day.

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